

# Proceedings

## **PROCEEDINGS**

of the

**1st NORTHUMBRIA  
INTERNATIONAL CONFERENCE**

on

**PERFORMANCE  
MEASUREMENT in  
LIBRARIES and  
INFORMATION  
SERVICES**

**31 August to 4 September 1995**

Sponsored by the Department of Information and Library Management, University of Northumbria at Newcastle, and The British Library Research & Development Department



ROYAL MILITARY COLLEGE OF SCIENCE



6301556378

**FOR  
REFERENCE ONLY**

PROCEEDINGS

of the

1st NORTHUMBRIA INTERNATIONAL CONFERENCE

on

PERFORMANCE MEASUREMENT in LIBRARIES and  
INFORMATION SERVICES

held at

Longhirst Management and Training Centre, Longhirst Hall,  
Northumberland, England

31 August to 4 September 1995

Editor: Pat Wressell

Published by Information North for the Department of Information and  
Library Management, University of Northumbria at Newcastle.

ISBN 0 906433 22 3

Newcastle upon Tyne 1995

ROYAL MILITARY COLLEGE OF SCIENCE  
LIBRARY

Control No. 0906433223

Class No 027: 658.3.018 pro

Date Received ... 7 FEB 1996

© The contributors

Copies of this publication are available from Information North, Bolbec Hall,  
Westgate Road, Newcastle upon Tyne NE1 1SE.

Price £45 (inc. UK p&p; international p&p at cost).

Tel: ++ 44 (0) 191 232 0877

Fax: ++ 44 (0) 191 232 0804

E-mail: michael.long@dial.pipex.com

Information North is the development agency for library and information services  
in the North East of England and Cumbria.

*Performance measurement*



# **1st Northumbria International Conference on Performance Measurement in Library and Information Services**

**Conference Sponsors:** Department of Information and Library Management and the Department of Information Services, University of Northumbria at Newcastle, and the British Library Research and Development Department (BLR&DD).

**Editorial Board:** Geoffrey Ford, University Librarian, University of Bristol  
Dick Hartley, Reader, Department of Information and Library Management,  
University of Northumbria at Newcastle  
Roswitha Poll, Director, Universitäts- und Landesbibliothek Münster  
Ian Winkworth, Director of Information Services, University of Northumbria  
at Newcastle

The Conference was opened by Gordon Campbell, Pro-Vice Chancellor, University of Northumbria at Newcastle.

Conference Sessions were chaired by the members of the Editorial Board (listed above); John Burchell, Assistant Director, BLR&DD; and Professor Joan Day, Pat Dixon, John Mills and Sandra Parker of the Department of Information and Library Management, University of Northumbria at Newcastle.

The Conference Dinner was hosted by Professor Joan Day. The after-dinner speaker was Professor Kenneth McConkey, Dean of the Faculty of Arts and Design, University of Northumbria at Newcastle.

The Sherry Reception was provided by the Library Association Northern Branch and hosted by its Chair Margaret Watson.

**Conference Exhibitor:** Libris Computing Ltd., Berwick-upon-Tweed

**Conference Management and Administration:** Michael Long, Manager, Information North

**Administrative Assistants:** Deborah Goodall and Karen Furness

**Conference Rapporteur and Proceedings Editor:** Pat Wressell

**Editorial Note:** The Proceedings contain the 6 Keynote Papers, 28 Seminar Papers and documentation relating to the 6 Poster Sessions. American usage has been retained where used by contributors. Where provided by contributors, and where technically feasible, tables and overhead projection material have been reproduced. Discussion following the Keynote Sessions has been noted.

## CONTENTS

### KEYNOTE PAPERS

- Organisation Politics and Performance Measurement (Introductory Talk) 1  
*Nancy Van House, University of California, Berkeley*
- The Impact of Performance Measurement on Library and Information Services:  
A Decade of Experience 11  
*John Willemse, University of South Africa*
- Using Contracts to Improve Quality 33  
*Michael Carmel, South West Thames Regional Library Service*
- A Climate of Change: Performance Measurement in Australian Public Libraries 43  
*Kay Poustie, City of Stirling Public Libraries*
- Performance Measurement in the Context of Quality Management 51  
*Michael Cotta-Schönberg, Copenhagen Business School*
- Performance Measures for the Academic Networked Environment 63  
*Charles R. McClure and Cynthia Lopata, Syracuse University*

### SEMINAR PAPERS

- Quality Management in Libraries 77  
*Peter Brophy, University of Central Lancashire*
- Benchmarking and Performance Measurement 83  
*J. Stephen Town, Cranfield University (Royal Military College of Science)*
- Some Issues in Decision Support System Development in Libraries 89  
*Roy J. Adams, De Montfort University*
- Performance Measurement in Learning Resource Centres 95  
*Pat Dixon, University of Northumbria at Newcastle*
- The Development of Performance Indicators for Prison Libraries 101  
*Susan D. Lithgow, University of Wales, Aberystwyth*
- Performance Indicators for Collection Development 107  
*C. A. G. Konings and H. A. G. M. van de Gein, Delft University of Technology*
- Adapting US Academic Library Standard Survey Forms for Use in UK Libraries 115  
*Don H. Revill, Liverpool John Moores University*
- How Well are We Doing? Common Themes and Possible Solutions in Academic Libraries 127  
*Steve Morgan, University of the West of England*
- EC Toolbox Project: General Findings and Some Particular Proposals -  
The Next Generation of Performance Indicators 135  
*John Sumsion, LISU, and Suzanne Ward, De Montfort University*
- Building a Climate of Continuous Improvement 147  
*Gilda Queiroz and Natanael Bruno, Comissão de Energia Nuclear, Brazil*
- Performance Indicators: Sickness and Absence Rates as Indicators of Staff Morale 153  
*Sandra Parker, University of Northumbria at Newcastle*
- Benchmarking and its Relevance to the Library and Information Sector 159  
*Margaret Kinnell and Penny Garrod, Loughborough University of Technology*
- Measuring Quality: International Guidelines for Performance Measurement in  
Academic Libraries 173  
*Roswitha Poll, Universitäts- und Landesbibliothek, Münster*
- The Stakeholder Approach to the Construction of Performance Measures 177  
*John Crawford, Glasgow Caledonian University*



Performance Measurement of Academic Liaison in Higher Education Libraries <i>Hilary Johnson, Nene College of Higher Education</i>	187
The Use of IT in Library Evaluation: Electronic Surveying at the University of Newcastle <i>Keith G. Webster, University of Newcastle upon Tyne</i>	193
Deriving a Quality Assurance Toolkit from the Outcomes of Information Use <i>Christine Urquhart and John Hepworth, University of Wales, Aberystwyth</i>	199
Database Quality: Label or Liable <i>C. J. Armstrong, The Centre for Information Quality Management</i>	203
From Rationale to Results: Implementing Performance Indicators in a Public Library <i>Ruth Alston, Essex County Library</i>	207
Quality-Driven Service Agreements as Performance Indicators <i>Stephen Richard, University of Glasgow</i>	215
A Search for Appropriate Measures with which to Evaluate Academic Library Services at the University of Cape Town <i>Karin de Jager, University of Cape Town</i>	221
Developing Performance Indicators for an Australian University Library <i>F. C. A. Exon, Curtin University of Technology</i>	227
Upward Appraisal: A Tool for the Continuous Improvement of Library Managers' Skills <i>Joan E. Stein, Carnegie Mellon University Libraries, Pittsburg</i>	241
Decision-making in Libraries and the Use of Performance Measurement <i>Tony Oulton, Shelagh Fisher, Siân Lambert and Jonathan Willson, Manchester Metropolitan University</i>	255
Metrics: The Medicine for Customer Focus <i>John Burr, Sanofi Winthrop, and Julie McLeod, University of Northumbria at Newcastle</i>	263
Quality Management and Public Library Services <i>Bob Usherwood, The University of Sheffield</i>	269
The Role of Focus Groups with other Performance Measurement Methods <i>Elizabeth Hart, University of Huddersfield</i>	277
DECIDE: Decision Support Models and a DSS for European Academic and Public Libraries <i>Geoffrey Ford, University of Bristol</i>	283
<b>POSTER SESSIONS</b>	
Library Use and Academic Achievement <i>Karin de Jager, University of Cape Town</i>	287
MINSTREL: A Management Information Tool <i>Stewart McKee, University College, Dublin</i>	289
A Comparative Approach to Assessing the Efficiency of the Performance of Finnish Academic Libraries 1989-1993 <i>Jorma Niemitalo, University of Oulu</i>	293
Developing a Quality Instrument <i>Don H. Revill, Liverpool John Moores University</i>	301
Standardised Scoring to Produce Overall Measure <i>Don H. Revill, Liverpool John Moores University</i>	303
The Effective Academic Library <i>Ian Winkworth, University of Northumbria at Newcastle</i>	305
Conference Review <i>Ian Winkworth, University of Northumbria at Newcastle</i>	307
List of Delegates	309

1	Introduction	1
2	Chapter 1: The History of the United States	2
3	Chapter 2: The American Revolution	3
4	Chapter 3: The Early Republic	4
5	Chapter 4: The Industrial Revolution	5
6	Chapter 5: The Civil War	6
7	Chapter 6: Reconstruction	7
8	Chapter 7: The Gilded Age	8
9	Chapter 8: The Progressive Era	9
10	Chapter 9: World War I	10
11	Chapter 10: The Roaring Twenties	11
12	Chapter 11: The Great Depression	12
13	Chapter 12: World War II	13
14	Chapter 13: The Cold War	14
15	Chapter 14: The Vietnam War	15
16	Chapter 15: The 1960s and 1970s	16
17	Chapter 16: The 1980s and 1990s	17
18	Chapter 17: The 21st Century	18
19	Chapter 18: The Future of the United States	19
20	Appendix A: Glossary	20
21	Appendix B: Index	21
22	Appendix C: Bibliography	22
23	Appendix D: Maps	23
24	Appendix E: Photographs	24
25	Appendix F: Documents	25
26	Appendix G: Timeline	26
27	Appendix H: Glossary	27
28	Appendix I: Index	28
29	Appendix J: Bibliography	29
30	Appendix K: Maps	30
31	Appendix L: Photographs	31
32	Appendix M: Documents	32
33	Appendix N: Timeline	33
34	Appendix O: Glossary	34
35	Appendix P: Index	35
36	Appendix Q: Bibliography	36
37	Appendix R: Maps	37
38	Appendix S: Photographs	38
39	Appendix T: Documents	39
40	Appendix U: Timeline	40
41	Appendix V: Glossary	41
42	Appendix W: Index	42
43	Appendix X: Bibliography	43
44	Appendix Y: Maps	44
45	Appendix Z: Photographs	45
46	Appendix AA: Documents	46
47	Appendix AB: Timeline	47
48	Appendix AC: Glossary	48
49	Appendix AD: Index	49
50	Appendix AE: Bibliography	50
51	Appendix AF: Maps	51
52	Appendix AG: Photographs	52
53	Appendix AH: Documents	53
54	Appendix AI: Timeline	54
55	Appendix AJ: Glossary	55
56	Appendix AK: Index	56
57	Appendix AL: Bibliography	57
58	Appendix AM: Maps	58
59	Appendix AN: Photographs	59
60	Appendix AO: Documents	60
61	Appendix AP: Timeline	61
62	Appendix AQ: Glossary	62
63	Appendix AR: Index	63
64	Appendix AS: Bibliography	64
65	Appendix AT: Maps	65
66	Appendix AU: Photographs	66
67	Appendix AV: Documents	67
68	Appendix AW: Timeline	68
69	Appendix AX: Glossary	69
70	Appendix AY: Index	70
71	Appendix AZ: Bibliography	71
72	Appendix BA: Maps	72
73	Appendix BB: Photographs	73
74	Appendix BC: Documents	74
75	Appendix BD: Timeline	75
76	Appendix BE: Glossary	76
77	Appendix BF: Index	77
78	Appendix BG: Bibliography	78
79	Appendix BH: Maps	79
80	Appendix BI: Photographs	80
81	Appendix BJ: Documents	81
82	Appendix BK: Timeline	82
83	Appendix BL: Glossary	83
84	Appendix BM: Index	84
85	Appendix BN: Bibliography	85
86	Appendix BO: Maps	86
87	Appendix BP: Photographs	87
88	Appendix BQ: Documents	88
89	Appendix BR: Timeline	89
90	Appendix BS: Glossary	90
91	Appendix BT: Index	91
92	Appendix BU: Bibliography	92
93	Appendix BV: Maps	93
94	Appendix BW: Photographs	94
95	Appendix BX: Documents	95
96	Appendix BY: Timeline	96
97	Appendix BZ: Glossary	97
98	Appendix CA: Index	98
99	Appendix CB: Bibliography	99
100	Appendix CC: Maps	100
101	Appendix CD: Photographs	101
102	Appendix CE: Documents	102
103	Appendix CF: Timeline	103
104	Appendix CG: Glossary	104
105	Appendix CH: Index	105
106	Appendix CI: Bibliography	106
107	Appendix CJ: Maps	107
108	Appendix CK: Photographs	108
109	Appendix CL: Documents	109
110	Appendix CM: Timeline	110
111	Appendix CN: Glossary	111
112	Appendix CO: Index	112
113	Appendix CP: Bibliography	113
114	Appendix CQ: Maps	114
115	Appendix CR: Photographs	115
116	Appendix CS: Documents	116
117	Appendix CT: Timeline	117
118	Appendix CU: Glossary	118
119	Appendix CV: Index	119
120	Appendix CW: Bibliography	120
121	Appendix CX: Maps	121
122	Appendix CY: Photographs	122
123	Appendix CZ: Documents	123
124	Appendix DA: Timeline	124
125	Appendix DB: Glossary	125
126	Appendix DC: Index	126
127	Appendix DD: Bibliography	127
128	Appendix DE: Maps	128
129	Appendix DF: Photographs	129
130	Appendix DG: Documents	130
131	Appendix DH: Timeline	131
132	Appendix DI: Glossary	132
133	Appendix DJ: Index	133
134	Appendix DK: Bibliography	134
135	Appendix DL: Maps	135
136	Appendix DM: Photographs	136
137	Appendix DN: Documents	137
138	Appendix DO: Timeline	138
139	Appendix DP: Glossary	139
140	Appendix DQ: Index	140
141	Appendix DR: Bibliography	141
142	Appendix DS: Maps	142
143	Appendix DT: Photographs	143
144	Appendix DU: Documents	144
145	Appendix DV: Timeline	145
146	Appendix DW: Glossary	146
147	Appendix DX: Index	147
148	Appendix DY: Bibliography	148
149	Appendix DZ: Maps	149
150	Appendix EA: Photographs	150
151	Appendix EB: Documents	151
152	Appendix EC: Timeline	152
153	Appendix ED: Glossary	153
154	Appendix EE: Index	154
155	Appendix EF: Bibliography	155
156	Appendix EG: Maps	156
157	Appendix EH: Photographs	157
158	Appendix EI: Documents	158
159	Appendix EJ: Timeline	159
160	Appendix EK: Glossary	160
161	Appendix EL: Index	161
162	Appendix EM: Bibliography	162
163	Appendix EN: Maps	163
164	Appendix EO: Photographs	164
165	Appendix EP: Documents	165
166	Appendix EQ: Timeline	166
167	Appendix ER: Glossary	167
168	Appendix ES: Index	168
169	Appendix ET: Bibliography	169
170	Appendix EU: Maps	170
171	Appendix EV: Photographs	171
172	Appendix EW: Documents	172
173	Appendix EX: Timeline	173
174	Appendix EY: Glossary	174
175	Appendix EZ: Index	175
176	Appendix FA: Bibliography	176
177	Appendix FB: Maps	177
178	Appendix FC: Photographs	178
179	Appendix FD: Documents	179
180	Appendix FE: Timeline	180
181	Appendix FF: Glossary	181
182	Appendix FG: Index	182
183	Appendix FH: Bibliography	183
184	Appendix FI: Maps	184
185	Appendix FJ: Photographs	185
186	Appendix FK: Documents	186
187	Appendix FL: Timeline	187
188	Appendix FM: Glossary	188
189	Appendix FN: Index	189
190	Appendix FO: Bibliography	190
191	Appendix FP: Maps	191
192	Appendix FQ: Photographs	192
193	Appendix FR: Documents	193
194	Appendix FS: Timeline	194
195	Appendix FT: Glossary	195
196	Appendix FU: Index	196
197	Appendix FV: Bibliography	197
198	Appendix FW: Maps	198
199	Appendix FX: Photographs	199
200	Appendix FY: Documents	200
201	Appendix FZ: Timeline	201
202	Appendix GA: Glossary	202
203	Appendix GB: Index	203
204	Appendix GC: Bibliography	204
205	Appendix GD: Maps	205
206	Appendix GE: Photographs	206
207	Appendix GF: Documents	207
208	Appendix GG: Timeline	208
209	Appendix GH: Glossary	209
210	Appendix GI: Index	210
211	Appendix GJ: Bibliography	211
212	Appendix GK: Maps	212
213	Appendix GL: Photographs	213
214	Appendix GM: Documents	214
215	Appendix GN: Timeline	215
216	Appendix GO: Glossary	216
217	Appendix GP: Index	217
218	Appendix GQ: Bibliography	218
219	Appendix GR: Maps	219
220	Appendix GS: Photographs	220
221	Appendix GT: Documents	221
222	Appendix GU: Timeline	222
223	Appendix GV: Glossary	223
224	Appendix GW: Index	224
225	Appendix GX: Bibliography	225
226	Appendix GY: Maps	226
227	Appendix GZ: Photographs	227
228	Appendix HA: Documents	228
229	Appendix HB: Timeline	229
230	Appendix HC: Glossary	230
231	Appendix HD: Index	231
232	Appendix HE: Bibliography	232
233	Appendix HF: Maps	233
234	Appendix HG: Photographs	234
235	Appendix HH: Documents	235
236	Appendix HI: Timeline	236
237	Appendix HJ: Glossary	237
238	Appendix HK: Index	238
239	Appendix HL: Bibliography	239
240	Appendix HM: Maps	240
241	Appendix HN: Photographs	241
242	Appendix HO: Documents	242
243	Appendix HP: Timeline	243
244	Appendix HQ: Glossary	244
245	Appendix HR: Index	245
246	Appendix HS: Bibliography	246
247	Appendix HT: Maps	247
248	Appendix HU: Photographs	248
249	Appendix HV: Documents	249
250	Appendix HW: Timeline	250
251	Appendix HX: Glossary	251
252	Appendix HY: Index	252
253	Appendix HZ: Bibliography	253
254	Appendix IA: Maps	254
255	Appendix IB: Photographs	255
256	Appendix IC: Documents	256
257	Appendix ID: Timeline	257
258	Appendix IE: Glossary	258
259	Appendix IF: Index	259
260	Appendix IG: Bibliography	260
261	Appendix IH: Maps	261
262	Appendix II: Photographs	262
263	Appendix IJ: Documents	263
264	Appendix IK: Timeline	264
265	Appendix IL: Glossary	265
266	Appendix IM: Index	266
267	Appendix IN: Bibliography	267
268	Appendix IO: Maps	268
269	Appendix IP: Photographs	269
270	Appendix IQ: Documents	270
271	Appendix IR: Timeline	271
272	Appendix IS: Glossary	272
273	Appendix IT: Index	273
274	Appendix IU: Bibliography	274
275	Appendix IV: Maps	275
276	Appendix IU: Photographs	276
277	Appendix IV: Documents	277
278	Appendix IU: Timeline	278
279	Appendix IV: Glossary	279
280	Appendix IU: Index	280
281	Appendix IV: Bibliography	281
282	Appendix IU: Maps	282
283	Appendix IV: Photographs	283
284	Appendix IU: Documents	284
285	Appendix IV: Timeline	285
286	Appendix IU: Glossary	286
287	Appendix IV: Index	287
288	Appendix IU: Bibliography	288
289	Appendix IV: Maps	289
290	Appendix IU: Photographs	290
291	Appendix IV: Documents	291
292	Appendix IU: Timeline	292
293	Appendix IV: Glossary	293
294	Appendix IU: Index	294
295	Appendix IV: Bibliography	295
296	Appendix IU: Maps	296
297	Appendix IV: Photographs	297
298	Appendix IU: Documents	298
299	Appendix IV: Timeline	299
300	Appendix IU: Glossary	300



# Organisation Politics and Performance Measurement

**Nancy Van House**

Professor, School of Information Management and Systems, University of California, Berkeley

*NOTE: Nancy Van House gave a talk, rather than a formal paper. The talk was recorded live and what follows is an edited version of it.*

In titling my talk, I had the choice of a descriptive or a poetic title, so I opted for the descriptive. The alternative, poetic, title would be 'On Not Mistaking the Finger for the Moon', which comes from a Zen saying. By the end of my talk, I hope it is clear why I would title it that.

Many of the talks during this conference are to be on the specifics of implementing performance measurement. What I plan to do is to put this in a larger context. It is very easy to become focused on the specifics and the logistics: how we do this; what did we do under these circumstances; what do we wish we had done differently; and perhaps to talk about what we learned. But often we lose track of what it is we are doing and why, and what it is that we are learning.

## THEMES

I want to touch on a number of themes. One is change. We are living in an environment of continual change. We are tired, most of us, of hearing about this. As Acting Dean I reached the point where I said, 'I don't want to hear one more time about "opportunity" or "challenge" or "interesting times". I would like "boredom" and "sameness" and to come in every day and know what is going to happen.' But we do not live that way now, and we will probably not live that way again.

Another theme is competition. We have heard this morning [at the Official Conference Opening] about the importance of economy and efficiency and effectiveness. We are now becoming quite accustomed to competition for resources. What we in libraries are, perhaps, not so accustomed to is competition for jurisdiction. In the past we were accustomed to the idea that as libraries and information centres our piece of the organisation's operations was pretty much ours. That is now changing. I want to talk about what that competition is, where it comes from and what it will require of us.

I also want to talk about evaluation as how we construct sense in organisations. Evaluation is not

simply how we get feedback on what we are doing; it is how we make meaning, and how we make sense out of what is going on around us. Evaluation is a conversation that we have about making that sense.

I also want to talk about the importance of context: the library as a context for the work that we are doing; the larger organisation as the context in which the library operates; the users' context and our need to understand what their work is and why they have come to us; the larger social, political and economic context in which we operate; and finally, libraries as service organisations. It is important always to remember that ultimately we are dealing one on one with users, even when we are not doing so directly, through an electronic system, for example, that we have created. Ultimately we are serving the information needs of many individuals who are coming to us with specific needs.

## PROFESSIONAL CONTEXT

In talking about the importance of context, I should tell you a little bit about mine. My initial experience was in public libraries, working in them, consulting with them and publishing on public library planning and evaluation. As a faculty member I have the usual ambivalent relationship with the university library. It is a wonderful place when it works, and is a terrible place when it does not, I expect it to have what I want, when I want it - right now please. I have also published and done consulting on academic libraries on performance measures and evaluation.

Currently, I am a member of a research team building a Digital Library of the California Environment (Note 1). The project is one of six in the US funded under the Digital Library Initiative by three US Agencies: the National Science Foundation, the National Aeronautics and Space Administration, and Advanced Research Projects Administration. By choosing to use the word 'library', they made libraries suddenly extremely popular in the research community.

Our project is a collaborative effort of researchers from the University of California, Berkeley, Computer Science Department, College of



Environmental Design, and my School, which was Library and Information Studies and is now Information Management and Systems. (This is a wonderful name, by the way, because it is totally non-descriptive. People read into it whatever they choose and it is interesting to ask them what they think it means.)

We were required, under the terms of the funding, to build a test-bed and have some real users as partners. So we are working with a State of California Agency called the Resources Agency, an umbrella agency for everything to do with the environment, including the Department of Water Resources and the Department of Fish and Game. I am running the user needs assessment and the evaluation component of the project.

Another part of my background relevant to this conference and this talk is that I was Acting Dean at the School of Library and Information Studies for four years, which we spent fighting off an effort to close the School. The discussion around closing the School resulted in the creation of a planning committee, on which I served, which created the outline for the School of Information Management and Systems. I was also a member of the search committee to hire a new Dean for the new School who starts on September first.

So I was managing a unit and also a member of the university's management team at a time when the university was going through what has been called 'downsizing' or, (the euphemism of the decade) 'delayering'. In our university we are looking at a permanent budget cut of around 20 to 30%, and a permanent downsizing of the faculty by 10%. The faculty cuts were effected through several rounds of early retirement, so that the faculty is now reduced by about 25% and we will be hiring back up to minus 10%. Much of the discussion around the budget is about which units get those open faculty slots. And all of this, of course, with no reduction in student load.

#### THE LARGER CONTEXT

One more piece of context I want to mention is that I just finished walking the Cotswolds Way, 100 miles from Bath to Chipping Camden, in a week. I mention that for two reasons. One is because I am very pleased with myself and I use every opportunity to tell people. Secondly, in trying to put these issues in a larger context, in a country where I have now seen a 5,000-year-old barrow, Roman ruins and Medieval cathedrals, I think about how we brag because the building in which our School is housed

is the oldest building on our campus, built in 1876. Around here that would probably be considered one of the newer buildings. So in looking at the larger context, we have to ask: in the longer term and in this larger context, what are we in libraries and information centres doing and why are we here anyway?

We do evaluation for both internal and external purposes. Internally, we assess where we are; determine our current achievement against our current goals; identify what we have yet to accomplish; and determine what it is we need to get there.

Externally, we use evaluation to communicate what we do, how well we do it, how far we have gone towards our goals, and what we need to accomplish our goals. Our purpose is to get the resources we need to achieve our goals.

But none of this answers the question: Why? Why do we need those resources? As a State employee in a State that had cut the allotments to families on public assistance when it has given university faculty salary increases, I have to ask myself, 'What do I contribute? What am I doing?' I think we all have to step back and ask what it is that we are doing here and why there are libraries.

One interesting aspect of working on our Digital Library Project with people from many different disciplines is them asking, 'Why are there libraries and what do they do?'. And when we talk about creating a digital library we have to ask: 'What is the essence of the library that we are then transferring to this digital form?' I hasten to add I am not going to answer all of those questions today. I am going to raise them. I want to read to you a quote from A. Bartlett Giamatti when he was the President of Yale University in an essay called 'Ruminations on University Presidency'. He is talking about universities but he could easily be talking about libraries. He says:

'Of all the threats to the institution, the most dangerous comes from within. Not the least among them is the smugness that believes that the institution's value is so self-evident that it no longer needs explication, its mission so manifest that it no longer requires definition and articulation. Without constant attempts to redefine and reassert publicly their nature and purposes, universities become frozen in internal mythology, in complacent self-perpetuation . . . When they are not challenged within themselves to justify themselves to themselves, as well as the society they serve; when they are not held accountable by themselves and are not constantly urged to examine their pre-



supposition, their processes and acts, they stiffen up and lose their evolving complementarity to other institutions.' (Giamatti, 1990)

I think this should be the introduction to any manual on performance measurement in any kind of organisation.

When we do measurement and evaluation we collect data that describes our institutions, but in the choices that we make about what data we collect and how we use them, we are basically entering into a conversation about why we are here, and what we are trying to accomplish. Briefly, we could say that what libraries do is to ensure that people get the information they need in the format in which it is most useful and in a timely fashion. Our emphasis in our Digital Library Project is what we are calling 'user-centred', that is, our purpose is to provide what our users need. And we are calling it 'work-centred', using 'work' very broadly, not necessarily just to support the work for which people are paid, but rather the purposes for which they are looking for information.

#### UNDERSTANDING USERS' CONTEXT

In our particular project we have developed a hierarchy of activities that we look at. First we needed to understand the larger context of people's work for which they are using the digital library; in this case, environmental planning. Then we had to look at the specific purposes of the organisations we are working with, which differ considerably. Among the groups we are working with is the Department of Water Resources, which is concerned with water planning. In California, we are in a perpetual deficit in our water supply and it is growing worse as the population grows. The Department of Water Resources used to build dams, so they are basically engineers. They do not build dams any more because firstly, almost every river in California that could be dammed has been so, and, secondly, dams are no longer politically popular. It also turns out that building dams is a very complicated process and the impact on the environment is extremely complex. Then we have the Department of Fish and Game, who are basically biologists. This agency is concerned with both conservation and with fishing and hunting. And this is just the beginning of the complexities of environmental planning. What is important in this is that we have different units within the same organisation that have extremely different goals. They have different professional cultures, priorities, and ways of organising the world and looking at information.

The next level with which we are concerned is the individual: 'What is that person's particular job and particular interests?' Then we look at the level of what we are calling 'the information act', that is, the process of acquiring and using information. Only after all of these do we look at how they use our Digital Library.

So we have to understand the larger context and it is in this larger context that we make design decisions and evaluate the system. How do we design a system that works for the engineer in the Department of Water Resources, and the biologist in the Department of Fish and Game, and the 12-year-old writing a paper for school? It is impossible to build a system that is equally good for all of them, as public librarians certainly know well, and as academic librarians also know. So as librarians and information managers, what is it that we do in this context?

#### LIBRARIANS' FUNCTIONS

Librarians and information managers perform four basic functions (Van House and Sutton). We design and construct information tools such as catalogues indexes and interfaces. Second, we operate and maintain them, regardless of whether we designed them ourselves. Third, we help people; we do training and we do direct user assistance as in reference services, where we work individually with the user. Fourth, we act as what economists call 'agents', that is, we act on behalf of people, as opposed to the kind of service where we say, 'Here is the catalogue; here is what you look under; here is where you may find your answer'. 'Agency' is where we say, 'Here is the information you asked for. Here it is, synthesised, packaged, pulled together in a way that you can immediately use it.' And in that same role we also act as collaborators on projects. What we see in the States, and I suspect elsewhere, is that, whereas in special libraries and corporate information centres, people have acted as agents or collaborators much more than in academic and public libraries, that function is now growing in importance.

#### EVALUATION

I once did a study of a special library within a government agency where the users were scientists. One user said, 'This is a wonderful library. I come in; I tell the staff what I want; I go over and I browse the new journals and in ten or 15 minutes they hand me what I was asking for.' Another user said, 'This is a terrible library. I walk in and the



staff immediately pounce on me and they want to know what I am there for. They get in the way and they don't let me do it myself.' The staff did this because it was a very complex library. They had decided that it was easier to do it for the users than try to explain to them how to do it on their own. So we have identical services, two different users, and two very different evaluations based on their expectations and preferences.

In doing evaluation we must remember that there is no objective good. There is no objective standard of what is good and how well we are doing (Childers and Van House, 1993). Yet that is often implied by the way we do performance measures. We have the sense that if we can collect the data, we will look at it and say, 'We are 90% at where we want to be at 100%.' In working with many libraries in planning and evaluation, I have seen them lay out all the data, and say, 'So what does this mean? How well are we doing?' And when we ask those questions, we are dealing with some of the critical issues in measurement and evaluation.

#### WHAT IS IMPORTANT?

Evaluation is an organised, officially sanctioned way of paying attention. It is how we tell people within the organisation what is important. Behaviour follows the reward system. Even if rewards are not directly tied to evaluation, in saying, 'We are going to collect data on this; we are going to look at this', we are saying to people, 'This is what is important'. And they will behave accordingly. Along the Cotswold Way, I saw buildings with bricked up windows, a relic of the days when buildings were taxed according to how many windows they had. The incentive, of course, was to not have many. So if you had a building when the tax was instituted, you had an incentive to close up those windows. I was told that buildings were also built with windows that would be opened up later, after the tax collector had passed through. If you create an incentive system that says windows are the measure of how much wealth a building represents, and determine the taxes, people immediately respond by putting in fewer windows. Similarly, in the way we do evaluation and the choices we make, we convey to people within and outside the organisation what is important, what behaviour we want to encourage.

I suspect that many of your libraries count the number of people who come through the door, one way or another. You may have a turnstile that automatically counts, you may do some sort of survey.

One of my colleagues at UC Berkeley said to me, 'This is the most wonderful library of any university where I have worked. I have been here for three years, and I haven't had to go to it once yet.' He can dial up the campus catalogue from his computer, place an electronic request, and have the item delivered to his office, generally within 24 to 48 hours. In his opinion, that is superb service. He never walks through the turnstile. So any measure that implies that a larger turnstile count means a better library assumes exactly the opposite of what that faculty member sees as good service. So the data that we collect has implications for how we collectively define good service and the behaviour that we then try to promote.

#### THE POLITICAL DIMENSION

Evaluation is highly political because it is about allocation of resources which is *always* political. Allocation of resources requires that we make judgements about what is important, that we make trade-offs, and give money to one service or one group and not to another, so it always entails political issues and political processes. We are making judgements of value. We cannot avoid making them. We cannot avoid, then, evaluation being political. What we *can* do is to be conscious about its political aspects and the nature of the trade-offs. Evaluation is, then, an important component in our decision-making and the process by which we say, 'This is what we will do; this is what proportion of our resources we will allocate to it'.

#### AN ITERATIVE PROCESS OF SENSE-MAKING

The evaluation process is often described as if it were linear, but it is not. It is an iterative process. It is basically continual course correction. We make some choices; we implement some decisions; we look at how well we are doing; we then correct. We do a little more of this, a little less of that; we try a little different approach. It is important to remember the iterative nature of this process and those decisions. This iteration, and all of these decisions, entail a discussion. This discussion is joint sense-making (Gioia, 1986). People want to know what it is they are doing and why. This understanding governs the choices that we make, literally, minute by minute, about what we do, how we spend our time. In service organisations in particular, where much of what goes on in the organisation is between the service provider and the client, our joint understanding of why we are here determines those decisions that are made.



In this Conference Centre I have several times asked the staff for directions. They do not simply say, 'Take the corridor, turn left, turn right, then go through the double door, then, then . . .'. They have said to me, 'I will show you', and they walk with me until we get to where I can clearly see my goal. Someone has said to them, or, rather, they have said among themselves, whether formally or informally, 'You cannot simply give people directions because they will get lost. You have to go with them to ensure that they get there.' Each of them is making a decision at that moment when I ask the question about how to answer. And the consistency of the answer is a function of that joint sense-making, which may be a formal process, or it may simply arise from talking about how they do their work or watching one another. We acquire this sense-making through discussion, but also acquire through simple observation.

Jerome Bruner defines culture as: 'the implicit and semi-connected knowledge of the world from which, through negotiation, people arrive at a satisfactory way of acting in given contexts. Acquiring culture is like interpreting ambiguous texts.' (Bruner, 1986) This is what we do in organisations as we interpret the text around us; as we learn by watching those around us. This is particularly evident when we go into a new situation: in a new job or a new organisation, or travelling in a different culture where people do things differently. As we go into a new situation, we learn how things are done. Much of this is done by conversation, but not entirely.

#### MAKING VALUES EXPLICIT

I said that at the University of California, Berkeley, I have been part of the management team. One of the issues we have been dealing with is budget cuts. There was discussion about closing departments, including ours; the departments under consideration called ourselves 'the endangered species'. The departments under threat were: Library and Information Studies, Dramatic Art, Art Practice, Scandinavian, and Physical Education. In the discussion around these units, and in the larger discussion around closing academic units, we had to discuss the mission of our university - in our case, the mission of a State government-funded, internationally-prominent research university.

Generally these discussions are not explicit so it is difficult to listen between the lines for the priorities and values. One of my colleagues in English Literature said that he could not imagine a major university without a Dramatic Arts Department.

Well, I could assure him that many of our colleagues in units like Engineering could. An editorial cartoon in the local newspaper showed a place titled 'University of California' with a huge building with columns in front labelled 'College of Engineering', and then what we would call a trailer and you, I think, would call a caravan parked next to it with a sign saying, 'Department of Everything Else'.

So in looking at the decisions to be made, we had to ask, 'What is it that the university is about?'. And to answer that one looks at the indicators of what is important. One such indicator is the allocation of resources in shortest supply. On our campus that is parking. Classrooms run a close second. We have Nobel Laureate Parking Permits and Nobel Laureate parking spaces in which any Nobel Laureate may park. It seems that a number of Laureates asked for personal parking spaces. But there were so many Laureates, and because people tend to get Nobel Prizes late in their careers, so that many Laureates were retired and did not come to campus very often, there were prominent empty parking spaces, which caused great resentment. So the administration makes the Nobel Laureates share parking spaces. That tells you something important about our university, that it has enough Nobel Laureates to cause parking congestion. (And that parking spaces are rare and valuable.)

Another important indicator is the source of resources. In our university, students are charged modest fees, but the campus does not keep that revenue. Our revenue from the State is not tied to the number of students, so admitting large numbers is not the goal. We have a limited number of student spaces which are allocated to the various academic units. (In some private universities, in contrast, where student fees are the major source of income, a unit is successful insofar as it can attract large numbers of students.) It is expected that every academic unit will have many more applicants than it has room for and will turn away large numbers. The Law School, the unit in greatest demand, typically turns away 200 to 300 students for every one they admit. So if we were to say that we turned away ten for every one we admitted, the response would be: Is that all? Perhaps they should take the student slots from us and give them to Law.

The significance of this discussion is that we had to look at our particular context and the specific indicators of value or of success on our campus, which are different even from other, similar universities.

In the discussion on campus around budget cuts, we also asked whether we should capitalise on



strengths or strengthen weak departments to bring them up to the level of others. There are no right answers in any of this. What was important was the discussion. In most such cases, the discussion is not that apparent; rather the organisation's values are infused into new organisational members subtly, over time. It is interesting to watch people coming in from other universities with different value systems. We even say, 'Well this is Berkeley, we do it the Berkeley way'. Every organisation works in this way. They do not necessarily talk about it in these terms.

#### COMPETITION

One of my themes is that we are in competition. I said that the National Science Foundation made libraries popular. But that is a double-edged sword and an indicator of the competition that we face. Stuart Sutton and I are writing a paper on library education that we have titled 'The Panda Syndrome'. Pandas are endangered because they have a very narrow ecological niche. The terrain on which they live and their limited food source, bamboo, are disappearing. Similarly, professions shift their practice domain, and in shifting they come into competition with one another. When computer science first emerged, for example, mathematics and engineering competed over which one had domain over computer science.

We also see competition in the public's estimation. In the States we now have many people with masters degrees in Social Welfare, doing psychological counselling in competition with psychiatrists and psychologists. Their advantage is that their training takes less time and they cost less. So in many areas, we see different professions jockeying for jurisdiction over new or existing areas of professional practice.

In librarianship, we are seeing competition for what has historically been our niche. We are not accustomed to competition and the people who are competing with us are. In our Digital Library project, we are working with people from computer science. Computer science is trying to take over the work that many of you have been doing. They do not let the fact that they do not know much about many of the areas in which we are expert get in their way. They are discovering things like controlled vocabulary - what a surprise! They are even more surprised when they start describing this and we say, 'Oh yes, we have a term for that'. 'You have a term for it! You have already thought about this?' Some of them understand what we have to contribute and work with us. Many do not.

#### THE RULES OF THE GAME

Another advantage that other professions have in ecological competition is that species that are very large, very flexible and very diverse can out-compete species that are small, inflexible and homogeneous. As a profession we tend to be a small group when compared with computer scientists or engineers or people in business management with a speciality in information systems. There are not that many of us and we are not used to competing for jurisdiction. We do not know the rules of the game. Furthermore, the rules of the game change, much like the croquet match in *Alice in Wonderland* where the wickets kept getting up and moving around.

Pierre Bourdieu (1990 and 1992), the French sociologist, talks about power and he uses the analogy of the playing field. He says that groups compete not just for dominion on the playing field but to determine the rules of the game, the boundaries of the playing field, and the players. We tend to believe that if we can figure out the rules, we can compete and we can win. What we do not notice is that the rules keep changing; our competitors are not competing under the rules, they are competing to determine the rules.

People become enamoured, for example, of the World Wide Web. If you use the Web very much you will know that it is chaotic. It is an impossible place to find anything, and if you find something today it may not be there tomorrow. However, people can sit at their computer and find information and download it immediately; they have the sense that this wonderful resource is putting all the information in the world at their fingertips. They then see the people building the Web as the purveyors of information of the future. And so that is where the cutting edge work is being done. And, therefore, those are the professionals who are the information professionals of the future. They are changing the boundaries of the playing field on us. If we sit here and say, 'But the Web is terrible, it lacks organisation, authority, and controls', that does not mean that therefore we can not bother with it, or wait until it stabilises, or do things our own way which is better; the world is going that direction with or without us.

Another important point in Bourdieu's work is having a feel for the game. This is not something that people learn by simply learning the rules. I have been told that I will never, ever, understand cricket and that there is no point in anyone even trying to explain it to me. I would say in turn that you



will probably never, ever, understand baseball. I may be able to explain the rules but you will never understand the fine points of the game. In the same way, Bourdieu says that people who are not immersed in the game do not develop the feel for it that allows them to improvise, to operate within and outside of the rules, and to change the rules.

The professions with whom we are competing have much more of a feel for the game of competition than we do. Computer science is an extremely fast moving, highly competitive field. This is what computer scientists are accustomed to, and how they have spent their entire careers. Our field looks very mundane, calm and civilised in comparison, as much as we may think that we are living with rapid change. We do not know how to compete for jurisdiction, yet the growing value of information, in business and in other spheres of life, plus electronic access and the ease of access created by these new modes, makes it a highly desirable area which attracts other professions.

#### QUALITATIVE MEASUREMENT

So measurement and evaluation, then, have to be understood as part of a whole symbolic scheme by which we talk among ourselves and with others about what is important and how we do things. Jerome Bruner (op.cit.) identifies two complementary modes of thought. One is scientific, paradigmatic, with logical evidence and empirical discovery, and the other is narrative, based on good stories. In measurement and evaluation we know these two modes: one is quantitative and one is qualitative.

#### TELLING THE STORY

Much of the discussion at this conference will be about quantitative performance measurement. So I want to talk about qualitative, that is, the story. We make sense of the world by telling one another stories. We look back on how we have lived our lives and we make stories out of what were random events. In talking about information systems, too, we talk about the stories. What did the person come for? What were their intentions? What did they find? What happened? What was the surprise? What was the value? How did this save them from a mistake? Did it contribute to a research project? What happened and why? We cannot do evaluations simply with anecdotes, but I want to stress the importance of the illustrative anecdote and the cohesive story. We look at the data and we tell its story.

Our campus, for example, has many branch

libraries which all collect pretty much the same data. All of them count their circulation, that is, their loans. The BioSciences Library has an extremely large journal collection which is used mostly for photocopying. They have very many readily accessible photocopiers, so people take the journal off the shelf, make a copy, leave the journal for reshelving and depart without ever checking out any materials. This use does not show up in circulation statistics. But the library can tell the story I have just told you by counting their reshelving activity and the use of their photocopying machines. So another branch will have much higher circulation statistics, but BioSciences will have a figure for photocopies made that is much greater than any other branch's. The numbers in and of themselves are not very useful but the story I have just told of how people use that particular library makes sense out of them. And the numbers are the evidence that supports the story.

#### UNDERSTANDING THE TEXTURE

In our Digital Library Project, we took our Principal Investigator, a computer scientist, to meet with a group of users. It was important for the users to see the person in charge of the project. But this also had the advantage of putting the Principal Investigator in a room with a group of real information users. These people watched his demonstration and said, 'That's wonderful. And does it do this?' And he said, 'Well, no'. And they said, 'We really wish it would'. I could have told him this. But the users could tell him the story of what they wanted and how they would use it. It is important that people understand the texture of the process and not simply the story we tell from the outside with the numbers. We could have said to him, 'This many people use it; this many use this function and that function.' But what would that tell him about the functions that they wished they had? By talking with the users and hearing about their work, their preferences, and their needs, he heard first-hand about what was important and why.

#### ON NOT MISTAKING THE FINGER FOR THE MOON

In the future we will see increasing competition, probably from areas we cannot even imagine, yet. We will see a continuation of what we call 'disintermediation', such as people using the World Wide Web, that is, people doing their own information searching and not asking us for help. But we are also going to see, I think, increasing demands on us



to help people to deal with difficult and complex information systems. We will see a continuing proliferation of information tools of many sorts, and if we are not out there designing them, other people will be. Better us than them.

During our discussion about closing or changing our School, some of our alumni were not pleased with our direction. But we said that new information jobs and new information organisations are emerging, and asked them whether they would prefer these new professionals were educated in the Business School or in the Computer Science Department, rather than in our School, or a successor to it that incorporated librarians' traditional skills and values. Better us than them.

We are also going to continue to live with uncertainty and rapid change. You hear that all the time and I will add my voice. We have to be clear about the contributions that we can make. One of our major contributions is our focus on the needs of the user, on how information is actually used by real people in real situations for real purposes. On the Digital Library Project, the technologists have many different directions they can go and many choices to make. They come to us to ask advice. And we are in a position to report on what our users prefer and need. We librarians and information professionals need to be to be partners in the design process with the technological specialists. That means that we need the knowledge about the technology to hold our own in these discussions. But we do not become just another kind of technologist, another computer scientist, another management specialist. We need to hold the uniqueness that we bring, the emphasis on the user, on information, and how information can be used.

We have to be willing to be involved in the design of not only new tools but new institutions. Libraries have been an extremely useful institution. They may continue to be. There will be new information institutions, however, that will complement, and possibly replace, libraries. We have to be ready to move to whatever the new institutions are. Yet again I would say, 'Better us than them'. If we insist that the future of librarians and information specialists is tied to the future of libraries, we may find ourselves like the pandas, pinning their future to the future of bamboo. I am not saying that libraries will go away, I am saying that we need to be prepared to move into whatever the information institutions of the future may be.

We are going to face change; we are going to face competition; we have to be clear on what we do; we have to use data to describe what we do; but we also

have to know the story that we tell with the data. The data by themselves do not tell us what we should do and why. Evaluation is how we construct sense, in an ongoing reconstruction within our libraries and with the larger organisation. And we have to remember that context is critical in determining what we do and how we do it, and how we talk with people around us.

So back to the title, 'On Not Mistaking the Finger for the Moon'. We mistake the finger for the moon in two ways. One is we mistake the library for the information. Our goal is not to get people to use the library, it is to provide them with the information they need. And the other way that we mistake the finger for the moon is when we mistake performance measurement for the performance, for the achievement that we are trying to reflect. We are always, of necessity, a little bit off when we use quantitative or qualitative data to describe the performance of libraries and information centres. We suffer a mismatch in trying to objectify in these data the richness, complexity and dynamism of what we do. But we use the tools that we have.

## Note

1. World Wide Web address:  
<http://elib.cs.berkeley.edu>.

## References

- Bourdieu, Pierre (1990) *In other words: essays towards a reflexive sociology*. Trans. Matthew Adamson. Stanford, CA: Stanford University Press
- Bourdieu, Pierre and Wacquant, Loic J. D. (1992) *An invitation to reflexive sociology*. Chicago, IL: University of Chicago Press
- Bruner, Jerome (1986) *Actual minds, possible worlds*. Cambridge, MA: Harvard University Press
- Childers, Thomas A. and Van House, Nancy A. (1993) *What's good? Describing the public library's effectiveness*. Chicago, IL: American Library Association
- Giamatti, A. Bartlett (1990) *A free and ordered space: the real world of the university*. New York: WW Norton & Co. p.25
- Gioia, Dennis A. (1986) 'Symbols, scripts, and sense-making' in Sims and Gioia eds. *The thinking organization*. San Francisco, CA: Jossey-Bass, Inc.



Van House, Nancy A. and Childers, Thomas A. (1993) *The public library effectiveness study*. Chicago, IL: American Library Association

Van House, Nancy and Sutton, Stuart. 'The panda syndrome: an ecology of LIS education'. To be published in the *Journal of education for library and information science*.

## Discussion

*Andy Exon, Curtin University of Technology:* Can you expand on qualitative measures in terms of context? Do you have to educate university managers to accept the story you tell them? How far down the track are we in having sufficiently educated administrators to whom we can tell our story?

*Nancy Van House:* I do not agree with your assumption that we need to educate them to accept the story. The story is how we make sense out of the numbers. If we present them with the case of the university library where people no longer need to come in the door, and with turnstile counts that say the number of people entering the library has declined by x% in the last y years, for example, those numbers in and of themselves either tell no story or they tell a story of declining service. But if we put together the numbers that say people are not coming in, that they are accessing the catalogue remotely, that those uses are up, and that the number of users of the document delivery service are up, then we put those together and say the story they tell is that people need not be inconvenienced to come to the library, that we are delivering the service better and faster; then we have taken those isolated numbers and made a story out of them.

*John Clark, Rampton Hospital:* Recent research by Trent Regional Health Authority showed that although many libraries collected data, they did not actually publish it in a report. Is one of the ways of making sure of telling the story the publication of a report?

*Nancy Van House:* Publishing is certainly one way but I suspect that many libraries use data mostly for their internal budget documents, their internal discussions with their funding agency. One of the hazards of publishing data is cross-institutional comparison out of context. Public libraries in the States are asked to submit their data for publication by the Public Library Association. One of the hazards of

that is in comparing libraries with different goals. One library, for example, may have a very high circulating collection. Their collection development policy is to buy very popular materials. Another library may be more of a research library. Without knowing their different goals, if you just compare the number of loans, you conclude that one library circulates so much more than the other and therefore provides more and better service. You lose the contextual information.

*John Clark:* Is not the purpose of the report to draw that out?

*Nancy Van House:* It is difficult to draw out those kinds of differences. One of the publications concerned with public library planning and evaluation lists eight common library roles. One is popular material centre, one is reference library. Libraries are asked to identify which roles they have chosen. I did a study where we looked at some of those choices and we found that everyone chose the same ones (Van House and Childers, 1993). So although the intent was to be able to differentiate based on goals, in practice it was very difficult to do.

*Michael Carmel, South West Thames Regional Library Service:* On competing for territory, were you implying a move towards co-operation, joining computer scientists on that territory and working with them?

*Nancy Van House:* Yes, That is certainly what we have done in our Digital Library Project where the three professions work together. In my paper with Stuart Sutton we talk about hybridisation as a survival strategy, that is, to take on competitors' better characteristics. What we also expect in planning the new School is more of a hybrid curriculum in that we will require more of a technological background among the students. Whether it is competing through co-operation or competing through co-optation - as long as we stay in there.

In the paper when we talk about survival we mean not survival of the individual, since the individual does not survive, but survival of the genetic material. In terms of education that is survival of our orientation, our expertise, our values, and if you combine that with the expertise from other fields, that may be the most appropriate strategy.

*Tony Hooper, University of Cape Town:* It seems from what you were saying that the context of performance measurement or performance indicators is



absolutely crucial. If so, is there any point in drawing up agreed indicators for different types of library?

*Nancy Van House:* One of the continual stresses of performance measurement is just that. In trying to give the story to your funding authority, one of the things they continually ask is, 'How do you compare'. We often find in public libraries that the local authority considers such and such a city to be similar in terms of geographical area or population size and demographic composition. They want the comparisons because one way we make evaluation judgement is comparison against some standard. Where does the standard come from? What everyone else is doing is one possible standard. If Berkeley were admitting students whose undergraduate or secondary school records were considered inferior to universities with which Berkeley considered itself to be peer, we would consider there was a decline in quality. There is continual pressure towards uniform measurement and collecting and publishing those data so that we can compare ourselves. In doing that you lose the contextual information.

In those examples, I was saying they were comparing with particular peer institutions or jurisdictions so there is some context there already. Where a city may say, 'We do not consider the city next door to be comparable, because they have different demographics, whereas we consider another city to be comparable', in essence they are trying to control some contextual variation. It is very difficult and a stress that remains unresolved. We have the two pressures: for uniformity and consistency on the one hand and for idiosyncrasy and autonomy on the other.



# The Impact of Performance Measurement on Library and Information Services: A Decade of Experience

John Willemse

Professor, University of South Africa

## Introduction

With the exception of a number of projects which have been undertaken as pure research, performance measurement in libraries is usually done for one of two reasons. The first is that it is required by the library's governing body, which wants some form of accountability, usually from a financial perspective. In this case the measures are usually determined by outside persons, and very often without consultation of library staff. As a result library staff react negatively to performance measurement of this nature, predominantly because they regard the measures as inappropriate.

The second reason to measure the performance of a library is the library staff's own wish to know how well they are doing, to determine which areas of the library services need to be improved or to convince their authorities of their library's need for financial support (Willemse, 1989). The approach taken by libraries depends on their perception of organisational effectiveness. The complexities of organisational effectiveness and the widely divergent views that exist are clearly summarised in one of the most recent publications on the topic (McDonald, 1994). In the case of the University of South Africa (Unisa) the library has for many years expressed that its aim was to provide the best possible library service, and in fact that it wanted to be the best library. Although the library had been continuously improving its services, it had never measured its performance in any meaningful way. When lecturers from the University's Post-graduate School of Business Leadership (SBL) acted as consultants for the library in its endeavour to further improve its services in the late Seventies, the first question they asked was how we would know when we were the best. The ensuing discussion led to a realisation of the need for a process of setting clear goals and objectives for effective service from the user's point of view. This paper will describe the development of the use of performance measurement at Unisa as part of the library's integrated planning and control process in its continuing effort to improve its services over more than a decade. It is, therefore, a discussion of the application of performance mea-

surement in the management of a library and will not be concerned so much with the actual performance measurement itself.

## University of South Africa

The following background information on the University and its library will help to better understand the discussion of the process which is to follow. Unisa, which started as the University of the Cape of Good Hope in 1873, being the administrative mother institution for a number of university colleges, assumed a distance teaching function in 1947, when most colleges had become or were on the verge of becoming autonomous universities. Unisa was, therefore, one of the first universities to be devoted entirely to distance teaching. It is at present offering undergraduate as well as postgraduate studies up to doctoral level to over 128,000 students, mostly in Southern Africa. The Unisa Library, in contrast to those at most other distance teaching institutions, offers a full service to both staff and students. With almost 1.6 million volumes of books and journals and 7,000 current periodicals as well as a large collection of audio-visual materials, mainly in the humanities and social sciences, it is one of the largest research libraries in the country.

The library service to undergraduate students focuses primarily on the provision of literature recommended for assignments which students have to do in most courses. This service is provided by way of a separate Study Collection with multiple copies of the recommended titles in the main library in Pretoria as well as in branches in some of the larger urban areas. A large part of the circulation is done by post (Willemse, 1991).

The service to the teaching staff, researchers and postgraduate students is developed around a large number of subject librarians who, apart from being responsible for the development of the Collection, assist the researchers with literature surveys and obtaining literature not available in the library. For this purpose an excellent collection of bibliographical reference sources has been developed, which is supplemented by the latest CD-ROM and online information services available.



## Start of Unisa Performance Measurement

The continuing average 9% per annum increase in the number of students during the Sixties and Seventies resulted in a strong growth in library collections and staff. This required that the organisational structure of the library be adapted from time to time to the changing circumstances. Lecturers from the SBL, who had been applying an integrated planning, control and performance evaluation system in the business sector, were keen to test this in a service environment and offered to assist the library in putting it into practice. Their system was basically a bottom to top approach, where in each section the staff with their supervisor and his/her immediate superior had to decide on those key performance areas which would most contribute to the success of the organisation. Agreement had then to be reached on measures which could be used to determine the level of performance. Each supervisor then had to report regularly to his/her superior on progress and planning for further improvement. Although this exercise was a big success from the point of view of determining exactly what supervisors required from their staff, many problems were encountered in finding acceptable measures for performance. The main reason for this was the staff's unfamiliarity with sampling techniques and their resultant mistrust of the findings. Our efforts to pressurise staff to accept measures for activities resulted in endless debates, as it was often felt that one measure that was decided upon did not measure the value of that activity adequately. The negative reaction which developed was so strong that the whole exercise had to be stopped.

On the positive side there was general agreement amongst the staff that the library did require a well formulated goal with measurable objectives which would indicate to what extent the library and its divisions were performing well. The SBL team's argument that an activity or programme had to make a measurable contribution to the realisation of the organisation's goal made sense, as each activity was using up a part of the available resources. From a management point of view it is, therefore, essential to determine to what extent these resources are being applied to realise the objective for which they were provided. It is also essential that the performance be continuously evaluated.

The ideal to make our library the best can possibly be regarded as vague, naive or even unrealistic. It was, however, very seriously intended. The senior staff of the library came to the conclusion that the

best approach was to formulate a goal which took into account the reasons why the authorities were providing extensive funds for the library service, that is, as the most cost-effective means to provide staff and students with access to the publications and other information sources which they need as well as information which they may require. The goal also had to be in line with the reasonable expectations of users of the service. Objectives to realise that goal had then to be formulated in quantifiable terms, after which measures had to be found by which library management, university authorities and users could see to what extent the library was realising its goal. It should be stressed that Unisa's decision in this regard was based on the library management's ideal to develop an excellent service. At the start of the project little had been published on this topic in the library literature and the library, therefore, tackled the problem largely on an empirical basis (Willemse, 1987).

## Mission, Goals and Objectives

Where the SBL had followed a bottom to top approach, it was now decided to follow a top to bottom one, starting with the formulation of the mission and organisational goals for the library by the Chief Director and the five heads of divisions. After they had reached agreement amongst themselves, the statements were discussed and further refined by a committee of staff from the middle management levels and eventually approved by the Library Committee. It was a slow process but the many discussions over a long period of almost two years had the result that it was widely accepted. The cornerstones of the mission statement were (1) the need actively to promote rather than just to support the university's programmes; (2) a clear distinction between the different needs of the two main user groups, namely undergraduate students on the one hand and lecturers and researchers (including postgraduate students) on the other; and (3) the view that the primary services to be provided were information sources and information itself. The need for community service was also realised, including the need for library co-operation. With time it was further realised that the library also had an obligation to educate its clientele in the effective use of library and information resources.

Although it had been agreed from the start that the main thrust would be on effectiveness, it was realised that efficiency was no less important and had also to be addressed. The summary of the library's mission, goals, objectives and measures as



it appears in Appendix 1 provides the situation as it has developed over time. It was agreed by the library staff that we had, in common with most service organisations, a large number of goals, but decided that we had to concentrate on a few of the most important ones.

### Information Provision

The goal to provide information, or access to it, is perhaps the ultimate goal of any library. Due to the nature of Unisa's distance teaching function undergraduates have requested virtually no information services from the library in the past and goals or objectives were, therefore, only set for the provision of information for research addressing the needs of 3,000 students and the 1,400 academic staff. Their requirements are predominantly in respect of literature surveys for their research, which were addressed in the goals statement.

The objective to answer, upon request, the greatest possible percentage of bibliographic and information enquiries accurately and quickly has for many years posed a problem, as no acceptable measure to determine its effectiveness could be found. Most of the methodologies proposed in the literature were either not applicable to our situation or too time-consuming and costly to be used on an annual basis or more. A number of measures were tried and later discarded. Eventually a member of staff did a Masters thesis in library science on the topic (Dalton, 1991). Her study developed a quantitative user satisfaction assessment instrument for implementation as a management tool to evaluate user satisfaction levels with the quality of the service provided by the Subject Reference Division. A user satisfaction model, derived from the disconfirmation of expectations paradigm applied in consumer satisfaction research, which defines satisfaction as the difference between the average actual performance of the service provided and the average expectations of the user, was used. Having derived statistically-based quantitative levels of satisfaction for the different components of the subject reference service, a user satisfaction scale is proposed to regularly monitor user attitudes. Her findings provided an excellent basis for evaluating user satisfaction with the service of the subject librarians in general. They did, however, not provide an insight into the effectiveness of the information service and any specific problem areas.

The provision of information sources was seen as the primary function of the library. Most of its human and financial resources were, and are still

used for that purpose. The next step was the formulation of the library's document or information source delivery goal in terms of effectiveness from the user's point of view. It was argued that users would perceive the service as effective to the extent that they would be able to obtain the required information sources. Separate goals for students and researchers, who had different needs, were decided upon. The initial objective was formulated as an ideal availability rate of 90%. This rate was decidedly unrealistic in view of the prevailing situation. As such an unrealistic objective has a negative or demotivating influence on the library staff, the long-term objective for effective provision of information sources was reformulated so as to provide the maximum quantity of required information sources upon request. The present situation serves as a point of departure and at each planning session an objective for a realistic improvement of performance has to be set.

### Availability Performance

The first measurement of the effectiveness of document delivery was based on available data. This, however, proved to be too imprecise as it did not fully reflect failures of local users. At that time a methodology reported by the Library Management Research Unit in Britain was identified which, with a number of changes for our specific circumstances, has been the survey method used, according to which availability has been determined since 1985. Later further refinements were made, based on Kantor's methodology. In the beginning the surveys were done on a monthly basis, but this was rather costly and had to be reduced to quarterly ones. From the figures in Appendix 1, one can see a fluctuating, though in most cases slowly, improving performance. Although the improvements are not dramatic, it needs to be pointed out that during this period the book and journal budgets were under serious pressure and book acquisitions are at present below the level of 1982 whilst student figures have increased two-and-a-half times. The improved performance has to be attributed to the information resulting from our continuous performance measurement and the focused planning efforts to ensure greater effectiveness.

The information from the availability surveys, which are also designed to establish reasons for failure, have produced information which has in particular facilitated a continuous process to eliminate or rectify problem areas (Appendix 2). For instance, contrary to expectations the surveys have shown



that the main reasons for failure result from the fact that the required publications have already been borrowed by other users. This finding has led to a number of actions to improve the situation. More money was initially made available for duplication of recommended titles. When, after a serious reduction in the book budget the performance showed a strong decline, an increase in the funding was obtained as a result of the data we could provide. Unfortunately, the present economic conditions have resulted in further unavoidable cut-backs. This has forced the library to look for other alternatives to maintain its performance. Shorter loan periods are, unfortunately, difficult to apply in the distance teaching mode, due to long periods required for postal despatch. The only other way open to us to ensure that requested material is available was to change the policy for recommended literature. After negotiations with the teaching staff it was decided to replace recommended books for first-year courses with so-called books of readings, containing the appropriate chapters of books and required journal articles, as a more cost-effective alternative. When even that was not sufficient, it was reluctantly agreed to further limit the number of titles that could be recommended per course.

The surveys also indicated that a large number of failures are due to the inability of the user to obtain the required material which was in fact available on the shelf. This led to the addition of the goal that user education should be provided and a new post was approved for this purpose at a time when all other requests were turned down.

The library is now pursuing an active programme to educate its students in the use of library and information sources designed to reduce the percentage of availability failures due to users' inability to locate them. Amongst others, workbooks have been produced for first- and second-year students explaining the use of the library and general reference sources. For honours students similar guides have been produced on the subject reference sources for the various subject areas taught at the university.

So far the effect of this programme on the reduction of the failure rate has been rather small and further measures have to be taken. The fact that we have already identified and quantified this problem area is regarded as important.

Other problems were identified and addressed in a similar manner. Performance measurement does, therefore, not only provide an indication of how good or bad the library is doing in relation to its goals and objectives, but also highlights problem

areas which can then be addressed. This is true not only in respect of availability, but also in other areas.

## Interlending

The most dramatic improvements were for instance realised in interlending. Although immediate availability is the ideal, interlending offers a way to improve availability over time. With the goal of maximum availability in the shortest possible time, the Interlending Section of the Unisa Library has developed a number of performance measures to determine its effectiveness. The performance measures were instrumental in targeting problem areas which could contribute to a more effective service by technological and other means. Since about 14,000 publications are at present requested annually from other libraries, the effectiveness of this service is a major factor impacting on the overall effectiveness of the library.

Two of the most important dimensions of an effective interlending service are:

- the extent to which required publications can be obtained
- the time it takes to obtain those publications

Initially, the aim was to provide 90% of these publications within two weeks. The actual situation, however, indicated that this was totally unrealistic, as indicated by the early measurements taken in 1987 where a reasonable 86.3% of requested publications could be provided, but the average delivery time was 26.3 days. The advantage was, however, that the performance measures were refined, appropriate areas for improvement were identified and action plans developed to gradually increase the effectiveness of this service.

Various actions taken have already been documented (Willemse). Apart from the general measure used for reporting the library's improved performance in this area, more detailed figures available show that a substantial number of publications are now supplied within a week (Appendix 3).

## Divisional Performance

When the library's corporate goals and objectives with their measures were in place, each division had to formulate its own goals and objectives. The latter had to be supportive of the library's overall goals. The following is a summary of goals that were developed over time together with their objectives and measures. The Acquisitions Division's goal was simply to obtain the sources



identified for addition to the collections. Its objectives were to do this (i) at the lowest cost; (ii) as quickly as possible; (iii) to the largest extent possible; and (iv) without unnecessary duplication. The measure in respect of the acquisition at the lowest cost was rather problematic as a norm to which we could compare ourselves was not available. A solution was found in comparing our costs to some of those of other large university libraries in our region on the basis of the data that is supplied to the Department of National Education.

In respect of cataloguing, the objectives were to do this timely and in order to achieve maximum retrievability. A measure for the latter was used whilst the card catalogue was still in use. When the library switched to a fully computerised catalogue no substitute methodology could be found to measure the effectiveness for this aspect of the service. For document access the goal was effective circulation control. The major contribution of this activity was to assure that borrowed materials are returned in time. The percentage of users who return their books before an account is rendered serves as a measure of this division's effectiveness. The objective was to minimise the number of accounts sent out to students. A further objective set was to minimise the number of books that had to be written off or replaced due to loss. The Study Collection's goal was the maximum availability of recommended literature when requested as well as the fastest possible despatch of books requested by students by post or electronically. Subject Librarians were set the objective of providing researchers with the maximum number of information sources in the library that they needed. Also requests for information should be answered as correctly and timely as possible.

These goals, objectives and measures were all agreed upon by the Chief Director, division heads and other senior staff in each subdivision. Although they may vary to a large extent from those used elsewhere or described in the literature, this is of no great concern to us. It is, however, regarded as absolutely essential that all persons involved, eg. the head and the persons reporting to him, should be in complete agreement as to what should be the goals and objectives of their section or subdivisions. Apart from the effectiveness measures mentioned above each division was also required to provide one measure of efficiency.

## Advantages

The biggest advantage of the system lies in the annual and more recently six-monthly planning cycle. These regular sessions which the Chief Director holds with the divisional heads and other senior staff in each division, compel the staff to regularly consider what their role in the library is and the way in which they support the university's programmes. In particular it forces the staff to focus on their most important key performance areas. As the system was developed gradually, it has resulted in general agreement on all the objectives. Invariably new insights into old problems emerge as a result of the performance measurement which has gradually been done on a more sophisticated basis and which is adapted to collect information on particular problem areas. This has resulted in a number of problem areas which could be reduced or even disregarded.

## Disadvantages

The biggest disadvantage of performance measurement is that it tends to be rather time consuming, particularly as staff would like their figures to be absolutely correct. The use of small samples which can provide an acceptable indication of effectiveness needs to be accepted. The performance measurement and planning system has greatly helped to focus on the core business of the library. This has, however, also had a very negative result in that it over emphasises operational goals. This might not have been a problem if proper attention had also been given to strategic planning, but for a long time nothing was done about this. When the library eventually undertook its first strategic planning exercise at the beginning of the 90s, which also produced a more client orientated mission statement, a number of very important strategic areas were identified ie. finances, affirmative action, rapid social change, democratisation, student demands and access to services and end-user requirements.

## New Performance Review and Planning Approach

With the implementation of the strategic plan, which coincided with a restructuring exercise in the library, it was obvious that a completely new planning and reporting system was necessary. The five operational divisions were reduced to three, namely Technical Services, Document Delivery and Client Services. Two new staff divisions were estab-



lished, namely Client and Personnel Development and Management Support Services. The latter two were to address some of the concerns which were highlighted in the strategic planning exercise.

Corporate workgroups with representatives from all the divisions were also given the responsibility for other strategic issues. As most of the issues had a bearing on the majority of the divisions, they were integrated with the operational planning.

Responsibility for the planning of strategic issues was given to the heads of divisions whilst the operational planning was done by the 14 subdivision heads. The guidelines for the new performance review and planning system implemented at the beginning of 1995 summarises the process as follows:

'Performance review and planning:

- focuses attention on the core business of a subdivision, its reason for existence, by identifying three to five Key Performance Areas, as the most important areas of functioning. KPAs are the important central functions of the subdivision.
- identifies the key output services and products (called products for convenience) of subdivisions. Products are the key outputs of the subdivision that are important for the clients, and whose performance is of importance to the overall effectiveness of the library. Hence the Chief Director is interested in performance measures relating to these products, how they perform, because they contribute to the overall success of the library
- identifies for each product one or more suitable performance measure that will enable operational managers and the Chief Director to assess how well the product is performing. Measures should be simple, easy to calculate, few, and relevant. A measure should identify what is most important to know about a product - its quality, throughput rate, delivery speed to client, or whatever is significant and useful to know about it. One or two measures per product is ideal.
- focuses the managerial process from Chief Director to line manager on operational performance and accountability for performance.
- becomes the centre of management control in a library that has become large and diverse in its operations, and difficult to co-ordinate and control.
- integrates cost control with output management.

The term performance measure is used in the following context: 'Performance measures tell us how well a task is being done. Each product is supposed to do something specific, eg. information provision is supposed to provide a client with timely, accurate and relevant information. If these are the things that we should be measuring (this is a hypothetical example) then the performance measures would be timeliness, accuracy and relevance.

Performance measures and their targets are usually expressed as a ratio, eg. successful service transactions per user, or as a percentage, eg. percentage of items supplied within four working days. Raw output statistics do not constitute performance measures until they are related to a standard or target.

Each product should have some way for us to measure a relevant characteristic(s) which will enable us to say how successful the process is. We sometimes have to experiment with different measures of product quality and/or client satisfaction to discover which are the most indicative, meaningful and appropriate measures.

It is easy to go overboard with measures, to attempt to describe fully all the desirable qualities of the product. What is needed, however, is a measure that is

- operationally significant and tells the managers and staff, and the Chief Director, how well the product is performing
- simple - easy to use and understand.
- meaningful - really tells us how the product is performing
- does not try to measure the immeasurable eg. project work. Such work is reviewed by achievements rather than by measures.'

The results have been most encouraging and the planning documents which are revised on a six-monthly basis by the senior staff in each subdivision together with the division manager, are also briefly reported on a monthly basis, highlighting critical areas.

Examples of some of the revised strategic and operational documents are attached in Appendix 4 and a list of recently revised performance measures is supplied in Appendix 5.

## Conclusion

Performance measurement at Unisa is integrated in its planning and review procedures. It has been developed over more than a decade and is continuously adapted and improved. The results of the



measurements provide new facts on many aspects of the library's service. These often confirm long-held beliefs, but also result in new insights.

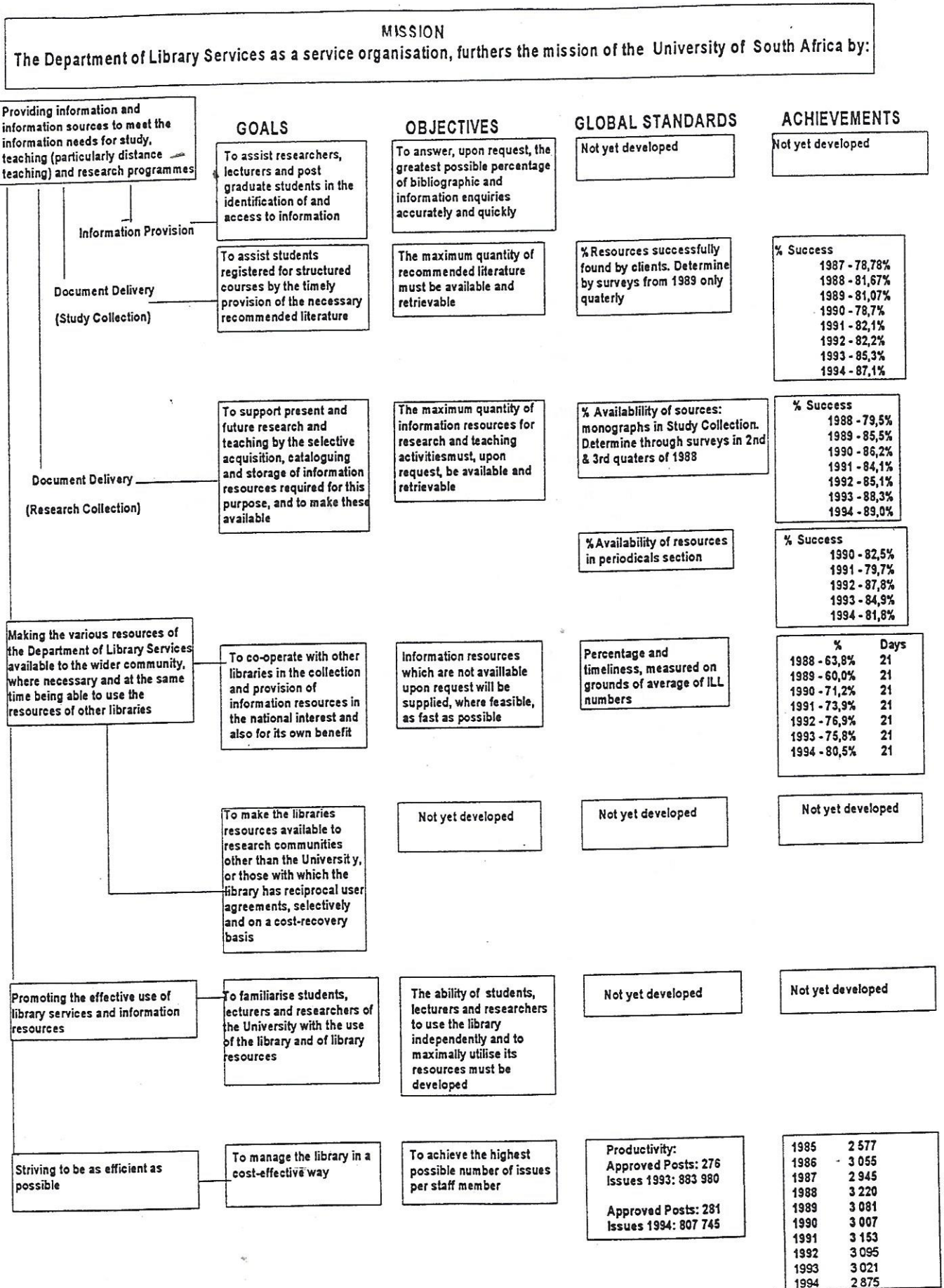
As a result performance measurement has proved its value in the planning process and has greatly assisted in improving the library service and in maintaining service levels. The time and resources devoted to it are, therefore, regarded as an essential investment.

## References

- Dalton G. M. E. (1991) 'Quantitative approach to user satisfaction in reference service evaluation.' *South African journal of library and information science* 60(2) 89-103
- Dalton G. M. E. (1991) *User satisfaction as a measure of subject reference performance in an academic library*. MBibl, University of South Africa
- Kantor P. B. (1984) *Objective performance measures for academic and research libraries*. Washington DC: Association of Research Libraries
- McDonald J. A. and Micikas L. B. (1994) *Academic libraries: the dimensions of their effectiveness*. Westport: Greenwood Press
- Willemse J. (1987) 'Doeltreffendheidsmaatstawe vir 'n universiteitsbiblioteek - 'n empiriese benadering.' *South African journal of library and information science* 55(4) 269-76
- Willemse J. (1989) 'Library effectiveness - the need for measurement.' *South African journal of library and information science* 57(3) 261-66
- Willemse J. (1991) 'University library service dedicated to distance teaching: the University of South Africa experience.' *Library trends* 39(4) 514-34
- Willemse J. (1993) 'Improving interlending through goal setting and performance measurement.' *Interlending and document supply* 21(1) 13-17



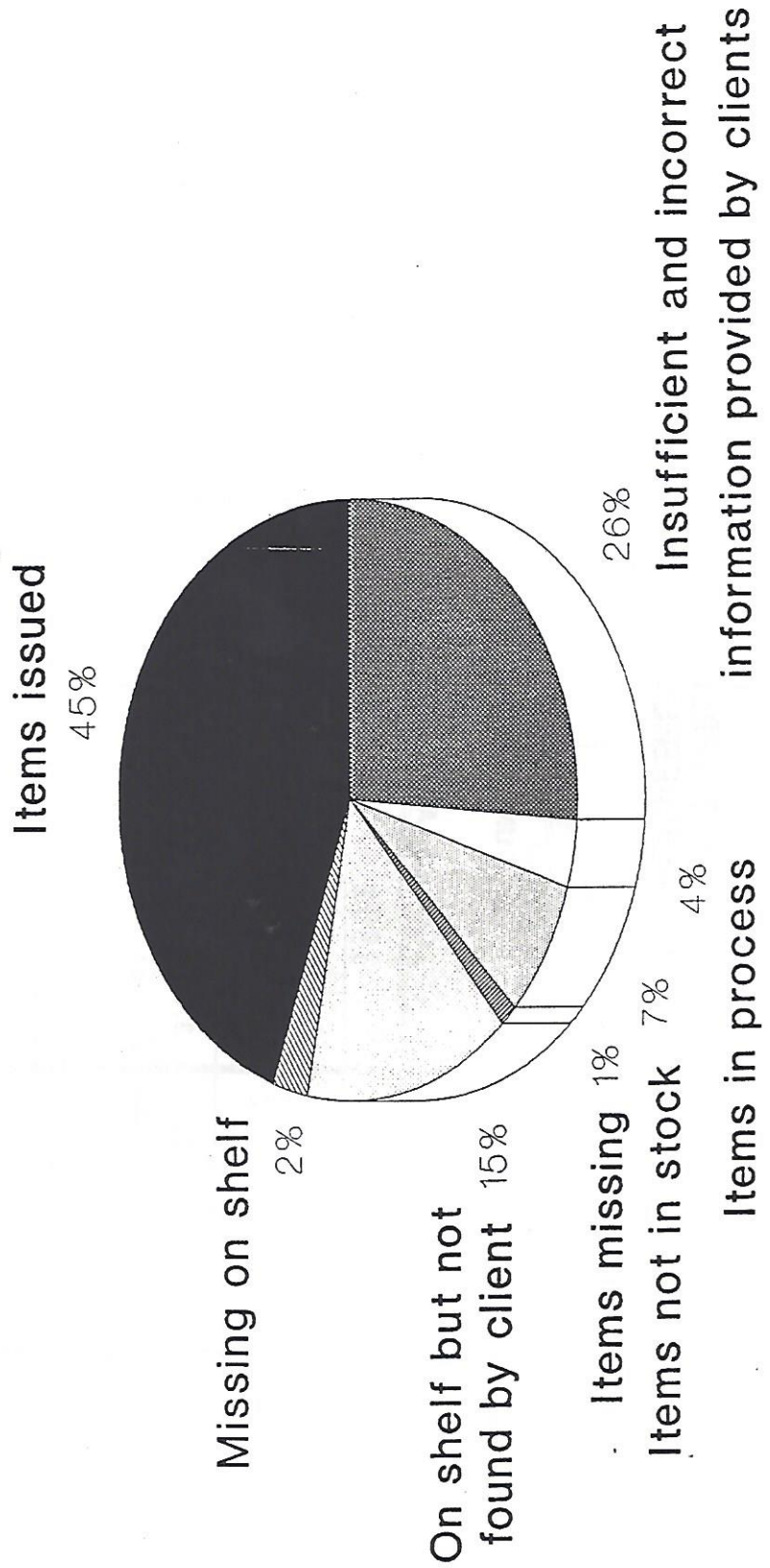
Appendix 1





Appendix 2

# REASONS FOR FAILURE 1994





Appendix 3

UNISA INTERLENDING  
PERFORMANCE MEASUREMENT AND OBJECTIVE

OBJECTIVE: 80% RECEIVED WITHIN 21 DAYS

PERFORMANCE MEASUREMENT OF DOCUMENTS RECEIVED FROM VARIOUS SUPPLIERS (FIGURES ARE CUMULATIVE)															
	1990			1991			1992			1993			1994		
	-7	-14	-21	-7	-14	-21	-7	-14	-21	-7	-14	-21	-7	-14	-21
Delivery days	28,5	66,1	80,2	28,2	67,3	79,9	32,8	68,7	81,9	37,8	71,0	82,0	40,3	75,6	87,6
S.A. Libraries	3,0	33,0	71,9	3,3	70,9	84,4	1,9	53,3	80,4	1,0	34,7	77,5	4,6	57,6	85,4
British Library	0,0	0,0	1,1	0,0	0,1	0,7	0,0	0,0	0,2	0,0	0,2	0,6	0,0	0,0	0,0
International via State Library	-	-	-	0,0	8,9	60,3	0,0	18,4	52,5	1,9	5,1	44,2	2,7	11,6	45,2
Data Search	-	-	-	-	-	-	-	-	-	93,8	100,0	100,0	99,5	100,0	100,0
UnCover	-	-	-	-	-	-	-	-	-	-	-	-	2,7	41,7	61,9
Kon. Bib, Den Haag	22,1	54,9	71,2	21,8	61,4	73,9	24,9	61,3	76,9	27,4	57,9	75,8	29,9	64,6	80,5
OBJECTIVE % ACHIEVED															



**Appendix 4** includes unpaginated pages 22 to 28



**DOCUMENT DELIVERY DIVISION**

We deliver - fast & friendly

**AFDELING DOKUMENTLEWERING**

Ons lewer - vinnig & vriendelik

**PERFORMANCE REVIEW & MANAGEMENT PLANNING:  
AUGUST 1995**

**Goal of Library**

To satisfy clients' information needs and expectations by providing excellent service levels

**Goal of Division**

To provide clients with the required documents in the most appropriate format available and in accordance with clients' needs and expectations of service



DATE: July 1995  
 DATUM:

OPERATIONAL KPAs & PRODUCTS (Form 3.1)  
 OPERASIONELE SPAs & PRODUKTE (Vorm 3.1)

PERFORMANCE REVIEW & MANAGEMENT PLANNING PRESTASIEOORSIG & BESTUURSBEPLANNING		COMPILED BY: A W Miso OPGESTEL DEUR:			
DIVISION: AFDELING:	Document Delivery	MEASURES MAATSTAWE	OBJECTIVE/TARGET DOELWITTE	RESULTS/ACHIEVEMENTS RESULTATE/PRESTASIES	PLAN NO
SUBDIVISION: ONDERAFDELING:	Request Services				
Goal / Doelstelling:	To supply the right documents to be useful to clients				
KEY PERFORMANCE AREAS / PRODUCTS SLEUTEL PRESTASIE AREAS / PRODUKTE					
1. BOOK REQUESTS					
▪ Processed requests (remote clients)	% SC and RC requests supplied within 2 working days % remote client satisfaction (survey)	SC : 90% RC : 60% SC : 80% RC : 70%		1995 SC : 88,4% 1995 RC : 58,7% 1995 SC & RC : 89%	20
▪ Shelved SC books	% shelved within 24 hours of return	100%		1995 100%	
2. PERIODICALS PROVISION					
▪ Processed requests (remote clients)	% periodical request supplied within 7 working days % remote client satisfaction survey	70% 80%		1995 87,2% 1995 90%	21, 22
▪ Assistance provided (visiting clients)	% visiting clients satisfaction (survey)	85%		1995 89%	
▪ Shelved periodicals	% shelved within 24 hours after use	100%		1995 100%	
▪ Circulated periodicals / tables of content	% circulation point satisfaction (survey)	80%		n/a	23
3. PHOTOCOPYING SERVICES					
▪ Photocopied documents (remote clients)	% photocopies produced within 2 working days	90%		1995 95%	25
▪ Assistance provided (visiting clients)	% client satisfaction (survey)	85%		1995 74%	26, 27
▪ Photocopy facilities provided (campus clients)	% campus client satisfaction (survey)	80%		1995 n/a	



OPERATIONAL KPAs & PRODUCTS (Form 3.1)  
OPERASIONELE SPAs & PRODUKTE (Vorm 3.1)

DATE: July 1995  
DATUM:

COMPILED BY: J M Mokoana  
OPGESTEL DEUR:

OPERATIONAL KPAs & PRODUCTS (Form 3.1) OPERASIONELE SPAs & PRODUKTE (Vorm 3.1)		PERFORMANCE REVIEW & MANAGEMENT PLANNING PRESTASIEOORSIG & BESTUURSBEPLANNING		PLAN NO
DIVISION: Document Delivery AFDELING:		PERFORMANCE REVIEW & MANAGEMENT PLANNING PRESTASIEOORSIG & BESTUURSBEPLANNING		
SUBDIVISION: ONDERAFDELING:		Lending Services		
Goal / Doelstelling:		To provide a client friendly and efficient lending service to visiting clients and ensure control of lending transactions		
KEY PERFORMANCE AREAS / PRODUCTS SLEUTEL PRESTASIE AREAS / PRODUKTE	MEASURES MAATSTAWE	OBJECTIVE/TARGET DOELWITTE	RESULTS/ACHIEVEMENTS RESULTATE/PRESTASIES	PLAN NO
1. SERVICE AT COUNTER				
▪ Registered lending transactions	No of people in a queue per time measured at 100 given times No of complaints reported	3 people in a queue 90% of the time 3 mistakes per person per year	OM counter 90% SV counter 93% 30 mistakes in total reported Febr - June (± 3 per staff member)	37, 38, 39, 40, 41
▪ Issued library admission cards	No of people in a queue per time measured at 100 given occasions Client surveys : - Competence - 90% - Friendliness - 90% - Helpfulness - 90%	3 people in a queue measured at 100% of the 100 measured times	Access point: 100% Competence: 91% Friendliness: 82,8% Helpfulness: 92,3%	42 43 44
2. CONTROL OF LIBRARY MATERIAL				
▪ Issued accounts	% of accounts rendered against the total of books issued % of written off debts against accounts rendered	Less than 2% 0%	1,5% accounts rendered 94 : 0,077%	45
3. COLOUR COPIES				
▪ Colour reproductions	No of reproductions per month	1000 per month (R2255,76 x 2) = R4511,52	Average Jan - June : 630 (R3229,77)	46, 47, 48



PERFORMANCE REVIEW & MANAGEMENT PLANNING COMPILED BY: PR Botha PRESTASIEOORSIG & BESTUURSBEPLANNING OPGESTEL DEUR:		OBJECTIVE/TARGET DOELWITTE	MEASURES MAATSTAWE	RESULTS/ACHIEVEMENTS RESULTATE/PRESTASIES	PLAN NO
<p>DIVISION: LMSD AFDELING:</p> <p>SUBDIVISION: ITSS ONDERAFDELING:</p> <p>Goal / Doelstelling:</p>					
<p>To serve the Library in the reaching of its stated goals through the effective application and support of Information Technology.</p>					
<p>KEY PERFORMANCE AREAS / PRODUCTS SLEUTEL PRESTASIE AREAS / PRODUKTE</p>					
<p><b>1. TECHNICAL SUPPORT</b> The provision of a high level of technical expertise and quick turn-around times to problem reports, to enable staff to extract the maximum benefit from equipment and software</p>	<p>1.1 Maximum 24 hours per report that isn't referred to DCS</p> <p>1.2 Maximum 5% of problem reports</p> <p>1.3 8 hours</p>	<p>1.1 Average down-time of workstations from problem report to rectification</p> <p>1.2 Recurrence of problems as % of job callouts</p> <p>1.3 Average response time from problem report to attention</p>	<p>1.1 Estimated 36 hours per problem report</p> <p>1.2 Estimated 10% of problem reports</p> <p>1.3 Estimated 12 hours (These figures will now be monitored by TechTrak and accurate figures will be available in future)</p>	<p>1.2,3,14,15</p>	
<p><b>2. TECHNICAL SELF-HELP SKILLS</b> The cultivation of a culture of self-reliance in basic computer skills, through ongoing training as well as scheduled training sessions.</p>	<p>2. 20% of problem reports</p>	<p>2. Occurrences of elementary queries that could have been prevented by self-help skills</p>	<p>2. 33% of problem reports</p>	<p>4</p>	
<p><b>3. CUSTOMER-CARE SERVICE</b> The fostering of a perception that library staff and clients are the clients of ITSS, and as such are entitled to our very best service.</p>	<p>3.1 Identification of dissatisfaction in service</p> <p>3.2 Determining client needs and expectations</p> <p>3.3 Build trust and reliance on ITSS</p>	<p>3.1 Customer satisfaction</p> <p>3.2 Customer expectations and needs</p> <p>3.3 Customer perception of ITSS as: - friendly - helpful - knowledgeable experts in our fields</p>	<p>3. New measures which will be implemented in the next 6 months</p>	<p>2,3,4,6,12</p>	



PERFORMANCE REVIEW AND MANAGEMENT PLANNING PRESTASIEOORSIG EN BESTUURSBEPLANNING		COMPILED BY PR Botha OPGESTEL DEUR:	
DIVISION: LMSD AFDELING:	OBJECTIVE DOELWITTE	ACHIEVEMENTS PRESTASIES	PLAN NO
SUBDIVISION: ITSS ONDERAFDELING: Goal / Doelstelling: To serve the Library in the reaching of its stated goals through the effective application and support of Information Technology.			
<b>1. SYSTEMS DESIGN AND DEVELOPMENT</b> The provision of Library and Information Systems that are effective, accessible and available.	1.1 To develop ad hoc programs to address specific requirements. 1.2 To integrate the diverse information systems into a central information repository with seamless access and easy-to-use interfaces. 1.3 To optimally configure existing systems and workstations with reference to ease of use, maintainability, stability and efficiency. 1.4 Advise and guide stakeholders in the incorporation of unique Library functions (Postal Requests, Study Collection and Financial Modules) into the Library System	TechTrak system CDROM Network refinements Taskflow system refinements Unisa Explorer Menu LISI project ERL investigation McGregors & BFANet systems	1,3,4,5,7, 8,9,10, 11,16,17, 18,19
<b>2. LIBRARY AND INFORMATION SYSTEMS ADMINISTRATION</b> Efficient administration of the various systems and projects in our domain.	2.1 To effectively control access to systems and functions with the minimum inconvenience to the authorized user. 2.2 To provide timeous and accurate statistics on systems utilization where applicable. 2.3 To update databases and systems to ensure clients have the most up-to-date information available. 2.4 To maintain an accurate register of IT resources in use throughout the Library. 2.5 To maintain a central register of IT projects in the library. 2.6 To administer and coordinate various tasks relating to the investigation into a new Library System (LISI project)	UNIS, CDROM Servers, ERL access control enables users to perform their tasks, but prevents unauthorized entry and actions. CDROM servers: Informed decisions for acquisitions can be based on usage patterns experienced during actual use, eliminating under-utilization and reducing costs. Updating of McGregors, BFANet, CDROM databases are an administrative nightmare and very time-consuming. Stock register on Word Perfect Task flow system Overseas visit, local vendor visits, shortlist	3,4,5,12, 13,19



PERFORMANCE REVIEW AND MANAGEMENT PLANNING PRESTASIEOORSIG EN BESTUURSBEPLANNING		COMPILED BY PR Botha OPGESTEL DEUR:	
To serve the Library in the reaching of its stated goals through the effective application and support of Information Technology.			
DIVISION: LMSD AFDELING:	PERFORMANCE REVIEW AND MANAGEMENT PLANNING PRESTASIEOORSIG EN BESTUURSBEPLANNING	ACHIEVEMENTS PRESTASIES	PLAN NO
SUBDIVISION: ITSS ONDERAFDELING: Goal / Doelstelling:	OBJECTIVE DOELWITTE		
<b>KEY PERFORMANCE AREAS / PROJECTS                      SLEUTEL PRESTASIE AREAS / PROJEKTE</b>			
<b>3. EXPERT TECHNICAL ADVICE AND GUIDANCE</b> The provision of expert advice to staff and other stakeholders on the state of the art as well as possible applications of technology to library processes and services.	3.1 To provide advice to library staff and stakeholders on the technical implications and requirements of envisaged systems 3.2 To promote IT awareness - To provide a continuous stream of technical news, tutorials and features to Library Staff and other stakeholders 3.3 To evaluate new technological advances and provide advice to Library Staff on possible applications thereof to Library processes and procedures 3.4 Advise and train technical support staff on the solving of more complex problems.	3. Continuous to staff, especially through CITDEV and related workgroups	14, 15
<b>4. IT RESOURCE MANAGEMENT</b> Provision of the most up-to-date equipment and associated software possible within the financial constraints of the budget, and to optimally utilize such equipment.	4.1 To budget for, procure and coordinate the placement of equipment and software 4.2 Optimal utilization of resources to minimize costs and improve productivity by aligning equipment levels with tasks and needs 4.3 To investigate and implement resource sharing wherever possible/feasible in order to leverage investments in equipment and software. 4.4 To pressurize University Management into providing requisite levels of equipment across the campus.	4.1 Annually, but ad hoc as new needs arise. 4.2 Continuous, with annual revision 4.3 Print servers, one laser printer per floor resulted in a 80% reduction in requests for new laser printers. CDROM network resulted in 95% reduction in requests for CDROM drives.	3, 9, 10, 11, 17, 18



DIVISION: LIBRARY MANAGEMENT SERVICES MANAGEMENT PLANNING AFDELING:		SUBDIVISION: INFORMATION TECHNOLOGY AND COMPILED BY: PR BOTHA PRESTASIEOORSIG EN BESTUURSBEPLANNING		PERFORMANCE REVIEW AND DATUM: OPGESTEL DEUR: PR BOTHA	
SUBDIVISION: ONDERAFDELING: Goal / Doelstelling		To serve the Library in the reaching of its stated goals through the effective application and support of Information Technology.			
NO	PLAN: Heading & short description	RESPONSIBLE VERANTWOORDELIK	DATE DATUM		
1	Techtrak - Utilization of networked software to track problem notification and rectification	PR Botha	Dec 95		
2	Regular publication of Techtrak statistics	To be determined	Jun 96		
3	Remote workstation administration - configuration and maintenance of workstations from a central workstation via the network	PR Botha	Dec 95		
4	Automatic backup of important files to the Library's home server	PR Botha	Dec 95		
5	Revision of task flow system to utilize networking facilities	To be determined	To be determined		
6	Public Relations Campaign - to improve the visibility of ITSS and the perception of our role.	Entire subdivision	Dec 95		
7	Unisa Explorer - integrated workstation for client use	To be determined	Dec 96		
8	Electronic Reference Library - cancellation of subscriptions in favour of ELSA	PR Botha	Jun 96		
9	Investigate the possible conversion of a CDROM server to an ERL server for uniform search interface, improved performance & dial-up access	PR Botha	Jun 96		
10	WordPerfect InForms - investigate possibility of replacing various hardcopy forms with network software	Marcel Vierbergen	Dec 95		
11	Identify and implement software to allow Windows programs to be run from arbitrary servers and volumes.	PR Botha	Jun 96		
12	Monthly report on CDROM and other database usage patterns to Subject Librarians	PR Botha	Sept 95		
13	Investigate longer intervals between updates, alternatively spreading of the load.	PR Botha, DCS, Subject Librarians	Nov 95		
14	Members of ITSS desperately need to be trained further, in order to retain their edge. Alternative finances should be investigated.	Subdivision	Mar 96		
15	Exposure to peers in industry - attend user groups and conferences	Subdivision	Mar 96		
16	Upon implementation of cost centre - Investigate alternative sourcing of equipment and software	PR Botha	To be determined		
17	Centralized scanning facility for library staff use	To be determined	Jun 96		
18	Citrix server product - Dial-up access to LAN	PR Botha	Dec 96		
19	Expand TechTrak to incorporate stock control - record service history per IT resource	To be determined	To be determined		



STRATEGIC IMPLEMENTATION (Form 1)  
 STRATEGIESE IMPLEMENTERING (Vorm 1)

DATE: JULY 1995  
 DATUM:

PERFORMANCE REVIEW & MANAGEMENT PLANNING PRESTASIEOORSIG & BESTUURBEPLANNING		COMPILED BY OPGESTEL DEUR:		J RAUBENHEIMER	PLAN NO
DIVISION: AFDELING:	DOCUMENT DELIVERY	CORPORATE GOAL/POLICY KORPORATIEWE DOEL/BELEID		ACHIEVEMENTS PRESTASIES	
STRATEGIC IMPLEMENTATION STRATEGIESE IMPLEMENTERING		DIVISION GOAL AFDELING DOEL			
AFFIRMATIVE ACTION (EQUITY & EXCELLENCE)/ REGSTELLEDE AKSIE (Gelyke beregtiging)	1. Representative workforce 2. Realisation of staff potential 3. Equal opportunity 4. Cultural diversity 5. Democratic workplace	1. Identification of suitable candidates through revised selection and recruitment procedures, and employing wherever possible, people from disadvantaged groups in cases of new appointments and/or resignations. 2. Development of staff potential through focused informal training, relevant courses and staff evaluation processes	<p>1. Client care section implemented</p> <p>2. Service criteria for counter staff developed</p>	<p>Ratios: B W M F BM WM BF WF</p> <p>SAB+ 4 10 5 9 1 4 3 6</p> <p>ABA- 53 28 57 24 47 10 6 18</p> <p>Totals: 57 38 62 33 48 14 9 24</p> <p>%: 60 40 65 35 50 15 10 25</p> <p>What has been done?:</p> <p>1. Appointment of BF and WM in top structure of division</p> <p>2. Female ehelver and photocopier</p>	1
SERVICE & CLIENT CARE / DIENS & KLIENT-TEVREDENHEID	1. Satisfy the demands of our stakeholders (staff and clients) for participation in decisions that effect them. 2. Improve service effectiveness and productivity by increasing stakeholder participation 3. Promote two-way communication between personnel and clients	To address all enquiries and complaints without delay			3, 4, 5
CLIENT NEEDS / BEHOEFTE VAN KLIENTE	1. Proactively address client needs within the parameters of our goals 2. Have appropriate structures available to deal with student demands	1. Identification of client needs with regard to lending and requesting services, the delivery of documents and provision of study facilities 2. Obtain feedback on the needs and requests of stakeholders, based on democratic principles	<p>1. End user access to ILL module</p> <p>2. User surveys</p> <p>3. Evaluation of counter assistants by clients</p> <p>4. Suggestion boxes at counters</p> <p>5. Study facility (24 hours plus Sundays) during exam periods</p>		6 7 8, 9
IT DEVELOPMENT / IT ONTWIKKELING (With reference to the Corporate IT Development Plan) (Met verwysing na die Korporatiewe IT Ontwikkelingsplan)	1. Fully integrated Library & Information System 2. Training 3. Access 4. IT Management 5. Workstations 6. IT Research 7. Data base creation 8. Electronic text 9. Document request & delivery 10. Collection development policy	1. The application of IT in order to speed up lending, requesting and delivery processes	<p>1. Minicite scan, store and retrieval system identified and accepted in principle</p> <p>2. Scan and fax project for ILL document finalised</p> <p>3. Ariel system identified</p> <p>4. Track and trace postal system implemented</p>		10 11 12 13
FINANCES/FINANSIES	1. Partnerships with common interest institutions 2. Cooperative agreements to optimise resources 3. Generating funds from sale of services 4. Raising funds for specific projects 5. Maximum utilisation of resources via cost-effective management 6. Continually improving efficiency and productivity 7. Commitment where economical to the principle of access instead of ownership	1. Identify ways to generate funds	<p>1. Refurbishment of photocopying room - cost free</p> <p>2. Ariel system donated by NKN</p> <p>3. Minicite project to be tested at no cost</p> <p>4. Value added service to community service members implemented</p> <p>5. Appointment of student workers in full time posts - as an experiment</p>		14 15 16 17



## Appendix 5

### ULEXIS

### Performance Indicators

#### Existing corporate performance measures of the Library

- % client satisfaction with overall service (visiting clients)
- client satisfaction with library collections: satisfaction =  $\langle \text{mean of actual performance} \rangle - \langle \text{mean of expected performance} \rangle$
- % availability of information sources (visiting clients):
  - recommended books
  - research publications
  - periodicals
- productivity: book issues per staff member

#### Existing performance measures of subdivisions

##### DOCUMENT DELIVERY DIVISION

##### Subdivision: Request Services

- % postal book requests supplied within 2 working days
- % client satisfaction with postal book requests service
- % recommended books shelved within 24 hours of return
- % postal periodical requests supplied within 7 working days
- % client satisfaction with postal periodical requests service
- % periodicals shelved within 24 hours after use
- % photocopied documents produced within 2 working days
- % client satisfaction with photocopy service (visiting clients)
- % campus client satisfaction with photocopy facilities and service

##### Subdivision: Lending Services

- number of clients in a queue at any given time
- % lending problems solved within 7 working days
- % accounts rendered of total books issued
- % written off as bad debt of total accounts rendered
- % books written off of total books issued
- number of colour reproductions produced per month

##### Subdivision: Interlending & Support Services

- average number of days to fill requests from other libraries
- average number of days to notification of unavailability
- % information sources obtained from other libraries within 21 days
- % postal articles distributed within 24 hours of receipt
- % research publications shelved within 24 hours of return
- % research publications incorrectly shelved
- % occupancy of study seats in peak hour



CLIENT SERVICES DIVISION

Subdivision: Research Services

% client satisfaction with archival finding aids  
number of linear metres of archival documents added annually  
% availability of audiovisual items (visiting clients)  
% postal audiovisual item requests supplied within 2 working days  
  
% client satisfaction with audiovisual service (visual clients)  
% client satisfaction with specific aspects of literature lists (such as relevance)  
% literature search requests filled within 14 days  
index of client satisfaction with accuracy & timeliness of inquiry and advice service  
index of client satisfaction with composition & comprehension: research collection  
index of client satisfaction with composition & comprehension: periodical collection  
% contact with subject librarians by specific client groups

Subdivision: Study Services

% availability of recommended books (visiting clients)  
% recommended books on waiting list of total recommended book issues  
% corrections of Tutorial letter 101 returned to lecturers  
dates of last batch orders placed for recommended books  
number of composite readers produced annually  
% client satisfaction with assistance and information provision  
% availability of recommended books at branch libraries (visiting clients)  
% client satisfaction with service at branch libraries

TECHNICAL SERVICES DIVISION

Subdivision: Acquisitions

% Duplicate orders of total book orders  
average number of days between ordering and accessioning of books  
% books acquired of total book orders  
% periodicals obtained before third claim  
% price increases per agent  
numbers of days between accessioning of books and payment of invoices  
% over or under spending of budget

Subdivision: Descriptive Cataloguing

% order records processed within 7 days  
number of order records processed per staff member per day  
% bibliographic records completed within 10 days  
% errors in MARC fields referred back  
number of bibliographic records completed per staff member per day  
% errors in final processing of item records



Subdivision: Bindery

% completed binding work of total documents for binding  
% errors in binding work  
% books bound within 30 days  
% periodicals bound within 50 days  
number of documents bound per staff member

Subdivision: Subject Cataloguing

% records completed within 40 days  
% express records completed within 1 day  
% hit records completed within 5 days  
% correctness of non-verbal subject catalogue records completed  
% consistency of verbal subject catalogue records completed  
number of LC subject headings assigned per record  
% correctness of authority control  
% completeness of authority control  
% identified database management projects completed  
% items indexed of total items for indexing  
number of indexed records submitted to ISAP

LIBRARY MANAGEMENT SERVICES DIVISION

number of hours between reporting a technical computer problem and rectification  
% recurrent problems of total job call-outs  
% problems that can be rectified by self-help skills of total job call-outs  
% client satisfaction with IT support service

LIBRARY PERSONNEL AND CLIENT DEVELOPMENT DIVISION

none



## Discussion

*Peter Wynne, University of Central Lancashire:* You cite 20% cases of failure owing to insufficient information given by users. If users are at a great distance, do they establish if the item is available and how?

*John Willemse:* We are not very happy that we are mail order service for students and one of the things we are looking at is how they could become library users in a fuller sense. Lecturers say they must use the library, but all they do is to fill in a card, use a teletype service, or if they have it, e-mail. We also have a telephone request service on a limited basis. These requests are from a list provided by the lecturer for a particular assignment and to ensure that they are requested in the right way, each study letter of about 1500 courses is checked by my staff before it is actually printed to ensure the lecturer does not refer to, for example, the author and title of a chapter in a composite work, which might provide us with problems. It's a way of focusing in on the problems and taking action to address them. Perhaps I should have stressed more strongly that our measures always try to determine the reasons for failure so that they can be addressed. We are not only concerned with how well we are doing.

*Roswitha Poll, Universitäts- und Landesbibliothek Münster:* Is there any recall from your users? It must be very difficult dealing with them at a long distance.

*John Willemse:* Again, we do it in various ways. We do one survey on the postal requests, which of course is easy, and we do one at the door for those using the library in person. So the postal request is on the exact items requested, whether they are available immediately or not. At the beginning we started by doing just the one survey on the door until we discovered that it does not indicate the failures because many people may not find what they came for but may find other things and tell you that they found more than they asked for. So we changed the questionnaire and now ask for the number of failures, rather than for items positively identified.

*Roswitha Poll:* Have you any response from your teaching staff on what you are doing?

*John Willemse:* We have various surveys. For instance of the subject librarians, who serve people on an individual basis. We now do a once-a-year

survey of a sample of lecturers on their satisfaction with the service in general.

*Zamiyah Baba, University of Wales, Aberystwyth:* You said your target of 90% for recommended literature was found to be unrealistic. To what extent are the reasons attributable to the library rather than to other factors? And what now is a realistic target?

*John Willemse:* We feel that we need to address this each year and try and do a little better. But how far can we go? We feel it doesn't matter. As in athletics - at one stage speed was measured in seconds, then in tenths of seconds, and now in hundredths of seconds. Just trying to do better each year seems to me to be the only realistic way to go. I do not know how far we can go. It depends on so many external factors. If our funding keeps being cut - and it needn't even be cut - with 10% inflation and exchange rate changes, it keeps on being reduced in real terms. Growth of student numbers is another factor that impacts on this issue.

*Marareta Torngren, University of Stockholm:* I am interested in how your staff were organised to carry out this work over the ten years. Did you start with some who then taught others? How have you developed your staff. How many are involved in this?

*John Willemse:* [Very briefly in little time available.] We have five Division Heads and 14 Sub-Division Heads and they are all are involved. The Division Head goes through the process with his Sub-Division Heads and discusses it with them and with me.



# Using Contracts to Improve Quality

**Michael Carmel**

Director of Regional Library Services, South West Thames Regional Library Service, UK

## Introduction

I would like to tell you about our experience in the National Health Service (NHS), and in South Thames specifically, in developing contracts for library services. Our approach has enabled us in less than four years to:

- double the use of the libraries
- win budget increases of 50%
- increase the professional autonomy of local library staff
- institute a programme of continuous quality improvement on a broad front

These are turbulent times in health care, so perhaps I should add that the contracts have played their part in our survival strategy. One thing needs to be clear - that this has been throughout, and still is, a process wholly owned by the profession. If we had waited for the authorities to decide how library services should be managed in the new NHS, we would still be waiting. In particular I would like to tell you how we use the contract process to:

- encourage co-operation above competition
- liberate rather than constrain the staff
- put quality before quantity

In the course of my talk I shall refer to the ways in which we use a variety of simple performance measures to:

- inform the dialogue between commissioners and providers
- concentrate on the key issues
- keep the paymasters happy

I keep talking about what 'we' are doing, so I had better explain who 'we' are. Most often I use the word to refer to the small team of three professionals and three support staff who comprise the South Thames (West) Regional Library Unit. Between us we are responsible for:

- planning and commissioning library services for 60,000 NHS staff in the region
- maintaining a framework for library co-operation

- providing logistical support to the libraries in the form of databases, networks, and above all professional development opportunities.

We work in tight office accommodation in a hospital in Guildford. Sometimes I mean the 17 library service managers and the hundred or so library staff, in the region blocked on the map:



Together we share a mission which was set for us almost a hundred years ago by an American Physician George Gould:

'I look forward to such an organization of the literary records of medicine that a puzzled worker in any part of the civilized world shall in an hour be able to gain a knowledge pertaining to a subject of the experience of every other man in the world.'

*George M. Gould (1898)*

For our own purposes we have modernised the language and spelled out the requirements a little to read:

### Our Mission

To ensure rapid and convenient access to reliable, up-to-date information on all aspects of health care and best current practice for all health staff in South Thames; and to promote effective use of research-based evidence by NHS Personnel.

We are quite clear, as you see, that our mission is as much about promoting the use of the literature as it is about facilitating access.



## Background

We have been in the business of contracting for services for only four years, and we are still learning how to use the system to the best advantage of the service as a whole. Perhaps I should explain how we came to be involved. That means beginning with the extraordinary changes in the organisation of health care in the UK over the past six years.

### NHS CHANGES AND THE CONTRACT ENVIRONMENT

Since 1989 the National Health Service in the UK has been going through a process of continuous restructuring based on a single central concept - that of the 'internal market' in health care. The principle is a very simple one, that instead of the state directly administering health care provision it should commission care - still free to the individual at the point of need - from independently managed providers. In practice it has meant that every institution involved in the health care process - each hospital and health authority, every general practice partnership, even the Department of Health itself - has had to be not so much re-engineered as re-invented.

Health authorities used to manage hospitals and community nursing services in a certain geographical area. Now, each health authority has responsibility for all health care required by a given population, however it may be delivered. Care is commissioned mainly by means of service contracts for blocks of care, such as so many hip replacements at such a price. The trusts which now manage the hospitals and other services must therefore bid for these contracts, and substantial competition has built up in some areas, not only on price but also on quality and convenience.

It was clear from the start that a contract culture would pervade the NHS, and that librarians had really three options:

- create our own contract culture, to serve our own professional agenda
- have inappropriate contracts forced on us
- keep our heads down and be marginalised

In South West Thames we knew we preferred the first option. We also recognised from the earliest stages that maintaining an emphasis on quality in the face of market forces would become a central issue for the new NHS (Carmel, 1990). Initially there was a problem in identifying between whom, and for what services, contracts could be written. That was resolved in mid-1990 by the announce-

ment of a levy system for postgraduate medical and dental education 'including library services'. The directive (an 'executive letter') made it clear that regional postgraduate deans would be responsible for handling these large new budgets and commissioning educational and library services.

The motive behind this change, and its apparent departure from the principle of maximum devolution, was the fear that in a competitive marketplace long-term investment in the quality of the service as a whole might suffer, and one of the most expensive of investments is medical education. Other areas such as research, and non-medical education, have followed the same pattern.

Up to this point the postgraduate deans, and regional librarians with them, had maintained a comfortably ambiguous relationship with local service providers as advisers, and catalysts for change. Now we were faced with the need to re-invent our role as budget holders and commissioners of library services. There were immediately some territorial issues to be resolved - one involved how to keep the library budget separate, another was how to keep it together.

To appreciate the problems here you will need a little insight into NHS policies on multidisciplinary services, by which I mean library services open to all NHS staff according to their information needs. Official policy on this is quite clear and consistent, having appeared in a number of directives from 1963 to 1993:

'The purpose of the staff library is to serve the needs of the hospital's medical, dental, nursing and other professional and administrative staff; and to provide a service for general practitioners, local authority doctors and other professional people who work in the National Health Service outside the hospital and who make use of hospital postgraduate training facilities.

The staff library will usually be sited in the postgraduate medical centre where one exists, and this is the best location.'

*HM(70) 23 April 1970  
Library Services in Hospitals*

However, local custom and practice has been much more varied than this suggests. Many hospitals to this day maintain medical libraries which serve only or primarily doctors, with or without a separate 'nursing library' elsewhere.

It can be seen that the identification of library services with the postgraduate medical education function (PME) could appear to endorse this outdated concept, and lead to library budgets being split



between many small pots. At the same time there was a risk that library funds could be lost in an amorphous PME budget where they would compete on unequal terms with more strident priorities.

Having once established the principle of a clear and unified budget - with the unstinted support of the Regional Dean - we had to determine how best to structure the spending of it to create the most effective environment for improving the service. In theory we had many options. We could even have established a centrally managed service - in other words we could have become providers with the Dean as commissioner. However I was convinced from the start that the only way to make use of these changes in order to deliver our professional agenda was to develop a network of contracts, which between them would cover all NHS staff in the region.

There began a round of intensive negotiations, consultations, and sales pitches with everyone from regional directors to local librarians. In our former advisory role our unit had already established a high level of credibility as the regional focal point for policy, ideas and leadership in library and information services. Now, in common with so many others, we had the task of re-inventing ourselves as credible commissioners.

We moved to implementation in parallel with the persuasion exercise. Over a six-month period we carried out the work necessary for determining the libraries' historical budgets and agreeing a network of contracts. This involved most library services actually defining their mission, the services they provide, and their clientele, for the first time. We were able to agree a standard list of services:

#### Specification of Core Services

1. Enquiry and information searching service
2. Collection of resources
3. Loans and photocopies
4. Interlibrary loan service
5. Current awareness
6. Local grey literature
7. User education
8. Promotion
9. Library environment

Thanks to earlier blitzes on financial management, we had good information on the libraries' budgets - and their deficiencies. The directive had given authorities eight months to prepare for the new sys-

tem. As a library service we were just about able to meet this requirement. When it became clear that no-one else would be ready on time we were able to run a full-scale trial for a year (1991-92) before the new PME budgets came into effect.

The view of these contracts as a network is very important. It reflects our responsibility as commissioners to ensure that all health staff are covered. It is part of the culture we share - and nurture - that our libraries serve all information requirements of all health staff.

The needs of the patient for high quality well informed care outweigh all narrower priorities. The specifications of the contract are there to support and not to restrict the service. Nevertheless we have found it useful to make explicit core users of each library service. One reason is that we place a heavy emphasis on promotion of library services, and we encourage the targeting of key groups such as general practitioners and community staff.

Also, as we move towards funding targets we must be able to quantify a service's responsibilities in order to determine its budget. We therefore developed a simple and agreed template of user groups:

- Medical and Dental Staff
- Medical and Dental General Practitioners
- Trained Nurses
- Care Assistants
- Scientific, Technical and Pharmacy Staff
- Professions Allied to Medicine
- Managers, Professional Accounting and Personnel Staff
- Administrative and Clerical Staff
- DHA, FHSA and CHC Members and Staff

#### Selecting Providers

The placing of contracts has been neither random nor competitive. The network of professional library services in 1991 already largely reflected our own efforts to concentrate and rationalise the distribution of resources. The location of the main services in acute hospitals still reflects the highest user concentrations and accessibility to community based staff. However, as commissioners we were able to broker some overdue managerial mergers. We have also experimented with different management arrangements, with various services managed either by health authorities, trusts, or the medical school.







Figure 2

Year to March	Search	Loans	Copies Sent	Copies Received	Total Contacts
1990	589	1274	440	2207	5855
1991	685	918	495	2698	6782
1992	805	969	628	2947	7917
1993	1159	1339	529	3345	9514
1994	1117	1199	611	3935	10,508

selves, partly as a data quality check, but also for any issues that might be gleaned (Figure 1). Later - usually at the time of our Regional Visits - we supply simple performance ratios, time series of their own data, and suitable comparators. Figure 2 is a cut down example.

Even a simple table like this can help to make sense of a librarian's claims to be 'very busy', or that their periodicals budget is inadequate. Indeed it may determine sometimes that the cure for over-work is not always extra staff.

We also find great value sometimes in comparing quite simple ratios. As will be clear from Figure 3, or from the reduced version of the table (Figure 4), in a resource sharing system, exchange of resources is not always well balanced. The libraries with ratios below one are net borrowers on the system. Since we are responsible for encouraging co-operation as well as monitoring performance this has a dual interest.

In this and similar ways we are able to identify problems not only of underperformance but also of imbalance with a frequency which surprises us as often as it does the library service managers. However we do continue to mistrust the figures alone, and always prefer to discuss them in detail, and in context, with the librarians concerned. We rarely publicise them out of context since we see them not as a way of judging the past but as the basis for dialogue on service improvements to come.

Risks in activity counting

- easiest to count does not equate to most important service areas
- quantity before quality
- perverse incentives to maximise cheap outputs
- ratio chasing
- misreporting including under-recording

Figure 3

	Received from Region	Received from BLDSC	Received from sources	Received Total	Sent to Region	Reg/non reg ratio	Region sent/received
A	981	676	255	1,912	901	1.05	.92
B	939	796	107	1,842	580	1.04	.62
C	2,219	1,695	478	4,392	713	1.02	.32
D	1,445	666	302	2,413	1,970	1.49	1.36
E	1,160	955	158	2,273	6,472	1.04	.56
F	1,268	599	157	2,024	1,592	1.68	1.26
G	1,980	1,899	475	4,354	2,453	.83	1.24
H	1,361	888	101	2,350	845	1.38	.62
I	1,008	351	54	1,413	1,210	2.49	1.20
J	1,221	663	116	2,000	996	1.57	.82
K	734	4,567	1,340	6,641	2,935	.12	4.00
L	1,810	2,310	801	4,921	2,581	.48	.87
M	1,492	792	218	2,502	1,734	1.48	1.16
	17,618	16,857	4,562	39,037	18,157	.82	1.03

Figure 4

	Received from Region	Sent to Region	Region Sent/Received
A	981	901	.92
C	2219	713	0.32
E	1445	1970	1.36
K	734	2935	4.00
L	1810	1581	.87
M	1492	1734	1.16

Therefore we use them as only one, and by no means the most important, of our monitoring activities.

The Objectives Framework

A statement of agreed annual objectives, specific to each library, has been an integral part of our contract process from the beginning, including the trial year. I have no idea whether objectives are nor-



mally considered a legitimate element to a contract, but I do know that for us this has been both the most challenging and by far the most rewarding part of the whole exercise.

The objectives are negotiated between ourselves as commissioners and local librarians. The final form and content is always local, making explicit the librarian's management intentions for the coming year. That phrase - 'making explicit' - is a key to the whole process. Initially we had to face a very tough learning process, to which local and regional staff contributed in full measure. At first we left the choice of objectives almost wholly to local initiative. We found that at this stage librarians tended to be:

- too ambitious, setting unachievable targets in priority areas
- too imaginative, proposing innovations at an unsustainable pace
- too focused, concentrating on a narrow range of activities

The result was often some disappointment, as people realised that they still had a library service to run, managing a broad range of ongoing activities, and could not dedicate themselves to ticking off one achievement after another. In the trial year we actively encouraged people to rewrite their objectives mid-year, and we continue with that tradition whenever it seems necessary.

The pattern we have developed is to suggest that librarians develop their objectives within a framework which reflects the broad range of their management responsibilities. This is an outline of the latest version of the framework

Objectives Framework 1995/96

1. User Needs
2. Collection Development
3. Service Development
4. Management Development
5. Staff Development
6. IT
7. Local Major Initiatives

We suggest librarians state at least twelve objectives, but that they should be limited enough to be achieved - not only individually, but collectively. They must also of course be measurable, although not necessarily quantifiable. Finally, and most important, they must reflect - make explicit - the librarian's own intentions for the year. It is not always easy to realise that objectives are not an add-

on to the manager's responsibilities but are a way of organising them. The framework, and our discussions with service managers, can also of course reflect regional commissioning priorities, and the collective interests of the library co-operative as well as local priorities. The detail of the framework changes from year to year, although the headings we feature are suggestions and ideas - often carried from one library to another, rather than a template. For example:

Objectives Framework 1995/96

1. User Needs
  - library promotion
  - target groups
2. Collection Development
  - 'grey literature'
  - stock balance/review
  - stock weeding and discards
6. IT
  - databases
  - networking

For the past two years we have featured target groups and in the current year we are looking for a particular emphasis on the information needs of community nursing staff. Last year it was general practitioners. The kind of evidence of success we would look at in that case would be specific promotions, numbers of readers registered, or as in the following case, number of loans by reader group.

Library F

Loans by Reader Group: April 95 - June 95

Trust medical staff	165
Hospital nurses	466
GPs	18
Community nurses	89
Paramedical staff	96
Health Visitor	32
Midwife	65
Student nurses	466
Admin & clerical	25
Libraries	185
Affiliated member	42

Other important regional priorities have included improving each library's coverage of grey literature in areas such as public health, and especially the greyest of the grey - unpublished local reports such as those circulated with minutes and papers. This



has been so successful that our regional database has become the source of choice for many subject areas poorly covered in the published literature.

Networking is important to everyone, but by specifying management objectives in this area we have been able to strengthen the hands of the local librarians in getting themselves hooked up to hospital LANs, the regional NHS network, and the Internet.

Contracts run from April to March in line with the standard fiscal year. The setting and monitoring of objectives has its own rather tight timescale. In essence we begin the cycle in the early summer by reviewing with librarians - where necessary - their previous year's successes and shortfalls. In the autumn we review progress on the current year's objectives, and begin sharing thoughts on the next year's - which must be with us in usable form by early February. From the end of April we begin to collect and collate the end of year reports. In this way we have begun to build up a record of qualitative progress for each library service in the region, in a form which will eventually facilitate intelligent comparison and also a collective progress report for the service as a whole.

## Regional Visits

We have always seen all our librarians rather frequently at meetings and courses as well as on ad hoc visits. However it was only with the advent of contracts that we began to realise the benefits of a structured annual visit to each library. As with other elements in contract monitoring the visits have evolved by experiment and experience, from a simple but lengthy interview with the library service manager to something like this:

### Library Service Visit 1995-96

9.30	Meet the staff
10.30	Walk the course
11.15	Meet the users
12.30	(Lunch) Meet senior managers
1.30	(with Library Services Manager)
	- Local news and problems
	- Statistical review
	- Current year's objectives
	- Next year's objectives
4.30	Review with Chief Executive (or representative)

Staff development is a central and strategic issue for us - you will have noticed that it is a heading in the

basic objectives framework. A major part of the regional unit's own work is concerned with training and professional development. The annual visit provides us with a unique opportunity to meet all the staff of each library in their own workplace and to collect their views on what should be our priorities.

More central to the monitoring task however is the ability to collect feedback from users of the service. This is perhaps the most truly qualitative and ultimately the most important part of the process. Although a large element of local loyalty tends to mean that we hear only favourable comment, there are often hints and ideas which can affect service delivery and priorities in quite profound ways. Anyway, we like to hear and feed back favourable comment.

As you see a large part of the day is spent in conclave with the local manager, and this incorporates detailed discussions on the returns and the objectives, as well as any other matters the librarian wishes to raise. At the end of our visit we try to arrange a short meeting with some person with real authority in the trust - preferably the chief executive - to review our findings with him and seek support for the librarian where necessary. For some librarians this is just about the only opportunity they have to raise issues at this level.

## Special Surveys

From time to time we carry out ad hoc surveys on issues which appear to be causing concern. Often these emerge from the regional visits, and may be raised by the librarians themselves. Sometimes they are in response to a national or regional NHS initiative such as the R&D strategy, or to a service gap such as in the area of 'purchasing intelligence' for the commissioning agencies.

Because of our CPD policies, we always seem to have several students and trainees in the region, at least one of whom is likely, at any one time, to be looking around for a suitable project at any level from City and Guilds to PhD. Recent examples include a Master's (MSc) Dissertation on the impact of CD-ROM on the searching habits of librarians and users which revealed important problems about:

- over-concentration on a narrow range of databases
- unsupervised searching by untrained users
- searching by staff with inadequate training
- unjustified assumptions about competency



These findings have already led to a major new co-operative training programme, and will be an important contribution to the formulation of the next year's objectives for many libraries.

Currently we are supporting a student survey of the use of hospital libraries by members of the public in response to a complaint.

## Conclusion

The way in which we have introduced contracts for library services has aimed to be supportive to the library staff in carrying out their work and developing their autonomy. Supportive but not easy, as we seek to encourage ever higher standards of service and value for money, treating contracts as a useful means but not as ends in themselves.

## Notes

Two previous papers by Michael Carmel contain more information on the same subject:

1. (1990) 'Editorial - Quality in the market place: white paper challenges.' *Health libraries review* 7(4) 185-89
2. (1991) 'Management by agreement: contracting for library services in South West Thames'. *Health libraries review* 8(2) 63-80

The author wishes to thank Rachel Cook, Janet Holman and Barbara Haynes for their help in producing this paper.

## Discussion

*Don Revill, Liverpool John Moores University:* Having created a contract system, what is to stop senior managers going outside for a competitive bid?

*Michael Carmel:* We did experiment with various means of managing the services. The contracts were with NHS trusts, health authorities, and with the university, so actually various people are managing them. *Where* you have them is a matter of logic. We have been working for years to try to rationalise the location of library services and the rational place to have them is in the large local acute hospital, where there is maximum concentration of users. They are not 'my people' running the service, they are 'their people'.

*Don Revill:* What I am saying is, organisations define the service, define the contract, then put it out to tender. If your internal people win it, then fine. But what if they don't?

*Michael Carmel:* This is true. As things stand at the moment, in creating and defending this territory, I have made this my decision. I am the person who lets the contracts. Because of the way I want them to work, in this qualitative way, to continue to improve the service, I have chosen to work with the people I have already appointed and already been impressed with and developed. The trusts themselves support this process. They agreed to an extra 50% to increase our budgets. Basically, what I have done is to create a support network of people in positions of authority, power and influence, all of whom are very happy with the way the system is working at the moment and do not want to disrupt it. And because it is too small to attract big predators or the interests of politicians, I think it will work. I don't think it will work this way forever and it could go in the direction of competitive tendering for services - once we have the services defined. That is one of the reasons why I have gone into relatively detailed prescriptions as to what services people will offer, including things like promotions. I make sure all those things are in there so if it ever does go down the road of competitive tendering it will go down with services defined in the way we want them defined.

*John Clark, Rampton Hospital, UK:* We are in a competitive tendering environment though it has not yet reached our library service. Are there individual service level specifications for each of your libraries, and if so, what are the issues?

*Michael Carmel:* I don't know whether we do or not, because I don't know what the expression 'service level specification' means. We do have a specification of the services each library has to provide and to whom, which are written into the contract. Although I have given the headings, there is a little more detail in the contract itself. That is as far as we would want to go at this stage. We try to avoid detail as much as we can, even in budgets. We would actually like to specify less than we do now. For example we specify how the staff are split up, rather than just giving the staffing budget. This year, we have just managed to get out of specifying the balance of books and journals and IT expenditure to get a single heading for information resources. We prefer to leave it to the local librarian to decide whether to buy more journals.



*John Clark:* The threat in CCT is in having to break down everything in terms of specification.

*Michael Carmel:* This is when you need your friends, already won and influenced.

*Stephen Town, Royal Military College of Science:* If you have no hard competition, you lose incentives and sanctions. How do you deal with under-performing?

*Michael Carmel:* It is true we have never introduced sanctions as such, either in contracts or anywhere else. Nor have we any way of bribing people other than that our target funding is at least partly based on workloads. So the target funding of an expanding library rises and when more money becomes available, they get priority. Two things to remember: first, our contract is with the trust, not with the librarian. Second, because we are working on a programme of continuing improvement, there is a sense in which there are no under-performing librarians, only under-performing libraries. There is also a sense that all our libraries are under-performing. By definition, if you want continuous improvement, you are not satisfied with the way things are. I dread the day when we get a serious under-performer. I will face that then. Because we are discussing objectives with everybody, every year, all the year round, we are always asking people how they are going to improve. Those that are best are also improving fastest, which might be embarrassing, but everybody knows, they have good comparisons, and we are discussing it not only with the librarian, but as it gets more serious, we discuss it with more people, such as the librarian's line manager. We quite often have to discuss it higher up the hierarchy because the under-performance may not be the librarian's under-performance. It may be the IT Department's under-performance. We are in a constant dialogue process, helping everybody to improve, whether they are under-performing or not.

*Lorraine Bate, University of Leeds:* What feedback mechanisms do you have with the trusts?

*Michael Carmel:* There is a lot of informal feedback. The visits are the formal mechanism, and incidentally, represented on those visits are people from the trusts that don't manage the libraries. Bear in mind that only a quarter of our trusts actually manage the libraries, on behalf of a group of trusts. I also meet with groups of users on a regional basis fairly frequently. For example I go to all the meet-

ings of the medical clinical tutors in the region. I get quite a bit of feedback from that process. And I give them quite a bit of feedback about their libraries. Same with senior nursing staff. There is constant dialogue, but the main feedback mechanism is through the regional visits.



---

Faint, illegible text in the top left corner, possibly bleed-through from the reverse side of the page.



# A Climate of Change: Performance Measurement in Australian Public Libraries

**Kay Poustie**

City Librarian, City of Stirling Public Libraries, Western Australia

When Ian [Winkworth] contacted me in February this year and asked me for a title for my paper we were in the middle of the Western Australian summer, never-ending days in the high 30s (centigrade) and it had not rained for seven months. Perhaps there was a subconscious wish that the weather would change in the proposed title of the paper. However, six months later, the title is totally relevant to the changing scene in local government as regards performance measurement and is therefore true for public libraries in Australia.

In 1994, the first national public libraries conference to be held for ten years was convened in Melbourne. Topics for discussion ranged widely, but performance measurement was not on the agenda. Less than twelve months later, across all departments of local government, resulting from initiatives being taken at Federal, State and local government levels, the emphasis is on benchmarking and performance measurement.

In the 1995 Federal Budget, the Social Justice Statement 1995-96, released as Budget Related Paper No. 1, announced that:

'Efficient, effective and responsive local councils are vital to creating and maintaining equity between regions. Funding of \$48 million over four years has been set aside to advance micro economic reform, urban reform, regional economic development, environmental management and social justice objectives.'

As part of this social justice package, funding has been allocated to develop a benchmarking program for local government. Public libraries will be part of this program which will determine standards of performance, largely in response to what has been a serendipitous approach to the resourcing of public libraries which varies from State to State and local authority to local authority.

This variance in the resourcing and funding of public libraries across Australia reflects the 'States rights' push that has always been to the fore in Australia. Thus, public libraries have always been funded by State and local government and the Federal or Commonwealth Government has not provided funding or set any standards for public

libraries. However, local government grants from the Commonwealth are part of the total local government finances and are no doubt used in some authorities to finance operating costs of libraries.

Benchmarking has been used by industry in Australia as part of the total quality management and best practice drive, but in local government we have been slow to take up the challenge given by Senator Peter Cooke in 1991 when he launched Australia's 'Best Practice' program to accelerate a new workplace culture based on international best practice.

A new Victorian Government, elected in 1992, saw sweeping changes being made to local government in that State and its new leader, Jeff Kennett, has been responsible for what is now called 'Jeffing' the local government industry. Amalgamation of local authorities, the introduction of Compulsory Competitive Tendering and the requirement for published performance measures and benchmarking have been progressed as a stimulus to local government reform. The Victorian experience is in some ways a mirror of the British changes of the late Eighties and early Nineties and public library systems in Victoria are currently experiencing turbulent times as they and their municipalities come to grips with the rapid change.

Apart from Victoria, what is happening in other States? In New South Wales (NSW), work on public library performance measures has been taking place to examine and test efficiency measures in a major project funded by the State Library. A methodology has been developed to collect the cost of circulating an item and the cost of getting an item on the shelf. A similar project was also developed in Victoria and the NSW project was based on this. Volunteers have been using spreadsheets in order to develop an agreed methodology to calculate the measures. However, only a handful of libraries were able to complete the project. A seminar was held in NSW in October 1994 and as a result, some input was given to the national local government benchmarking project.

In Western Australia, the new Local Government Act, which is due to become operational late this year, will legislate that local government must



develop and implement performance measures. This will include public libraries. A group has been formed to address this issue and work will be assisted by the strong co-operative nature of public librarians in Western Australia.

The Western Australian public library system operates in partnership with the State Library, with State Government funding being provided in the form of bookstock which is circulated on a state-wide basis, enabling Western Australians access to the state-wide collection through a strong, free, interlibrary loans system. Statistics have been kept for all Western Australian public libraries in a set format for all local authorities and are published annually by the State Library in a statistical bulletin.

Since the early Eighties, the State Library Service has had standards for the operations and siting and design of public libraries, but these do not include performance measures. In 1986, a group of Western Australian public librarians met with Nick Moore, the British researcher, and drafted a manual titled 'Measuring performance: a draft manual prepared for public libraries in Western Australia'. Unfortunately, the draft manual was never published. Part of the reason for this was the automation of the public libraries in Western Australia at the time, which made obsolete many of the methods outlined in the manual for measuring specific performance. However, the performance measures themselves were relevant and the outcomes are still valid for measuring a public library's efficiency, effectiveness and impact. The last part of the manual provides questionnaires for consumer surveys and a public library assessment form designed to enable librarians to have a tool for assessing their library and to give a guide for future strategies for raising the overall standard of the library.

The assessment form takes into account such areas as library location, opening hours, layout, special needs facilities, services, staffing, seating capacity, number and range of resources, availability of resources and range of community information provision. It is a fairly basic tool, but one that can be used effectively and easily, especially as a first pass in assessing the service and its weak points.

The manual was specifically aimed at Western Australian public libraries, taking into account the circulating stock and exchange system operated in that State. It has not been trialled in any public library and will need rewriting to reflect the change in work patterns and resource provision of the Nineties. It is a shame that the work was never published, as it was, to the best of my knowledge, the first performance measures manual that was

designed for Australian public libraries.

This draft manual will certainly provide a starting point for the group who will develop performance measures in response to the new Local Government Act and hopefully it will be published in partnership with the State Library to become the guide for Western Australian public library performance measurement. The specific Western Australian measures of development stock provision, exchange statistics and the measure of interlibrary loan provision across the State by each library will assist the State Library and public libraries in their planning for better resource provision in a State that is rapidly expanding population in the South Western corner, but which still has to contend with equitable library and information services provision to small pastoral and mining communities in a sparsely populated State that is three and a half times bigger than Texas and could contain ten landmasses the size of the United Kingdom. Yet it has a population of only 1.6 million

In Queensland, the Library Board of Queensland and the Chief Librarians Association released *Draft standards for Queensland public libraries* in June 1995. The introduction recognises the importance of providing local government authorities with a quantitative and qualitative framework for planning library service. Standards also ensure that there is overall equity in the delivery of service across the State. These standards enunciate performance measures at the end of each section, but these mostly refer to operational standards.

In Tasmania, the State Library has reworked its Strategic Plan and has a consultant employed to establish performance indicators for the Plan. They will also enunciate operational performance indicators because the State Librarian believes that these will have more meaning, particularly for the funding body.

The bibliography in the Queensland Standards shows that all states in Australia have at some time published standards for public libraries from the 1960s to the 1990s. The Australian Library and Information Association published *Towards a quality service: goals, objectives and standards for public libraries* in 1990 and this document is again ready for revision and review. It outlines objectives and outputs for each of the seven areas covered, these being: management; financial resources; human resources; physical facilities; library resources; community services and technical services.

The variance in the funding of public libraries has also been reflected in the varying approach to the



collection of statistics relating to public libraries. The last attempt to collect nation-wide statistics for public libraries foundered because the States could not agree on a definition of ages for children and young adults.

Whilst each State collects statistics on public libraries, either through the auspices of the State Library or another body, there has been no Australia-wide set of statistics that can be used to benchmark public libraries or which can be used to aid in performance measurement.

In late 1994 and 1995, the Council of Australian State Librarians Public Libraries Group commenced work on defining the statistics that should be collected nationally for Australian public libraries and to identify from these, key indicators for public libraries. They have identified 12 statistics for collection. These are:

- total expenditure on public libraries
- population of individual state
- number of qualified librarians
- total number of equivalent full-time staff
- number of library materials
- number of service points
- number of local authorities
- number of local authorities with at least one service point
- total circulation
- total library visits
- total hours open per annum
- number of registered library users

From the above statistics they intend to calculate the following key indicators. These are:

- public library expenditure per head of population
- public library expenditure as a percentage of combined State and local government expenditure
- population served per qualified librarian
- population served per full-time equivalent staff
- library materials per head of population
- population served per service point
- number of local authorities with at least one service point
- circulation per head of population
- library visits per head of population
- circulation per hour open

Some discussion is still required to define these measures and statistics, but the collection of these will give us a national perspective of public library usage that Australia has never had before.

In summary, as indicated above, the emphasis on State Standards rather than Australia-wide standards and performance measures has inhibited the production of meaningful benchmarks or statistics for public libraries. Unlike the United States and United Kingdom, public libraries are not subscribing to the Australia-wide standards published by the professional association, and are producing no Australia-wide reports that enable funding bodies or stakeholders to judge public library performance or for public librarians to strive for excellence. As Barry McIntyre, Associate Professor of the Royal Melbourne Institute of Technology Department of Information Management and Library Studies wrote in his paper 'Measuring Excellence in Public Libraries' (McIntyre, 1994):

'So far, library Standards in Australia have been of limited help in identifying quality . . . better industry-wide reporting of performance is needed. There is no consensus about which eight to ten key indicators to emphasise.'

So how, therefore, does a public library system such as the City of Stirling Libraries manage performance measurement and prove to its local authority that it is a service of relevance to the residents and one which merits the funding provided to it? How do we assess our performance when there is a lack of commonly accepted indicators that could enable us to benchmark with other public library services in Australia?

The City of Stirling is a metropolitan local authority of 110 square kilometres servicing a population of 184,000. It is located in the Perth metropolitan area and runs between the Indian Ocean and the Swan River. It is an area of varying socio-economic population and includes a small business/industrial area. The municipality is serviced by seven public libraries of different size and staffing, all of which serve a very diverse community base. Each library is staffed by only two professional staff, with the exception of the two larger libraries which have an extra half-time professional, one technician or paraprofessional, and different numbers of library assistants dependent on the size and busyness of the library. We are very tightly staffed, and yet turn over in excess of two million loans annually and provide a wide variety of activities and services for the community. I am constantly astounded at how the staff manage and that we do



not have more staff burnout. How have we achieved what we have?

When I took the management of the library service over in 1984, the City of Stirling Libraries had been in a period of decline following a management review, the abolition of the role of Principal or City Librarian, cutbacks in specialist staff and the staffing of a new branch library from existing staff. It was clear that the library service needed a review and a strategic plan that would set targets and by which the service's performance could be measured and monitored.

What we required was to develop a mechanism for developing a set of measures that would show how we were performing. All staff needed to know that there was continuous improvement in the system, that goals were being achieved and that the day-to-day work was contributing to a better and quality public library service for our clients.

Van House's *Output measures for public libraries* (1987) bases much of its outputs on the results attained from the setting of goals and objectives. This goal attainment model of *Output measures* which is integrated with the strategies in *Planning and role setting for public libraries* (McClure, 1987) fitted well with a proposed strategic planning framework and a Library Corporate Plan 1984-89 was drafted from a library staff think-tank. A plan which included a detailed summary of each of the then six libraries and their service areas was drafted. From this document a library strategy plan was developed for presentation to Council. This plan set standards for the library service and set goals for remedying the shortfalls that currently existed. The plan was taken to the Council and endorsed in 1987.

By 1989 the following exciting developments had taken place in the library service:

- a fully automated computing package had been installed in all libraries and we had received a Silver Award in the Commonwealth Government Technology Event
- one library was relocated from a recreation centre to a shop front position and had had a resultant increase in usage of 50.9%, 32.5%, and 38.2% in the following years
- an historic building had been given to the library service to renovate and use as a library in an area that had been unserved. Commonwealth Government funds from an employment incentive scheme had been obtained for this project
- Sunday opening was implemented in the two largest libraries and to this day they remain the

only public libraries in the Perth metropolitan area that are open on Sunday

Having achieved our first breakthrough, we now had goals which had been endorsed by Council, which had been met and which, in the eyes of management, elected members and staff, were measurable indicators of the success and development of the library service. Together with these performance goals and measures of specific projects we also had the statistical proof of other measures such as rising loans figures and increased staff productivity being shown in loans per staff member, increased membership figures and decreasing client complaints.

The profile of the libraries was raised in the Council - our funding body was now more amenable to suggestions for capital investment in the libraries and to listening to requests for additional staff to cope with the increased workload.

In this climate we set out on our next strategic planning exercise. By now this had become an accepted part of staff operations. We had monitored progress through the last five years and begun to incorporate professional staff performance appraisal systems which were tied in with the strategic planning goals for each library. Each year, Branch Librarians would set themselves specific goals based on the strategic plan and would meet with me to agree the goals for the forthcoming year and to assess progress on the goals for the year just past. It was also a time to identify training needs, individual support requirements and for them to tell me what I could do to assist them to do their jobs more easily.

The staff appraisal was based on an in-house system developed in the City called ROMP - Results Oriented Management Process. Each year we ROMPED together and each year we changed the initial process to better fit our needs in the libraries. Naturally some Branch Librarians did not enjoy these sessions, whilst others looked forward to them each year. It was interesting that one person who did not enjoy the appraisal sessions and who resisted them most was in fact a high performer, but did not want to be tied down to corporate goals and would have preferred not to articulate what they would be doing in a formal way.

Yet this person actively participated in the strategic planning sessions and ensured that special programs and goals set in their library were achieved. We set out then far more confidently to prepare the 1990-1995 Libraries Strategic Plan. We were much more professional this time and included the classic models of SWOT, stakeholder model, key strategic issues and formulated our goals from there. We set



ambitious goals which included the rebuilding of old libraries and goals that were within our power to achieve without massive funding resources. We assigned persons responsible for achieving goals and time-frames in which we hoped to achieve them. This particularly fitted in with our performance appraisal model and would assist professional staff identify what they would use as the basis for their personal goal setting for the five years. Again we took it to the Council, and again we had the Plan endorsed.

Did it work?

Library performance measurement for the last five years shows that we achieved the following:

- the building and total refit of two new libraries to replace libraries built in the Fifties and Sixties
- approval to commence the planning and development for a new library to replace a shop-front library that has grown too small for the community together with the provision of land on which to build it
- the renovation of another library
- the employment of a Young People's Specialist Librarian for the system (a position taken away by the Council in the early Eighties)
- employment of additional library assistants in several branches
- approval to purchase a fast-track issue terminal for trial in one library
- development of and funding for special programs for Reading 1990, Year of the Family and Australia Remembers
- special budget allocation for young people's activities
- development of reading and remembering programs in two aged care hostels in the City

Therefore, major performance measures for the library system have been related to the achievement of major goals that have been endorsed by the Council. With the endorsement of the Council we have been able to place our major projects on the City's Corporate Plan and to have funds allocated for them in annual budgets.

The Libraries Annual Report reports on these major achievements and highlights them in the Council Minute that accompanies the report to the Council Committee meeting. We still report on the traditional performance measures in the Annual Report. These measures are meaningful to librarians,

but do not appear to mean as much to the funders as the achievement of set goals. Nor do they mean as much to the staff as the achievement of set goals.

For library use we keep the following performance measures:

- issues by branch
- issues by borrower age group
- issue ratio per staff member
- issue per registered borrower
- issue by classification
- registered members by age group
- activity by age group
- non-resident member numbers
- issues by residents/non-residents
- reservations lodged
- stock-holding by classification
- ownership of stock
- stock turnover by classification
- cost per issue
- interlibrary loans supplied
- attendance at library activities

These enable us to measure the performance of the system with the following indicators:

- circulation per capita - a measure of level of community usage of the libraries
- circulation per staff member - a measure of staff productivity
- cost per item issued - a measure of cost-effectiveness
- total cost per capita - a measure of accountability and cost-effectiveness
- programme attendance - a measure of community participation and active usage

The other measures give us active and meaningful data about our collection and the participation rate of various age groups in the community. This enables better forward planning.

I therefore believe that there has to be a dual approach to the setting of performance measures for public libraries: firstly, the traditional collection of statistics that enables benchmarking and for use as a management tool. These statistical performance measures are also vital for an overall national picture of public libraries, which we have never had in



Australia, and which is now inhibiting our advocacy and lobbying for better funding for public libraries. We cannot prove how valuable public libraries are to all sectors of the population without these statistical measures and lag well behind other countries because we do not have them.

Secondly, each library requires the setting of strategic goals to which all staff and the funding body subscribe. These are the measures by which the performance of the library service as a whole is judged. It is also part of the measure for assessing the performance of individual staff members who contract to undertake the actions necessary for the achievement of the goals by which the service will be measured.

Too often in libraries we measure for the sake of measuring, and no one, including our funding bodies, can make use of the measures. To create a climate of continuous improvement, staff need to be able to see the results of their performance and to take pleasure in the achievement of goals.

I have mused on occasion that the concepts of performance measurement, best practice and quality management sometimes sit uncomfortably with Australian library managers. The egalitarianism and reluctance to 'skite' or announce our successes and good performance are part of the Australian reticence. We have a history of backing the battler and cutting down the tall poppies or high achievers. We do little to celebrate success in comparison with our American colleagues and often the reward for high achievers is to find themselves and their libraries disparaged or disbelieved in the way Australians tend to do. Yet at this time in our history, Australian public librarians need to be able to prove performance by using performance indicators and practising benchmarking. They must enhance their performance in the eyes of their funding providers. Additionally, they need to use strategic planning as the impetus for high performance by setting goals approved by the funding body and then by proving goal attainment.

Local government and public libraries in Australia are entering an era where performance indicators and measurement will be mandatory rather than optional. I believe that the collection of statistics for eight to ten key indicators plus the development of strategic plans with well articulated, measurable goals will assist public libraries to prove their worth to funding bodies and governments. Staff appraisal related to the strategic goals of a library will ensure that a climate of continuous improvement prevails in the library service. Change is now with us in all aspects of local government in

Australia, but I believe that that change which will demand performance measurement will enhance our ability to provide a better quality library service to our clients.

And that's our business - isn't it?

## References

- Australian Library and Information Association Public Libraries Standards Committee (1990) *Towards a quality service: goals, objectives and standards for public libraries*. Canberra: The Association
- Garlick, Marina (March 1995) 'Public library performance measures in NSW: an update' *Aplis* 8(1)
- Library Board of Queensland and Chief Public Librarians Association (1995) *Draft standards for Queensland public libraries*. Brisbane: Library Board of Queensland
- McClure, Charles R. et al (1987) *Planning and role setting for public libraries: a manual of options and procedures*. ALA
- McIntyre, Barry (1994) 'Measuring excellence in public libraries' *Aplis* 7(3) September
- Sumsion, John (1993) *Practical performance indicators - 1992: documenting the Citizens' Charter consultation for U.K. public libraries with examples of PI's and surveys in use*. LISU, Dept. of Information and Library Studies, Loughborough University of Technology
- Van House, Nancy et al (1987) *Output measures for public libraries: a manual of standardized procedures*. 2nd ed., ALA

## Discussion

*Peter Wynne, University of Central Lancashire (referring to figures given in an aside):* If you have 82 staff and 2.06 million issues per year, and if all staff are involved in issuing, I calculate there are 25,000 issues per staff member per year. Do the staff do anything else?

*Kay Poustie:* When we work it out on the staff who actually man the issue desks, some of my libraries are doing upwards of 45,000 issues per staff member per year. We have a performance statistic, agreed to by the Council, that we can have more staff in a library when there are more than 50,000 issues per person per year. That's frightening, isn't it? Our staff are worked very very hard. With two



professional staff in a library and 2.5 in the big ones, which turn over something like 450,000 issues per year, I do not know why we don't have burn-out. (That is two professional staff: the Branch Librarian manages the library; they man the reference desk and provide children's activities; they do outreach in kindergartens and child-minding centres; they operate story times; they do special programs - we have just had many of these for Australia Remembers, celebrating the end of World War 2.) Yet some staff have been there for years and years. They are very motivated. They are empowered to get on with the job and try things out in what I hope is a very supportive climate.

*Roswitha Poll, Universitäts- und Landesbibliothek, Münster:* Is there the same process of goal-setting and comparing goals with achievement, in other regions of Australia?

*Kay Poustie:* It is particularly strong in the City of Stirling but is becoming more common elsewhere in public libraries across Australia. Strategic planning is happening more often in public libraries than it used to. It is very much a management tool used across the country.

*Michael Carmel, South West Thames Regional Library Service:* You mentioned appraisal meetings. Does that have financial implications?

*Kay Poustie:* No, this is a one on one. I have always argued with the local authority that performance appraisal should be linked with increases in pay, but that is not accepted. However, enterprise bargaining is coming in in Australia now. I am currently taking staff through enterprise bargaining. This is a process throughout industry in Australia to improve productivity. We used to have a centralised wage-fixing system negotiated by the industrial and trade unions. Now they are looking at individual enterprise agreements. The enterprise is the City of Stirling but each individual department in the City will have to negotiate its own part of the enterprise agreement which will hang off the total enterprise. So, as a productivity measure, every one of my staff will have to agree with what we offer to the Council as a productivity measure. We are half way through the process at the moment and it looks as if we will be giving up some of the public holidays between Christmas and New Year and opening the libraries. We will also look at annualising salaries, which is a productivity benefit for the organisation because you take the total salary package that people may

have received for the whole year, including our 17.5% loading for the four weeks annual leave, plus my clerical staff's 10% shift loading, and divide it by 52.2 weeks per year and you get the same salary every week. There are obvious benefits to the people working payroll. When we have all agreed, we will negotiate with the organisation what kind of salary benefit we will get. That has to be done individually with each department and agreed by a central committee.

*John Dean, University College, Dublin:* What proportion of professionally qualified students in Western Australia actually find work in libraries?

*Kay Poustie:* Last year we could not find enough qualified librarians. They threatened to close down the library school, though it is open for business again now and accepting enrolments. The majority of graduates are getting jobs.

*Ian Winkworth, University of Northumbria at Newcastle:* How do you link strategic planning with goals for individual staff?

*Kay Poustie:* Everybody has participated in the strategic planning process. The Branch Librarians know what the goals are for the total service and for their particular library. So, when we looked at building a new library, for instance, the goal for that Branch Librarian was to work with me to get it completed in the best way possible. Or someone might decide to have a special program for the year, (and we are committed to do x number of special programs), or the people who are running the reading and remembering programs in the two aged persons hostels are from opposite ends of the City, and they decide to run this program effectively and to monitor it over the next twelve months, in each case their goals fit in with the overall strategic plan.







# Performance Measurement in the Context of Quality Management

**Michael Cotta-Schønberg**

Director, The Library, Copenhagen Business School

## 1. Introduction: Librarians and Management Theories

### 1.1 THE PROLIFERATION OF MANAGEMENT SYSTEMS

As you are aware, not a month goes by without the appearance of a new management theory, a new management guru, a new management bestseller. Sometimes, the newness consists in demolishing well-established theories and practices of other gurus, like Henry Mintzberg's *The rise and fall of strategic planning*, which arrived at the Copenhagen Business School (CBS) just after its governing body had decided to develop a strategic plan. As Mintzberg is one of the management gurus held in esteem at the CBS, his book was received with somewhat mixed feelings.

In later years, I have myself encountered management by objectives, participatory management, self-governing groups, team-building, consensus management (which I absolutely loathe and consider to be a violation of the human right of disagreement and of the noble culture of contradiction), strategic planning, corporate turn-around, the virtual corporation, the slim corporation, management by walking around, benchmarking, mentoring, the five-minute manager, total quality management and ISO quality certification. Most recently I have read about 180 degrees management and - a month later - 360 degrees management. What these last can be about, I do not know, but I am quite sure that at the next IFLA conference somebody is going to stand up and give a paper on 'Management by degrees in academic libraries'.

We should not wonder at this seeming fecundity of management theory. It is, after all, not only a field for fertile brains, but also a major industry, involving big money.

Like the fashion industry, the management industry systematically depends on continuous change and newness. The gurus are in a perpetual state of competition for lucrative consultancies, grand speaking fees, and next month's books on the best-seller list.

Actually, competition can sometimes turn into the ludicrous or the ethically questionable. For exam-

ple, a recent book entitled *The discipline of the market leaders* stayed for 15 weeks on the *New York Times* bestseller, reaching as high as number five. It was then discovered that the authors' consultancy firm had by various means bought between 40,000 and 50,000 copies of the book from bookshops all over the US, particularly bookshops thought to be monitored by the *New York Times* (cf. *The Economist*, August 5th 1995, p. 53). So, beware of bestsellers.

### 1.2 LIBRARY MANAGERS' FASCINATION WITH MANAGEMENT SYSTEMS

Instead of wondering at the proliferation of management theories one might more reasonably wonder at library managers' fascination with them, particularly in the English-speaking world.

Whenever a new system is presented, it does not take many months before articles begin to appear in library periodicals on their application in libraries.

There is a positive side to this fascination: it represents an honest recognition that many, maybe most of us, are not born managers, and that management skills can actually to a considerable extent be learnt or developed. Also, the use of one system as a frame of reference can help to develop one's own consciousness about management issues in general and in particular.

On the negative side, the fascination with management theory is probably also due to feelings of insecurity and inadequacy, to some extent but not exclusively caused by the major technological upheavals in the library world.

Such fascination may lead to blind acceptance of one system, uncritical dependence on the guru, cognitive blindness towards divergent stimuli from the environment and self-imposed limitation on available options for action.

### 1.3 'BHIKKUS, YOU MUST BE YOUR OWN SALVATION'

There is no saviour system out there, waiting to be discovered and able to solve one's management problem. Learn from the hinayana Buddha's message to his monks: Bhikkus, you must be your own salvation!

In conclusion, a library manager should carefully



and critically select all relevant management insights, apply them to her own library and create a flexible management system adapted to local and personal circumstances.

This is what we have been trying to do at the Copenhagen Business School Library (CBSL).

## 2. From Problem Solving to Quality Management

The development of performance measurement and quality management at the CBSL will be related here. Through this process various important elements of quality management have been identified and related to each other in a way which may be of interest to other libraries pondering whether and how to proceed in this area.

At the outset, it has to be admitted that this development as a whole was not the result of a major planning exercise based on an overall view of things and a deep knowledge of management theory. The perspective, though, was clear: how things look to the user. It turned out that one phase of development naturally led to another, and in the end we have come up with a fairly coherent 'system', even though we somehow did it all backwards.

### 2.1 WHAT ARE WE DOING? PERFORMANCE MEASUREMENT

In 1988/89 the CBSL was confronted with a number of serious problems: other libraries in the area were constantly complaining about being swamped by CBS-students (about 15,000) seeking service they seemingly could not get in their own library; the budget was grossly inadequate in terms of the tasks demanded of the library; the major transition to computerisation was becoming urgent; there was a feeling that internal processes were not efficient.

In this situation it was decided that the first priority would be to get to know what we actually were doing.

We already had a set of basic statistics, ie. those reported on a yearly basis to the Danish library statistics published by the National Librarian's Office. These statistics comprised essential figures on collections, loans and resources.

To these statistics were added a series of data on output, eg. fill rate and delivery times for inter-library loans from other libraries, and collection use. Special emphasis was laid on data concerning the availability of books.

To the output data were added data on internal processing functions, a major one being the time it takes for new books to reach the shelves after being

received in the acquisitions department. This rather simple measure actually reflects the overall functioning of a number of operations, acquisition, classification and indexing, descriptive cataloguing, physical preparation and registration in the lending module of the computer system.

The development of the performance measurement system is an ongoing process. It received new impetus at later stages with the addition of data on efficiency and effectiveness of operations and service as well as on the composition of the user group. Every year some measures are cancelled, new measures established and others revised even though the modifications are now comparatively few from year to year.

Next year we shall be looking at the performance measures proposed by ISO and IFLA and take over what seems useful for us. Also a serious attempt at including cost data has to be made.

Our performance measurement system probably never will become completely finished since new developments in service and working procedures will have to be monitored, but a stable form is expected to be established in two to three years.

### 2.2 ARE WE DOING IT WELL? EVALUATION

Quite soon in the work with performance measures, it became apparent that they did give us a much better picture of what we were doing as a library but that used properly they were limited to the descriptive sphere. They did not in themselves tell us if we were doing a good job.

However, to management it was important to be able to pass a value judgment on the work of the library, to be able to conclude whether or not we were doing a good job, and if this or that particular activity was satisfactory or not.

In connection with a set of fortuitous external circumstances, among them the interest and support in a project on the part of the Ministry of Education, it was decided to establish a program of library evaluation. The main purpose of the project was to evaluate the 'goodness' of the library. The program was to be ongoing and aim at annual or biannual evaluations.

To ensure independent expertise, Maurice Line was engaged as a consultant, which has led to a very fruitful and constructive relationship.

The first evaluation exercise was performed in 1991/92. It was based on a set of performance measures and - to a limited extent - on qualitative data from interviews with users. The third evaluation exercise covering 1994/95 has just ended. As with our performance measurement, the evaluation pro-



cedure is developed continually but will probably find a more stable form in two to three years.

### 2.3 ARE WE DOING WHAT WE WANT TO DO? STRATEGY

Already in connection with the first evaluation exercise it became apparent that subjective evaluation based on the managers' more or less conscious or articulated perceptions and values are satisfactory neither in general nor to the managers themselves. For a value judgment to work in an organisational context of our type, clear criteria of value should be formulated and approved by the responsible body, in our case the Library Board.

Three types of such criteria can be distinguished: Firstly, there are norms and standards approved by competent external authorities and associations. Examples are charters for public library services issued by local authorities in England, and guidelines and norms for library services from American library associations. Secondly, best practice may be used, obtained by comparison with other libraries (benchmarking) or by comparison of one's own performances at different times, mostly from year to year. Thirdly, many libraries now have a set of clearly formulated goals in the form of strategies, plans or sometimes service level agreements, often negotiated with and approved by the library's academic mother institution.

At the CBSL, we chose the last option in the form of a strategic plan. We had earlier had to formulate some goals in connection with long-range planning initiatives for the whole Business School. These were developed into a fully-fledged plan covering the whole spectrum of library activities. The plan is revised annually and approved by the Library Board as well as by the Academic Council, the highest governing board of the Business School.

Most often strategy is considered to be an expression of major and long-range lines of change and development. We feel, however, that for a service institution of our type daily operations and service are a major strategic issue. The plan therefore has two dimensions. One dimension is development both in terms of the long-range transformation of the library from a book-place to an information nexus and of short-range concrete initiatives of development and improvement. Another dimension is operation, which covers not only service - more or less embodying a service level agreement - but also the daily internal functions which support the service function.

In its present form the Strategic goals of development and operation of the CBSL comprise a short

Mission statement and four major Goals, being Focus on users, Good service, Efficient internal functions and Optimal use of resources. The goals are made concrete in 60 objectives, each with sub-objectives and specific criteria of success when relevant.

The strategic plan is now approaching a stable form, though the concrete projects of development as well as the specific success criteria will change.

After the development of the strategic plan the yearly evaluation report has been based on this plan. It is structured after the four major Goals and is divided into 60 sections, one for each objective. Each section contains

- a statement of the objective with sub-objectives and success criteria if any
- performance measures
- results of any special studies of the activity in question during the year
- a summary of initiatives of development, improvement or correction concerning the activity in question during the year
- an evaluative statement concerning both the conformance between the approved objective and the actual practice and any problems indicated by the performance measures or special studies

At this stage of development, ie. in 1994, the Business School decided to develop an overall quality program for the whole school, with the assistance of

a British specialist, Lee Harvey.

We had, therefore, to look into the quality management literature and movement. We then decided that with our strategic plan, performance measures and evaluation procedure we already had some of the basic elements of a quality management program. However, two elements of such a program might be considered to be missing or insufficiently developed, one being the creation of conditions for quality and the other being 'corrective' action.

As for creating the conditions, we already had a formalised procedure for ensuring continuing staff training and development and some manuals for internal operations, but these will have to be developed further as an integral part of overall systematic quality management.

### 2.4 WHAT IF WE DON'T DO WHAT WE WANT TO DO? CORRECTIVE ACTION

As for corrective action, we had of course earlier done something about functions which were evaluated negatively, but this procedure, too, did not have



the degree of consistency and formalisation required by a quality management system.

In connection with our evaluation report for 1995 we have begun to develop this element. We shall probably have to find another name for it, since 'corrective action' - at least in Danish - has connotations of something unpleasant done in penal institutions!

In case of a negative evaluation of some activity, three types of response are possible.

Firstly, due to problems with measuring performance - to be described in part 5 of this paper - it is necessary to consider whether the performance measures are correct or sufficient. If not, it may be decided to modify the performance measurement in order to obtain better or more data.

An example: performance measures showed that we did not fulfil our success criteria of a minimum 95% fill rate of requisitions for interlibrary loans from other libraries. The responsible department was convinced that the fill rate was better than indicated by the performance measures and a closer look at the procedure for collecting the data actually showed that there were some problems both of validity and reliability which resulted in inexact figures giving a more negative picture than the actual case. As it is usually the other way round, we double-checked the findings and finally concluded that we had to modify the procedure and get better performance measures before being able to make an evaluation.

Secondly, if the performance measures stand up under inspection you should consider whether the negative evaluation may be due to impossible or obsolete goals, objectives or success criteria. In that case you should change the goal instead of the practice. An example: we had a success criterion consisting in a maximum mean delivery period of books from booksellers of one month. For three successive years, this criterion was not fulfilled. Our only option however seemed to be to shorten the time by having books from the US delivered by airmail and generally using rush orders much more extensively than now. However, this option is very costly so we have decided to retain our present practice and to lengthen the delivery time specified by the success criterion. Such a course may be dangerous, of course; still it is sometimes necessary: goals and objective are not sacrosanct, they too should be under continuous scrutiny and revision.

Thirdly, if one is satisfied with the quality of one's performance measures and wishes to uphold the existing goals, objectives and success criteria one will obviously have to initiate remedial mea-

ures. If this is not done, the whole quality process loses its meaning and credibility.

A remedial measure may take the form of reinforcing the existing procedures. I believe it is the second law of thermodynamics which can be restated to mean that things fall apart naturally and by themselves. There is always a tendency not to uphold existing rules, not necessarily because staff have decided that they are not good. Rules which are not actively upheld and reinforced will eventually fall into disuse.

On the other hand, if a procedure is not observed it may be because staff at grassroots level have justly determined that something is wrong with the procedure. In that case one should abolish, change or develop the procedure - in consultation with relevant staff, evidently.

If the problem is due to staff lacking the necessary qualifications or motivation for implementing sensible procedures, staff development and training measures are indicated, and if that does not help it may be necessary to shift staff to other tasks.

## 2.5 THE QUALITY MANAGEMENT PROGRAM OF THE CBSL - 1995

As you have heard, we have not only done it all our way, but we also did it backwards, starting from a problem and not from a decision to have a quality management system.

Our quality program is still in a period of development. It may attain a more stable form in some years, but it will most probably be in a state of continuous change not only caused by new insights from management theory, but also by changes in the library and information service environment.

As of this year, our quality program contains four major elements:

- a statement of strategic goals of development and operation consisting of a mission statement, 4 major goals, 60 concrete objectives with sub-objectives and specific criteria of success when relevant

The objectives under the major goal of Good service together form the substance of a service level agreement with the Business School

- a program for staff training and development and for developing a set of manuals for operations and service
- an evaluation procedure based on performance measurement and other relevant information
- a procedure for corrective action comprising revision of performance measures, revision of



goals, objectives and success criteria, and remedial measures in the form of reinforcing or developing procedures and specific staff training and development

Over the last year, we have pondered whether we should go further and implement a Total quality management program or seek quality certification based on ISO 9000. Right now it is my feeling that we should not do this. For two reasons: firstly, I believe that our quality program as it stands today gives us the essentials of quality management and that we would not benefit truly by submitting to the formal requirements of TQM and ISO certification.

Secondly, we really cannot expand further the resources spent on this whole process. Some we should use, definitely, but we must also ensure adequate resources for current operations and the - very - important development tasks necessary during these years.

Thirdly, there is the matter of perspective. As managers we do not want ourselves or our staff to become engrossed in procedures of operations and measurements, evaluation and in general control. Even more important is it to keep the institution tuned to the winds of change and actively engaged in the major upheavals affecting the library and information world. These issues are of course closely related to quality and quality management, but they are of a different order. Concern with quality and control must support the even more vital issues and not deflect our energy from them.

### 3. Concept, Purpose and Types of Performance Measurement

The following remarks are not intended to be of a theoretical nature, but to reflect the experience of a practitioner and his attempts to develop a useful concept of PM.

#### 3.1 THE CONCEPT OF PERFORMANCE MEASUREMENT

##### 3.1.1 Terminological flux

As you are all aware, PM is still in a considerable terminological flux. The important point is that there is not any 'correct' terminology.

Quite probably, the national and international efforts of developing standards and toolkits for PM in libraries (The ALA guidelines in the US, SCONUL guidelines and *The Effective Academic Library* in the UK, ISO and IFLA internationally) will eventually lead to some harmonisation of terminology.

Total harmony will never prevail, though. Certain terms are untranslatable from or into English, the international language of librarianship. For example, the very term 'performance measurement' translates directly into a Danish term 'praestationsmåling' which has somewhat negative connotations in our culture. Also the distinction between 'efficiency' and 'effectiveness' cannot be rendered directly into other European languages which have only retained one substantive based on the Latin verb *efficere* and its related nouns. And the distinction between 'measures' and 'indicators' has given rise to a definitional controversy in Great Britain which I do not consider to be important. It does have a certain entertainment value, though, and it is one of those extravagancies of the British intellect which may assure their neighbours that the British are not quite as pragmatic as they would have us believe [murmurs and groans from the audience!].

##### 3.1.2 What it is not

In the literature, performance measurement and evaluation are sometimes used interchangeably.

This is one practice I consider to be misleading, at the risk of contradicting my own dictum that there is no 'correct' use. The reason is that I believe it is essential to try as much as possible to keep description, of which measurement forms part, distinct from value judgment, which is evaluation.

Another thing that it is not is problem solving. Of course, knowledge about the problem and its extent, provided through performance measurement, is essential but the solution to the problem is another thing completely and it is chosen in consideration of policy factors and other factors, sometimes quite unrelated to the problem as such. The performance measures may indicate relevant elements of problem solving; they do not provide the solution.

##### 3.1.3 What it is

By performance I understand library activities in the broad sense.

Measurement is generally understood to involve some form of counting. The problem is: what may be counted? Evidently entities of a physical nature, eg. things like books, persons or users may be counted, and transactions too.

What about users' attitudes, opinions or satisfactions? And staff's for that matter or other stakeholders', too? These phenomena are of a psychological nature, and they cannot be measured directly. Quantified expressions of the phenomena may be obtained, but what is counted is how many people tell us this or that about their sentiments and



experiences and not the sentiments and experiences themselves.

Also, the matter of the degree to which users have certain sentiments (eg. very satisfied, satisfied, dissatisfied, very dissatisfied) cannot be measured directly, only how many people use the different answer categories. And of course the categories in such a division of sentiments (very satisfied through very dissatisfied) are not equidistant at all.

Some research on users' perceptions of service does not aim at quantifiable data at all, but at exemplary qualitative description and analysis. Indeed, some would altogether give up the hopeless task of quantifying anything - as if qualitative research did not, also, suffer from unsolvable methodological problems in terms of knowledge and generalisation.

This whole matter is naturally an interesting problem for specialists on methods in the social services.

On the level of the day-to-day operation of libraries I think it is reasonable to include data on users' satisfaction etc. under the concept of measures as long as it is clearly understood and remembered that the measures are not direct measures but only indirect expressions of psychological states. Also that they are based on question and answer categories which users understand and relate to differently. The same applies to categorisation of degree (eg. much, little, often, seldom). Personally, I find that these problems are fundamentally unsolvable, and that you have to live with them if you want to include data on how people experience our service functions and institutions.

In conclusion and for the purpose of this paper, I use the term performance measures in libraries as meaning quantified data on library activities.

### 3.2 PURPOSE

Quite simply, the purpose of performance measurement at the CBSL is: to provide data for the assessment of 1) whether or not the library fulfils its goals and objectives, and 2) the continuing relevance of these goals.

### 3.3 TYPES

There are various typologies of performance measures.

Input / process / output measures: Input measures relate to the resources of the library in terms of money, staff, collections etc. Process data concern the internal functions of the library (eg. processing time for new books), and output data describe its service product (eg. number of books lent).

Traditional library statistics have concentrated on

basic input and output measures. The modern developments in performance measurement have included process data and extended the area of output data. As efficient internal process functions are a basic condition for good service, they should not be neglected in a comprehensive program of library performance measurement.

Objective / subjective measures: the subject-object problem is a basic problem of philosophy and psychology, which I happily leave to the specialists, cf. my comments above.

For our purpose, I consider objective measures as relating to physical things (eg. number of books) and subjective measures as relating to psychological states (eg. user satisfaction).

I do not consider objective measures to be more true than subjective measures. Both are necessary, but even together and even when obtained under optimal conditions they will not give a complete and 'true' picture. Angels would not be happy, but library managers will be pleased to obtain sensible, however imperfect data with which to plot their course in the murky-muddy waters of everyday operations.

An interesting development at our institution (the Business School) has been an experiment with obtaining subjective measures of the same items from various stakeholder groups. At the CBSL it has been tried out by submitting questionnaires on various aspects of service not only to users but also to the library staff. Interesting differences of opinion between users and staff have been demonstrated. In one case, users were happy with the service at the information desk, but staff felt there were serious problems eg. relating to new media (CD-ROM) and they were definitely less happy with their service to users than users seemingly were. Another case was the OPAC, where users expressed satisfaction with the user-friendliness of the system, while staff were not very impressed by users' OPAC-competence. This difference prompted a special investigation of a qualitative nature which concluded that users - contrary to users' own perceptions - are not very good at using the system and that they are, for this reason, far from profiting optimally from the information resources which the library puts at their disposal.

Non-comparative and comparative: performance measures concerning one institution in a single year are of course interesting in themselves. However, they become much more interesting when they can be compared with data from other years and from other institutions.

Comparative data are fraught with their own kind



of problems. Due to changes or differences in definition and practice, comparison across time and institutions may be difficult, sometimes extremely so. Still, they should be tried, and problems solved as they arise or are recognised.

Whether comparisons between institutions' performance measures can be considered to be 'benchmarking' is a matter for debate. If one includes qualitative analysis of best practice in the definition of benchmarking, mere comparison of quantitative data may not suffice. Such data must be seen in their relationship to libraries' mission, goals and objectives and they do not provide answers to why and how one library has 'better' scores than another. Still, it is interesting to create a horizon of comparison and the comparison of quantitative data may also be quite relevant as first steps in a process of identifying, describing and analysing 'best practice'.

**Simple and composite:** simple measures are direct measures of something. Composite measures are obtained by relating simple measures, usually by division.

Composite measures (sometimes termed as indicators in contradistinction to measures) are necessary for a deeper analysis of phenomena and they are essential to comparison over years and across institutions. It is interesting to know that a library lends 300,000 books a year. It is even more interesting to know that it lends ten books per FTE student, especially if you want to know how the library performs in relation to other libraries. To know that one library lends 400,000 books and another 100,000 is not very interesting in itself. What you would really like to know is how the circulation figure relates to the budgets of the libraries and the number of students - and the rate of registered use to unregistered use in reading rooms. And then you would still need to know the basic acquisition policies of the institutions, of course: do they acquire books to cover the urgent needs of students mainly, or do they acquire books 'for the centuries and the scholar showing up in 200 years', or do they acquire books because they are responsible for preserving the national literary culture?

## 4. A Case: Interlibrary Loans from Other Libraries

### 4.1 INTRODUCTION

In order to illustrate the points and ideas developed above, I shall now present a case. It is based on a library resembling the CBSL, but the data given below are not identical with ours, and they are

selected with a view to clarify certain basic notions.

Imagine a library being part of a higher educational institution and serving a primary user group of 10,000 students (FTEs) and 600 academic staff. Its yearly budget is 2.5 million pounds and it spends 350,000 pounds on acquisitions, including 10,000 pounds on ILL from other libraries. Its collections amount to 250,000 volumes. It pursues an active weeding policy and aims at a no-growth library of 300,000 volumes in the year 2000.

The activity concerning interlibrary loans from other libraries has been stagnating for a number of years. Formerly, almost all loans were for teachers at the CBS; in the most recent years there has been an important relative rise in the number of loans for students. It is believed that the last development is due to students becoming familiar with the large bibliographic databases on CD-ROM and in the diminution of the - already - small fee for IL loans from abroad. This fee is not imposed in order to recover costs but to regulate behaviour and to ensure that only items really needed are requested.

Whereas teachers often do not need very speedy delivery of materials borrowed from other libraries, the students need rapid delivery because the materials are to be used in papers to be finished within weeks or a few months - or yesterday!

The library is still predominantly using traditional methods of ILL. Only recently has it begun to use online and fax-based methods of delivery and systems like UNCOVER are still only used to a very limited extent.

### 4.2 OBJECTIVES

The objective of our fictive library concerning interlibrary borrowings is the following:

- To provide reliable and speedy loans from other libraries and information systems

The success criterion is:

- A fill rate of 95% of all requisitions received from users and a mean delivery period of 21 days

### 4.3 THE PERFORMANCE MEASURES

The performance measures are given in three tables, one with objective data, one with subjective data and one with comparative data.

In Table 1 the 'fill rate' is the number of requisitions from users fulfilled within standard delays.

'IL loans/all loans %' means loans to users of materials borrowed from other libraries as a percentage of all loans.

It is seen in this table that:



Table 1

Objective performance measures of IL borrowings	1992	1993	1994
For teachers	2,500	2,500	2,500
For students	500	600	700
All	3,000	3,100	3,200
Fill Rate	93%	94%	95%
Delivery Time (mean) / days	25	23	21
IL borrowings / all loans	1.0%	0.9%	0.8%
Cost per loan / D.Kr.	75	77	79

- the number of interlibrary borrowings is increasing very slowly, and only due to an increase of borrowings for students
- The fill rate has risen over the last years to just fulfil the strategic requirement of 95%
- The delivery time has fallen over the last years to just fulfil the strategic requirement of 21 days
- The interlibrary borrowings activity forms a very small and decreasing part of the total lending activity of the library
- The cost of interlibrary borrowings is going up a little, but is stagnating if inflation is accounted for

Table 2 gives the (very!) fictive satisfaction rates of 4 groups: 2 user groups, ie. academic staff and students, the library staff, and the library management. The indifferent, unsatisfied and very unsatisfied users are not given - for simplicity's sake.

It is seen in this table that concerning the fill rate

- teachers are consistently and highly (99%) satisfied
- students are consistently satisfied at the 80% level
- library staff satisfaction increased over the years from 50% to total satisfaction coinciding with the achievement of the strategic objective
- library management only became satisfied when the strategic objective was fulfilled in 1994

Concerning the times of delivery

- teachers were consistently satisfied at the 90% level
- students' satisfaction level decreased from 80% to 40%
- library staff satisfaction followed the same pattern as for the fill rate
- library management satisfaction fell from 50% to 0%

Table 2

Subjective performance measures of IL borrowings	1992	1993	1994
Satisfied or very satisfied			
<u>Teachers</u>			
Fill Rate	99%	99%	99%
Delivery Times	90%	90%	90%
<u>Students</u>			
Fill Rate	80%	80%	80%
Delivery Times	80%	60%	40%
<u>Library Staff</u>			
Fill Rate	50%	75%	100%
Delivery Times	50%	75%	100%
<u>Library Management</u>			
Fill Rate	0%	0%	100%
Delivery Times	50%	25%	0%

Table 3

Comparative performance measures of IL borrowings	Lib A	Lib B	Lib C	Lib D
All IL borrowings	3,200	4,500	5,000	5,500
IL borrowings / all loans	0.8%	5.0%	2.0%	4.0%
Cost per loan / D.Kr.	79	120	95	102

In Table 3, library A is our case library, and the others are libraries of the same type and those which are most often used by library A for comparison.

It is seen that

- the case library has the smallest number of interlibrary borrowings both in absolute numbers and as part of the total lending activity
- it also has the smallest cost per borrowing

#### 4.4 EVALUATION ON THE BASIS OF PERFORMANCE MEASURES

The first question addressed in the evaluation exercise is the following:

Is the actual practice of the library in conformity with the strategic objective and the success criterion?

The answer is: yes. It is satisfactory that the library has now come to fulfil its strategic objective concerning interlibrary borrowings.

The second question is:

Do all the available data point to a satisfactory situation concerning interlibrary borrowings?



The answer is: no. The decreasing satisfaction of students and management with the time of delivery is not satisfactory, even if the strategic objective is fulfilled.

Fictive follow-up studies of this phenomenon show that students are simply getting more demanding, particularly as they get more attuned to instant online contact with an increasing number of information resources. Management is unhappy because major systems for rapid (24-48 hours) online or fax delivery of periodical articles have now become available with the result that delivery times which were satisfactory in the earlier period have now become unsatisfactory.

The third question is:

How would you evaluate the activity concerning interlibrary loans on the basis of these data?

It is satisfactory that the strategic objectives are now being met. However, the success criterion concerning the delivery time has been made obsolete by the information technological development and should be revised.

The fourth question is:

If you have mentioned any problems in the evaluation, how would you propose to address them?

Three types of corrective action have been mentioned earlier: improving the data, revising strategic objectives or their success criteria, undertaking specific initiatives of development.

In our case, all three will be employed.

- A special investigation of how many requisitions actually concern periodicals available on high-speed document delivery systems will be made. If a sufficient number proves to be available, then
- the success criterion for speedy interlibrary borrowings will be lowered from 21 to 14 days (as a cautious beginning)
- ILL procedures will be changed so that UNCOVER and similar systems will be used in preference and if possible to other, traditional partners

The main notion to be illustrated by this case is that performance measures should be used both for assessing whether strategic objectives are being met and if strategic objectives remain relevant. Often, subjective performance measures may be the best indicator of the continued relevance of strategic objectives.

## 5. Problems of Performance Measurement Affecting Quality Management

One thing with performance measures is unavoidable: you can never feel safe! Some definition suddenly turns out to cover aspects you had not thought about, somebody 'on the floor' changes the way of counting something, the demon in your machine develops acute insanity - as when a computer at a major library started to count only every second loan - or there has been a misunderstanding between managers and programmers concerning some parameter of automatically produced management information.

Before going into various problem types, a piece of advice: stay calm! Try to control the information gathering process, start with clear definitions, establish simple procedures, have someone in charge who has a good general knowledge of your library's functions and a feeling for numbers and who can sense when there must be something wrong with the data. This advice is so good that I shall eventually follow it myself!

However, whatever you do the error-free system is impossible. Recognise that and simply correct errors and misunderstandings as they are discovered. Sometimes, you may have to declare certain data lost and you will lose comparability over the years. Well, life goes on.

Also, if you are experimenting with new forms of complex data you may reach a point where it becomes necessary to declare that the problems in defining and collecting them cannot be solved adequately, something still stinks. In that case, cut the measurement. Even if it may be embarrassing in view of your earlier efforts, possibly in the face of staff opposition.

### 5.1 VALIDITY

By validity is meant simply that the measure actually measures what it is supposed to measure.

An example: We have been measuring the time of delivery of books from our book-agents, counted from the day our order is sent to the day the book is received. The time consistently turned out to be (and still is) surprisingly high. However, only after a couple of years we became aware that the CBSL orders quite a large number of books, on the basis of pre-announcements, which have not been published at the time of ordering. Our measurement of delivery time had thus somehow been messed up with delays of publication. The problem was solved by excluding books, which we knew had not been pub-



lished at the time of ordering, from the measurement. We could not solve the problem of books which had actually not been published but we thought they had. Still the measurement today is more valid than it was before we made the correction for books known to be unpublished.

Another example: the fill rate for requisitions of books through interlibrary loan from other libraries is calculated on the basis of number of requisitions sent to other libraries (B) and the number of books etc. received (A) - as  $A/B\%$ . Three problems have been discovered. Firstly, it turned out that if we did not get the material requested from a library, we would send the requisition to another library. We would then count the requisition twice. As we only obtained the material once, the fill rate would be 50%. However, there would only be one request from the user, and she actually obtained it! So we had a problem of validity. We solved it by starting to count only the first requisition to a library, and not the repeat-requisitions to other libraries.

Secondly, at some point it turned out that users' requests were also counted as ILL requests in those cases when our library decided to buy the book requested. As the request was counted as an ILL request by the ILL department, but the book was not received by that department (but eventually by the acquisitions department), the book was not counted as a fulfilled ILL request. So the fill rate for this request was 0%, even though the book would actually be obtained for the user. Again a problem of validity. We solved it by starting not to count requests transferred from ILL to acquisitions. Still, how should we deal with user-requests transferred to the acquisitions department when the book was not actually received from the bookseller? At present we have chosen to ignore the problem, so we still have a validity problem somewhere, but the pure ILL measure is more valid now.

Thirdly, a number of ILL requests are based on faulty and unverifiable bibliographic information from the users. They concern unexisting materials or materials which exist by another name. As the library's requisitions cannot be met, these user requests lower the fill rate to an unknown degree. However, as we now have a fill rate of 98% of our ILL requisitions to other libraries, we have decided to ignore the problem.

So, you will not be surprised that having discovered three problems with this fairly simple measure I cannot help wondering what problems we might not yet have discovered in this regard.

## 5.2 RELIABILITY

Is a measurement performed consistently and correctly?

An example: One of the departments of the CBSL was responsible for reporting monthly the number of article copies sent to other libraries. The monthly number was usually about 20. Then, one month the number rose to about 200. I noticed it but did not have it checked, as it might be because of some special order from another institution. When the c. 200 figure was repeated during the next two months I asked the head of the department what was happening. She answered that other libraries were discovering the excellent holdings of the department and the promptitude with which requests were fulfilled. Not an eye was dry, as we say in Danish. However, a week after she called back, very embarrassed, that actually it was a new technical assistant who had started to count the number of photocopied pages instead of articles.

These things will happen all the time, and some of the problems will reflect the way your library trains new staff members, such training being of course an essential element of quality management.

Sometimes the unreliable (or invalid) measures give a false-better image of your library's doings, sometimes a false-worse one. At any rate, the greater the unreliability of your measurements, the less you are able to assess the functions of your library and whether you are meeting your own goals and objectives. You can then only hope that you do not run into a major uncharted iceberg-problem and sink with all hands.

## 5.3 VERBALISATION

For the benefit of your audience - the readers of your quality report, staff, university management etc. - you want to verbalise those complicated figures in the tables.

'This table shows that . . .'

The first problem arising is one of translating figures into words. When is a 25% increase a 'large increase', when is it 'small'? When is it 'significant' or 'considerable'? Even if you do take care about using such words consistently and in consideration of the underlying absolute figures or their degree of complexity (eg. the use rate of your collection), you may easily slip into using language which somehow reflects your personal values. As the measures should provide a solid basis for a common understanding of the situation of the library, this is a problem.



#### 5.4 INTERPRETATION

A most common error concerns causality. A certain development is clearly indicated by some figures, and you triumphantly or dejectedly conclude that this or that change of policy or unfortunate external event was responsible for the development.

An example: recently the CBSL decided to lower the fee for articles printed from our full text business periodicals CD-ROM system. The change was followed by a 'significant' increase in the number of copies requested by users. As I had myself proposed the lowering of the fee, I easily concluded that the rise in the number of copies was due to the lowering of the price. My deputy, however, who is responsible for the library's economy and who had opposed the measure, countered that the development was due to the quite predictable increase of students' familiarity with the system. We may both be right, of course.

The point is that the measure in itself did not tell us about the reason for the development of the figures.

It would be inhuman to forbid interpretation and explanations of performance measures, even concerning causality. However, care must be shown, and before you publicise your findings you might profit from having your interpretations examined by informed, intelligent people - preferably some who dislike you vehemently. You may suffer in the process, but you should end up with more refined interpretations.

#### 5.5 RECEPTION

In the total quality process it is important how your performance measurement is 'received' by your stakeholders.

In relation to the CBS, ie. our academic mother institution, it has been rather encouraging that the School authorities react positively towards the library's efforts in the line of performance measurement and quality management. The credibility of the library as a service institution is raised, though sometimes - embarrassingly - our good intentions are confused with the actual thing.

A problem is that external parties may easily fixate on certain very understandable measures, like the number of loans. As long as it goes up, fine. What will happen when it goes down because we shall be actively promoting our users' direct connection with international online information providers, thus effectively teaching them to bypass the library?

Another problem is unwanted comparisons with other, similar institutions. Why does this library

have fewer loans per student than the library at X University? Well, possibly because we have an abnormally high percentage of part-time students, for example. Actually, I have not met this type of reaction at our own institution, but I am told that it can be a real problem in countries, like England, where generalised systems for comparison of performance measures may be important for allocation of funds.

At any rate, I do believe that a consistent and credible program of quality management and performance measurement will raise the library's standing in the institution of which it forms part.

In relation to library staff the situation is highly complex.

Performance management may be resented by staff as basically a mechanism of control and a time-consuming waste of resources. The problem is aggravated in cases when the performance measures directly concern deficiencies and faults at staff level, eg. the number of cataloguing errors.

In this respect libraries are very different, and general advice difficult.

The much desired total mobilisation of staff required by the formal TQM systems I consider to be impossible in cultures with low degrees of authoritarianism and absence of the mystique of the leader. I do not consider it to be a coincidence that this requirement (of total staff mobilisation) was formulated in Japan and in the US.

Personally, I distrust management by mystique, by seduction or by charismatic infusion of 'motivation' by leaders into staff.

Taught by experience, I am also sceptical about the possibility or desire of each individual staff member to relate to the total quality picture and management of the institution.

I do believe that managers should make a reasonable and intelligent effort at having staff understand and participate in performance measurement and quality management.

On the other hand, I feel that the claims made by the QM gurus concerning staff engagement in the total process are exaggerated. Many staff members can perfectly well want to do a good job and actually do it without subscribing to or being deeply interested in managers' grand plans. As long as they do a good job, they do not have to say, 'Hail quality' every morning.

And the users? Users are only dimly, if at all, aware of quality programs and performance measurement. What they react to is basically: can they get what they need - when they need it? Blissfully they ignore our wonderful intentions and are only



concerned with one thing: the actual service product.

However, we have discovered that students do tend to react positively to user studies, particularly those which are carried out in a 'personal' atmosphere - being questioned over a cup of coffee and a biscuit, preferably by a young nice person of the opposite sex! Comments reflect the feeling that 'it is good that the library cares'.

There may be some problems of methodology in this and the effect - if it is true - is an unintended side-effect. However, if the library really does care, it is OK that the students get the message.

## 6. Conclusion

Performance measurement is a necessary instrument for quality management. It makes possible the assessment of whether or not a library fulfils its goals and objectives, and whether or not particular objectives remain relevant.

Performance measurement cannot provide a totally objective, 'true' and comprehensive image of a library's function. A quality conscious library cannot do without it, though, even if it will always be flawed or incomplete.

So, management will go on being an art, not a science, and decisions will still have to be made on the basis of approximate knowledge and intuition, not as results of computer calculations and untouched by human minds. Fortunately!

## Discussion

*Don Revill, Liverpool John Moores University:* On the subject of time and its importance: I do not believe time is of the essence. Time is something librarians think they ought to minimise. No other profession gives instant answers. I would say to a student that if it takes 21 days to get an interlibrary loan, they ought to have requested it earlier. It is said that taking time to deliver imbues it with importance. It was worth waiting for. Research has shown that time is not important to academics but it is to the students. They shouldn't need interlibrary loans. Why worry if it takes a long time. It is somebody else's performance that is at fault: the publishers, the transport system, the postal service.

*Michael Cotta-Schønberg:* I respectfully disagree. There is always a fast way to do things. And students are important people too. The students' time is important to them, so it is important to us. But to

take one instance that I am keenly concerned about: if a student wants a book that we have actually bought, and if he or she has to wait six months before getting it because there is a queue for it, is that not important to the student? Should we not be concerned about it?

*Don Revill:* That is a different problem.

*Michael Cotta-Schønberg:* OK, but it is a time problem.

*Roswitha Poll, Universitäts- und Landesbibliothek Münster:* We are working on a national system of interlibrary lending now which will be very quick, 'Con Subito'. In a questionnaire to find out desired delivery times, we asked whether 24 or 48 hours was too quick for document delivery and asked users about payment for a quality service, say the equivalent of £1, £2 or £3 per document. We found that 50% to 80% were satisfied with two weeks delivery. 20% to 30% wanted material very urgently and would pay for it. Security - being sure of getting the document - seemed to be more important than getting it quickly.



# Performance Measures for the Academic Networked Environment *Notes 1, 2*

**Dr. Charles R. McClure**, Distinguished Professor

**Dr. Cynthia Lopata**, Assistant Professor

School of Information Studies, Syracuse University, USA

## Abstract

As more academic institutions spend larger sums of money to network their campuses and provide network connections to sources outside their campuses, questions concerning the selection and configuration of appropriate network technologies, and the appropriate types and levels of services to provide, are emerging. Increasingly, academic administrators are asking questions about the benefits and impacts of networking.

This paper reports on a study in progress designed to address these, and other questions related to assessing network technologies and services at academic institutions. The purpose of this study is to develop performance measures and indicators of the impacts of networking on the academic institution. Key components of the academic networked environment will be defined and performance measures of networked information technologies and services at academic institutions will be developed and operationalized.

The paper provides an overview of the study's progress to date, identifies and discusses key issues and preliminary findings that affect successful evaluation of networked services and the development of performance measures, and describes an academic networked environment performance measures manual that is currently under development.

## Introduction

The notion of the 'academic networked environment' encompasses a range of campus electronic networked activities and services. Minimally, the academic networked environment includes information services, products, hardware and software, and resources which are received by campus users via electronic networks. In this environment, information services are provided by regional and national networks, although locally developed information services (ie. from the library, computing services, administration, individuals, or academic depart-

ments) also comprise the academic networked environment. Both the networking of users and resources within the institution as well the connecting of these users to other persons and resources outside of the institution are considered part of this environment.

The notion of networked information services is an evolving one. Such services can be offered by individuals, libraries, computer centers, publishers, networks, government agencies, or a host of other organizations and groups with access to the Internet and the evolving National Information Infrastructure (NII) (Huth and Gould, 1994) and the Global Information Infrastructure (GII) (Gore, 1995). Networked information services comprise bulletin boards; email; list-servs; remote access to distant databases, software, and high speed computing; and collaborative efforts among geographically dispersed individuals - to name but a few. A key aspect of 'networked information services' is that there are numerous providers - local and remote; there are a range of electronic information services available to users; and access to and use of these services continues to increase.

Despite the fact that many institutions of higher education have built significant networks and are connected to the Internet and the evolving GII and NII, there is little knowledge of how such connectivity has affected the academic institution. Thus, some key questions are:

- How much networking activity and of what types are taking place on a particular academic campus?
- What types of users access the academic network and to what types of services and activities do they connect?
- What are the costs for an academic network and various types of network activities and services?
- How has access to and use of networked information resources and services affected teaching, research, learning, service, and other indicators of traditional academic performance?



To date, there has been little practical guidance offered to assess the impact of networking on these traditional areas of academic institutional performance. Moreover, performance measures related to network use by specific audiences within the institution such as faculty, administrators, librarians, students, and staff, are only now being developed.

As nonprofit organizations implement new information technologies, they are beginning to call for evaluation methods and measures to demonstrate that the resources invested in the new technologies have had some positive impact on their organizations, the services they provide, and the users they serve. Traditional economic models that evaluate the impacts of information technology in terms of an organization's bottom line are neither appropriate for nonprofit, service organizations, nor have they been used with much success in for-profit organizations (Brynjolfsson, 1993; Computer Science and Telecommunications Board, 1994).

There is evidence that a restructuring of the computing and communications infrastructure as a result of the availability and use of electronic information is occurring and that this will have a fundamental impact on educational institutions. Already, this restructuring is affecting the communication customs and expectations of researchers in a variety of fields. In a larger sense, this restructuring is affecting the entire information transfer cycle from the creation, structuring, and representation of information to its dissemination and use by the members of academic communities (McClure, 1993).

A number of writers have attempted to describe the evolving academic networked environment and consider possible problems facing its development (Lynch, 1991; Drake, 1993). Recent reports issued by the Corporation for Public Broadcasting (1994) and the American Council on Education (1995) summarize current developments on uses and applications of information and networking technologies on campuses in the USA. But, to date, few formal efforts have been made to develop techniques to produce performance measures and assess the impact of networked information services on such an environment.

Traditional criteria used in assessing information services may serve as a beginning model for networked information services assessment. For example, traditional performance indicators typically examine a service, activity, or product in terms of: extensiveness, effectiveness, efficiency, and impact (McClure, 1991). In addition, CAUSE, an association for managing and using information resources in higher education, published an excellent tool,

*Self-assessment for campus information technology services* (Fleit, 1994) as well as *Evaluation guidelines for institutional information resources* (CAUSE, 1995). Those in the process of assessing the academic networked environment may wish to review the self-assessment technique and the guidelines developed by CAUSE.

As described above, this is an exploratory study in progress and as such it is based on two broad research questions:

- What is the academic networked environment?
- What performance measures can be developed and tested to assess this academic networked environment?

In answering the first question, the study examines information resources and services provided, organizational structures within which they are provided, the various classes of users involved, and users' activities on the network. To answer the second question the study reviewed existing measures used at individual institutions and is developing and testing new measures of academic networking effectiveness, efficiency, and extensiveness, as well as impact. A core set of possible performance measures as well as other evaluation techniques will be developed in a manual to assist those engaged in assessing academic networked environments.

Because of the exploratory nature of this investigation, an inductive approach, using a variety of qualitative methods, is being taken. Among the methods being used are: focus groups, case studies, site visits, and interviews. Individuals involved in the design, implementation, support, and use of networked resources and services provide on-going feedback and comments on the study via an electronic discussion list (see Appendix A). Individuals interested in learning more about the project and receiving updated project information are welcome to join the list.

## Performance Measures and Evaluation

Performance measures represent a broad managerial/evaluation concept that encompasses measurement of inputs (indicators of the resources essential to provide a service), outputs (indicators of the services resulting from the use of those resources), and impacts (the effect of these outcomes on other variables or factors). They are an essential means to assess the academic networked environment. Performance measures serve a number of useful purposes. They can:



- Identify those aspects of the network that are successful versus those aspects that are less successful
- Provide trend-data to assess changes in the network and network services over time
- Assist decision makers to allocate or reallocate resources and to plan for future network development
- Monitor network activities and services to inform managers of any changes in activities or the quality of services
- Determine the degree to which users are satisfied with the network and network services
- Assist network managers to justify expenditures and be accountable for those expenditures

Simply stated, performance measures ask decision-makers to answer the question: How well is the service or activity doing what it claims to be doing?

Performance measures also assist managers to formally evaluate the network. Thus, evaluation is the process of identifying and collecting data about specific services or activities, establishing criteria to assess their success, and determining the degree to which the service or activity accomplishes stated objectives. As such, evaluation is a decision-making tool intended primarily to assist decision-makers allocate resources that best accomplish organizational goals. Evaluation reflects value judgements on the part of the evaluator regarding the adequacy, appropriateness, and success of a particular service or activity.

In a broader organizational context, measurement and evaluation of networked information services are essential for resource allocation, planning, and improving services. Without measures that can evaluate particular services, decision-makers must rely on intuition and anecdotal information as a basis for assessing the usefulness and value of a particular service. Perhaps most importantly, measurement and evaluation provide feedback for users to make known how well those services meet their needs.

Approaches for evaluating networked information services can be based on the following criteria:

- Extensiveness: how much of the service has been provided, eg. number of users logging-in per week on a bulletin board, or the number of participants of a particular list-serv
- Efficiency: the use of resources in providing or accessing networked information services, eg. cost per session in providing access to remote users of an online catalog, or average time

required to successfully telnet to a remote database

- Effectiveness: how well the networked information service met the objectives of the provider or of the user, eg. success rate of identifying and accessing the information needed by the user
- Impact: how a service made a difference in some other activity or situation, eg. the degree to which faculty network users increased their research productivity or teaching effectiveness by use of networked information services

Although evaluations of networked information services need to consider extensiveness and efficiency criteria, much more attention needs to be given to effectiveness and impact measures. As will be discussed later in this paper, however, developing measures of impacts from networked services remains a very difficult task.

Because networked information services are multi-dimensional, the type of evaluation needed typically will be multi-dimensional. A single measure provides only one 'snapshot' of a particular service; multiple 'snapshots' from different measures are needed. Moreover, evaluators of networked information services will need to know what type of evaluation approach and data collection techniques will be appropriate for what types of services (McClure, 1994). An important point, however, is that researchers need to develop evaluation strategies that are user-based, that is, they examine networked information services from the point-of-view of the user.

Providers of networked information services must not accept as a 'given' that their services, resources, and technical procedures are efficient and effective; rather, they must test their assumptions about the quality of networked information services through an ongoing process of evaluation. Ongoing evaluation activities are essential to support the provider's planning process. Planning and evaluation are two sides of the same coin. Each will be more successful when the other is part of the overall services design and implementation approach.

Developing, operationalizing, and validating a range of performance measures that encourages an academic institution to assess what types of networked information services have what level of quality, have what impacts on the educational process, and have what costs is essential if administrators of networked information in the academic setting are to justify such services and better meet user information needs.



## Selected Key Issues

At this writing, a number of site visits, focus groups, and small group interviews have been conducted at professional conferences and in selected academic institutions. Participants were academic computing professionals, librarians, and others from a variety of institutions. The primary intent in conducting data collection activities was to inform the study team's understanding of the research questions, the state of modeling and evaluation of academic networking in practice, and to obtain assessments of draft performance measures under development by the study team. The key issues which emerged from data collection activities to date include the following.

### DRIVERS OF THE DEVELOPMENT OF NETWORK TECHNOLOGIES AND SERVICES

Participants identified changes in users' expectations and experiences, changes in technology, and changes in the nature of educational processes, and institutional support for those processes, as drivers of the development of networking on their campuses.

Both faculty and students now seem to expect that network access should, and will, be available at all times, and from a variety of locations. Such expectations have been instrumental in causing network providers to accelerate their planning and implementation schedules. This has been particularly true in the case of incoming freshmen. One academic administrator commented:

'Seeing a whole new crop of freshmen come in, computer literate in a way that we had never seen before . . . all of a sudden this class came in and said, "This is our god given right and why isn't there a connection in every dorm room?" We had a plan to have that in a year and a half, and we . . . have just spent the last two months wildly coming up with a plan to make sure that we got it by September, 1995, because student demand is there.'

In addition, there is a recognition among university administrators that a network is essential in order to attract faculty. As one participant explained, quoting a university provost, 'The world is now very different and every faculty person we recruit needs a dowry, needs to understand what kind of workstation they are going to have on their desk, what kind of networking connection.'

### BARRIERS TO THE DEVELOPMENT OF NETWORK TECHNOLOGIES AND SERVICES

In spite of the increasing demand for networking and growing recognition on the part of administrators of the importance of networking, a number of barriers to the growth and development of networking exist. Among these are problems associated with network technologies and pedagogical limitations.

A major challenge to network managers is ' . . . getting our systems to be easy to use. They're still not good enough. They're not like dialing a telephone to get what you need . . . the systems are not intuitive and easy to use. And there are a trillion different kinds of systems and almost a trillion different interfaces to access them . . . '

Another aspect of the network technology which stands in the way of development is its distributed nature and the problems that creates. 'Anyone can get an Internet address and hang a server on the network. There are a whole lot of issues that the mainframe administrator used to handle. It's now distributed all over the network. And if they don't manage it properly . . . your whole network is exposed.' This distributed environment presents an image, oftentimes, that no one is really in charge or in control of networking developments on campus - these developments just 'happen'.

Yet another barrier to the development of networking is the lack of appropriate pedagogical models to take advantage of the technology. 'People are fundamentally automating old things . . . most of our professors haven't really internalized how to use the technology to really change the way they conduct their classes.' The full advantage of networking may not be realized until new pedagogical models are developed. By this, the authors mean that it may be too early to measure impacts of networking on the academic institution since traditional models of teaching and learning are still in use. New models for teaching and learning that exploit the networked environment are still being developed. As one interviewee commented, 'We are all still floundering a bit as to how best to use and apply networking services.'

A final issue which was identified during the data collection was that of measures of the impacts of networking. Participants discussed financial measures and impact measures and agreed that, while traditional measures of technology impacts are often inappropriate, new measures are yet to be developed. 'All of the traditional models, all of the accounting models, just don't apply any more . . . '



[we need] to develop new models, and these models are going to be squishier.'

There was also some suggestion that academic administrators don't ask for economic justification of requests for investment in new technologies, or in other improvements to the institution. 'Colleges and universities don't make these decisions based on direct economic issues. They don't ask what is the cost benefit . . . they don't ask that with respect to anything they do. I mean there is no bottom line, there isn't.'

#### THE NEED FOR MEASURES AND ASSESSMENT

Moving beyond financial measures, participants discussed a developing interest in measures of the impacts of networking on teaching and learning. Administrators are beginning to ask questions like, 'Has it enabled an instructor to increase the contents or broaden the contents or get deeper in the content of the class?' and 'Has it reduced their administrative work in administering the class?'

In response to such questions, network administrators are beginning to develop and apply new measures. For example, 'We provided multimedia support for classrooms where we have evidence that the faculty member is spending less time on the mechanics and more on the content. So that the students are getting more content and learning it faster.' However, most evidence of networking's impacts on teaching and learning is anecdotal.

For example, one faculty member commented, 'We've got an architecture class, and we're doing shared design projects with students in Norway.' Another faculty member stated 'I have a small class and there's another fellow in Nebraska with a small class, and we are collaborating using the Internet. There are all kinds of things like that that you can point to that you can say that those are things that could not have happened any other way. So those are tangible outcomes but you can't measure them.'

Another problem identified in trying to create measures of the impacts of networking on activities like teaching and learning is the lack of good measures of these activities, regardless of networking, and the lack of existing data on teaching and learning in a non-networked environment at some institutions. 'We never really measured these outcome measures or evaluated the quality of instruction or learning or anything anyway. So now we are asking how has this proved something that we never measured anyway.'

Although there are examples of the impacts of networking, as described above, measurement of

these impacts remains very difficult. 'We are at a very immature stage where we really, I think, are only getting glimpses of what the future is going to hold. And so, it's going to be very hard, I'd say, to measure things, because it's very foggy just where all this is going to go.' This difficulty in identifying and measuring 'impacts' from networking is the result of an exceedingly complex distributed networking environment, a rapidly changing networking infrastructure, and the lack of conceptual tools to describe this environment.

#### Attitudes, Problems, and Perceptions

Based on the various site visits and other data collection activities, a number of similar views and attitudes toward evaluation and the development of performance measures is evolving. Understanding these attitudes and the 'evaluation culture' at an academic institution is important as they will affect the degree to which successful ongoing evaluation and use of performance measures can be implemented.

#### EVALUATION OF NETWORK ACTIVITIES AND SERVICES IS A 'GOOD THING' BUT RARELY DONE

In general, participants agreed with this view. But they also agreed that none of them conducts evaluations regularly. There was an underlying assumption that the network is a good thing and that the need for it is essential and growing. Therefore evaluations to determine what's wrong with the network or whether the network is necessary are not needed. 'It's not like I'm going to come out with an earth-shattering study that's going to prove technology is worthless and we're all going to go back to books. It's not going to happen.'

#### INEQUALITIES OF COMPUTING RESOURCES

A network administrator described his university as a 'very, very heterogeneous environment. Some college units are relatively resource rich some are relatively resource poor and it's got more to do with the historical situation than with anything that's evolved because of the structural needs of the information technology. Addressing that imbalance is going to be one of the immediate items on the agenda over the next few years, addressing it in some formal, systematic way . . . and addressing where the line is between central and distributed support.' He recognized that having some type of performance measures could assist them to deal with this issue, and over time, determine the degree to which 'progress' in equalizing resources had been made.



### NON-SYSTEMATIC COLLECTION OF NETWORKING DATA

There was evidence that some data on network performance are being collected, by different units within the institution and by different people, but there is little evidence that the data are being collected and analyzed in a systematic way or that they are being used in planning and decision-making related to networking development. Interviewees agreed that having a central MIS that identified, collected, organized, analyzed, and reported selected networking statistics would be an important step forward and was essential to be able to better plan for networking services. They also noted a range of problems and issues that would have to be resolved if such an MIS were to be established at this particular institution.

### REACHING AGREEMENT OF NETWORKING TERMS AND EVALUATION PROCEDURES

Some interesting discussions occurred regarding the use of different procedures and different terms for the evaluation that had been done at some of these sites. There was little confidence that central computing services could obtain agreement from other stakeholders on campus as to the appropriate definitions to be used in a larger institutional effort on evaluation. One person commented, 'it would take an act of God to reach such agreement.' Yet, it was recognized that until campus-wide agreement on how best to define key terms occurred, development of performance measures would be impossible.

### BARRIERS TO ONGOING NETWORKING EVALUATION

Participants offered a number of reasons for the lack of systematic data collection and low priority placed on evaluation activities.

- Some interviewees were suspicious of the goals of evaluation. When asked what his response would be if his director asked for this type of data, one person said, 'My first question would be, "What are you going to do with it?"' The fear of how evaluation results might be used prompted some to not want to know how well or poorly a service was provided.
- There are 'power pockets' throughout the university and a grossly unequal distribution of resources. Thus some groups have a vested interest in not sharing information about the extent of their resources lest they be pressured to share those resources.
- Individuals charged with providing network access to a growing, and an increasingly demanding, group of users may not have the time and resources to conduct evaluations. Their focus is on keeping the network running and meeting users' demands for speed and power. As one administrator described it, 'Life is very simple for me as a network planner. I need to keep figuring out how to get the best, biggest, fastest, cheapest pipe in here possible on the presumption that the need for bandwidth is going to get bigger and bigger and bigger . . .'
- The lack of support (in the form of additional resources, a GA to do data collection, etc.) to conduct such evaluations and for some, limited knowledge on how to conduct such evaluations is also a barrier. Evaluation is 'just another thing to do' in addition to a range of other responsibilities and no additional institutional support seems to be provided for such evaluation. One person indicated that before he would feel 'comfortable' doing such evaluation, additional training would be needed.
- The lack of incentives to conduct such evaluations. While generally agreeing that evaluation was a good thing, they also noted that there were few tangible and direct incentives for conducting such evaluations. As one person commented, there was not an institutional mindset supporting ongoing evaluations.
- A lack of faith in the utility and applicability of evaluation results. There is an underlying sense in many academic institutions that ongoing evaluation of services and activities does not produce useful results or offer specific recommendations for how to improve networked information services. Further, there is often-times no tradition or culture of ongoing evaluation in the campus setting.
- The oftentimes confusing distribution of technologies and services, and responsibilities for managing those technologies and services, compound the problems associated with evaluation. It is not always clear who is responsible for what. A number of the participants commented that they were unsure who did what in terms of networking or were unsure who should be contacted to solve a particular networking problem. Similarly, when a university provides network access to information services and resources produced by others - such as access to remote databases - it is unclear what exactly is being



evaluated, services and resources provided by the university or by the remote site or by the network providers?

- There are considerable difficulties in defining key networking terms and services in such a way that they can be operationalized for measurement. Thus, before evaluation can occur, the institution may first have to reach agreement on how to operationalize key networking activities for measurement and clarify policies related to networked information services.
- The recent rapid growth and change in networking makes evaluation and planning extremely difficult. It is not always possible to predict the next direction in the technology. I remember when someone said, 'Who needs a laserwriter? What are you going to do with that?' And desktop publishing. Nobody could have predicted this stuff. About the time staff get 'geared up' to evaluate a particular service, it is no longer provided or it is out-of-date.
- Networking infrastructures, services, and administrative organization for networking change rapidly. Evaluation is difficult in such a volatile environment. For example, on the day that the study team conducted interviews at one site visit, the Vice President for Computing announced a re-organization of the management responsibilities for computing services on campus.

In summary, interviewees agreed they would evaluate network performance if: someone 'ordered them to do so'; they believed that the results would bring them additional resources; they could expect to receive additional personnel to conduct evaluations; they had training in evaluation methods; and if they had the time to conduct evaluations. As one interviewee said, 'in an ideal world yes, we would have ongoing evaluation; but the reality is we can't and don't.'

### Possible Performance Measures

The procedures and measures being developed for the manual are based on a research effort that obtained information, assessments, and input from a number of site visits and individuals knowledgeable about academic computing and networking. A key finding from this work is the limited knowledge and use of performance measures in the academic environment. The complexity of the academic networked environment imposes some limitations on the degree to which measures of this envi-

ronment can be developed.

Although the manual describes standardized procedures for data collection and computing performance measures, the resulting measures are unlikely to be comparable across different institutions of higher education. The networking infrastructure and the manner in which data are available in different institutions vary considerably. Furthermore, different institutions may use different definitions for key terms. While these concerns will not hinder the use of these measures in one particular institution, they will limit the degree to which measures can be compared to results at other institutions.

To some degree, users of the manual may have to develop policies and define data collection activities within a range of organizational and network constraints. Indeed, some institutions may not currently have the capacity to collect the data needed for some of these performance measures. In such instances, the academic institution will need to first determine how best the data can be collected, develop a system or approach for collecting and analyzing that data, and develop policies that formalize a management information system to insure that the data continues to be collected in a regular and standardized fashion.

The research project revealed a number of different views and experiences regarding which types of performance measures might be most useful given an institution's particular situation. Thus, the approach taken in the manual is to identify and describe a core set of measures. Depending on the nature of the network, the administrative concerns regarding that network, and networking/institutional goals and objectives, some of the following measures may be more useful for some institutions than others.

The scores that result from these performance measures take on greater usefulness when considered in the broader context of:

- Institutional and networking goals and objectives at that particular institution
- Other performance measures of institutional activities, services, and participants
- Various time periods and the amount of change on this particular measure over time
- The amount of resources and the allocation of those resources for networking infrastructure and services
- Factors related to a particular institution, its networking configuration, or other variables unique to that institution.



In short, value judgements as to whether a score on a performance measure is 'good' or 'bad' are dependent on a range of other factors and should not be considered in isolation of those factors.

Finally, it should be noted that the accuracy of the actual measures as computed by institutional officials will be directly related to the quality of the data they collect, the use of standardized procedures, and perhaps, the development of institutional policies that define these data collection activities. To some degree, these performance measures might be best seen as estimates of the extensiveness, efficiency, effectiveness, or impact of a service or activity rather than a precise measure of that particular service or activity. Even if these measures are best seen as estimates, such estimates are a significant improvement over the very limited set of performance measures that are currently available and being used.

The performance measures are organized in the manual by key areas of assessment. And within each area the following measures are currently being developed.

- **Users:** the number and types of users and the frequency with which they use the campus network
  - Count of Network Users
    - by type of user
  - Count of Active Network Users
    - by type of user
- **Costs:** the total and types of financial resources that are expended to operate the academic network
  - Annual Information Technology Expenditures
  - Information Technology expenditures per capita
- **Network traffic:** the amount and types of traffic flowing over the academic network
  - Router Traffic as a Measure of Overall Campus Network Activity
  - Modem Traffic into the Campus Network
  - Internet Traffic (into and out of the campus)
- **Use:** the amount and types of uses made of the network
  - Frequency of Network Use
    - Percentage of Very Active Network Users
    - Percentage of Inactive Network Users
- **Services:** the applications and services that are made available over the network
  - Online Public Access Catalog Measures
    - Number of users using the online library catalog
    - Number of campus logins to the online library catalog
    - Number of off-campus logins to the online library catalog
    - Number of logins to the online library catalog per user
    - Cost per user to access the online library catalog
    - User satisfaction with the networked online library catalog
  - Distance Learning
    - Number of faculty offering distance learning courses
    - Number of student enrolled in distance learning classes as a percentage of all classes offered
    - Distance learning courses as a percentage of all courses offered
    - Cost per distance learning course
    - Technology involved in distance learning
    - Student satisfaction with distance learning
- **Support:** the types of assistance that network officials make available to the users of the network
  - Help Desk
    - Response Time
    - Accuracy of Response
    - Courtesy of Staff

Additional measures are also under consideration for inclusion in the manual. Space does not permit a detailed description of these proposed measures, how they have been operationalized, and procedures for data collection and analysis. The draft performance measures manual contains such information.

In developing these measures the study team found that oftentimes the academic institution would first have to deal with and resolve a range of issues *before* the performance measures could be computed. For example, the measures 'count of network users' (CNU), ie. the number of identified email accounts with access to the campus network, and 'count of active network users' (CANU), ie. the



number of email accounts that have logged onto the network during a one-month period, cannot be computed until the following issues are resolved:

- Defining 'the network'. For purposes of these counts we recommend that the campus network be defined as those telecommunications services and resources over which the academic institution has primary responsibility and control.
- Defining users. There may be more accurate means to identify network users than email accounts, depending on the record-keeping techniques used at a particular institution, eg. user IDs, official registrations, or payroll records.
- Including distributed computing accounts. For many institutions there are multiple servers with their own administration and email accounts. Thus, a decision must be made whether to include only centrally administered email accounts or to include email accounts from distributed servers in the CNU and CANU.
- Purging inactive accounts. The accuracy of the CNU will depend on the institution's policy regarding purging inactive accounts. Policies should be in place that regularly purge accounts from the files for those who are no longer legal institutional members.
- Defining users in the campus networking community. There may be significant numbers of individuals with email accounts on the campus system who are 'guests' and do not belong to the campus community but use the network, eg. students who graduate but continue using the network for mail and other applications. Decisions must be made to consistently count the 'bona fide' members of the campus networking community.

Further, it may be unclear how to determine who is 'faculty' or 'students' or 'staff' or other 'types' of users. Definitions for such user types may need to be agreed upon if CNU and CANU are to be broken down by type of user.

- Defining what constitutes an 'active user'. For purposes of CANU we have recommended that an active user is one who has shown any network activity on his/her email account in a preceding one-month period. Some institutions may wish to use a different time period to define 'active user'.
- Multiple email accounts. Some individuals on campuses with multiple servers may have multiple email accounts. Thus, the number of email

accounts is not the same as the number of individuals with email accounts. The level of analysis for 'email accounts' is different from 'individuals with email accounts.' For the CNU and CANU some institutions might wish to sample users to determine the average percentage who have multiple accounts to estimate the number of individuals with email accounts as opposed to the number of email accounts.

Until such issues are resolved *campus-wide*, it would be impossible to produce an accurate count of network users and active network users.

For each of the performance measures, the manual provides an operationalized definition, issues that may have to be resolved prior to obtaining data to produce the measure, data collection procedures, and suggestions for developing related measures. The actual measures to be included in the final version of the manual may change from those identified above depending on field testing of the manual during the Fall, 1995.

## Next Steps

This project is scheduled for completion in December, 1995. At that time the authors will submit a final report to the funding agency summarizing project activities. The study team also will produce a performance measures manual for public distribution. The manual will have the following sections:

- Introduction to using the manual
- Quantitative performance measures
- Example network user survey
- Guidelines for collecting, organizing, and reporting anecdotal and other qualitative assessments.

The manual is a beginning effort to provide standardized guidelines to assist academic institutions to assess their academic networked environment. It has the following objectives:

- Describe a core set of performance measures that assess the academic networked environment
- Provide procedures for collecting and analyzing the data needed to produce these performance measures.
- Identify and discuss issues and problems related to data collection needed for computing these performance measures.
- Encourage academic institutions to engage in a regular program of ongoing evaluation and assessment of their computing networks.



The manual can assist network managers and higher education decision-makers to improve the usefulness and quality of their networks and better meet the needs of network users. The manual is currently in draft and is constantly being revised and expanded in response to ongoing data collection activities.

During the Fall of 1995 the study team will continue an iterative process of revising the manual, field-testing it at appropriate academic sites and with knowledgeable individuals, and then revising/editing the manual. A final assessment and review of the manual will take place at the Fall, 1995 meeting of the Coalition for Networked Information, to be held in Portland, Oregon, USA, October, 1995. Based on this assessment the study team will produce a final version of the manual for release in early 1996.

### Importance of the Project

The numerous initiatives associated with developing the National Information Infrastructure in the USA (eg. National Information Infrastructure Advisory Council, 1995) and throughout the world with the evolving Global Information Infrastructure, have thrust electronic networked computing into a new arena and into a new teaching, learning, and research environment. The uses and applications of networking and the Internet continue to grow rapidly, roles and responsibilities of key stakeholders in the networked environment become increasingly blurred, a range of policy issues (eg. acceptable use, intellectual property rights, and equitable access) and questions regarding the effectiveness, efficiency, and impact of the network in academic institutions continue to be poorly defined and addressed (Heterick, 1994).

To a large extent, proponents for enhancing the academic networked environment have said, 'trust me, trust me . . . , access to and use of electronic networks improves the quality of education here at our institution.' But the reality is that evidence to support such assertions is either non-existent or anecdotal. In times of budget cuts and institutional retrenchment (such as we are seeing today), faculty, librarians, administrators, and academic computing service providers find it increasingly difficult to justify expenses for purchasing network technology, supporting network services, developing training, or demonstrating that such networks really have some impact on the educational imperatives of the institution.

Based on a number of research projects on the development of networked services and digital

libraries in academic settings, Covi and Kling (1995, p.5) conclude:

'Our early observations suggest that universities appear to be steadily drifting into more intensive digital investments with little managerial oversight about the extent to which their investments are effective or efficient, adequate or frugal.'

Given the size and extent of such investments, and the widespread financial difficulties many institutions of higher education are experiencing, such a conclusion is most troubling. Until we have a better conceptual framework describing the 'academic networked environment' and performance measures to assess interactions and services within this environment, we will only guess at what seems to work well and why. We will only be able to guess at which strategies have had the greatest impact, for example, on learning. And, we will only be able to guess at how best to design better networked services in the future.

### Notes

1. The authors wish to acknowledge the assistance of other members of the study team who have participated in this project: Anne Diekma, Bill Gibbons, Jean Van Doren, Kristen Eschenfelder, Makiko Miwa, and Claire Urfels.
2. This research study is funded by the United States Department of Education, Higher Education Act, College Library Technology and Cooperation Grants, Program Research and Demonstration, Grant No. R197D40019-94A.

### References

- American Council on Education. (1995) *Campus trends*. Washington DC: American Council on Education
- Brynjolfsson, E. (1993) 'The productivity paradox of information technology.' *Communications of the ACM*, 36(12) 67-77
- CAUSE, HEIRAlliance. (1995) *Evaluation guidelines for institutional information resources*. Boulder, CO: CAUSE  
[also available from the CAUSE Web site, URL: <http://cause-www.colorado.edu/collab/heira.html>].
- Computer Science and Telecommunications Board (1994) *Information technology in the service society: A twenty-first century lever*. Washington, DC: National Academy Press



- Corporation for Public Broadcasting (1994) *1994 Study of communications technology in higher education*. Washington, DC: Corporation for Public Broadcasting (mimeograph)
- Covi, Lisa, and Kling, Rob (1995) *Digital shift or digital drift? Dilemmas of managing digital library resources in north american universities* [Draft 2.2]. Irvine, CA: Center for Research on Information Technology and Organizations [mimeograph]
- Drake, M. (1993, May) *Preparing for the future: Strategic choices*. Paper presented at the IBM Reforma Conference
- Fleit, Linda H. (1994) *Self-Assessment for campus information technology services*. Boulder, CO: CAUSE
- Gore, Al (1995) *Global information infrastructure: Agenda for cooperation*. Washington, DC: Government Printing Office
- Heterick, Robert C. (1994) 'A stone soup'. *Educom review* 29(6) p.64
- Huth, Virginia and Gould, Stephen B. (1994) *The national information infrastructure: The federal role*. Washington DC: Congressional Research Service, Library of Congress
- Lynch, Clifford (1991) 'The development of electronic publishing and digital library collections on the NREN'. *Electronic networking: research, applications, and policy* 1 Winter. 6-22
- McClure, Charles R. (1991) 'Planning and evaluation for the networked environment'. *Educom review* 26(3-4) 34-37
- McClure, Charles R. (1993) 'Network literacy in an electronic society: An educational disconnect?' In *The knowledge economy: The nature of information in the 21st century* (pp.137-178) Queenstown, MD: The Aspen Institute
- McClure, Charles R. (1994) 'User-based data collection techniques and strategies for evaluating networked information services'. *Library trends* 42 (4) 591-607
- National Information Infrastructure Advisory Council (1995) *Common ground: Fundamental principles for the national information infrastructure*. Washington, DC: U.S. Department of Commerce, National Telecommunications and Information Administration

## Appendix A

5/15/95

### Announcing A New CNI Electronic Discussion Group: IMPACTS@CNI.ORG

IMPACTS is a public, moderated computer forum that will discuss the effects of networked information technologies and services on academic institutions and the measurement of those effects. The IMPACTS forum provides the opportunity for researchers, academic administrators, academic computing personnel, network specialists, faculty, students, academic staff, and others to exchange views and information related to this topic. IMPACTS will inform the research project Developing Performance Measures to Assess the Impacts of Internet Networking on the Academic Institution, funded by the U.S. Department of Education. Objectives for the discussion forum are to:

- Provide a forum to discuss applications and issues in the use of performance measures for assessing academic networking
- Obtain input from interested individuals about the project and various project documents and position papers
- Share information on related projects or other institutional efforts to develop and use performance measures to assess academic networking.

### IMPACTS May Include Topics Such As

- What information technologies and services comprise networked information, and to what degree are these similar across various academic institutions?
- Who are the "users" of networked information within the academic setting and how might we develop a typology of such users?
- What are the organizational structures used in academic institutions to provide networked information services?
- What are the key factors that appear to affect the overall success of the networked environment in an academic setting?
- What measures can be developed to assess the impacts of the networked information services and resources on the academic environment?



## To SUBSCRIBE to the IMPACTS Forum

To subscribe to IMPACTS, send the following email message to LISTPROC@CNI.ORG: subscribe IMPACTS <your first name> <your last name>

## To SEND MAIL to the IMPACTS Forum or Obtain Additional Information

To participate in the list discussion, please send your mail to: IMPACTS@CNI.ORG. The IMPACTS list moderator is Kristen Eschenfelder <kreschen@mailbox.syr.edu> who should be contacted for matters regarding the list. For additional information about the project contact the Co-principal Investigators: Dr. Cynthia L. Lopata (cllopata@mailbox.syr.edu) or Dr. Charles R. McClure (cmclure@mailbox.syr.edu), School of Information Studies, Syracuse University, Syracuse, NY 13244 (315-443-2911).

## Discussion

*John Sumsion, Library & Information Statistics Unit (LISU):* Two things you have not mentioned: one is the possibility of counting the amount of information provided through the Internet by the information providers who charge for it. The other is a kind of citation analysis. Is there any future in asking people in their research papers to indicate whether they have acquired the information through the Internet as opposed to printed sources.

*Charles McClure:* To answer you second point first: already I see that happening. I am the founder of the journal *Internet research* in which we regularly cite electronic sources. There are a number of manuals that give the correct style on citation of electronic information. Citation counts would be very good idea for finding out where information is coming from.

Your first question on tracking the amount of information coming from providers that sell it is really tough. We keep coming back to privacy issues. You do not know whether the bits coming through are fee-based or free-based. Unless we could get providers somehow to mark it, which in my experience is not very pleasant, I am not sure what to do about that.

*Karin De Jager, University of Cape Town:* I am interested in your giving readings for students online. Have you considered copyright issues?

*Charles McClure:* Yes I certainly have. A lot of the material I use is by people I already know and can call up on the phone for permission to use, without going through their publisher. Ultimately, I have found it to be no more difficult to put a reading up electronically and scan it than it is to put it in a reader. Those of you in library land should begin worrying about people like me in the faculty who will say: handle this problem for me. Frankly, my library doesn't handle it so my graduate student does it.

In terms of pushing copyright limits, in terms of educational uses and so on, if you put yourself on the other side, it is really not pleasant to see a full chapter of one of your books posted electronically out on a Web site, for example, which has a copyright on it. I am on a discussion net called Compriv - Commercialisation and Privatisation of the Internet - and was recently reading a discussion when I realised I was reading my own material. Someone had downloaded a report, changed a couple of things, put their name on it and sent it up. We in academic land understand this notion of intellectual property. Go down to the town and they don't have a clue what that means. Those issues of copyright and intellectual property rights are brutal. They are not going to go away. They are going to take some serious work. I don't have the answers.

*Michael Carmel, S.W. Thames Regional Library Service:* It seems your talk has been in two parts. You started with money problems and the difficulty of justification, you then went on to performance measures. In between you said the networked environment is going to happen.

*Charles McClure:* What is going to happen is more and more people using the Net without us being able to say how they are using it or why.

*Michael Carmel:* So if it is going to happen, why do we need to measure it in order to justify it.

*Charles McClure:* Great question. Here's why. Think about what's going to happen when 2000 freshmen get on your campus tomorrow and they all want to get connected to a Web server. Do you have the bandwidth to do that?

*Michael Carmel:* I am not on an academic campus.

*Charles McClure:* But you understand what I am saying. If more and more people are getting on, we don't know what kinds of network services to pro-



vide. We don't know how to plan for them. For purposes of planning services to meet user needs, we have to know what is going on. What's being used and how well they use it. Our campus-wide information system, for example: I turn on my computer and get this menu - and I am constantly reassured by computing that this is a user-friendly manual. It's not. Until they understand what constitutes user friendly, through evaluation and ongoing assessment, we will continue to get non-user-friendly user-friendly interfaces.

*Don Revill, Liverpool John Moores University:*

What do you think about demand reduction strategies? Our computing people see the network as its own justification. They see us as trying to control it, codify it, classify it, just like librarians. Also, my senior managers don't understand computers. My Vice Chancellor gets his secretary to see to his email. They see it as heap powerful ju-ju. Have you any comments on that?

*Charles McClure:* I understand demand reduction strategies. You really don't want ten million people waiting in queue at the help-desk. What I proposed at one of the universities, was for them to do more training, which would reduce the number of questions. When you do that, you increase people's knowledge to where they're dangerous. They want to know more. The notion of demand reduction strategy is an interesting one. It's problematic.

Second comment: it is a very real problem that the people who demand justification and performance measures are exactly the ones who don't know anything about the Net. They never use it. Their secretaries use it. Increasingly we have to say to people: excuse me, you don't know how to read email, watch me. I will train you. I will help you. That is something the library community can do. Training and education are critical and are something the library community could do well. We could really carve out a niche for ourselves in this networked environment. But again, that is just one more little leaf on top of the salad. We are anally retentive, compulsive, type A people. One of the things performance measurement is supposed to do, is to help you prioritise. I don't think it has done that. We have widened our playing cards even more. We have got to set priorities.







# Quality Management in Libraries

**Peter Brophy**

Professor, University of Central Lancashire, Preston

In his 1994 bestseller *Organizing for success*, Robert Waterman suggested that there are two characteristics of successful organisations. They

- 'are better organized to meet the needs of their people'

and

- 'are better organised to meet the needs of customers'.

Traditional quality management has concentrated on the second of these, the customer, and various quality gurus have expounded at length on the need for an absolute concentration on customer needs.

Indeed one of the classic definitions of quality is 'conformance to (customer) requirements'.

It is noticeable, however, that in recent years the debate has shifted from a narrow focus on the end-user of the product or service, to a much broader concern with meeting the needs of all those who have an interest in the organisation and its activities, the *stakeholders*. The people who work for an organisation are customers of one another, and form part of the quality chain, but they also have a direct interest in its success or failure - their jobs may depend on it. Society in general has an interest, which may range from a concern that an industrial plant does not pollute the environment to an interest in ensuring access to national information resources through the public library system. An academic library might list among its stakeholders,

- students
- academic staff
- university support staff
- library managers
- library support staff
- university managers
- the government
- society: locally, regionally, nationally and internationally
- the international research community
- posterity

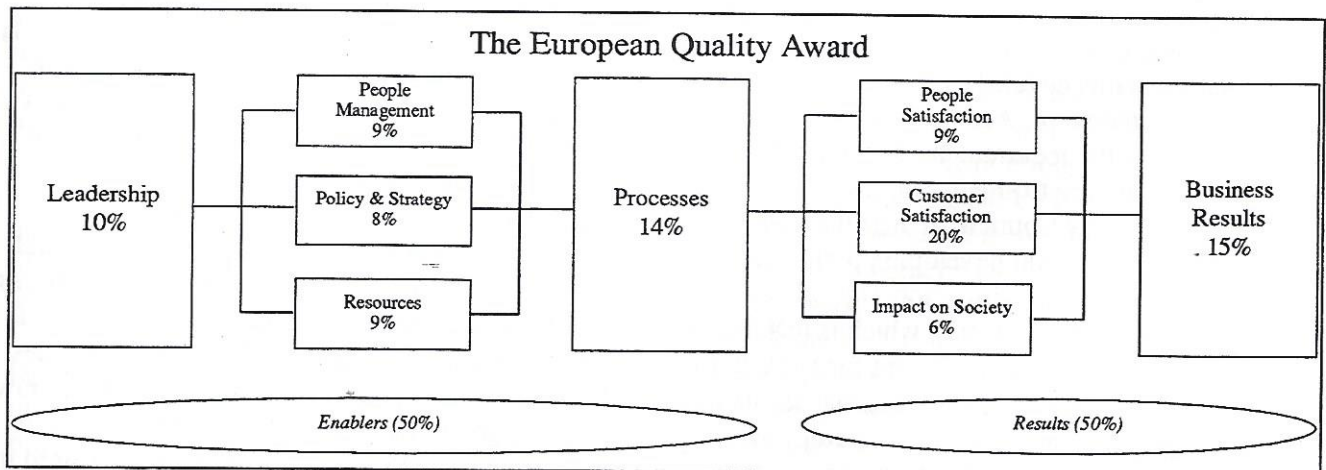
Today's concerns in the field of quality management recognise that only by redefining the term *customer* to include all these groups can the ultimate aim of *Total Quality Management (TQM)* be achieved.

John Crawford of Glasgow Caledonian University is speaking later about his work in this area.

In this paper I want to refer particularly to a study called 'Quality Management in Libraries' which we have just completed at the University of Central Lancashire, but I also want to place that study in a wider context.

By way of introduction I would like to draw attention to the criteria used in judging the European Quality Award (EQA), which is a prestigious prize for which companies across Europe compete each year: the first winner was Rank Xerox in October 1992. The Malcolm Baldrige Award is the US equivalent. The EQA award criteria provide a very useful way to summarise the concerns of

Figure 1.





quality management, and many organisations use them to test their own achievements as they move towards TQM (Figure 1).

The criteria are split into two groups, *Enablers* and *Results*, each of which contribute 50% to the overall score for the Award. Reading from right to left, it will be seen that *Business Results* as such count for only 15%. Leading to *Business Results* are three important areas, *People Satisfaction*, which refers to staff, *Customer Satisfaction*, and the *Impact on Society* of the organisation. Those impacts arise through *Processes*, the quality management of which contributes just 14% to the total. In their turn *Processes* depend on *People Management, Policy & Strategy* and *Resources*. The whole depends on good *Leadership*. As a succinct introduction to TQM, the EQA is hard to better. But what does all this mean for libraries and information services?

Before turning to current research it is important to acknowledge the impact of good practice in quality management on libraries and information services of all types. In the public library field, the disappointing *Keys to success* (OAL, 1990) manual, which was meant to usher in a new era of systematic performance measurement for public libraries, was overtaken by the imposition of the government's *Citizen's Charter* (1991) and the work of the Audit Commission. Public libraries rose to this challenge, and used the opportunity to develop charters, standards of service and methods of measuring quality which have had a real impact on the service received by their users. A number of public libraries have been awarded Charter Marks based on improvements in service to customers. While the centralist Audit Commission approach remains strong, it was interesting to note that the recent Public Libraries Review conducted by Aslib for the Department of National Heritage (1995) recommended 'a move away from . . . mechanistic standards with an emphasis on population, area and quantity and towards the creation of active, service-centred standards developed through a people and provider partnership'. Academic libraries have been influenced by the requirements of the Higher Education Funding Councils and the Higher Education Quality Council on their institutions, but have been proactive in developing performance measures: the recent publication *The effective academic library* (HEFCE, 1995), which is featured later in this conference, is an important further step forward. In the industrial and commercial sector, as a recent report for the British Library from Sylvia Webb illustrates (1995), the impetus often comes

from the parent company and the number of LIS units with accreditation to the international quality assurance standard ISO 9000 is steadily rising - it is an interesting curiosity of Sylvia's study that firms in the North of England are ahead of those in the South in their application of quality management!

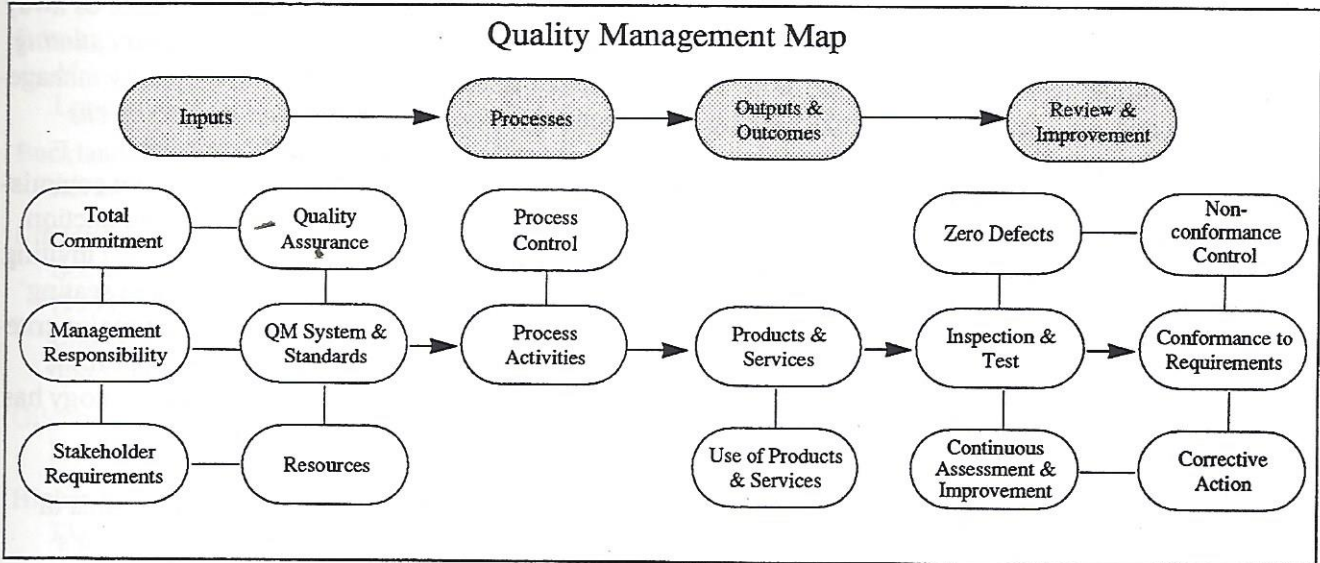
Against that background, a number of research studies are taking place to try to improve our understanding of how quality management can best be applied to libraries and information services. At the University of Central Lancashire, where the Library holds ISO 9000 accreditation, the Centre for Research in Library and Information Management (CERLIM) has just completed two studies, and has an involvement in a number of others. The first of the recent studies was a wide-ranging appraisal of quality management and its application, including the role of performance measurement within the quality management framework. This will be published by Gower in October under the title *Quality management for information and library managers* (Brophy, 1995). The second recently completed study, which was funded by the British Library Research & Development Department (BLR&DD), was essentially a 'mapping' exercise which has enabled us to put forward a framework to show how the elements of quality management fit together, and how they are being and can be applied to libraries and information services. The basic map is shown in Figure 2.

We used the process or systems model of organisations, which is also the basis of the European Quality Award, to explore how the different concepts of quality management have been applied to industry and to the service sector in general, and then to look at their application to LIS. There is not time in this short presentation to detail all of these elements, but I will highlight just a few.

*Management Responsibility* means that management is responsible for establishing a policy to meet company goals, including the meeting of stakeholder requirements, and for making sure that the policy is implemented effectively. Management must also ensure that the policy is understood by all staff. At Marks & Spencer, for example, senior store managers will come into the shop regularly to talk to staff, observe how customers are being served, check how policies are being put into practice and resolve any problems which have arisen. *Resources* need to be managed in the quality company: this is not just internal management of staff, but includes the procedures in place to ensure that incoming raw materials are of the correct specification. In manufacturing this is obvious: faulty components used in



Figure 2



aircraft manufacture or safety equipment could result in the loss of company reputation, profits, loss of life or all three. In libraries we are in the hands of publishers and database suppliers, and the issue of ensuring that incoming materials meet the desired specification is a major one. The initiative of the Centre for Information Quality Management (CIQM) which is trying to introduce database labelling is interesting in this respect.

Moving on, the quality of *Processes* is important. Much quality management in industry has concentrated on this aspect, but it is of great importance for services and libraries too. The process used to acquire interlibrary loans, for example, must be designed to achieve the objective both efficiently and effectively. What is more it must be monitored, which is where *Process Control* comes in.

Processes lead to *Products and Services*, and the *use* of those products and services. In services, there is the curious situation where the production of the service and its use may occur simultaneously, as where a user asks for and is given information at an enquiry desk. Other situations, such as the processing of new books, lead to separate end products and separate use. However, the quality of the service received clearly depends on all these parts of the overall process being well managed. Users will form a view on how satisfactory the overall service is, based on their interactions with the specific products or services they encounter, so the management of those interactions is crucial - a point I will return to.

*Inspection and Test* sounds very industrial, but in fact is carried out all the time in services. One of the problems, however, is that customers of services often do the testing themselves - because of the

immediate interaction between the service delivery and the customer. A key question is whether the library is also undertaking testing itself, or whether customers are left to draw their own conclusions. Techniques used by libraries range from formal audits and assessments through to unobtrusive observation. *Zero Defects* is another concept that betrays its manufacturing origins, but is equally applicable to services: McDonalds, for example, works on the basis that only 100% customer satisfaction will do and continually reinforces that concept with its staff. *Nonconformance Control* and *Corrective Action* are two linked concepts which form one of the pivotal ideas of quality management. In any organisation things will sometimes go wrong: the key issues are then - what is done to put them right immediately, to turn customer dissatisfaction into at least grudging satisfaction and if possible delight (so, for example, when the required book is not immediately available is an alternative offered?) - this is *Nonconformance Control*. More importantly, is action taken to change the system so that the problem does not recur? - for example, do library staff obtain the reading list from lecturers and make sure the books are in stock, or is the loan period for that item reduced to improve its availability? That is *Corrective Action*.

This is a very brief skim through the quality management map. Since the BLR&DD identified quality management as one of its priority areas, a considerable number of other studies have been funded and I would like to refer to some of these. As I have noted, Glasgow Caledonian University is studying stakeholder perspectives of the academic library, while Sheffield and Loughborough Universities have collaborated on a study entitled 'Quality



Management and Public Library Services' - the presentation is on Sunday evening. An ongoing study at Loughborough University is examining the role of benchmarking, using the expertise of John Brockman and Alan Gilchrist in a project led by Professor Margaret Evans: again, Margaret is talking about this later in the conference. Brockman and Gilchrist are also undertaking work in close collaboration with Japanese colleagues examining corporate excellence and TQM, and exploring the relationship between information management and those concepts.

A great deal of work has been done in LIS on measuring user satisfaction. In general this has been disappointing, partly because overall measures of satisfaction rarely point the way to action to achieve improvement, partly because it is very difficult to quantify in reproducible ways the softer aspects of satisfaction, and partly because the relationship between satisfaction and demand is not well understood. Work undertaken at Lancaster University some years ago led to the suggestion that demand may be adaptable to the extent that overall user satisfaction tends to remain constant (Buckland, 1975), and I noticed that the subject cropped up again recently on one of the e-mail lists.

Our own research at CERLIM has led us to explore in some detail the potential of a number of techniques used in other service sectors to assess customer satisfaction. The SERVQUAL methodology developed by Zeithaml, Parasuraman and Berry in the United States for use with service industries (1990) is particularly promising. We have examined this particular methodology in CERLIM, and it is also being explored in a BL funded project at the Queen's University, Belfast. In brief, SERVQUAL is based on measuring the five key dimensions of service quality as seen by the customer. These are:

**Reliability:** Do staff neglect to discharge books? Is the right interlibrary loan obtained? Does the photocopier work?

**Assurance:** Are staff knowledgeable about the service? Are they courteous? Do they convey a sense of trust and confidence?

**Tangibles:** Is the service attractively presented? Are staff appropriately dressed? Does the equipment they use appear to be up to date and in good working order?

**Empathy:** Do staff appear to care about the customers? Do they mean what they say? Do they see the customers' point of view?

**Responsiveness:** Are problems put right quickly? Do staff put themselves out to sort out problems even if they are not their fault?

From the initial letters these dimensions are sometimes known as the RATER set: they move us away from performance measurement based on *counting*, whether issues or seats or books, to quality management based on identifying *what matters to customers* and responding to those concerns.

Interestingly, when the Audit Commission commissioned MORI to carry out a survey of satisfaction with public library services, users rated 'an inviting atmosphere', 'helpful staff', 'comfortable seating' and 'attractive appearance' among their major criteria (Sumsion, 1993), findings which support the RATER model. The SERVQUAL methodology has been used in the EC funded EQUIP project (Gilchrist, 1994).

In closing I want to mention one other area of research activity. The European Commission's Libraries programme is funding four projects in the area of performance measurement, each concerned with the development of an IT based system to aid decision-making. The conference programme contains presentations on each of these. The EQLIPSE Project, for which CERLIM is the Co-ordinating Partner in a ten-member consortium spanning seven countries, is attempting to develop a package which would incorporate quality management as well as performance measurement, for example by using hypertext to link together planning and operational documentation with customer satisfaction and operational analyses. As this project has been running for only six months out of a two-year anticipated timespan it is too early to give results, but clearly the ability to handle quality management data efficiently and systematically is crucial to library managers.

Finally, we are currently undertaking a short scoping study under the Electronic Libraries Programme (ie. the Follett Report's IT Implementation) of the area of management information for the electronic library. A meeting is to be held next month to discuss the need for a study into measuring the performance of services which are delivered across the networks to end-users. When you bear in mind that the library may be no more than an enabler in this process, and that the successful library of the future may be the one whose users need to make least contact with it, you will recognise the complexities that face us in this area. The challenge will be to find ways to manage the quality of such services so as to ensure that our customers' needs are being met: 'conformance to customer requirements' yet again.



## References

- Brophy, Peter and Coulling, Kate C. (1995) *Quality Management for information & library managers* London: Gower.
- Buckland, M. K. (1975) *Book availability and the library user*. New York: Pergamon Press
- Citizen's Charter* (1991) (Cm1599) London: HMSO.  
See also: *Citizen's Charter: Second report: 1994* (1994) (Cm 2540) London: HMSO, and *Citizen's Charter: Charter Mark scheme 1994: Guide for applicants* (1994) London: HMSO
- Gilchrist, A. (1994) 'Beyond 5750' *Inform* 170 December. 5-6
- Higher Education Funding Council for England (1995) *The effective academic library*. Bristol: HEFCE
- Office of Arts and Libraries (1990) *Keys to success: performance indicators for public libraries*. Library Information Series No. 18. London: HMSO
- Review of the public library service in England and Wales for the Department of National Heritage: Final Report* (1995) London: Aslib. p.176
- Sumsion, J. W. (1993) *Practical performance indicators - 1992: documenting the Citizen's Charter consultation for UK public libraries with examples of PIs and surveys in use* (Occasional Paper No. 5) Loughborough: Library and Information Statistics Unit, Department of Information and Library Studies, Loughborough University of Technology
- Waterman, Robert H. Jr. (1994) *The frontiers of excellence: learning from companies that put people first*. London: Nicholas Brealey p.17
- Webb, Sylvia (1995) *Pursuing Quality in Special Libraries: a study of current activities and developments in the United Kingdom* (British Library R&D Report 6214) London: The British Library
- Zeithaml, V. A., Parasuraman, A. and Berry, L. L. (1990) *Delivering quality service: balancing customer perceptions and expectations*. London: Collier Macmillan







# Benchmarking and Performance Measurement

**J. Stephen Town**

Director of Information Services, Cranfield University (Royal Military College of Science),  
Shrivenham

This paper will attempt to cover three issues:

- A definition of benchmarking and its relationship to quality management
- A description of a project which applied the technique in a library context
- within these an exploration of the relationship between performance measurement and benchmarking

## Benchmarking Definitions and Quality Management Context

The word 'benchmark' originated from a surveyor's mark cut to indicate a level for the determination of altitude. In this sense a benchmark is an absolute measure. A distinction should be drawn between this usage and 'benchmarking' as a management technique, in which measurement is primarily comparative. Benchmarking's origins have been linked to the Japanese word 'dantotsu' meaning 'striving for the best of the best', and also to Sun Tzu's Art of War and the aphorism 'if you know your enemy and know yourself, you need not fear the result of a hundred battles'. Modern definitions of benchmarking are sometimes less poetic but more informative: for example Karlof and Ostblom's: 'a continuous systematic process whereby a comparison is made between productivity, quality and practices in your organisation and a chosen similar organisation' (1993). Roger Milliken's pithy but accurate 'stealing shamelessly' is a sharper summary (1991). Xerox were the first company to begin benchmarking as a response to the crisis in their industry produced by the entry of the Japanese into the photocopier market. The Xerox benchmarking template of What? - Who is best at it? - How do we do it? - How do they do it? sums up the process the company adopted (Camp, 1989). Some interest has been shown within the library community and theoretical articles have appeared on benchmarking (Shaughnessy, 1993). Courses have been run in the UK (Library Association) and North America (University of Toronto Faculty of Information Studies), and Muir has produced a series of simple

guides for US librarians (1993-1994). No systematic attempts at library benchmarking had apparently been made in the UK until the Royal Military College of Science (RMCS) Library began its project in late 1993.

Four types of benchmarking were originally suggested by Camp (op. cit.):

- 'internal', in which the organisation seeks uniform good practice through internal comparisons
- 'competitive', in which specific processes are compared to competitors in the same industry
- 'functional', in which specific processes are compared against the best at that process (irrespective of industry)
- 'generic', in which all processes or functions are measured against the best.

Four types of benchmarking exercise have been identified (Zairi, 1992):

- 'cost driven', which is used for economic gains
- 'process driven', which is motivated by desire for superior performance
- 'quick dip', which looks for immediate bottom line results, and
- 'competitive', in which true competitive gaps are sought to drive improvement in product or process.

Different authorities suggest a variety of methodologies: Zairi (and Leonard, 1994) outlines processes for benchmarking involving from five up to 36 steps. We opted for the 15-step approach described by Oakland (1993), although all the methods contain similar elements: deciding what to benchmark; identifying partners; gathering information; analysing what has been collected; and then implementing improvements. The result is then checked or reviewed and the cycle may be repeated.

Total quality management (TQM) provides a context for benchmarking. Tenner and DeToro (1992) suggest TQM consists of three main elements:

- Customer Focus
- Process Improvement
- Total Involvement



leading to

- Continuous Improvement

Customer Focus can be considered to involve the following activities:

- Identifying Customers
- Understanding Customer Expectations
- Understanding Customers
- Benchmarking

Thus benchmarking is primarily about improving customer focus through seeing how others satisfy their customers. The performance measurement aspects of benchmarking should be viewed as secondary to this aim. Benchmarking can also be seen as a high-level proactive mechanism for improved customer understanding (ibid.):

- Level 1 (Low) Most Reactive
  - Unsolicited complaints
- Level 2 (Mid)
  - Service desks/hotlines
  - Sales data
  - Unstructured surveys
- Level 3 (High) Most Proactive
  - Personal Interviews/Focus Groups
  - Designed Surveys
  - Benchmarking
  - 'Mystery shopper'

Zairi (and Leonard, 1994) suggests that for a benchmarking exercise to be successful the following might have been achieved:

- Impact on customer satisfaction
- Contribute to raising competitive standards
- Create the learning organisation
- Inspiration from best-in-class
- Strengthen weaker processes
- Enhance knowledge pool
- Bring in state-of-the-art practices
- Keep the organisation externally focused
- Extending employees' creative contributions

Cherret (1994) suggests a number of principles to guide a benchmarking exercise:

- Commitment .. willingness to change
- Right reason .. desire to learn and improve
- Right activities .. specific imperatives
- Understanding .. of own processes

- Emulate .. and improve on leaders
- Change culture .. to targets relating to best
- Be ethical .. honest, open exchange with partners

## The RMCS Library Benchmarking Project

The Library of the Royal Military College of Science is operated by Cranfield University for the UK Ministry of Defence (MoD) under an overall contract for the academic activity on the Shrivenham site (Town, 1987). As a result of the University's Quality Policy for its Shrivenham campus the Library initiated a Total Quality Management programme in Summer 1993 (Town, 1994). The characteristics of our TQM approach are to use the 'road map' taken from Tenner and DeToro (op. cit.), and to employ a team approach through Quality Improvement Teams (similar to Quality Circles) using a standard process improvement checklist. We also developed a ten-point Quality Policy which defined quality and stressed the importance of staff involvement to the initiative. We were seeking an input of energy and creativity via the initiative rather than an increase in bureaucracy; as a small organisation using our own internal resources we rejected the BS 5750/ISO 9000 approach as insufficiently focused on quality of service and too expensive in resources when set against the possible benefits. The Library had a strong record of excellence in customer care and of innovation in service, and we intended to build on this by taking a more systematic and managed approach to continuous improvement whilst ensuring that all staff were fully involved and effectively led.

Why did we engage in this major project? Our quality policy recognises that on the Shrivenham Campus we operate in an increasingly competitive environment. Thus the pursuit of a quality service recognisable by customers (students and staff) and demonstrable to clients (the MoD and other sponsors) is essential. It is clear that the former will regard high quality of service as more important, but that the latter will be also interested in cost control and optimum pricing. We had some concern at the outset that the existing performance measures or indicators in use in libraries might be inadequate for benchmarking purposes.

The elements of Oakland's 15 Stage Process (op. cit.) are:



- Plan 7 Stages
- Analyse 3 Stages
- Develop 2 Stages
- Improve 1 Stage
- Review 2 Stages

The stages within the planning phase are:

- Select process groups
- Identify best competitor
- Identify benchmarks
- Bring together team
- Decide information and data-collection methodology
- Prepare for visits and interact with target organisations
- Use data-collection methodology

Stage two suggests identifying the best competitor. Shaughnessy points out that 'it is not known which libraries, within the major types, provide the best service, and are therefore able to serve as benchmarks' (op. cit.). Few libraries seem willing to label themselves as 'best' at any particular aspect of their work, even if they think it in private. Information from published statistics and so-called performance indicators do not readily identify best-in-class. For example the CVCP/HEFCE indicators for 'old' UK universities are based solely on expenditure (Committee . . .) and provide no information on customer satisfaction, library outputs or outcomes.

We therefore chose to approach 60 libraries in various relevant groups to act as benchmarking partners, in the hope that we would be able to develop a shortlist of about 20. These included: libraries in technological universities; small academic libraries; those that had some claim to excellence, or relevant in the sense of being involved in quality initiatives or active in performance measurement; special libraries, including a number which had been recognised through awards for quality; and a group of academic libraries with whom we already had some relationship which we believed would make up the list should we fall short of our target number.

As a result of our initial approaches 30 libraries agreed to participate. From this we selected a shortlist of 20 (although in the end we were unable to visit all of these) on the basis of their ability to accommodate visits during our data collection period (October to December 1993), their relevance to our situation, and also on geography. In order to

meet our timetable we chose a group of university libraries in the M4 corridor, a group in the Midlands, and a group in the North which we could visit in a single 'road-trip' week.

The participants were:

Bath	Aston	Bradford
Bristol	De Montfort	Central
		Lancashire
West of England	Keele	Huddersfield
South Bank	Leicester	Manchester
		Business School
Surrey	Loughborough	Northumbria
Thames Valley	Warwick	

Brunel, City and SOAS also completed questionnaires but we were unable to arrange visits within the timescale. Other libraries were also generous in providing relevant information or advice in support of the exercise, particularly London University and the Institute of Development Studies.

The next suggested stage is to identify 'benchmarks' or measures to use. As already mentioned cost and efficiency data is no longer sufficient to measure quality. Oakland suggests that the old financial measures are 'harmful' and 'incompatible with quality improvement measures such as process and throughput times, delivery performance . . . and increases in flexibility, which are first and foremost non-financial' (op. cit.). Zairi suggests that performance measurement 'is not about counting, collecting absolute data, or building league tables' (1994). Shaughnessy (op. cit.) concludes on the basis of Parasuraman, Zeithaml and Berry's (1990) work that academic service quality might be defined in terms of the following characteristics: 'reliability or consistency, timeliness, competence, access, courtesy, communication, credibility . . . and the overall fit between the customer's needs and the service' and that therefore 'the most important and relevant data will be that provided by library users'.

One of the standard measurement methods in TQM is to use a Critical Success Factors (CSFs) approach. We developed CSFs for the library in the early stages of the TQM initiative; these were internally generated by staff but are similar to those developed in other academic libraries active in the quality arena. RMCS Library CSFs are:

- We must provide current, accessible information resources which match user needs
- We must provide cost-effective services which match contract requirements
- We must have well-trained, motivated and approachable staff



- We must have effective communication with users
- We must respond positively to change
- We must provide the right environment for learning

From this list it was possible to develop some possible areas to measure for the benchmarking exercise in relation to each Critical Success Factor:

- Availability of up-to-date stock
- Unit Costs
- Staff Development, Ability and Approachability
- User Experience, Education and Feedback
- Innovation
- Learning Environment

Because of the short timescale and the fact that this was also research into benchmarking as well as an attempt to benchmark, the decision was taken to employ external consultants. We were however committed to involving our own staff at all levels to ensure that the final product was owned by the staff and that long-term links could be made with the target organisations. It was also important to maintain the connection between the benchmarking exercise and the TQM initiative.

The Study Methodology was to gather preliminary data through a questionnaire. The elements of the questionnaire could be related to the CSFs, so the information was sought, for example, on the availability of unit costs, or the degree to which a library was innovative. The immediate feedback from the completed questionnaires was encouraging. It suggested first and foremost that we were dealing with organisations with similar concerns to ours. A number of common themes emerged which provide a snapshot of the concerns of that particular period: the new approach to user surveys, the use of external consultants to generate change, the quest for realistic performance indicators, and the convergence of library and computing services. One negative finding was the lack of availability of unit costs. Some participants claimed that it would be possible to deduce them, but no library regularly collected data in this particular form. An early decision was taken therefore not to pursue this aspect further. The degree of honesty and openness in completing the questionnaire, and indeed throughout the process, was marked. This indicated the general enthusiasm of the partners for using the exercise as an opportunity for learning and sharing experience and data.

The Follow-up visit was designed to elaborate the information provided by the questionnaire, to discuss the general issues of quality, benchmarking and convergence with staff, and to conduct three separate measurement studies. As a result the Consultants, who alone attended all visits, developed a shortlist of those libraries which they considered to be best-in-class for a particular process. These were grouped around four key processes which were based on the CSFs and defined as:

- User Induction and Education
- Information Retrieval
- Information Provision and Delivery
- Facilities Provision

Various constituent factors or sub-processes were recognised within these. Thus we created a list of libraries which we could use as exemplars.

The three measurement studies were designed to try and quantify user-related measures so that comparisons could be made across all the libraries in the study. This would also provide a more rigorous and reproducible basis for identifying best-in-class performance.

The measurement studies were:

- Availability Study
- Unobtrusive Testing of enquiry services or 'Mystery Shopper'
- 'Servqual' type walk-through assessment

Revill suggested that '... to produce more meaningful comparative performance data it is strongly recommended that an availability study should be adopted as a future component of academic libraries performance assessment' (1987). The rationale for this study was that availability and accessibility of materials, its currency and the speed or delays in delivery are critical issues for the user. The study was designed to give a measure of probability that a user would leave a library having located and obtained the books he or she was initially seeking. This required the study team to search for the books on the OPAC, investigate their circulation status and if available locate them on the shelves.

Unobtrusive testing, or 'mystery shopping' to use modern quality jargon, was carried out in those libraries which agreed (16 out of 18). The methodology was to prepare up to three reference enquiries per library and assess the degree of success in dealing with the request. The two main queries were specific in the sense of the tester being aware of the existence of certain information which would satisfy his request. Some difficulties were experienced



because of the degree of security most academic libraries now employ, but in all cases the tester was able to sample the enquiry service and produce a report describing the environment of the reference service, what enquiry or enquiries had been made, and a summary of the outcome.

All those attending a particular visit were asked to score the library visited on a number of qualitative factors. These were subjective impressions of the library which any user might have, and we attempted to cover some of the dimensions suggested in Zeithaml, Parasuraman and Berry's methodology for assessing service quality (op. cit.). These were adapted to relate to the experience of library use and to our critical success factors. The rationale was to assess a realistic spread of aspects of service quality which could be gathered on a 'walk-through' basis and scored on a five-point scale:

- Approachability of staff
- Ability of staff
- Physical appearance of stock
- Signing and guiding
- Library environment
- Ease of use of OPAC

The results were used to rank the participating libraries in relation to our service to provide further evidence of best-in-class performance.

On completion of the exercise each partner library was provided with a written report summarising the findings for their library. The Consultants completed their task with a brief report at the end of 1993, and this is being incorporated into a final full report of the project (Town . . .).

## Conclusions

At the outset we were forced to consider how we could claim to be seeking continuous improvement without using what industry seemed to consider to be one of the simplest but most effective tools available. The Consultants suggested that the project had been a first pass which raised more questions than it answered. With the benefit of a longer period to consider the outcome I would state much more positively that benchmarking is essential for any service which might be open to comparison. The RMCS Library benchmarking project has demonstrated that benchmarking is a technique which can be used by libraries and can be applied to any or every aspect of a service. It also suggests that generally libraries seem willing to act as partners. We are most grateful to all the participants in our

exercise; benchmarking cannot be done without partners.

DeToro (1995) identifies ten pitfalls which may adversely affect the success of benchmarking exercises:

- Lack of sponsorship
- Wrong people in the team
- Teams not fully understanding their own work
- Teams taking on too much
- Managers failing to understand the necessary commitment
- Focusing on metrics rather than processes
- Benchmarking not part of larger strategy
- Misunderstanding organisational mission, goals and objectives
- Assuming every project requires a visit
- Failure to inspect

The project had strong organisational support from senior management both within and outside the library. Staff involvement in the teams is also critical; using Consultants was essential to meet the timetable and they added a great deal of theoretical knowledge of both libraries and quality management that we would have taken a long time to accumulate. However the project was not as strongly owned by staff as a result and this might have inhibited both take-up of learning and individual commitment to continuing the process through follow-up visits. Whilst staff had clear agendas for the project, it would have been helpful to have been further along the TQM route before commencing benchmarking, with more specific processes defined and mapped. We probably need to focus our benchmarking in future at the sub-process level; that is to choose a functional approach. We should also broaden the partners to include other industries who use similar processes. It might also be said that we took on too much; but the project was conceived partly as an experiment or research on behalf of the library community.

The fifth pitfall concerns performance measurement. Using currently available national performance indicators or statistics would almost certainly result in over-concentration on the metrics, because they do not reveal much detail of the processes involved. Libraries need to develop more measures which relate directly to the user's experience, and to solve the problem of how local satisfaction measures which are not absolute (because they are dependent on local expectations) can be used in



comparisons between different institutions. The development of a UK Library Benchmarking Consortium might help in this respect. In addition libraries need to recognise the concept of the 'capable process' from the user viewpoint, instead of, for example, allowing external suppliers dictate the standards of speed of document supply.

One of the lessons learned is that benchmarking can be done through public sources, and that visits are not necessary in every case. Published statistics can be used for limited comparisons, but the current trend amongst UK academic library staff for seeking best practice is through the various electronic (Mailbase) discussion lists. Whilst the word 'best' is rarely explicitly used, the methodology of seeking partners to solve a particular problem or improve a particular process, collecting data from them, sharing it ethically, and providing feedback on the success of the chosen solution seems to me to be an electronic form of benchmarking.

The benchmarking exercise did trigger a number of specific improvements in our service. During the ensuing year and a half a number of developments and enhancements have taken place as a result of the experience of others. There is still scope for more to be done given the huge amount of information collected. We certainly gained a great deal of confidence, reassurance and tangible evidence about the relative quality of our service from the exercise, and also a strong sense of the common issues and concerns within our 'industry'. A library service which has benchmarked itself against its peers and acts on the information gained will have less concerns about its own performance and can face a future of increasing competition in information provision with a greater degree of confidence.

## References

- Camp, R. C. (1989) *Benchmarking: the search for industry best practices that lead to superior performance*. Milwaukee, Ill: American Society for Quality Control Press
- Cherret, P. (1994) 'Practical benchmarking'. *British telecommunications engineering* 12. Jan. 290-293
- Committee of Vice-Chancellors and Principals (annual) *University management statistics and performance indicators in the UK*
- DeToro, I. (1995) 'The 10 pitfalls of benchmarking'. *Quality progress* Jan. 61-63

- Karlof, B. and Ostblom, S. (1993) *Benchmarking: a signpost to excellence in quality and productivity*. Chichester: Wiley, 1993
- Milliken, R. quoted in Holberton, S. (1991) 'How to help yourself to a competitor's best practices'. *Financial Times* 24 June. p.12
- Muir, H. J. (1993-1994) *Library benchmarking notebooks*. Universal City, Tx: Library Benchmarking International
- Oakland, J. S. (1993) *Total quality management: the route to improving performance*. 2nd ed. Oxford: Butterworth Heinemann
- Revill, D. (1987) "'Availability" as a performance measure for academic libraries'. *Journal of academic librarianship* 19(1) Jan. 14-30
- Shaughnessy, T. W. (1993) 'Benchmarking, total quality management, and libraries'. *Library administration and management* 7(1) Winter. 7-12
- Tenner, A. R. and DeToro, I. J. (1992) *Total quality management: three steps to continuous improvement*. Reading, Mass.: Addison-Wesley
- Town, J. S. (1987) 'Contracting out - the RMCS experience' in White, B. (ed.) *Information for all: access and availability. Proceedings of the annual conference of the Institute of Information Scientists, Peebles, 1986*. London: Taylor Graham. 81-88
- Town, J. S. (1994) 'C<sup>2</sup> to C<sup>3</sup>Q: TQM in the RMCS Library'. *Journal of the Royal Military College of Science* 8(6) April. 27-29
- Town, J. S. (in preparation) *Benchmarking in libraries: a report of the RMCS project including a benchmarking exercise involving 18 academic libraries*. Shrivenham: RMCS Information Services Report
- Zairi, M. (1992) *Competitive benchmarking: an executive guide*. Letchworth: Technical Communications
- Zairi, M. (1994) *Measuring performance for business results*. London: Chapman and Hall
- Zairi, M. and Leonard, P. (1994) *Practical benchmarking: the complete guide*. London: Chapman and Hall
- Zeithaml, V. A., Parasuraman, A. and Berry, L. L. (1990) *Delivering quality service: balancing customer perceptions and expectations*. New York, NY: Free Press



# Some Issues in Decision Support System Development in Libraries

**Roy J. Adams**

Head of Library, Information and Networking Services, De Montfort University, Leicester

## Abstract

This paper reviews some issues which have arisen from the work carried out at De Montfort University (DMU) (formerly Leicester Polytechnic) since 1985 on decision support systems (DSSs) and performance indicators. DMU has undertaken a series of research projects over the last ten years which have provided some insights into ways in which a decision support approach can assist in the management of libraries.

A brief introduction to decision support systems and their role in library management will discuss the various types of tools available and contrast their effectiveness in supporting librarians with different needs. The difference between decision support tools, executive information systems and intelligent systems will be discussed.

## 1. Decision Support Research at De Montfort University

De Montfort University (DMU) (formerly Leicester Polytechnic) library became interested in the use of computer systems to support decision-making as personal computers with spreadsheet capabilities started to appear in the early 1980s. This interest, linked with a desire to investigate the potential of the new lower cost PC-based local area networks to support office automation, led to the funding of an investigation into distributed decision support system (DSS) techniques to support library decision-making carried out over a two-year period. The activity focused on financial decisions and providing models which could examine trends to assist with forward planning.

The publication of the King Report (1990) prompted an examination for the British Library Research and Development Department (BLR&DD) of the potential of decision support software for mechanising some of the techniques suggested by King. The report examined the relevance of this combination of approaches using both academic and public library as examples.

A second project focusing on decision support was undertaken with funding from the BLR&DD,

completed in 1993, which looked at a number of issues including the relevance of national and local performance indicators in relation to decision support, the application of expert system software and the development of a model which would help with decisions at each stage in the library resource cycle. The project also examined the relationship between data gathered from automated housekeeping systems and other sources such as committee minutes and surveys of user opinions and activities.

There are a range of techniques and tools designed to support the decision-maker. The simplest of these is the data presenter system, characterised by traditional management information systems. They are orientated to the collection of data and their presentation through report generators. They often present large sets of data which the user is invited to sift through for the most important or significant elements. Management information systems are characteristically used to support policies and cases rather than developing them. Advanced management information systems provide simple facilities to sort datasets thus making the objects of most use more accessible. They may sort by an element into ascending or descending order, differentiate between data which fall within and outside certain criteria.

Decision support systems provide facilities through which models can be constructed and run against datasets to analyse current activity and test possible scenarios. They provide an investigative tool. Decision support tools are characteristically used to investigate cases and test solutions and through this to help build policy.

### DECISION SUPPORT SYSTEMS CONSIST OF:

1. A database relevant to the topic under consideration often drawn from a wide range of sources
2. Models generated using the computer to analyse the topic and to test the effects of possible decisions. A widely used method of creating models is to base them on computer spreadsheets.
3. The end user, usually the decision-maker themselves, who is able to select the most relevant data and models and modify them where necessary.



4. Software capable of managing the database, models and the interaction between the user and the system.

Executive information systems provide an environment tailored to a specialised group such as senior executives within an organisation. They are often seen as decision support systems for one person. They usually feature a set of key indicators which are developed through the use of pre-prepared queries. They may also possess some attributes from the next type of support tool.

Decision-making systems, often in the form of what are commonly called intelligent assistants, provide an environment in which data is analysed against a series of model environments. Conclusions are reached and the system produces some form of justification for its conclusion. Many of these systems are based on models created through eliciting information from 'experts' in the area, using their knowledge of the environment and their learned successful strategies to produce preferred actions. Most of these systems use artificial intelligence techniques and differ from the systems above as they are designed to make and justify decisions themselves rather than provide support for decision-making. Some systems use neural networks to process information although not yet for libraries.

Decision support systems are geared to making decisions through their capacity to contribute to all aspects of decision-making. Simon's concepts of decision-making illustrate the relevance of a decision support system throughout the decision-making process:

1. The intelligence phase. Where information is gathered so that problems and opportunities calling for decisions can be identified.
2. The design phase. Where the problem or opportunity is analysed and possible decisions developed and tested.
3. The choice phase. Where one of the possible decisions is chosen and implemented.  
(Simon, 1960)

## 2. Environments for Decision Support

The local management environment can have a profound effect on the way in which decision support tools are introduced and employed. I would like to take an example, a hypothetical one of an organisation implementing a DSS environment to bring out some of the major issues which have pervaded research at DMU and which are relevant to any library wishing to go the DSS route.

In this hypothetical library our first problem is that the organisation probably has a 'strategy' document but we probably see very little evidence of clear links to activity within the service which in effect is busy dealing with expansion within an environment of declining resources. It is suffering from the demand for 'more from less'. There is a lack of clarity on the critical decisions that support the organisation.

Our next concern is over the role of decision tools and one which centres on the questions 'who are the decisions makers' and 'what decisions are made'. The organisation may find that decisions and the information that could provide insights for decision-making have few links. In a traditional management information culture decisions are often made and then information collected to support those decisions. Management information systems as we have known them in the past thrive in this atmosphere and encourage this approach by requiring the user to impose a filter on the information at an early stage in the decision-making process. This was the base for the 'gut feeling' approach to library management which was popular 20 years ago.

Decisions may also be being made at an inappropriate level. The development of information technology and a change to management styles which give greater autonomy down the chain of command have developed over the last ten years. In the public sector this response has been driven by the necessity to provide more with less resources. Some organisations continue to engage in decision-making at a level above that really required for the complexity and relevance the impact the decision will have on the organisation.

There has been much discussion in the recent past on the declining role of the middle manager and we have seen this in the profile of job shedding which has gone on in the early 1990s. Our hypothetical organisation may well suffer from an elitist, centralist decision-making structure or through trying to cope with changing demands and resources it may not have an effective decision-making process at all. It can be said that the art of decision-making is to reduce uncertainty and that the analysis of relevant data is a positive contribution to goal. Increased certainty improves confidence in decision-making. This sounds good and so our library decides to invest in time and facilities to introduce a decision support tool.

The first activity for the DSS development team is to carry out an analysis of the information required and the sources of the data that will support the models which need to be built. The audit team



discover that the data is produced by library assistants in the course of their daily activity but it is in the custody of middle managers who maintain a close guard on it and release it as and when they see an advantage. They do this because they know that 'information is power' and they are worried about their role as middle managers. Perhaps the librarian has not dealt with this as an issue and framed new roles for them.

Our first challenge is therefore to recognise that we may be introducing a tool that the decision making process as it stands cannot relate to directly for a number of reasons.

1. There may be a lack of definition about who makes particular decisions and how the information to support these is gathered and processed.
2. The same decisions may be being made at different levels of the organisation.
3. What were considered to be more complex decisions which required a supervisor or manager's intervention may with the introduction of DSS techniques and tools be less complex and require less senior input.
4. Data for a decision support tool will be required from a range of sources both inside and outside the library. Co-operative working will be essential.
5. Wider availability of information can create constructive debate and building or end in conflict, depending on the style of the organisation.

DSS supports decision-makers, not necessarily managers. It provides an environment in which structured data is designed to give insights into possible futures. The generation of models is in the hands of system users who will be exploring the new tools and environment for the first time. A good decision support tool will have an interface which encourages users to develop and test new ideas through models. Although executive information systems are designed for senior managers, most decision support environments are oriented to groups. They encourage by virtue of their attributes the gathering and testing of ideas. The implementation of a decision support system imposes greater responsibility and openness on all involved. The consequences of various options can be seen and interpreted by many. The environment will have some of overtones of 'brainstorming' but with instant feedback on possible results and suggestions.

Closed management decision-making styles may suffer. The introduction of DSS makes closed-ness more apparent. It reduces myth in the power of

senior managers and reveals lack of analysis and failure to use data and make structured decisions.

Traditional DSS tools are elaborative in their approach. The database enables the user to construct and run models of possible scenarios. These can be tested and further explorations carried out into the background of any interesting results by investigating data and by examining new avenues. The process encourages the investigation of possible pathways to conclusions. It enables the user to construct scenarios and to test these. It can provide hints for new ways of approaching problems and enable new strategies to be considered. The application of the techniques needs time and some skill and of course the ultimate database. The lack of such data is often the constraining factor in this approach. It can be considered a 'user risky' approach. Through such open systems one can learn about the service but it naturally requires an open team-work approach not just to support the decision support model but also for the total working environment.

The organisation considering the implementation of a DSS, rather than a few isolated decision support tools must therefore ask itself how existing styles of managing the environment fit with the DSS approach and make an informed appraisal of their abilities to respond to the potential changes.

### 3. Pathways from Spreadsheets to Artificial Intelligence

Many potential users of simple decision support tools expect that they will be able to migrate from these tools used to provide performance indicators to a more integrated approach. Such pathways can be difficult to negotiate. Expert system techniques provide an alternative to traditional decision support tools and examination of this approach provides some insights into the problems which will need to be solved for the future.

The simplest decision support systems consist of paper and pencil, while the most popular and probably the most effective at the moment, have spreadsheets linked to relational databases. If we are to foster effective use of such support tools throughout the organisation they must use software and techniques which non-experts can relate to. A lack of productivity for casual users means no use. One way around this is to provide an environment in which the data is processed through models which encompass the knowledge of established experts. The activity at De Montfort examined ways of developing such tools through the use of what are known as intelligent assistants.



Intelligent assistants provide models of domains which are applied to the data stored. Scenarios of a high order are required. The system digests the information through the models, reaches a conclusion and justifies it. Expert knowledge needs to be elicited to construct the models for such systems and in rapidly changing situations it can be difficult to find sufficient repeat cycles to verify the logic of successful strategies and tactics. By definition a decision support system is a changing organism if the organisation it supports is changing. New factors are emerging; old ones becoming less significant. How are the issues of tomorrow dealt with within today's structural models. Without the ability to do this the support costs for new versions of the software will be high. To take the simplest of examples. The impact of electronic distribution on in-house use of library is a straightforward but live issue. End users do not come into library as often as they did, preferring to operate from their desks through network access. On the other hand periodicals use becomes greater through the use of online services by students. These changes in use are data to a traditional decision support tool but may destabilise an expert system model which does not have these assumptions built in.

In addition to problems with the stability and reliability of the expert approach, other problems which may be encountered using such techniques focus on a lack of user control through a lack of transparency, the difficulty of indicating the logical pathways through which a decision has been reached in an understandable way and the development of techniques to control the 'don't know' factor. If the system user is unable to feed into the system information that it can relate to, a factor which will increase as management and technical developments take place in the library environment, the amount of reliable data available to the system will not be sufficient for it to reach a logic conclusion.

The intelligent assistant type of approach could however fit in well with a more controlled style of management dominated by the head of service. It provides information on activities within existing frameworks and thought processes and tends not to invite challenges to existing patterns of operation.

Failure of many expert system approaches based on shells which fail to live up to expectations is mirrored in the experience at DMU. The high cost of development and long gestation times seem not to fit into today's dynamic environment. The same criticisms may not be valid with alternative artificial intelligence approaches such as neural networks. The projects we have worked on bring me to the

conclusions that the development of an effective traditional decision support tool does not provide a direct pathway to the later adoption of AI techniques.

#### 4. Relating Use, Performance and Quality Strategic Information

Decision support techniques have the capacity to provide insights not only into the operation of the library but also the activities and reactions of groups. This section will look at some work at DMU which has drawn on user studies and housekeeping data to examine the role that user groups have on decision-making for resource allocation and operational issues.

As students move into a resource-based environment dominated by electronic tools using networks, the information seeking and learning activities of students can be more closely monitored. The resulting database could provide information of value beyond the library environment. It has the potential to inform questions of a more general nature concerning the allocation of resources to support learning. This could extend to institutional strategic planning processes including targeting courses and the provision of plant, equipment and human resources. Library planning then becomes truly integrated into institutional objectives. We still have some barriers to deal with before we can do this.

Although the work at DMU focused originally on library activity, as the research continued the team became more interested in examining the way in which a decision support tool could be used to provide insights into the activities of student groups. The information base consisting of data from the library housekeeping system, from recorded student activity and user surveys can all be selected and sorted by client group using simple decision support tools. The results of the analyses carried out at DMU support two well established library hypotheses: first, students vary in their requirements from a service and that these differences are complex, reflecting course subject, mode of attendance, level of course and other factors. A service viewed from the top down, a desegregation model of library management, will struggle to meet these needs. The alternative of building from defined groups, the bottom-up approach to creating policy and service can lead to an environment which is difficult to manage. The resolution of this challenge is not clear.

Secondly, what students seem to do in their interactions with the library and what they think are



often two different things. Correlating the objective data from systems with the subjective information gleaned from users has yet to be undertaken systematically in a decision support environment for libraries. For example, how do we deal with two sets of data which indicate no differences in the environment or the users but provide radically different measures of user satisfaction?

How can librarians use such analyses as these now at their disposal to improve the quality of service, for in the end quality is usually what management information is about. The problem of differentiating users' measured activities from their perceived activities is one which other services meet. The comparatively simple initial process of matching user activity with user satisfaction and relative importance ranking is itself still to be tackled by library decision support environments. Quality may be concerned with fitness for purpose but we still seem to be some way from accurately interpreting our measures of our ability to provide this in terms of users' needs.

Do existing performance indicators used by many libraries move us forward in this endeavour, or do they provide us with a security blanket which has no substance except for comparison with other libraries? Can we deal with users' values as a library? Perhaps we need to involve the whole organisation in these processes to make them effective.

## 5. Conclusions

Decision support system development at De Montfort has taken particular pathways to produce some insights for libraries. This paper has discussed just three areas which the research raised but which it has not so far resolved. Issues concerning the relationship of decision support with library management culture, the relative role of different approaches to DSS modelling, and the integration of datasets from systems and users need to be addressed.

## References

- King Research Ltd. (Sept. 1990) *Keys to success: performance indicators for public libraries*. HMSO
- Simon, Herbert A. (1960) *The new science of management decision*. New York: Harper and Brothers
- References to work carried out at De Montfort University into decision support and performance indicators:
- Adams, Roy; Collier, Mel; and Meldrum, Marcus (1991) *Decision support systems in academic libraries*. Library and Information Research Report 83. British Library Board. 159pp  
ISBN 0 7123 3249 9
- Adams, Roy; Bloor, Ian; Collier, Mel; Meldrum, Marcus and Ward, Suzanne (1993) *Decision support systems and performance assessment in academic libraries*. London: Bowker-Saur. British Library Research Series ISBN 1 85739 4
- Adams, Roy (1995) 'Strategic information systems and libraries'. *Library management* 16(1) 11-17  
ISSN 0143 5124
- Adams, Roy 'Decision support system research at Leicester Polytechnic'. *Vine* 76 27-30
- Adams, R. J. (1990) 'A system to improve the availability of information for library managers'. In: Burton, Paul F. (ed.) *MS-DOS software for library and information applications*. 123-135 Gower Press. ISBN 0566 03617 7
- Adams, Roy (1991) 'Issue in decision support in libraries'. *Information Services and Use* 11 43-49
- Adams, Roy (1993) 'Decision support systems as an aid to decision making in libraries'. *Computers in Libraries 7th International Conference* 65-70
- Bloor, Ian (1990). 'Keys to success - a user's guide'. *Public library journal* 5(6) Nov./Dec. 133-144  
ISSN 0268 893X
- Bloor, Ian (1993) *Performance indicators and decision support systems for libraries*. British Library Research Report Paper 93. London: British Library 64pp







# Performance Measurement in Learning Resource Centres

Pat Dixon

Department of Information and Library Management, University of Northumbria at Newcastle

Despite the rhetoric and research on the management of school, college and private sector learning resource centres that is published in the academic journals and books, the reality for many of the librarians is that they are:

- cynical about the whole concept of accountability and the imposition of the use of performance measures
- doubtful as to their worth in terms of improved service and
- ignorant of their real potential when designed and applied as they can be, and anxious about applying them.

These were the findings of a pilot study which sought for a better understanding of the nature of the learning resource centre librarians' reality in their specific role of performance measurement. In T. D. Wilson's words (Wilson, 1994) the aim of the study was:

- uncovering the facts of the everyday life of the people being investigated
- by uncovering those facts we aim to understand the needs that exist which press the individual towards information-seeking behaviour
- to better understand those needs we are able to understand what meaning information has in the everyday life of people, and
- by all of the foregoing we should have a better understanding.

A number of school and college resource centre librarians, Schools Library Service librarians and training and development resource centre librarians in the North were interviewed, and the conditions which gave rise to the situation outlined above included poor funding, under use of the library and lack of recognition of full potential by users and senior managers of the parent organisations.

What seems to have focused all this frustration at this particular point in time for those in education are, the actual experience of or belief in the stories of others' experience of far too brief Her Majesty's Inspectorate (HMI) visits and the lack of specific mention in the HMI framework.

That was the librarians' perception; that was their reality and it was resulting in lack of performance assessment.

Private sector learning resource centre librarians whilst having concerns, did not seem to have the same cynicism or anger about the topic; and this is only to be expected. Whilst those in the public sector were still coming to terms with the change in culture that the shift to 'managerialism' from 'professionalism' is bringing about, private sector librarians were part of organisations that had utilised performance measures as a matter of course. Whereas it is true to say that at the bottom line profitability is the ultimate measure of performance, information about profit comes a long time after the events that generate the profits have taken place. In the meantime, private sector librarians require a series of indicators against which performance of current activities can be judged (Jackson, 1988).

An important component of the context for the learning resource centre librarian is the curriculum. Heeks and Kinnell (1994) point out that with the 1988 Education Reform Act a National Curriculum was enacted that was the greatest curricular initiative ever to have been mounted by central government in the UK and is a legal requirement in all state schools in England and Wales. The six cross-curricular skills which have an application for all National Curriculum subjects and which the library, through its resources, programmes and relationships, assists are communication; numeracy; study; problem solving; personal and social; information technology. It also supports individual subject areas.

In the college sector, vocational qualifications offered by bodies such as BTEC and City and Guilds, such as GNVQs, articulate these same cross-curricular skills, or as they are often called, common or core skills.

In the private sector, the curriculum can be said to be that of the learning organisation. Pedlar et al (1991, p.2) define a learning organisation as one that 'facilitates the learning of all its members and continuously transforms itself.' One of its ten characteristics is the provision of staff development for all. There is a well developed literature (identified



by Coffield as Pedlar, Burgoyne and Boydell, 1991; Duke, 1993; and RSA enquiry into *Tomorrow's company*, 1994) on the need to institutionalise the long-term capacity for continuous improvement. It is in the interests of individual employers to undertake this task. At Levi Strauss and Co it is acknowledged that:

'Learning is essential for both individual and corporate growth. It is also directly linked to our financial success.' (Howard, 1993, p.xi)

Garratt (1987) sees the learning of the organisation and its people as the key factor in the survival of any organisation, resulting as it can in increased flexibility, responsiveness and competitiveness in their work force. The Investors in People initiative sponsored by the Employment Department focuses on four key tasks which articulate the philosophy and process of the initiative, one of which is developing all employees to meet the business objectives. Investors in People UK (1994) identifies the benefits to employers of achieving their standard as 'improvements, often dramatic, to overall personnel performance' and 'above average or exceptional business performance by industry sector standards.' For employees it empowers them to have a greater say in the workplace, job competency, diversity of work and more meaningful work, and career development (Investors in People UK, 1994).

'If it is to achieve success in the demanding world marketplace tomorrow's company must be able to learn fast and change fast.' (Royal . . . , 1994, p.2)

Learning resource centres underpin much of the training and staff development of the learning organisation, particularly if delivered through open learning; a medium which is very cost-effective if implemented properly (Wilson, 1987).

Another important aspect is that of accountability; taking the form of inspection in schools and colleges. Ofsted inspections of schools is a relatively new development. New inspection arrangements for schools were established as part of the Education (Schools) Act 1992 which introduced the first independent inspection of schools under contract to Ofsted; their main role being to ensure that primary schools and secondary schools are inspected on a regular four-year cycle. The first schools to be inspected by Ofsted were in the autumn of 1993, and it is this that has brought the issue under discussion here to the fore. Streatfield and Markless (1994) point out three issues which they have regularly encountered when discussing Ofsted inspections with school librarians:

- uncertainty about how much and what documentation to provide in advance
- very limited feedback with maximum a single paragraph
- differing expectations by individual inspectors about how libraries should support the teaching and learning process.

The touchstones for judging institutional quality in an Ofsted inspection of a school are standards of achievement, quality of learning, school efficiency and pupils' development. 'The library is pervasively relevant' said HMI Stewart Robertson in a talk recently. There is a crucial assumption inherent in the Framework - that better libraries can enhance achievement and learning, lead to improved school efficiency and promote pupils' personal development. That's not new - The Bullock report of 1975, was saying this, as were school libraries, the foundations of the curriculum 1984, HMI reports drawing attention to opportunities and deficiencies of 1985, 1990, and finally Heeks and Kinnell (1994). What the difference now is, is that accountability in these terms has been formally introduced, HMI inspection 'providing the opportunity for libraries to be *judged* in terms of the potentially vital contribution which they can make to the dynamic of pupils' lives and learning.' But the problem is not there is no consensus amongst inspectors about the nature of those contributions. Indeed, in many schools and colleges there is little real understanding of the true potential of the role of the resource centre in terms of the wider organisational aims.

Performance measures for learning resource centres: Measuring performance has become increasingly significant in schools since the Department for Education (DFE) introduced the publication of examination league tables. Truancy rates are also being targeted for publication. School development planning processes have similarly focused on the need to identify the expected results of resource input. Heeks and Kinnell (1994) identify an immediate problem in linking the range of activities which successful school libraries undertake with the overall purposes of the school as specified in the formal measures of performance approved by government which go to make up the Ofsted framework. Learning resource centre librarians must look outside their particular context for support in designing and implementing performance assessment.

Performance assessment in public libraries is supported by the publication of indicators and measures (OAL, 1990). In the section which discusses the



reasons for performance assessment, there seems to be nothing to engender the cynicism and anger that was encountered in the pilot study:

'Librarians in the public sector are confronted by changing circumstances which present new challenges . . . Budgetary restriction leads to demands for a value for money service, new technology enables the provision of new and enhanced services to a wider community . . . Performance indicators should help librarians make the most effective use of resources, meet these new challenges.' (OAL 1990)

In the principles of performance assessment it goes on to state that 'performance can only be measured in the context of its defined objectives, and in the relationship between resources that go into the library and what the library achieves using those resources - the outputs or outcomes.' Again, this seems reasonable. It goes on to state that performance assessment can help with improved communication - how the library is performing can be explained to management and staff, councillors and the community, exactly what is needed. But then looking at suggested indicators, only a very small proportion are to do with impact, which is what HMI inspection is concerned with, and none of them really addresses the issue for schools and learning. Perhaps we are expecting too much of performance measures and indicators?

One of the principal authorities in the field of performance measurement and public service is Peter Jackson. He tries to separate measures from indicators; whilst acknowledging that this is possible conceptually, in practice they merge.

Performance measures are about the impact of outcomes in the external environment, they are externally rather than internally oriented and directed towards final as well as intermediate outcomes. They address the difficult issues. Indicators are less difficult to construct, and are directed less towards the quality of final outcomes and impacts. To some extent they provide intermediate measures and intermediate outcomes. Carelessly developed they can appear facile. Whereas internal management indicators tend to be prescriptive - linked to particular objectives, external measures should comprise a multitude of data which describe what a department does, its activities, throughput, and link that to outcome and impact. Without appropriate external measures for customers, clients and competitor an organisation has only half the picture. The problem seems to be that learning resource centre librarians have been taking indicators and treating them as

measures when measures need to be used. However, when librarians manage on a day-to-day basis, in terms of intermediate outcomes, which is too often the case, it is very difficult to assess final outcome and impact. Librarians issue books, so they devise indicators such as the number of books issued weekly, they catalogue so they count the number of items catalogued per hour, they answer reference enquiries so they count the number of reference enquiries per day, per class and so on. These are useful, when compared with previous years, similar centres or with published standards; they can indicate the need for further enquiry and are an aid to management decision-making. But in terms of communicating something meaningful to users they are of limited value. When the student or staff member borrows a book, uses the catalogue and asks a question the intermediate outcome will be a loan, and an answer, but the impact could be successful learning and that's what teachers are ultimately interested in. Some areas of performance do not lend themselves to quantification; quantification often means simplification. This is especially true when considering quality, consumer satisfaction and the effectiveness of many social services in general, and learning in particular. This must be acknowledged but at the same time the difficulty of measuring impact in such areas is not easy.

A measure or indicator is a statement against which achievement in an area or activity can be assessed. Heeks and Kinnell (1994) have tried to identify success in school libraries in general and this may help guide learning resource centre librarians:

- furthering school aims in terms of the National Curriculum, information skills, flexible learning, linking with school development plans, educational aims, personal philosophies of those within the school
- collaborating with teachers' purpose, in terms of teachers' use of the library, subject delivery
- promoting students' interests, patterns of use, library features most valued by students, structures and communication
- resources and relationships, accommodation and equipment, library stock, outside support, staff relationships, staff-student relationship
- strategies and skills: management of change, vision, links with school culture, interpersonal skills, technical skills, marketing skills.

This framework can be applied equally to resource centres supporting training and staff devel-



opment. When it is linked with the aspects of the inspection framework, it becomes possible to devise relevant and useful performance indicators and measures. Is the learning resource centre librarian involved in the classroom in terms of information skills? How many times in a particular subject, with a particular age group? The answers will say something of the nature of the throughput. If this indicator isn't met then the more important measure of impact of the information skills curriculum, or whether the students are information literate, cannot be measured. What provision is there for a progressive programme of learning to use the library? But then, how successful is it and is the students' learning being applied in geography? Is the centre sufficiently well resourced to support pupils' cultural development? Do the centre's aims articulate how it will meet the parent organisation's mission?

This obviously has implications for data requirements and will need new data. Available data must not be the starting point because of the risk of fashioning measures around the easily measurable. The librarian will have to become concerned with what happens outside the resource centre, with what students and teachers really do and feel. Instead of quantitative research, the methods will be qualitative.

The above looks at real and final outcomes rather than intermediate outcomes, but can we really look at impact? Is there anything in models of learning that can be utilised? One starting point could be Gregorc's research (1979) relating learning styles to teaching styles/methods. Gregorc's research was based on the question 'Why do so many students fail?' He found that all people are unique and individual and for all there is a duality of processing information, perception and ordering. He established the following continua to represent the dual process:

PERCEPTION

*how we perceive information*

CONCRETE

(the physical world using the five senses)

ABSTRACT

(the non-physical world - subjective, emotional, intuitive)

ORDERING

*The way we order information in our minds*

SEQUENTIAL

(Linear, step by step like a computer)

RANDOM

(Non-linear, seeing the whole at once, drawing on different strands at any one time)

Depending on preferred learning style, students work better with a range of different materials and in a range of different ways; his research discovered that too often students' needs in these terms were not catered for. Does the resource centre provide for the near concrete experience - the visual, the multimedia; does it facilitate discussion?

In terms of true learning, of creativity, the imagination has a key role:

'We're going to want these (people) to . . . think intuitively, subjectively with one eye to posing problems for themselves. And for that we are going to want them to indulge their imagination, their off-beat thoughts.' (Jones 1972, p.21)

Story allows and encourages this, as well as extending language capability, providing experiences outside of real life, allowing people to take on the 'role of the spectator' (Harding 1972), all important in the process of learning. The range and number of fiction titles can be a measure of the provision of resources to stimulate the imagination; and it is the responsibility of the librarian to articulate the precise role of story and the nature of its link with learning, especially in this high-tech age.

Learning styles and the importance of the imagination are just two examples of areas outside the usual sphere of a librarian's interest and responsibility that may help in saying something about the resource centre's performance in terms of outcome and impact. The way forward may be for learning resource centre librarians to involve themselves in the wider world of learning, drawing on models and research from the field of education in order to try and assess qualitatively the impact of the resource centre.

References

- Bullock, Alan (1975) *A language for life* Department of Education and Science. HMSO
- Department of Education and Science (1985) *A survey of secondary school libraries in six local education authorities: report by HM Inspectors.* DES
- Department of Education and Science (1990) *A survey of secondary school libraries in six local education authorities: report by HM Inspectors.* DES
- Department of National Heritage (1995) *Investing in children: the future of library services for children and young people.*
- Garratt, Bob (1987) *The learning organisation.* Gower



- Gregorc, Anthony F. 'Learning-teaching styles: potent forces behind them'. *Educational leadership* 36, 234-36
- Harding, D.W. (1972) *The Role of the onlooker. Language in Education*. The Open University. Routledge and Kegan Paul
- Heeks, P. et al. (1994) 'Inspecting school libraries: technical guidelines to support the Ofsted handbook'. *School libraries in view* (2) October. p.5
- Heeks, P and Kinnell, M. (1994) *School libraries at work*. British Library
- Howard, Robert, ed. (1993) 'The learning imperative'. *Harvard business review book*. Harvard College
- Investors in People UK (1994) *Investing in people*. Investors in people UK
- Jackson, Peter (1988) 'The management of performance in the public sector'. *Public money and management*. Winter.
- Jones, Richard (1972) *Fantasy and feeling in education*. Penguin
- Office of Arts and Libraries (1984) *School libraries: the foundations of the curriculum*. HMSO
- Office of Arts and Libraries (1990) *Costing and performance assessment in public libraries: a briefing paper*. British Library
- Ofsted (1993) *Framework for the inspection of schools*. HMSO
- Pedlar, Mike., Boydell, Tom and Burgoyne, John (1989) 'Towards the learning company'. *Management education and development*. vol. 20 part 1, 1-8
- Royal Society of Arts (1994) *Tomorrow's company: the role of business in a changing world*. Interim report. RSA
- Streatfield, D. and Markless, S. (1994) 'Inspecting school libraries: a not very academic view'. *School libraries in view* (2) October. 2-5
- Wilson, Bob (1987) 'Methods of training: individualised instruction'. *The training technology programme* vol. 3. Parthenon Press
- Wilson, Tom (1994) 'Information needs and uses' *Fifty years of progress? A journal of documentation review*, ed. Vickery, B. C., Aslib



...the ...  
...the ...  
...the ...  
...the ...  
...the ...  
...the ...  
...the ...  
...the ...  
...the ...  
...the ...  
...the ...  
...the ...



# The Development of Performance Indicators for Prison Libraries

**Dr. Susan D. Lithgow**

Department for Education Research Fellow,  
Department of Information and Library Studies, University of Wales Aberystwyth

## 1. Introduction

This seminar is based on research conducted as part of the author's PhD thesis, which set out to investigate the improved efficiency and effectiveness of prison library provision in England and Wales, through the development and validation of relevant performance indicators to be used as part of quality assurance programmes (Lithgow, 1994). The research had the full support of the Chief Education Officer's Branch of the Home Office Prison Service and the Prison Libraries Group of the Library Association throughout its conduct, which greatly assisted in its practical application on completion.

## 2. Timeliness

Prison libraries perform important educational, rehabilitatory and recreational functions. Their potential as a fully effective agency is often not realised and there is a lack of evidence on which to secure future development. In response to an increasing pressure to show accountability in terms of value for money, a variety of organisations are reassessing performance. Moreover, the general climate is such that many aspects of service provision in the public sector are currently being re-examined to see how quality standards may be derived and applied. The Prison Service is no exception and has already begun to use performance related measures in a variety of ways. However, prison libraries which are dependent upon maximum co-operation between individual prison establishments, public library authorities and education service providers, and are therefore subject to a wide range of organisational influences, have yet to experience any such approach.

As the 1978 Home Office Prison Department Policy Statement 7, *Library facilities for people in custody* states,

'the library in a custodial institution should as far as possible resemble a good Local Authority branch library'. (Great Britain . . . , 1978)

This analogy provided an immediate benchmark, albeit in crude unquantified terms and the sentiment

of this comparison has continued to underpin the ethos of prison library provision. The policy statement went on to acknowledge public library services as the

'main established source of professional expertise in areas relevant to libraries in the Department's establishments' (ibid.).

As well as recognising the value of the input of public library services, the Prison Department has long envisaged that standards adopted by the public library profession would automatically be transferred to prison library services. Performance measurement is one such standard and though well developed in the public library sector, the suitability of its direct transfer to prison library services is by no means automatic. As Whitehall argues, one of the strengths of a performance measurement approach is its adaptability in terms of its ability to meet the needs of differing organisations, which in turn, should facilitate the interchange of performance measures between different types of library (Whitehall, 1984). Whitehall concludes that it is therefore a failing on the part of library practitioners to perceive, as all libraries are different, that they require different approaches to performance measurement (ibid.).

Although there is a wealth of common ground in terms of the principles of performance measurement, prison libraries are housed within a sufficiently unique environment to warrant their own practice of those principles. Factors such as the transiency of the population, inmate library access and intensity of library use all contribute towards the disparity between public and prison library services at an operational level. These factors are however secondary to the issue of security. The nature of the Prison Service is such that it functions within the bounds of a closed environment. The security and care of inmates and staff take precedence over and above all other considerations and subsidiary services such as library provision must therefore adapt accordingly. Prison libraries operate within a highly volatile environment and the unpredictability of the demands placed upon them has the effect of creating a prison weighting factor. Whilst acknowledging the



universality of the philosophy of a performance measurement approach, this weighting factor constitutes the justification for the development of performance indicators specifically tailored to meet the needs of the prison library community. There should be a central core of indicators common to all prison establishments but as embodied by the *Keys to success* approach, it is also necessary to maintain an element of choice (United Kingdom . . . , 1990). These key indicators should therefore be supplemented by an additional set of optional indicators to allow for local variations.

Customising performance indicators in this way should also serve to enhance their subsequent application, for as one commentator notes:

'Managers and supervising staff will feel motivated to make effective use of measures . . . in the activities they control, only if they feel ownership of the measures'. (Jackson and Palmer, 1989)

This is particularly important with regard to prison library provision, which is dependent upon the co-operation of three individual organisations. Producing tailor-made indicators therefore has the added advantage of promoting their corporate ownership which in turn is a means of fostering their effective usage.

Although the timeliness of this research has been cited in relation to the growth of performance measurement within the public sector generally, the receptiveness of prison libraries towards performance measurement was fully realised with the launching of the Written Agreement process. The Written Agreement process was introduced in 1992 by the Standing Committee on Prison Libraries' *Roles and Responsibilities* document and was designed as a means of reaffirming and formalising the existing relationship between the main providing bodies of prison library services (Great Britain . . . , 1992, p.20). A Written Agreement is therefore drawn up between each individual prison establishment and its local public library authority. It gives details of the type of prison regime and their inmate populations, together with proposed development plans for a three-year period to complement the Government's Public Expenditure Survey resource planning system.

There are two key elements to the Agreement:

- i. A definition of the service to be provided
- ii. An indication, through a monitoring system, of how the service will be delivered (ibid. p.26)

It is the second element of the Written Agreement

that is of particular relevance to this research. Having defined the level of service provision, each Agreement outlines an accompanying set of key performance indicators. These indicators represent the monitoring system through which each individual establishment is able to determine the extent to which their service level objectives are being fulfilled.

As already discussed, the timing of the Written Agreement process was such that it enhanced the receptiveness of prison libraries towards a performance measurement approach. Moreover, the Written Agreement provided the necessary organisational framework to ensure both the effective implementation and use of the performance indicators. The built-in annual review process also provided an appropriate mechanism for the subsequent evaluation and maintenance of the indicators.

### 3. Methodology

Having completed an appropriate literature survey, the research methodology began with a series of opinion leader interviews in order to secure the views of a range of individuals representing the prison service, local public library authorities and prison education providers as well as a number of prison reform organisations. The interviews identified a range of current insights on the matters under investigation and also made a series of contacts early in the research to assist in both the development of the research and the dissemination of its results.

Using the information gathered by these means, a series of techniques was devised to collect the necessary data from an appropriate sample of penal establishments for the drafting of performance indicators.

#### 3.1 SEMI-STRUCTURED INTERVIEWS

Questionnaires were used as a basis for semi-structured interviews as a means of obtaining views from those with experience in the field. These were conducted with the relevant staff at each site as well as a selection of inmates.

##### 3.1.1 Staff interviews

Interviews were conducted with the following members of staff at each test site; the Governor, Head of Inmate Activities, Education Officer, Prison Library Officer(s) and Professional Librarian. The questions themselves were predominantly open-ended and sought opinions on more general issues such as performance measurement, quality assurance, educa-



tion in prisons and censorship as well as factual responses to questions on the day-to-day running of the library concerned.

### 3.1.2 Inmate interviews

Questionnaire based semi-structured interviews were held with a minimum of 10% of the population at each test site. Inmates were chosen where possible at random, but on a purely voluntary basis and in consultation with prison staff as to the location and timing of interviews. Respondents were questioned on a variety of issues including their information needs, awareness of the library service, reading habits, use of request and reference services, satisfaction with the service as a whole and, where applicable, their reasons for non-use.

Additional interviews were also held with the inmate orderlies at each test site in their capacity as providers of the service.

## 3.2 OBSERVATION AND MONITORING

In order to fully assess current library practice, the research could not rely solely upon interviews or existing data and so a variety of observation and monitoring techniques were employed. Within the framework of an observation checklist and head-count tables, the behavioural patterns and activity of both library users and staff were recorded.

Particular attention was paid to monitoring the request service at each test site with log sheets and self-completion questionnaires being used to test the effectiveness of request services for both document and information requests. Enquiries were logged on receipt and enquirers given the opportunity to comment on the relevance of the response to their request.

## 3.3 ACCESS TO DOCUMENTATION

In order to supplement data collected during field-work, it was also necessary to seek access to existing documentation such as area contracts, library policy statements, committee meeting minutes, budgetary information, population figures, available statistics of library usage and any reports or assessments already made.

## 3.4 DRAFT PERFORMANCE INDICATORS

A set of draft performance indicators was produced based on the data collected via the above methods. This involved designing a database to analyse the questionnaires, together with an analysis of existing performance indicators such as those from the public library context and the National Health Service.

Following an initial testing period at a further test site, the draft indicators were circulated to opinion

leaders for comment. As a result, certain data collection methods were revised. The redrafted indicators underwent a final testing period at two further test sites. The results from this final testing period were used to produce recommendations for the development of prison library services, detailing the advantages of a performance measurement approach within the wider context of quality assurance programmes. Recommendations were also made for the maintenance of such programmes.

## 4. Summary of Results

The performance indicators developed by this research have been broadly categorised into three discrete groups: resource, service and consumer indicators. However, these divisions have been made for the purposes of convenience only and it is important to remember that the indicators should not be viewed in isolation as perhaps suggested by this artificial arrangement.

Each group of indicators will be considered in turn with the aid of illustrative examples but before this can be done it is necessary to discuss the pre-requisite data upon which their calculation is based.

### 4.1 PRE-REQUISITE DATA

The formation of performance indicators is dependent upon certain specified data components. These data components comprise a series of standard and generally readily available pieces of information. There will however be local inter-establishment variations in that the information may not necessarily be held in the same place, in the same format or indeed it may not be collected with the same frequency or by the same personnel. The required data can be broadly grouped under the following headings;

- i. population profile
- ii. funding
- iii. staffing levels
- iv. stock levels
- v. accommodation
- vi. opening hours
- vii. membership
- viii. statistics of use
- ix. loan/visiting restrictions
- x. user education programme
- xi. education/labour programme



As they stand alone, these data components are not indicative of the library's performance, rather they provide the framework upon which the indicators can subsequently be developed. Establishments are already required to maintain much of the information specified above under the Written Agreement process and now that these Agreements are firmly in place the co-ordination of this data has been greatly simplified.

#### 4.2 RESOURCE INDICATORS

Resource indicators are those concerned with how and to what extent prison library services are resourced, in both financial and non-financial terms.

##### 4.2.1 Cost effectiveness

Of fundamental importance is the need to establish the unit cost of prison library services. This is a complex procedure as it involves a number of separate costs which are then divided between the cost to the Prison Service and the cost to the Public Library Authority. However, the significance of cost-effectiveness indicators is such that an informed estimate of total costs was regarded as an acceptable alternative to an absolute measure, provided that those concerned are fully aware of its estimated status. The principal cost-effectiveness indicator is:

- cost of providing the library service per head of inmate population

Such an indicator is particularly useful for comparative purposes as well as for monitoring the overall cost of the service on a regular basis. If it was considered appropriate to examine the costing of a particular aspect of the library service, the necessary data would be available to calculate the additional indicator:

- cost per transaction

For example, it is possible to calculate the cost of issuing a book or the cost of keeping the library open for an hour, which can provide valuable information in any subsequent consideration of future resourcing levels.

##### 4.2.2 Staff levels

The research process highlighted the variation in library staffing levels between individual establishments both in terms of the category of staff and their working hours. To take account of these variations the corresponding indicator is:

- staff hours as a percentage of library opening hours

which can then be expressed in terms of the individual staff concerned from the professional librarian to Library Officers/relief officers and inmate orderlies. As a result of the funding made available by the Home Office Prison Service for the appointment of a professional librarian in every prison establishment the staff indicators also include:

- professional librarian hours as a percentage of inmate access time

which will provide an indication of the available inmate contact time. Both these indicators can usefully be expressed in terms of a weekly or monthly figure so that actual staff hours can then be compared against intended staff hours. The continued inability to maintain intended levels could therefore signify the need for the subsequent consideration of the whole issue of staffing levels and the appropriateness of relevant targets.

These indicators also highlight the importance of distinguishing between library opening hours and inmate access time with the latter sometimes accounting for a limited proportion of the stated opening hours.

##### 4.2.3 Stock

As a means of establishing a measure of the resources available to inmates the finalised indicator is:

- items of stock per active user

This can then be expressed in terms of appropriate stock categories including lending stock, reference material, tapes, periodicals and newspapers. Such an indicator also needs to be regarded in relation to a minimum stock level which could usefully be based upon the Library Association recommendation of ten items per capita (LA, 1981, p.19).

With regard to the movement of stock within an individual library, the finalised indicators also include:

- percentage of stock exchanged per annum

This indicator also needs to be considered in relation to a minimum target which again could be usefully based upon the Library Association recommendation of between 20% and 30% depending on local circumstances (ibid., p.21). Thus, for example, in an establishment with a high turnover of short-stay inmates, the pressure to exchange stock is not so immediate and a lower target would suffice.

Stock indicators regarding library acquisitions and withdrawals as well as lost and damaged material were also devised.



#### 4.2.4 Opening hours

Library opening hours were also regarded as a resource and the principal indicator in this respect is:

- actual hours open per week as a percentage of intended

As with staffing hours, stated opening hours may differ from actual opening hours for a variety of reasons, including the secondment of uniformed staff to other duties. By comparing actual hours with intended hours in this way it is possible to achieve an assessment of the extent to which proposed opening hours are being maintained. The continued failure to meet stated levels could therefore indicate the need to consider possible reasons and take remedial action accordingly.

### 4.3 SERVICE INDICATORS

Service indicators refer principally to statistics of library usage.

#### 4.3.1 Library usage

In order to achieve a measure of the overall usage of the library in terms of inmate throughput, it is useful to monitor the number of inmates using the library within a set period. The primary indicator is:

- library users per week

From the annual review of these figures it may be possible to identify seasonal trends, but any substantial unexpected increase or decrease may indicate the need for investigative action. Data of this nature can be used as evidence in support of the increased intensity of library usage and the subsequent proposal of increased resources.

#### 4.3.2 Issues

Based on the prerequisite data component of the total number of issues per annum it is possible to produce such indicators as:

- issues per active user per annum

Monitoring the number of issues in this way provides an overall indication of the extent of library borrowing activity within an establishment. As in the case of usage levels, unexpected variations may indicate the need for further action to identify possible causes. For example, a significant increase in issues may contribute towards the need to extend library access or a decrease may signify the need to examine library awareness levels.

In order to arrive at some measure of stock turnover the indicator of:

- issues per item of stock

can be usefully employed. This in turn should be regarded in relation to a specified target of the minimum number of loans per annum. Such targets should be locally devised, taking account of such factors as population levels, loan restrictions and library access. If particular sections of the stock appear to be poorly or excessively used then a further refinement of this indicator to include issues per category of stock may help to clarify the situation.

#### 4.3.3 Request service

Based on the details surrounding the number of requests received annually, the relevant indicators include:

- requests received per active user per annum
- percentage of requests satisfied within a specified number of days

By calculating an approximate number of requests received from each active library user it is possible to achieve an indication of the extent to which the request service is used. Target setting retains an important role within request service monitoring but in relation to the supply rather than the receipt of requests. In an effort to ensure the quality of the request service in terms of the speed with which material is supplied, it is possible to devise targets whereby a specified percentage of requests will be satisfied in a specified number of days. It is of course also important to consider the percentage of requests not satisfied out of those received.

A similar approach was taken with regard to the monitoring of reference and information enquiries.

### 4.4 CONSUMER INDICATORS

Consumer indicators are those concerned with the library users and potential library users themselves. For the most part they are dependent upon the conduct of a user survey.

#### 4.4.1 Population

With regard to library membership levels the basic indicator is:

- library users as a percentage of the total population

This indicator provides a means of monitoring the number of non-library users within an establishment. Rigid target-setting in this context was considered inappropriate although an unexpected reduction in user levels could indicate the need for further investigation.



#### 4.4.2 User satisfaction

Through the employment of user surveys it is possible to measure user satisfaction with a range of service aspects including: book stock, loan allowances, length and frequency of visits, request service and information provision. Whether considering user satisfaction with an individual element of the service or a combination of features, local opinion will dictate what constitutes an acceptable level of satisfaction. Having identified potential problem areas, additional responses from the same survey may help to establish possible explanations or it may be necessary to tailor a separate investigation for the issues concerned.

#### 4.4.3 Failure analysis

Library surveys can be specifically tailored to develop needs-fill-rate indicators. Having asked inmates how often they found what they wanted in the library, a low rate of success could result in appropriate follow-up procedures whereby failure analysis would be conducted in relation to critical incidents. As in other situations the outcome of such an approach will be determined by a number of contributory factors and it is therefore important to regard such issues as needs-fill rates in relation to other considerations including library awareness, staffing levels and access.

#### 4.4.4 Library service awareness

Library surveys can also provide the necessary data to produce indicators that determine inmates' overall awareness of the library and its services together with the subsequent frequency with which they use it. If inmates prove to be consistently unaware of a particular aspect of the service this may strengthen the case for library induction.

#### 4.4.5 Opinion indicators

The volume and nature of inmate opinions and comments generated throughout the research process highlighted the significance of incorporating this material into a performance measurement approach. Rather than producing formalised indicators relating to opinions, of fundamental importance is the need to ensure the existence of facilities through which inmates can express their views. Such comments can assist in the interpretation of other indicators through the replication of results as well as the discovery of supporting information not exposed by any other means.

## 5. Further Research

It has been possible to further the PhD research through the receipt of a Postdoctoral Research Fellowship from the Department for Education. Having developed a set of performance indicators for prison libraries the work is now being taken forward by monitoring their implementation. The main thrust of the Fellowship is therefore the production of a performance indicator user manual which will detail the purpose, calculation, application and maintenance of key performance indicators. It is intended that the manual will act as a performance indicator toolkit for prison libraries. It will be designed to aid the re-evaluation of the effectiveness of existing indicators as well as to provide an overall increased awareness and understanding of the organisational requirements in supporting and maintaining a performance measurement approach. The continued support of the Home Office Standing Committee on Prison Libraries will ensure that the manual and the indicators therein are incorporated into the prison library service and used to maximum effect.

## References

- Great Britain, Home Office, Prison Department (1978) *Policy statement 7: library facilities for people in custody* London: HMSO p.4
- Great Britain, Home Office, Prison Department, Standing Committee on Prison Libraries (1992) *Prison libraries: roles and responsibilities* London: HM Prison Service
- Jackson, Peter and Palmer, Bob (1989) *First steps in measuring performance in the public sector: a management guide* London: Price Waterhouse p.25
- Library Association (1981) *Library Association guidelines for library provision in prison department establishments* 2nd ed. London: LA
- Lithgow, Susan D. (1994) *Improving the effectiveness and efficiency of library provision within penal establishments in England and Wales: research to field test performance indicators and quality assurance programmes*. PhD. thesis, University of Wales Aberystwyth
- United Kingdom, Office of Arts and Libraries (1990) *Keys to success: performance indicators for public libraries* Library Information Series, no.18 London: HMSO
- Whitehall, Thomas (1984) *Cost value and effectiveness of library and information services* M.Phil. thesis, Loughborough University of Technology p.19



# Performance Indicators for Collection Development

C. A. G. Konings and H. A. G. M. van de Gein

Delft University of Technology Library, The Netherlands

## 1. Introduction

The Delft University of Technology Library (DUTL) functions not only as a university library but also as a national technical information centre. Changing the organisation from collection-oriented to customer-oriented stressed the need to measure the performance of the collection for both tasks. To this end DUTL had to develop specific instruments because there is hardly any comparable organisation.

Figure 1

Facts and figures of the DUTL	
<u>Customers of DUTL</u>	
18,000	- staff and students of Delft University of Technology
1,800	- external institutional customers (350 from outside the Netherlands)
30,000	- borrower cards
<u>Collection</u>	
920,000	- monographs, multi-author books, conference proceedings, dissertations
11,700	- periodicals, series
1,026,000	- reports on microfiches
<u>Products</u>	
145,500	- document delivery: photocopies
330,000	- document delivery: borrowing
325	- online searches (external databases)
36,000	- CD-ROM searches (local databases)
8,000	- Current Contents searches (local databases)

## 2. Collection Development Objectives

The objectives of collection development policies are optimal cost-benefits from the collection to be reached by optimal cost-effectiveness of the collection and efficient procedures, within the constraints of allocated budgets (Winkworth, 1990; Abbott, 1994).

The aims are different for the various parts of the collection. The collection has therefore been divided into subcollections, based on customer and/or type of use of any particular subcollection. For each subcollection, quality principles have been defined and methods for determining the performance indicators for the quality criteria are to be developed. First the division of the collection and the quality principles which are appropriate for such subcollections are discussed.

The following subcollections have been defined:

- Document delivery collection
- Lending collection
- Study collection
- Reference collection

### 2.1 DOCUMENT DELIVERY COLLECTION

The collection for document delivery comprises:

- scientific and technical journals
- conference proceedings
- report series

As a whole, this forms the main technology collection for document delivery in the Netherlands. The primary customers for these collections are Dutch industry and research institutions including the Delft University of Technology. The documents are permanently available so as to guarantee document delivery within four days. Document delivery is charged on a cost-recovery basis. Fast procedures for acquisition, processing and document delivery are in use.

The document delivery collection is divided into a core collection and a complementary collection. The core collection is considered as the collection which is indispensable for the mission of the library: to perform its task both as university library and as national technical information centre. As document delivery is an important task (both for Dutch industry as for DUT), the subscriptions for the core collection are guaranteed. The complementary collection is not critical for the task of the library as a back-up library for technology and sciences. Therefore, the funds for the complementary



collection need to be justified by minimum quantities of document delivery from this complementary collection.

## 2.2 LENDING COLLECTION

The lending collection comprises:

- monographs and multi-author books
- dissertations

The aim is to build a general collection which is complementary to the specialised research collections in the faculty libraries and Dutch special libraries. Most important customers are staff and students of the Delft University. Borrowing is free of charge (except for postage). To objectify the selection of books approval plans are being used as much as possible; selection from publisher catalogues and bibliographies are kept to a minimum. For this purpose the subject specialists formulate selection schemes based on subject- and non-subject parameters. The core areas of the collection are covered by this selection method and 50% of the books are acquired this way (both for the English and the German language books).

All the dissertations from the Technical Universities in the Netherlands are acquired. For foreign dissertations, document delivery by UMI in combination with bibliographic access is preferred.

## 2.3 STUDY COLLECTION

The library of the Delft University of Technology aims to support the study programs of the university. Acquisitions are based on the current curricula. The collection consists of the synopses of current lectures and the recommended textbooks. The study collection is meant as a back-up collection for students of the university and the polytechnics.

## 2.4 REFERENCE COLLECTION

The reference collection comprises:

- the bibliographic collection (CD-ROMs and printed)
- current contents (on diskette)
- the primary reference works (CD-ROMs and printed)
- standards and regulations.

The collection is the main technical reference collection in the Netherlands. Accessibility is a quality criterion. For the bibliographic collection and the primary reference works, minimum requirements have been defined, which has resulted, at least for

the bibliographies, in a substantial investment in CD-ROMs and hardware, and in a reduction of the printed publications. This has led to an improvement of the accessibility of the bibliographic and part of the primary reference collection, because these data are not only available at library workstations but also at all researchers' workplaces via the university network. The service is free of charge but limited to the DUT campus.

## 3. Instruments: Quality Criteria and Performance Indicators

The quality principles need to be translated into quality criteria. Subsequently, performance measures are to be developed to monitor the results. First a budget control model based on the quality principles of the collection was developed.

### 3.1 BUDGET CONTROL MODEL

The budget control system of DUTL used to be based on the manner in which documents are acquired (subscription, standing order, individual order) and on separate budgets for non-paper documents (microfiche, CD-ROM). Because of the need to compare the costs with the use of the different parts of the collection, a new budget control model was introduced in 1994.

A separate budget was defined for each part of the collection as defined above. Within each budget, there is a subdivision by document (eg. journals versus reports). Within each document type, a division is made into both scientific and technical subject areas. Except for journals most of these budgets have to cover expenses for subscriptions, standing orders and individual orders (budget control is based on the actual expenses within a financial year).

For each part of the collection, a library staff member is responsible for not exceeding the budget allocated. He assigns parts of this budget to the different subject specialists on his team and gives general rules on how to spend the money. A central reporting system has been built to provide the staff with current information on the status of their respective budgets. For individual orders, these reports are produced on a monthly basis. Cumulative quarterly budget reviews are prepared, which include calculations to predict the budget spending for the whole financial year. By restructuring invoice processing the half-yearly report now provides quite accurate predictions for the expenditures of the whole year.



Starting with 1994 a detailed description is made of how the budgets have been spent. The reports for the years to come will be interlinked so as to be able to see the developments in the budgets in general, but also by subject area, type of acquisition or type of document.

### 3.2 PERFORMANCE INDICATORS FOR QUALITY CRITERIA: TWO EXAMPLES

Measurable quality criteria were derived from the quality principles as given before. The administrative processes have been (re)structured to be able to supply the data needed for measurement. For two parts of the collection, the criteria and the ways of measurement will be presented here.

#### - The document delivery collection; journals

The quality criteria for journals are different for the core - and the complementary parts. The core criteria are:

1. the journal is covered by the most important technical bibliographies (*Inspec, Compendex, Applied science and technology index* or part of *Current contents of ISI*),  
or
2. the journal is a Dutch technical periodical,  
or
3. the journal contains information about Dutch research.

Journals that do not meet the core criteria are kept in the complementary collection as long as certain minimum quantities of document delivery are reached. Therefore, this complementary collection is regularly evaluated in terms of use. A journal is cancelled if the use (in number of pages copied) remains below a specified level; for the time being this level is set at a ratio of 0,1 between number of pages copied and total (= subscription + processing) costs of the journal (in dutch guilders); hence each page copied justifies fl 10,- costs.

Use is monitored each year during a sampling period of five months; during this period of registration two types of use are distinguished: known-item document delivery and browsing an issue. The use is monitored on journal title level, and it is possible to compound the results to the level of budget codes. The requests which could not be filled are registered permanently. So, use and costs can be linked on the discipline level. Based on those registrations the complementary collection is evaluated on an annual basis.

New subscriptions to journals are permitted under the following conditions:

- within the subject areas of the collection
- within reallocation of budgets
- within increase of budgets because of general inflation

New subscriptions on journals are evaluated, on the basis of core- or complementary criteria, after a two-year period.

In addition to internal evaluations, the national libraries in the Netherlands are co-ordinating collection development. This co-operation has resulted in optimal periodicals collections for the different disciplines without unnecessary duplications.

Congress proceedings are acquired as much as possible on a subscriptions or a standing orders basis; thus the availability of complete series is guaranteed. The main objects for this subcollection are international congresses or congresses with presentations focusing on the Dutch situation.

The technical report series are available in hard copy or on microfiche. A definition of a core collection is still under development. Research reports from Dutch industry and research institutes are mainly acquired in single issues; those acquisitions are made in view of the task as national technical information centre. The quality principles for this part of the report collection are mainly determined by the quality of the research institutes which publish the reports.

#### - The lending collection; books

The books (monographs, multi-author books) are the most important part of the lending collection. Based on samples, the use on the level of subject classifications is being monitored. Also requests for books which could not be filled are monitored permanently. The collection size is known on the level of subject classification.

The following performance indicators are used (Carrigan, 1992):

A = The proportional current collection intensity, as determined by the ratio between the size of a subject category and the size of a subject area (or total collection).

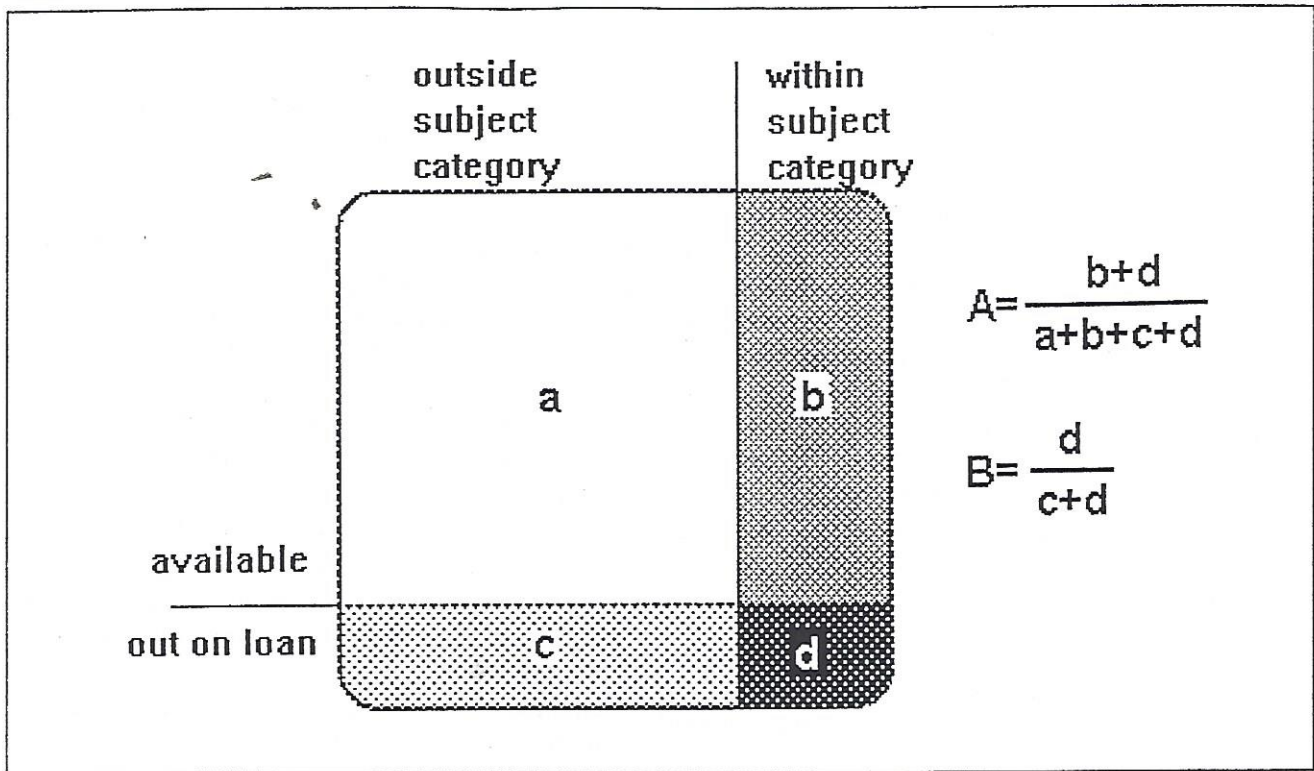
B = The proportional use of the collection; this parameter is determined by the ratio between the circulations within a subject category and the circulations within the total subject area (or total collection).

C = The proportional costs of a particular part of the collection in comparison with the proportional costs in external sources such as data from major booksellers (*Approval . . .*, 1994).



Figure 2

Proportional use and proportional collection intensity



Since the subject areas and budget codes are linked, those data enable a comparison between costs and use within a particular subject area or a particular budget code. It is possible to show relative expenditures within subject areas or budget codes.

See Figure 2 on Proportional use and proportional collection intensity. B/A is an indicator for the proportional out on loan ratio, and can be seen as an indicator for the collection use. If B/A ~ 1 then the use of that part of the collection does not deviate from the average collection use. If B/A < 1, that part of the collection is underused. Compared with proportional expenditures, those data are an instrument to support decisions on the reallocation of budgets.

The following models can be used:

	<u>use</u>	<u>costs</u>	<u>action</u>
I	B/A < 1	C >> 1	decrease budget
II	B/A > 1	C >> 1	no action
III	B/A < 1	C << 1	no action
IV	B/A > 1	C << 1	increase budget
V	B/A ~ 1	C << 1	no action/increase budget
VI	B/A ~ 1	C >> 1	no action

The actions are determined too by the unfilled request figures.

#### 4. Results

The performance measures need to indicate both the cost-efficiency of the internal procedures and the cost-effectiveness of the services of the library. Based on results reached so far I would like to discuss how the performance indicators can be used as tools for improving the cost-effectiveness of the collection. The results are illustrated with two examples: one for journals and one for books.

##### - Journals

Collected data:

Number of titles: in core collection and in complementary collection

Costs: total costs; costs per title; costs per budget code

Use: use of the core and complementary collection; use per title; use per budget code

Ranking lists can be determined based on those data. For example: ranking based on costs/use or use/title. An important result is the definition of a guaranteed core collection, which is marked in the catalogue on the title level. The complementary collection is evaluated every year now. This has resulted in less frequently used journals being cancelled and in the cost-effectiveness of the collection being increased. The data on the level of the budget codes



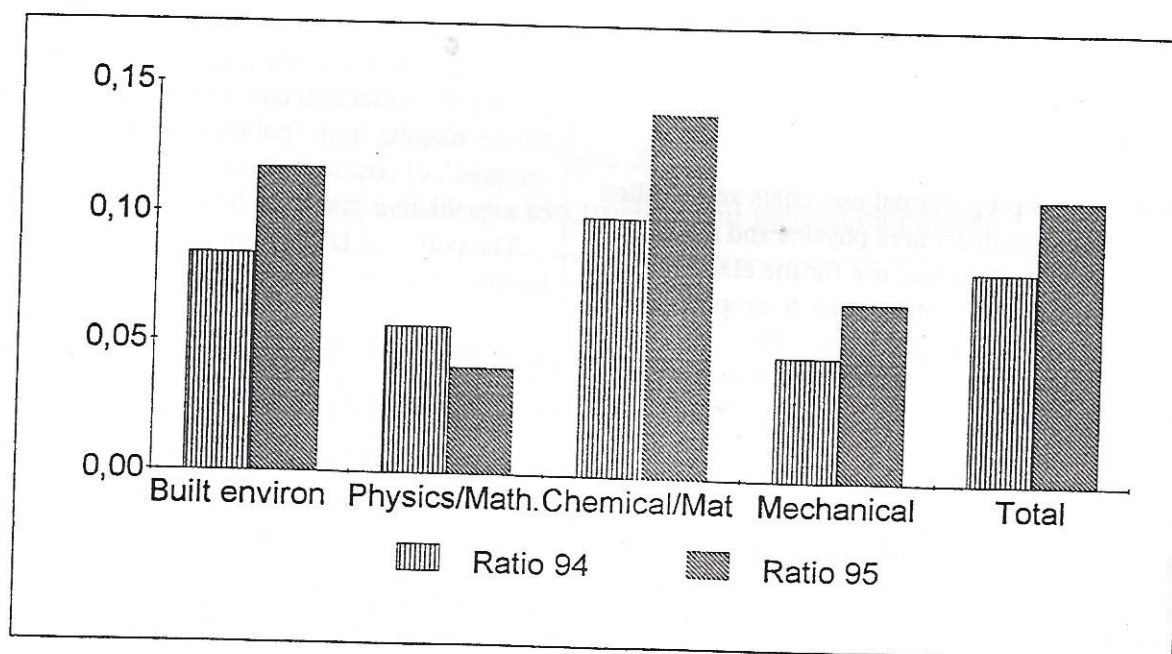
Figure 3a

Costs and Use of the Complementary Collection  
costs in Dutch guilders; use in number of pages copied

	Built environment	Phys/Math	Chemical / Material	Mechanical	Total
Costs 94	fl 261.306	fl 99.006	fl 416.080	fl 175.422	fl 951.814
# pages 94	21.972	5.592	41.712	8.436	77.712
Costs 95	fl 231.100	fl 100.700	fl 379.350	fl 153.750	fl 864.900
# pages 95	27.060	4.128	53.340	10.692	95.220
Ratio 94	0,08	0,06	0,10	0,05	0,08
Ratio 95	0,12	0,04	0,14	0,07	0,11

Figure 3b

Complementary Collection: Trends in Use /Cost Ratio



can be used as a control tool for the collection development, as is illustrated in following example:

As shown in Figures 3a and 3b the ratios between use and costs are increased as a result of journals being cancelled from the complementary collection. Although the number of subscriptions decreased, the document delivery for this part of the collection increased. The overall result is that the ratio of 0,1 aimed at between the use (presented by the number of pages photocopied) and costs is reached. Only for the physical and mathematical subject area the ratio decreased.

In the national context, improving of the effectiveness of the collection development has resulted

in an increase of the percentage of filled requests for delivery.

- Books

Collected data:

- Number of titles: - Books acquired during the last 8 years within a subject category and/or budget code.
- Total number of books acquired during the last 8 years
- Costs: - total costs; costs per title; costs per budget code
- Use: - total circulation; circulation per subject category; circulation per title



The model discussed is illustrated in the following example:

Within the area of physics and mathematics the following subjects are covered:

elec.:	electric and electronic engineering
phys.:	physics and technical physics
math.:	mathematics
inform.:	informatics

Budget codes are assigned to these subject areas. In Figure 4, for the discipline of physics and mathematics the proportional loan % per budget code is given. Those data are combined with proportional expenditures and unfilled known items requests. This resulted in the following dataset:

	B/A (use)	C (costs)	proportional unfilled requests
elec	1	1	1.7
phys	0.5	0.9	1.2
math	0.8	0.5	0.5
inform	1.3	0.8	1.3

Figure 4 shows proportional use, costs and unfilled requests for the subject area physics and mathematics; Figure 5, proportional use for the electrotechnical subject categories; and Figure 6, proportional use for the physical subject categories.

Those data indicate the subject areas for which an adjustment of the collection development is recommended. Some examples are discussed here. The electrotechnical subjects show a relatively high number of unfilled requests, whereas the internal proportional costs correspond with the world publication costs for electrotechnical subjects. If the results are analysed in more detail it is clear that a large part of the unfilled requests are included in specific subject categories, sometimes in combination with proportional high loan figures (Figure 5). Reallocating of budget to the credit of this subject could improve the effectiveness of the collection.

For the subject area of physics low use is combined with proportionally high figures for unfilled requests. Analyses of the details show a significant difference between use of the applied and fundamental subject areas:

- fundamental physics: low use/low figures for unfilled requests
- applied physics: frequently used/high figures for unfilled requests

So, the best way to improve the cost-effectiveness

of this part of the collection is to reallocate budgets from fundamental to applied physics (Figure 6).

For the subject area of mathematics a combination of low proportional costs, low proportional unfilled requests and less frequent proportional use is shown. During the last few years the collection development of the central library of DUT and the library of the Faculty of Technical Mathematics and Informatics has been co-ordinated. This has resulted in good cost-effectiveness mentioned before, for this part of the collection.

## 5. Conclusion and Future Developments

The conclusion is that the results of the models applied can effectively support the collection development. As far as the internal procedures are concerned, those data will result in an improved budget control and a more conscious selection on the level of document type. The improvements are especially a result of the availability of data representing the collection use. The selection methods are developing from 'publishers oriented' to 'use oriented', of course without neglecting the necessity of a qualitative good and broad back-up collection.

The policy of DUTL is to move from collection building to collection development and collection maintenance. For the near future, these methods will be applied for other parts of the collection. The next step is to monitor the benefits for the users of the library. User surveys, decrease of the number of unfilled requests and an increasing the use of the collection can indicate those benefits for the users.

## References

- Abbott C. (1994) *Performance measurement in library and information services*. In: The ASLIB Know How Series. Editor: Webb, Sylvia P. London
- Approval program coverage and cost study 1993-1994* (1994) Blackwell North America Inc.
- Carrigan, Dennis P. (1992) 'Improving return on investment: a proposal for allocating book budget'. *The journal of academic librarianship* 18(5) 292-297
- Winkworth Ian, 'Performance indicators for polytechnic libraries' (1990) *Library review* 39(5) 23-41



Figure 4

Proportional use, costs and unfilled requests for the subject area physics and mathematics

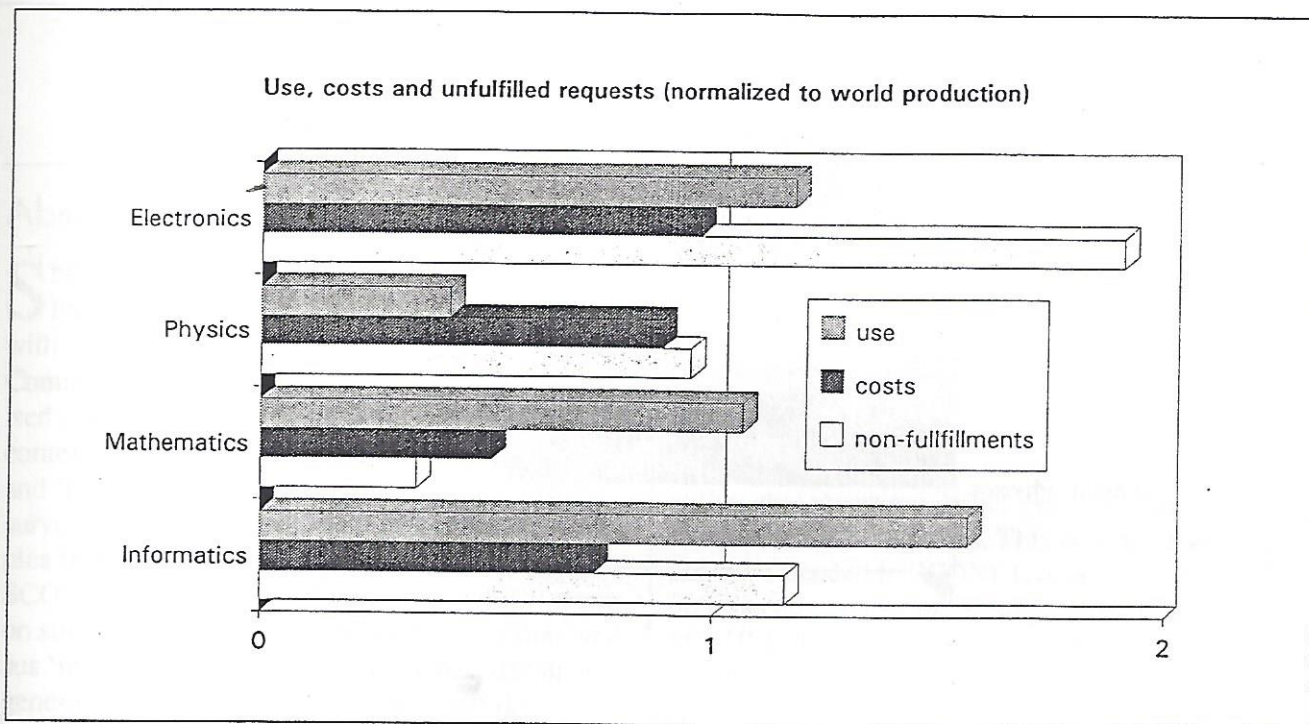


Figure 5

Proportional use for the electrotechnical subject categories

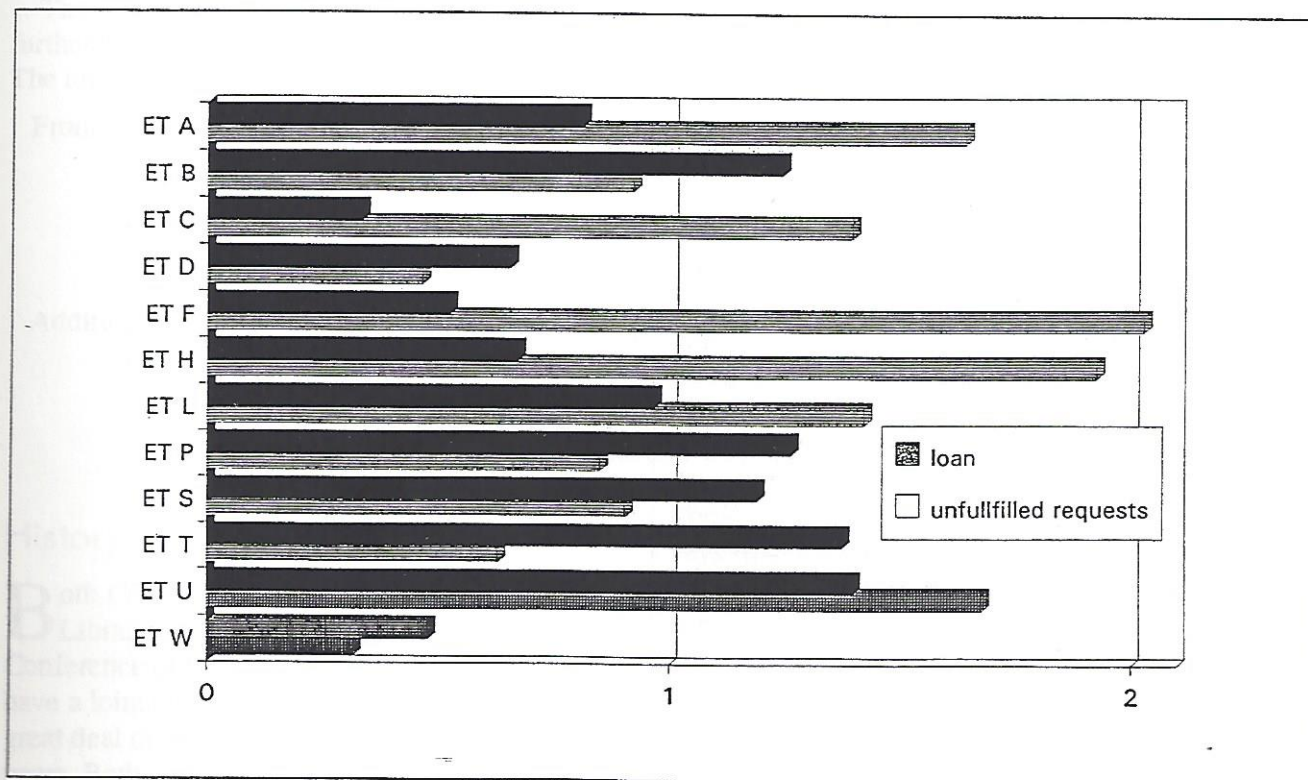
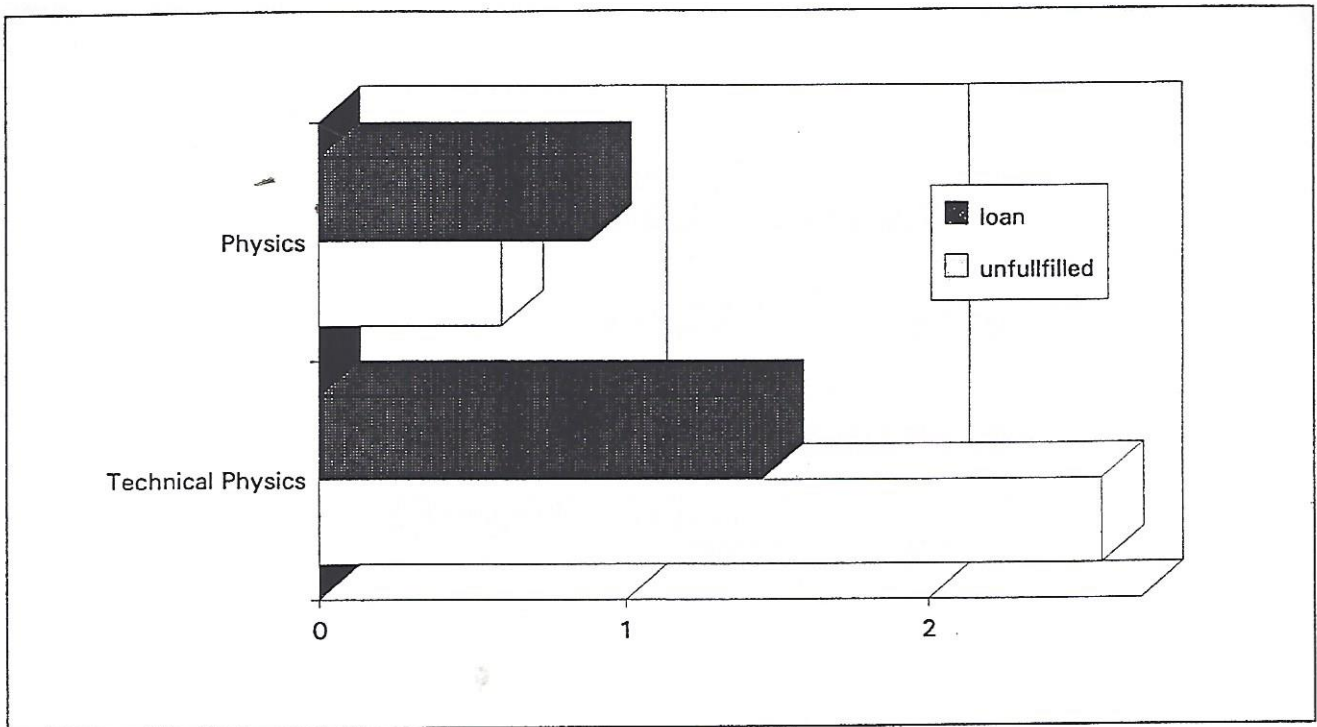




Figure 6

Proportional Use for the Physical Subject Categories





# Adapting US Academic Library Standard Survey Forms for Use in UK Libraries

Don H. Revill

Head of Learning Services, Liverpool John Moores University

## Abstract

Shows the development of COPOL's Performance Indicators Committee, and following its merger with SCONUL's Performance Indicators Advisory Committee (ACPI), their joint interest in standardised surveys. Sets the 'Van House' surveys in the context of specifically designed survey instruments and 'hard data' from SCONUL's annual statistical survey at one end of the spectrum (including examples from Liverpool John Moores University on SCONUL's statistics in 'How are we doing?' report, on students' budget priorities and 'satisfaction' versus 'importance' surveys) to the more qualitative, generalised, surveys, giving some possibility for inter-institutional comparisons, at the other.

The Van House templates are shown as adapted by ACPI for SCONUL use and as used locally in a specific context.

The proposal is made that these instruments need further refinement for 'converged' services. The measures are:

From Van House et al:

- General satisfaction survey
- Enquiries/reference satisfaction survey
- Materials availability

Additional by SCONUL ACPI:

- Stock selection survey
- Quality of service satisfaction survey (quick and dirty version)

## History

Both COPOL (Council of Polytechnic Librarians) and SCONUL (Standing Conference of National and University Libraries) have a long history of interest in user surveys. A great deal of work has been conducted over the years. Both organisations' annual statistics, now merged for 1993-94 in one set of data following the merger of the two organisations, have been used for comparisons between institutions.

Interest in this area includes a concern for identifying 'best practice' and 'benchmarking'.

The tendency is not to further pursue the statistics to find reasons why some libraries 'do better' than others. The Centre for Interfirm Comparisons (CIFIC) studies of 1982 began to explore these issues but the results were not sufficiently pursued (Centre . . . , 1982).

Some work was done in 1992 on correlation analyses comparing input measures (eg. £s per FTE) with output measures (issues per FTE) based on 1990/91 COPOL statistics. This was not developed and not extended to SCONUL data. One complication was the number of missing values in the SCONUL data, but not consistently across all columns, so the usable set, where all values were present, was relatively small. There were problems in inserting substitute values (eg. the means for the column). However some evidence was found that inputs were reflected in outputs one year on.

SCONUL's annual statistics are used by individual institutions. My own 'How are we doing?' report ranks Liverpool John Moores University (LJMU) against 112 other institutions - or at least the 'n' respondents on each factor (LJMU, 1995) (see *Figure 1*).

External interest and use of PIs is seen in the *Times* annual league tables (Cannon, 1995). The only table concerning libraries is 'Library spending per student'. Our mystery is, if we at LJMU are doing such a wonderful job, how is it we are way down the league tables on this measure? Is it all to do with previous experience and expectations?

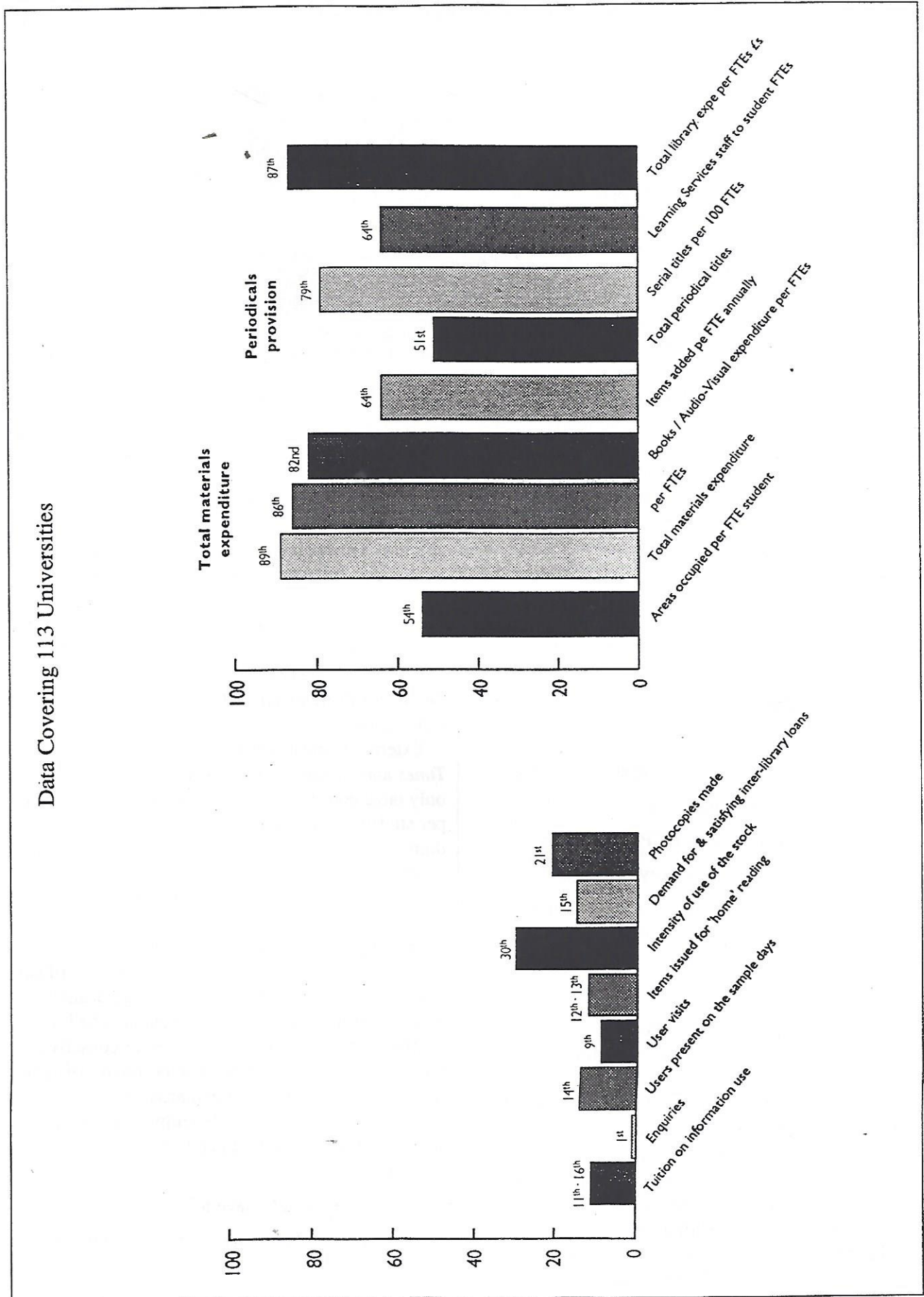
COPOL's Library Funding and PIs Committee drew things to a head in November 1992. Committee members had collected examples of surveys from libraries. The US 'Measuring academic library performance' measures were attached for comparison. We found a fair degree of consensus on the main areas to ask about. The notion of using the Van House measures had been around for some time, so the advantages of developing a standard instrument which would have to be generic, were recognised.

The instrument would have to:

- be capable of being used with any group or sample



Figure 1





- use standard service headings
- but leaving scope for:
  - extra questions
  - local categorisation of users
  - other issues

About this time the Follett Committee also drew attention to the Van House work.

'In order to provide a common framework for user input, the user satisfaction survey outlined in Nancy Van House, and others: *Measuring academic library performance: a practical approach* (ALA, 1990) could be adopted (suitably amended if necessary). This could not be undertaken annually, but might be carried out at longer intervals. Individual institutions might also wish to add specific indicators relating to their own circumstances . . . ' (Joint . . . , 1993)

The work we have done on user satisfaction also received favourable mention in *The effective academic library* (Higher . . . , 1995). This report relied very heavily on work originating in COPOL, led by Ian Winkworth of the then Newcastle Polytechnic (Council . . . , 1993) and 'recommended that the tasks of monitoring and further refinement of this approach be directed to SCONUL, via its Advisory Committee on Performance Indicators' (Higher . . . , 1995. op. cit., para. 31, p.81).

Results from various surveys can, and should, be used together to see how each adds to the picture and (usually) confirms it.

Other agencies within our universities collect data on user satisfaction with internal services and processes. For example at LJMU the Feedback and Evaluation Unit conducts (from 1994):

- (a) Annual surveys of students in order to elicit *their* budget priorities (highest ranked items were library books, equipment and materials and computers) (Liverpool . . . , May 1994). (Figures 2, 3, 4, 5)
- (b) Annual surveys of students' (Liverpool . . . , June 1995 ) and staffs' satisfaction (Liverpool . . . , Nov. 1994) with institutional services and teaching programmes.

Again 'library' services ranked highest with both 'satisfaction' and 'importance' in both surveys.

Differences in means between 1994 and 1995 show improvements, in our opinion largely derived from the commissioning of a new Learning Resource Centre in July 1994 (see Appendix A).

The University of Central England has also done work in this area (University . . . , 1992).

Unfortunately internal surveys of satisfaction usually concern themselves with *all* university services hence the 'library' (and increasingly relevant the 'computing' services provided by a converged service) tend to get one or two questions only.

## Van House

The Van House surveys were well known in the UK - indeed internationally (Van House, 1990). Some people have experimented with them. The Library of the University College of Swansea has used the Van House originals, independently of the SCONUL initiative, in March 1993, in 1994 and had the intention of repeating it in 1994/95 (Personal . . . , 1994).

The availability surveys, in particular, had been used quite extensively following Paul Kantor's method. (Kantor 1984; Revill, 1987; Revill, 1988)

Adapting US academic library standard forms to UK practice has several advantages and reflects various motives:

- Using already well-validated instruments (albeit in another country)
- To suggest to others a useful form
- To avoid the necessity of inventing one's own
- To allow comparisons of users' satisfaction between sites and years
- To allow inter-institutional comparisons

The questionnaires are not intended to be prescriptive. They are more of the nature of templates - as suggestions from which libraries can choose and adapt for local use. 'The Committee does think however, that the general format of the questionnaires is helpful and will provide useful information contributing to the evaluation of library performance'.

The surveys can also inform quality assessments.

In November 1994 SCONUL sought volunteers to pilot the amended surveys:

There are five questionnaires covering different aspects of library services:

### 1. General user satisfaction

This measures:

- relative success in completing various activities
- number of items used in the library
- time spent in the library
- ease of use
- level of satisfaction



2. Quality of service

This measures perceptions of the extent to which a library meets users' needs and obtains data on alternative sources of materials.

3. Availability of materials

This measures the proportion of 'known-item' searchers that are successful.

4. Enquiries and reference services

This measures users' perceptions of satisfaction with these services.

5. Stock selection

This measures:

- the type of use made (reading, scanning, copying, etc.)
- amount of multiple use
- amount of document exposure

We did clear with Nancy Van House that there would be no objection to our using their work - after all it was developed for ALA members (e-mail August 1994). We do not contribute to ALA funds!

Nancy Van House gave her OK on 17th August 1994 by e-mail. 'No formal permission is required. The American Library Association holds copyright on the books, but it was our intention that people use the forms and the measures freely. International comparisons would be especially interesting'. Nancy also pointed out that some Australian librarians are working on these surveys.

The Van House surveys were slightly altered. I would like to say 'translated into English' but that would be untrue!

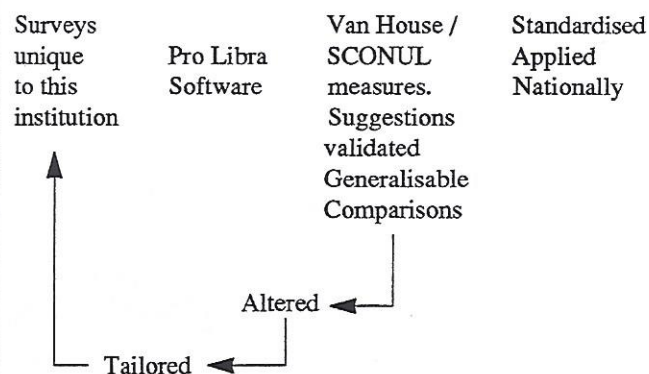
LJMU's Evaluation and Feedback Section assisted with revisions of the survey forms during 1994/95.

The questionnaires were piloted in early 1995. Advice was given by Geoff Ford on the likely response rates, sample sizes and sampling, distributing the questionnaires etc.

In your papers there are examples of the Van House originals, 'Popperton University' general proformas for SCOUNL members' use and as adapted by Learning Services of Liverpool John Moores University - arranged for mark sensing recording and analysis by SPSS.

The 'Stock Selection Survey' is additional. It is based on some work I did which itself was based on John Blagden's original idea to pursue the effect the use of a single item had on the work of the individual user (Blagden, 1980).

The Van House surveys fit on a spectrum of surveys from the particular to the generalised:



Conclusion

Inevitably the usual caveats remain:

'There are variations in the structure of library services. Relative expenditure on acquisitions, operations and staffing depends on several factors, such as:

- multiple sites
- division between central and departmental libraries
- size of collections
- subject mix
- proportion of postgraduate students
- existence of specialist collections . . . .
- existence of binderies . . . .
- varying use of non-print materials . . . .
- costs of computing, which may appear here or elsewhere.' (Committee . . . , 1993)

Additionally, and of particular significance, and one development which needs to be addressed is that of 'converged' services. It is no longer relevant for an increasing number of services to have measures of 'library' activity alone. While UCISA is doing some work on appropriate measures for computing, there is a strong need to add these to 'library' measures.



Figure 2

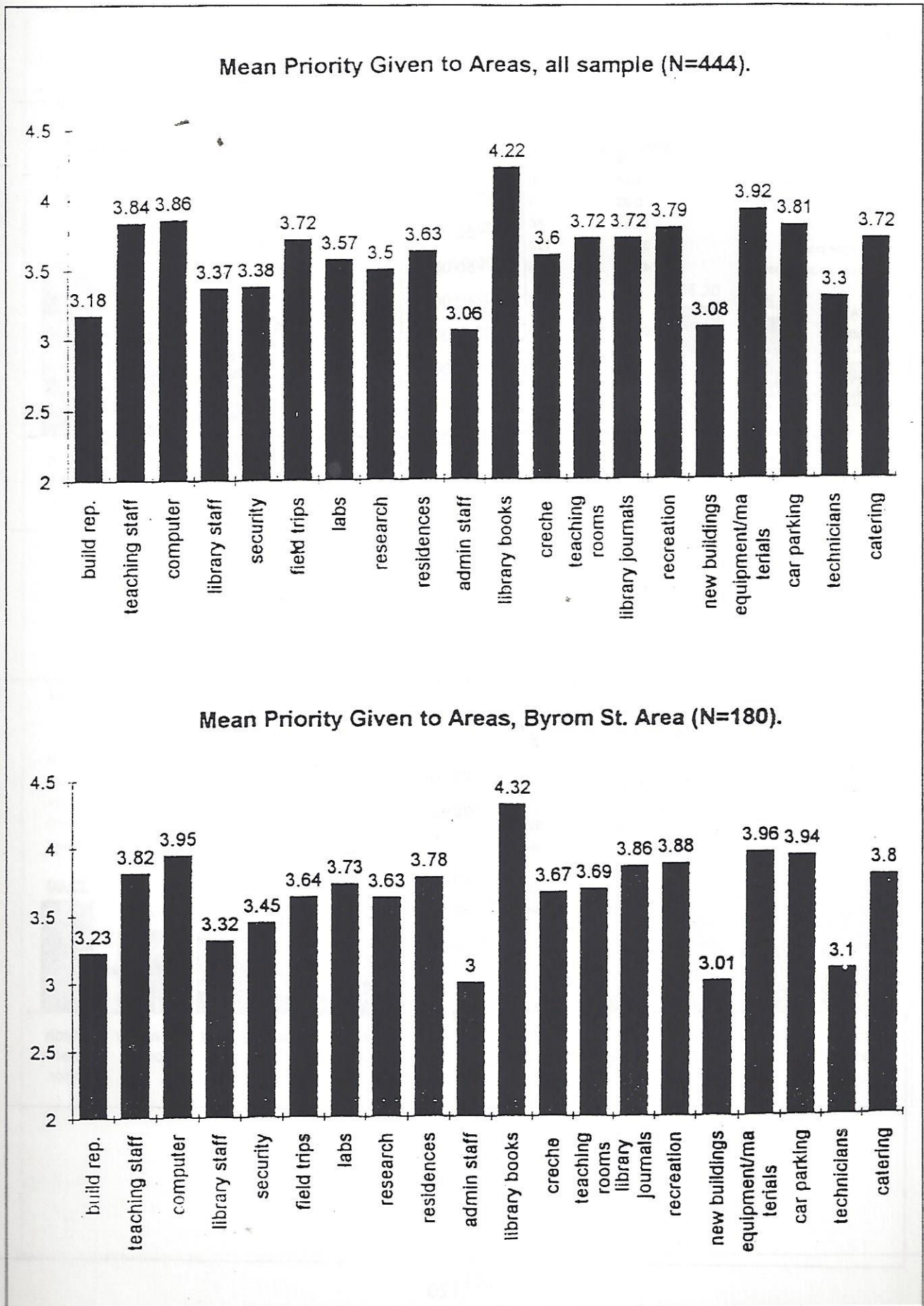




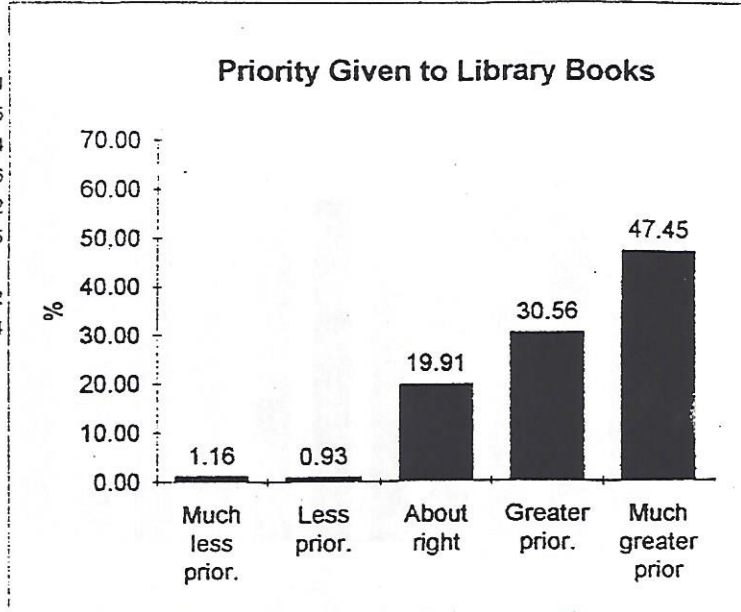
Figure 3

Students' Opinion of Budget Priorities 1994

Library Books

	%	N
Much less prior.	1.16	5
Less prior.	0.93	4
About right	19.91	86
Greater prior.	30.56	132
Much greater prior	47.45	205
N/A		12
Total	100.00	444

Mean Priority = 4.22



Creche

	%	N
Much less prior.	11.90	25
Less prior.	6.19	13
About right	24.29	51
Greater prior.	24.76	52
Much greater prior	32.86	69
N/A		234
Total	100.00	444

Mean Priority = 3.60

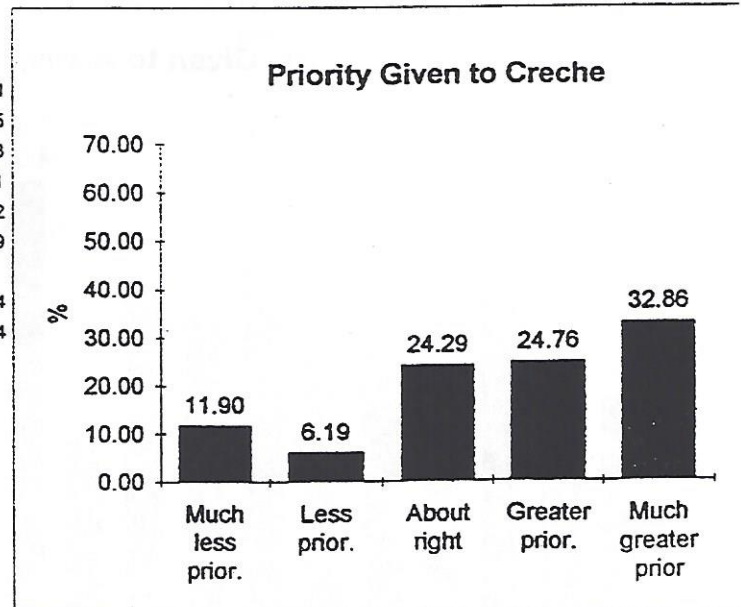




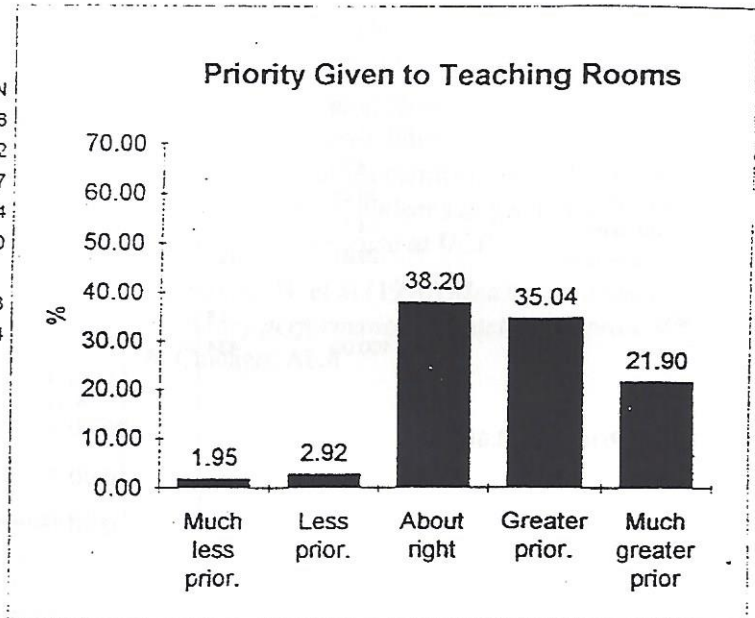
Figure 4

Students' Opinion of Budget Priorities 1994

Teaching Rooms

	%	N
Much less prior.	1.95	8
Less prior.	2.92	12
About right	38.20	157
Greater prior.	35.04	144
Much greater prior	21.90	90
N/A		33
Total	100.00	444

Mean Priority = 3.72



Library Journals

	%	N
Much less prior.	1.96	8
Less prior.	5.62	23
About right	38.88	159
Greater prior.	25.67	105
Much greater prior	27.87	114
N/A		35
Total	100.00	444

Mean Priority = 3.72

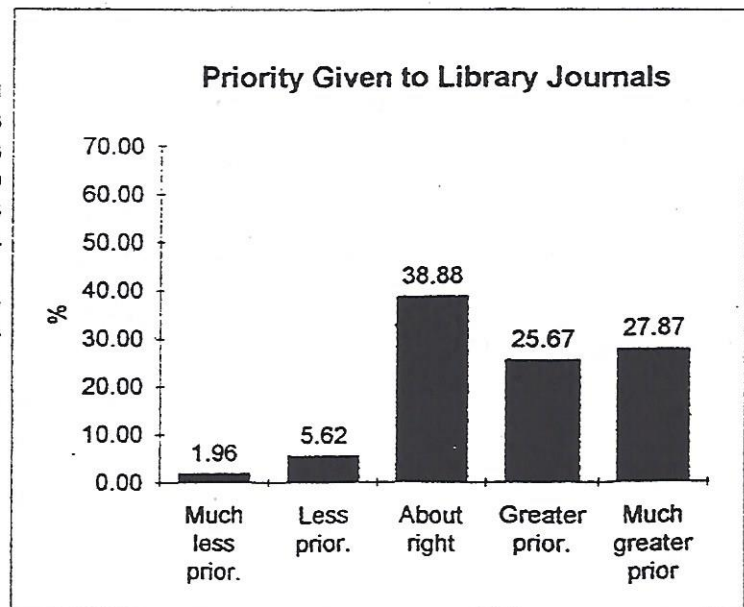




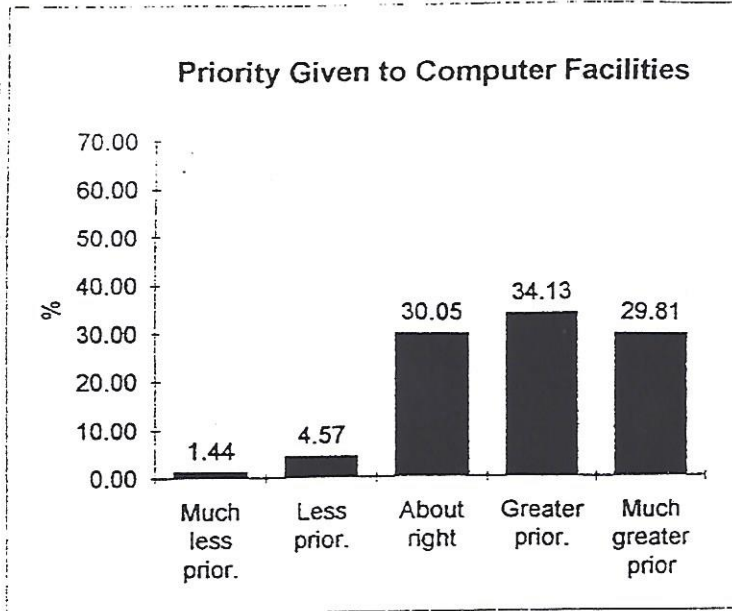
Figure 5

Students' Opinion of Budget Priorities 1994

Computer Facilities

	%	N
Much less prior.	1.44	6
Less prior.	4.57	19
About right	30.05	125
Greater prior.	34.13	142
Much greater prior	29.81	124
N/A		18
Total	100.00	434

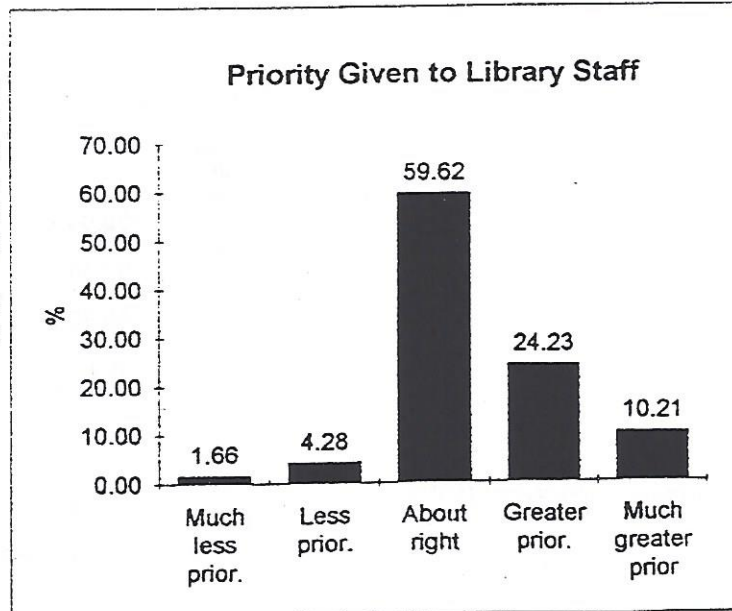
Mean Priority = 3.86



Library Staff

	%	N
Much less prior.	1.66	7
Less prior.	4.28	18
About right	59.62	251
Greater prior.	24.23	102
Much greater prior	10.21	43
N/A		23
Total	100.00	444

Mean Priority = 3.37





## References

- Blagden, John (1980) *Do we really need libraries?* Bingley
- Cannon, Tom (1995) Weights and measures 'Synthesis'. *Times Higher Education Supplement* 19th May. Includes 'University League Tables 1995'
- Centre for Interfirm Comparisons (1984) *Inter-library comparisons in academic libraries*. CIFIC (BLR&DD Report No. 5763)
- Committee of Vice-Chancellors and Principals (1993) 'University management statistics and performance indicators in the UK' *Universities' statistical record* p.96
- Council of Polytechnic Librarians (1993) *Final report on the COPOL performance indicators experimental projects 1989 to 1992*. Papers for COPOL Business meeting 2nd April. 14pp
- Higher Education Funding Council (England), Scottish Higher Education Funding Council, Higher Education Council (Wales) and Department of Education Northern Ireland (February 1995) *The effective academic library: a framework for evaluating the performance of UK academic libraries*. A consultative report by the Joint Funding Councils' Ad Hoc Group on performance indicators for libraries. A report for the HEFC(E), SHEFC, HEC(W) and DENI.
- Joint Funding Councils' Libraries Review Group. (December 1993) *Report*. HEFCE, SHEFC, HEFCW, DENI. Chairman: Prof. Sir Brian Follett. Appendix C, p. 82
- Kantor, Paul B. (1984) *Objective performance measures for academic and research libraries*. Association of Research Libraries
- Liverpool John Moores University (May 1994) Evaluation and Feedback Section. *Students' opinion of budget priorities*. Internal report
- Liverpool John Moores University (November 1994) Evaluation and Feedback Section. *Institutional staff satisfaction survey, Summer 1994*. Internal report
- Liverpool John Moores University (June 1995) Evaluation and Feedback Section. *Preliminary results of the institutional student satisfaction survey, March 1995*. Internal report
- Liverpool John Moores University. Learning Services. (June 1995) *How are we doing? A comparison of Liverpool John Moores University Learning Services with the SCONUL annual library statistics 1993/94*. LJMU. Internal, unpublished, report
- Personal letter from A.M.W. Green to Liz Lines, Nottingham Trent University, 19th September 1994
- Revill, D.H. (1987) 'Availability as a performance measure'. *Journal of librarianship* 19(1) January. 14-30
- Revill, D.H. (1988) 'An availability survey in co-operation with the School of Librarianship & Information Studies'. *Library review* 31(1) 17-34
- University of Central England. Centre for the Study of Quality in Higher Education. Student Satisfaction Research Unit (September 1992) *Report on the 1992 survey of student satisfaction with their educational experience at UCE*
- Van House, N. et al (1990) *Measuring academic library performance: a practical approach*. Chicago: ALA



**APPENDIX A**

## Differences between Means of Student Satisfaction Surveys 1993/94 and 1994/95: Library Services

(a) School	Satisfaction			Importance		
	(b) 1994	(c) 1995	(d) Difference c - b	(e) 1994	(f) 1995	(g) Difference f - e
<u>Those served by the ARLRC:</u>						
Built Environment .. ..	3.25	3.91	+ 0.66	4.55	4.64	+ 0.9
Business School .. ..	2.99	3.73	+ 0.74	4.58	4.61	+ 0.03
Design & Visual Arts .. ..	3.48	3.76	+ 0.52	4.64	4.66	+ 0.02
Modern Languages .. ..	2.76	4.28	+ 1.52	4.73	4.74	+ 0.01
Law, Social Work .. ..	3.12	3.91	+ 0.79	4.6	4.62	+ 0.02
Media, Creative & Critical Arts .. ..	2.87	3.36	+ 0.49	4.7	4.69	- 0.01
	$\Sigma$					+ 0.97
<u>Those served by the Engineering &amp; Science Learning Resource Centre:</u>						
Biological & Earth Sciences .. ..	3.31	3.17	- 0.14	4.65	4.65	0
Biomolecular Sciences .. ..	3.4	3.11	+ 0.29	4.6	4.64	+ 0.04
Chemical & Physical Sciences .. ..	3.73	3.66	+ 0.07	4.45	4.64	+ 0.19
Computing & Maths .. ..	3.5	3.43	- 0.07	4.38	4.35	- 0.03
Electrical & Electronic Engineering .. ..	3.45	3.41	- 0.04	4.5	4.53	+ 0.03
Engineering & Technology Management .. ..	3.33	3.58	+ 0.15	4.57	4.51	- 0.06
Pharmacy .. ..	3.16	3.24	+ 0.08	4.76	4.56	- 0.2
	$\Sigma$					+ 0.02



**APPENDIX B****Differences between Means of Student Satisfaction Surveys 1993/94 and 1994/95: Computing Services**

(a) School	Satisfaction			Importance		
	(b) 1994	(c) 1995	(d) Difference c - b	(e) 1994	(f) 1995	(g) Difference f - e

Those served by the ARLRC:

Built Environment .. .. .	3.17	3.42	+ 0.25	4.23	4.29	+ 0.06
Business School .. .. .	2.8	3.52	+ 0.72	4.31	4.38	+ 0.07
Design & Visual Arts .. .. .	3.15	3.59	+ 0.44	4.29	4.14	+ 0.15
Modern Languages .. .. .	3.02	3.82	+ 0.8	4.38	4.54	+ 0.14
Law, Social Work .. .. .	3.06	3.36	+ 0.3	3.84	4.04	+ 0.2
Media, Creative & Critical Arts .. .. .	2.81	3.39	+ 0.58	3.96	4.12	- 0.16
	$\Sigma$		+ 3.09			+ 0.48

Those served by the Engineering & Science Learning Resource Centre :

Biological & Earth Sciences .. .. .	2.99	3.13	+ 0.14	4.47	4.49	+ 0.02
Biomolecular Sciences .. .. .	3.28	3.18	- 0.1	4.18	4.21	+ 0.03
Chemical & Physical Sciences .. .. .	3.68	3.47	- 0.21	3.95	4.34	+ 0.39
Computing & Maths .. .. .	3.13	3.44	+ 0.31	4.74	4.63	- 0.11
Electrical & Electronic Engineering .. .. .	2.93	3.32	+ 0.39	4.49	4.45	- 0.04
Engineering & Technology Management .. .. .	3.09	3.15	+ 0.06	4.38	4.42	+ 0.04
Pharmacy .. .. .	3.44	3.22	- 0.22	4.29	4.2	- 0.09
	$\Sigma$		+ 0.27			+ 0.24



126

1994/95

10  
10

10-10-10  
10-10-10  
10-10-10



# How Well are We Doing? Common Themes and Possible Solutions in Academic Libraries

Steve Morgan

University of the West of England, Bristol

The aim of this paper is to use the results of postal surveys carried out in the UK further education (FE) and university sectors to highlight themes and elaborate on some of the suggestions for taking performance assessment forward.

## Introduction

### INSECURITY

The whole issue of assessing the quality of service we provide in academic libraries needs to be explored against a background of change - both in further and higher education - of frightening proportions. These are some of the more important ones:

- Institutions have merged (and continue to do so)
- Incorporation of polytechnics and colleges
- Polytechnics are now universities
- Student numbers have increased enormously (70% over 6 years)
- Greater diversity of student population
- Courses have been modularised
- Interdisciplinary studies have grown considerably
- Postgraduate education has expanded
- Teaching and learning methods are changing (more independence and choice, less direction and contact time)
- Funding mechanisms have altered
- Institutional governance has become more managerial
- A heightened culture of assessment is evident

These changes - and I make no apology for listing them here - have produced a climate of *insecurity*. As Heery (1995) rightly points out:

'Many librarians express a nostalgia for the previous certainties that seem now to be under threat.'

Or at least they are looking for a period of consolidation.

### COMPETITION

These above changes plus the considerable technological developments have produced a culture of *competition* between institutions and the services

provided. Technology is still sexy and has the power to attract students. It is a marketable product and there is a rising expectation that any institution worth its salt will demonstrate (via the library or more widely) its desire to be at the leading edge.

These developments include:

- SuperJANET
- Metropolitan Area Networks (MANs)
- Digitisation
- Document delivery services
- Internet and the World Wide Web
- Electronic journals

The bids by libraries and their parent institutions for funding post-Follett as well as seeking funding and grants from other sources have only exacerbated this striving for competitive advantage. This competitive culture is encouraged by the present Government and this is reflected in the introduction of league tables (*Times Guide*), the quadrennial Research Assessment Exercise, the cycle of Teaching Assessment visits and the FEFC inspections.

### ACCOUNTABILITY

Increased *accountability* within individual institutions is another example of political dogma at work. Particularly when financial resources are tight and getting tighter, governments and institutions are striving to provide value for money. In many colleges and universities this is taken a stage further with devolved budgets and cost centres so that the library is accountable to academic departments for the provision of core and/or tailored services.

Increasingly nowadays the library is also accountable directly to the students. As a body they have become more assertive in voicing their opinions about the services they receive. Targeted groups of users are also making their demands felt, particularly non-traditional students eg. part-time, overseas, disabled or distance learner etc.

### TRUE PICTURE

So we have insecurity arising out of the political and educational changes taking place, competition



between institutions and services and accountability at a variety of levels *within* institutions. This trio has made it essential that mechanisms are in place not only to monitor and evaluate library services but also to maintain the high quality demanded by the academic community. Against this dynamic background it can be difficult to form a true picture of what is being done on the ground in college and university libraries. Reading the professional press can provide a distorted view of reality. Although reports of research projects may be interesting in themselves and the results often generalisable, they tend to form isolated pockets of activity. Performance assessment in recent years has been criticised for being hijacked by enthusiasts. They then write the agendas and deal with each item in turn. What's wrong with that? If it weren't for enthusiasts, not much would ever get off the ground! However, in recent years a critical mass has been reached and the Consultation Paper represents another step on that path (Joint . . . , 1995, *The Effective . . .*).

## Surveys

Two postal surveys were carried out during the last three years across the FE sector and the universities. The results are provided in some detail in Morgan (1995) and particularly Chapter 4. The purpose of the surveys was to find out:

- how committed institutions and their libraries are to performance assessment
- which reader services are being evaluated and how
- what kind of feedback is being sought from the academic community
- how satisfied librarians are with their current procedures for evaluating their service and asking for suggestions for improvement.

With over 60% response rates in each survey the results could be interpreted as a fairly reliable snapshot of activity. I will give details of the main results and then look to the common themes and some of the ways forward suggested by respondents. There were some surprising similarities between the sectors.

## RESULTS

- Around a third of institutions have a commitment to performance assessment in written policies and documents.
- In usage of book and periodical collections just over a half of the universities and over 60% of colleges had carried out some kind of evaluation.

- In the turnaround time in interlibrary loan and recall systems nearly 60% of universities but under 1 in 5 in the FE sector had carried out any evaluation.
- 1 in 4 across both sectors had evaluated their enquiry services either quantitatively or qualitatively.
- User education was evaluated by 46% in the university sector and 34% in the FE sector.
- Feedback from users was sought in the usual ways ie. course monitoring and evaluation, library satisfaction surveys, discussion groups.
- Attitude measurement is an inexact science so that satisfaction levels are difficult to gauge. Comparing respondents' opinions and taking into account different expectations make for problems. However, satisfaction levels do act as broad indicators. In both sectors three out of four libraries were dissatisfied with their procedures and wanted to improve the situation.

## Common Themes

I would like to address three particular themes which were influential in forming responding librarians' views on performance assessment:

- Qualitative Data
- User Expectations
- Climate of Assessment

### QUALITATIVE DATA

In recent years there has been a growing recognition in the social sciences generally that qualitative data have an important role to play in shedding light on everyday events. This move is evidenced by the growth in ethnographic studies, participant observation and other types of fieldwork which yield up 'softer' data. This move has been reflected in a number of responses from the questionnaires.

### QUANTITATIVE v QUALITATIVE

The tenor of the argument is that statistics represent a limited and crude indicator and only seems to whet the appetite for more detail. Indeed, often statistics pose many more questions than answers. It was also recognised that, to get to the heart of issues such as the quality of readers' enquiry services, in-depth probing is required but this is labour intensive and time consuming. Subsequent analysis and interpretation will be equally so. Robson (1993) suggests that this looser approach tends to provide information that is enlightening for policy makers without



the inhibiting precursor of assumptions and expectations which may be built into highly structured tick boxes, for example.

Figure 1

Quantitative	Qualitative
Breadth/mass data	Depth/smaller samples
Objective	Subjective
'Scientific'	'Non-scientific'
Highly structured approach	Looser approach
Answers 'how often?' - statistical	Answers 'why' - causative
Less helpful with complex topics	More helpful with complex topics
Emphasis on neutrality	Emphasis on the actor's perspective
Usually clear-cut precise results	Useful for preliminary work

Responses also refer to a certain snobbery about research methods. Crudely put, QUANTITATIVE = reliable, valid, rigorous real research, QUALITATIVE = unreliable, anecdotal, unscientific research. This is illustrated in Figure 1 with words such as 'objective', 'scientific' and 'neutrality', structured under the quantitative list. Very often this is based on personal preference or plain and simple prejudice. Pollitt (1986, p.82) reminds us that 'there is actually nothing inherently inferior in measures of feelings or perceptions or judgements'. The more important question is what is done with these subjective comments to help decision-making. Much of performance assessment in the past has been focused on those areas that are easily measurable and quantifiable eg. economy, inputs, circulation, number of visits or enquiries. That was largely the reason for the focus. Areas such as long-term benefits of user education, quality of enquiry services, and availability studies are more difficult to evaluate meaningfully and are therefore less frequently done. The overwhelming view was that there should be a balance between quantitative and qualitative data, each complementing and supporting the other to provide a rich picture.

#### USER EXPECTATIONS

Another theme running through the responses was the problem of user expectations and how to deal with them. Naturally, one of the aspirations of the

library is to satisfy the information needs of an increasingly diverse academic community within the available resources. Non-traditional students are a growing breed. They include students who are studying part-time (25%), mature students (53%), overseas students, those with disabilities and, increasingly, those studying off-campus. Thus the expectations of these individuals will form a wide spectrum. Library managers must perform a delicate balancing act to find out their needs, ensure expectations remain realistic where possible, to provide an appropriate range of services and assess their effectiveness. Many library users will have formed their own views on what constitutes a 'good' library service and these views will act as a benchmark when making future judgements. Conversely, some users who are new to post-sixteen education may never have set foot in a library. Past encounters with libraries and the stereotyping so beloved of the media may exert a heavy influence. There was an example in a recent TV 'soap' in which one character said: 'a librarian and interesting: isn't that a contradiction in terms?' This is proof that, although there are enormous changes taking place in education and academic libraries, some people's attitudes will never change!

Expectations will doubtless alter over the duration of a course of study. Variables include initial competence and application of newly acquired skills to the library's systems, in-built self-confidence and the self-reliance built up over time, interactions with a variety of library staff which may influence expectations for the whole service. Some students will view the library positively and optimistically as an opportunity to make the library work for them. For others there may be intimidation, endless hoops to be jumped through - physical, organisational, linguistic or attitudinal. Some students withdraw from the challenge. Even from students in the latter stages of a course there is a worryingly frequent cry of 'I haven't got a clue where to start'. At times we are our own worst enemy - by raising expectations unrealistically. We want desperately to be warm, friendly and helpful, the nothing-is-impossible approach; we are trying to be all things to all people, to put over a positive image - in fact it's not just customer-orientation, it's customer-paranoia. The pressure to become the very antithesis of the stereotypical librarian is sometimes overwhelming. The advice to library staff to under-promise and over-deliver rather than vice versa seems sound to me. I will be exploring some possible solutions to this later.



## CLIMATE OF REVIEW AND ASSESSMENT

This cyclical process of not only gazing at one's own navel but also having outsiders exploring the very same navel is obviously on the minds of respondents. The number and variety of review and assessment mechanisms is currently mind-boggling. As an example, take the Social Sciences Faculty from my own university - and this is not atypical. Within a three-year period the faculty will have taken part in *six reviews* - both internal and external. This is, of course, on top of the annual cycle of course monitoring and evaluation. The paperwork which has to be tailored to each event has become a nightmare.

Respondents suggest that such periodic reviews can act as effective motivators in highlighting and encouraging reflection on how effectively the library supports teaching and research. However, when periodic equals every six months, you must begin to question the word *motivate* and substitute *demoralise*. Here are two examples where positive steps have been taken:

1. One college library established a working party consisting of a group of local librarians who set out guidelines for self-inspection prior to an Inspectorate's visit so as 'to try and avoid pitfalls'.
2. One college librarian (Davies, 1994) took an interesting further step by becoming a lay inspector with the FEFC. He detailed the training undertaken and views optimistically the prospects of college libraries within the new framework.

Imminent inspections, visits from professional bodies, course validations, franchise agreements, visits from Funding Councils and the Higher Education Quality Council all provide opportunities to ensure that appropriate performance assessment activities are in place and functioning effectively. It's funny how time is always found when push comes to shove! Such events have succeeded in either initiating and providing the impetus or fine-tuning existing review and assessment procedures.

Recent reports (Joint Funding Councils, 1995; Joint Funding Councils' Libraries Review Group, 1993; 1995) have all recognised the need for a tighter fit between library services and internal/external assessment.

The quote taken from a university librarian has become an understatement for some institutions: 'We must be careful not to spend so much time measuring how we do the job that we detract from our performance'.

## Suggestions for Possible Ways Forward

I have divided up suggestions into six categories:

- Greater involvement of a variety of constituents
- More systematic and structured approach
- Greater proactivity
- Wider application of IT
- Greater emphasis on the user perspective
- More time

### GREATER INVOLVEMENT OF A VARIETY OF CONSTITUENTS

#### Library Staff

The participation of large numbers of library staff in any performance assessment activity will depend on the size of the library, the number of staff, the views of the library's management, the staffing structure and organisation, the culture etc. Performance assessment, in whatever form it takes, needs to form a recognised part of the service management not as an isolated one-off event. It needs to be internalised within the library and the wider institution. If the library is run in a participative way, this process will be made easier. Some library managers may be reluctant to become heavily involved in these activities due to a lack of confidence in or unfamiliarity with appropriate research or evaluation methods. Such methods may be alien to some. However, one option would be to call on the expertise of academic colleagues, as outlined below. Alternatively, a set of basic research methods can be gleaned from suitable textbooks.

#### Library Users

This group is important enough to have its own section below.

#### Academic Staff

Respondents suggested that often libraries can be somewhat isolationist in their approach to evaluating their services. Why are we afraid to call upon the expertise of our own academic colleagues? Academics generally are only too willing to share their knowledge and skills and apply them within a library setting. This is particularly the case when it is so obviously aimed at improving services. Areas for possible collaboration are many: computing and technology, social science research methods, market research, psychological testing, assessment in teaching and learning etc.



### Other Libraries

Respondents gave examples of informal gatherings of librarians to hammer out guidelines as well as providing mutual support. Also mentioned was an informal system of library peer review between institutions in a particular region or locality. This is an approach that is based on co-operation, support, learning by mistakes, strength in numbers and on the notion that outsiders can often see things that insiders cannot.

### MORE SYSTEMATIC AND STRUCTURED APPROACH

In a sense this has been partly taken over by events with the Consultation Document (Joint, 1995, *The Effective . . .*) and also the work being carried out by the Council for Learning Resources in Colleges (CoLRiC). Much of the groundwork has been carried out particularly through SCONUL and its Advisory Committee on Performance Indicators. The suggested framework provides a useful practical foundation on which to build, perhaps even more widely than just the university sector. This 'rich picture' approach is the way forward although certain aspects concerning satisfaction levels require modifications. This is a very welcome document.

### GREATER PROACTIVITY

Advice which was given by a number of respondents concerned the issue of librarians drawing up their own agenda. The suggestion was that if the library managers do not take the initiative, someone else will. The someone else will be part of the parent organisation's management and will have his/her own views on how the library service should be evaluated and developed. Take the lead! Get in the driver's seat! It's too late to whinge once events have moved on and management is demanding efficiency gains in areas which, *if you had been the decision-maker*, you would not be considering. The various quality audit, assessment and inspection events provide ideal vehicles by which libraries can - if they do not already - start to integrate into the parent organisation and establish performance assessment mechanisms. Such activity has the dual by-products of increasing the library's credibility and improving the likelihood of success in future requests for additional funding.

### WIDER APPLICATION OF IT

There are a variety of software packages, increasingly sophisticated developments within integrated library computer systems and other management information systems to help with evaluation of ser-

vices. Respondents suggested that automated systems nowadays have the capability of providing ever more sophisticated and disaggregated information about library usage etc. Lack of priority, lack of time, lack of staff and funds - or any combination - will be influencing factors. It is obvious from the titles of some of the seminars and poster sessions at this Conference that there are exciting projects - some more longstanding than others - involving IT and particularly qualitative data. With that I will leave IT and performance assessment to those who know!

### GREATER EMPHASIS ON USER PERSPECTIVES

The postal surveys - not unsurprisingly - have highlighted the importance of the user, customer, consumer, client, patron or the awfully named end-user. Customer-orientation has become a veritable industry in its own right. Involving the users from the beginning in planning services right through to monitoring and evaluating them is now accepted practice. In many UK libraries 15 years ago this involvement would have appeared revolutionary, rather bizarre and unnecessary. The prevailing ethos is summed up by Booth (1993, p.7):

'If you are providing a service, there will always be a subjective element in assessing quality; and . . . the most important judge is the customer'.

For example, it would be difficult to conceive of the evaluation of a readers' enquiry service without some recognition of the quality, accuracy and competence of the service from the enquirer's point of view.

So how should we place more emphasis on the users' perspectives?

#### 1. Increasing Adoption of User Surveys

User surveys can be particularly helpful in evaluating services either focusing on specific elements of service provision eg. services to part-time or other non-traditional students, undergraduate or short loan collections, use of periodicals, satisfaction with user education or enquiry services. In this way it is possible to avoid the dangers of survey or questionnaire fatigue and alienate the very people whose views you are seeking. Alternatively, the library could carry out a rolling programme of surveys which covers major services but takes place every two or three years.

Packages such as LIBRA from Priority Search - which some of you will be familiar with - can help to gain qualitative feedback from the academic community through IT-related means.



## 2. Charterism

Although the present UK Government's Citizen's Charter programme - there are currently over 40 published Government charters - has been discredited in some quarters, the principles underlying the movement are being played out in academic institutions and many of their libraries. These principles include words like 'standards' and 'value for money' which most people will be in favour of. Nowadays many libraries support charters or rights and responsibilities which display realistic expectations: what *users* can expect from the *library* and what the *library* can expect from its *users*. Built into some of these charters are commitments to certain standards eg. obtaining available material from other campus libraries within three working days.

Charterism may also have the knock-on effects of improving communication with the academic community, demonstrating a commitment to quality and focusing the attention of library staff on specific service issues.

## 3. Customer Care Programmes

Although out of a similar stable to Charterism, customer care programmes can be viewed rather cynically as being superficial and cosmetic. This is naturally a debatable point and depends largely on the organisational culture and the attitudes of individual members of staff. What these training programmes and customer care statements have succeeded in doing is highlighting the importance of the user. In general terms I would put its significance as no greater than that.

## 4. 'Making the familiar strange'

This is a perspective taken from the sociological toolkit (Delamont, 1981). It is a genuine attempt to try to understand the users' needs and views by looking at the service *from their perspective*. It may be necessary at times to challenge the taken-for-granted ideas and attitudes that librarians have built up over the years and see through the eyes of the user. It was originally used in researching school classroom activity where Delamont highlighted the difficulty of seeing in a different light the normal, the usual, the everyday, the ordinary, the commonplace, the routine. To gain possibly novel insights into the teaching and learning activities - or library services in our case - it may be necessary to 'make the familiar strange'. Two examples would be:

- To study, observe or participate in non-library settings which are chosen for their parallel features eg. attendance at lectures, seminars; observing other service providers eg. doctors,

dentists, shops, civil service operations, Citizens' Advice Bureaux, tourist offices etc. This forces the librarian to regard services and their quality from the viewpoint of the recipient.

- To make use of other libraries and carry out some of the procedures that students would be expected to carry out eg. accessibility, availability, use of library catalogues, effectiveness of guiding and signposting etc.

Without wishing to overstate the case, these kinds of activities are intended to illustrate the potential for avoiding the perpetuation of misguided views.

## MORE TIME

It has to be recognised that performance assessment is an integral part of library management and needs to be accorded time or at least to rise a few notches up the priority list - as when external events force the issue. Respondents felt under such tremendous pressure to provide a high quality service that they had precious little time to judge the effectiveness of that service. It is ironic that the financial squeeze and the increase in student numbers mean that funding has to be carefully targeted, quality has to be maintained and yet librarians have less and less time to find out how well the strategies are working.

## Conclusions

It is encouraging to hear the optimism of those surveyed. A large number recognise the importance of evaluating services but in practice feel frustrated for all sorts of reasons. However, they were willing to make a number of practical suggestions for ways forward. In a number of cases nationally, pockets of activity have turned into larger co-operative projects and co-ordinated approaches which augur well for the next five years.

## References

- Booth, C. (1993) 'Quality: the national view' in McElroy, A. R. (ed.) *Quality matters: Proceedings of the annual COFHE study conference University of Kent, Canterbury, 13-16 April 1992*. Library Association: COFHE
- Davies, J. (1994) 'The FEFC(E) inspectorate, quality considerations and college libraries and learning resource centres.' *COFHE bulletin* 72 2-5
- Delamont, S. (1981) 'All too familiar? a decade of classroom research' *Educational analysis* 3(1) 69-83



- Heery, M. (1995) informal discussion
- Joint Funding Councils (1995) *The effective academic library: a framework for evaluating the performance of UK academic libraries*. Higher Education Funding Council for England
- Joint Funding Councils' Libraries Review Group (1993) *Report*. Higher Education Funding Council for England (Follett Report)
- Joint Funding Councils' Libraries Review Group (1995) *Report of the group on a national/regional strategy for library provision for researchers*. Higher Education Funding Council for England (Anderson Report)
- Morgan, S. (1995) *Performance assessment in academic libraries*. Mansell
- Pollitt, C. (1986) 'Beyond the managerial model: the case for broadening performance assessment in government and the public services.' *Financial accountability and management* 2(3) Autumn 155-170
- Robson, C. (1993) *Real world research: a resource for social scientists and practitioner-researchers*. Blackwell



\_\_\_\_\_

1992

1993

1994

1995



# EC Toolbox Project: General Findings and Some Particular Proposals - The Next Generation of Performance Indicators

**John Sumsion**, Director, Library and Information Statistics Unit, Loughborough University  
**Suzanne Ward**, Research Manager, Division of Learning Development, De Montfort University

This paper derives from research commissioned by the European Commission and undertaken in 1994 by De Montfort University in partnership with Essex County Libraries and the Library & Information Statistics Unit at Loughborough University. Informally it was known as the Toolbox study. Publication of the full report of that work is expected in October 1995 as *Library performance indicators and management models*, Sumsion J. and Ward S., Libraries in the information society series, Office of the European Communities, ref. EUR 16448EN. The findings here are reproduced by agreement of the EC. The very substantial contributions of colleagues to the text of this paper is acknowledged.

This paper is in four parts. After the Introduction Part II considers shortcomings in current performance indicators - as revealed by the recent study - and proposes a general strategy to make best use of present computer power. Particular attention is drawn to the weak area of Cost:Output ratios. Part III outlines proposals to initiate and improve particular performance measures. Part IV considers briefly the applicability of these techniques to libraries of different type and size.

## 1. Introduction

Although many libraries in Europe and throughout the world still operate from closed access stocks, the more typical situation is one of open access for most materials and this is the situation addressed here. Performance indicators are considered in a broad context. There is not intended to be any particular distinction between them and the IT framework provided by Management Information Systems (MIS), Decision Support Systems (DSS) or later developments. Their purpose covers:

- monitoring performance
- monitoring the results of innovation
- identifying problems and opportunities
- evaluation of alternative options
- planning

One aim of this Toolbox study is to show how performance measurement can be developed to take advantage of the most advanced computer software and hardware now available for all but the smallest libraries. The project most definitely aimed to specify to systems suppliers what should be developed to benefit library management.

Having examined the extent of performance indicators in practice - and their shortcomings - the study then proceeded to put together a Toolbox of performance indicators and measures. This was designed both to be comprehensive and innovative. We aimed to include all the important indicators already developed, with appropriate references. Some new and extended indicators were added to meet shortcomings - and to employ latest computing facilities. (An example page to show the format is reproduced at the end of this paper.) This paper covers only some of the most significant indicators. The methodology, which worked well, was (1) literature search and study, (2) outline draft, (3) consultation on this draft with expert professionals in several countries, (4) modifications and conclusions.

It was known from the start that there would be follow-up projects, involving systems suppliers, to put into practice the general measures outlined. These are the EC projects now under way - DECIDE, DECIMAL, EQLIPSE and MINSTREL.

The place of performance indicators in the sequence of major development deserves mention. In the most advanced countries a fully computerised catalogue, an integrated computer system, open access and devolved budgets are now the rule. Elsewhere questions arise whether such developments have to happen sequentially or can be implemented together. The most important development stages are:

1. open access to stock
2. material on computerised catalogue
3. material on computerised circulation system
4. short loan textbook collection (academic only)
5. acquisitions computerised



6. other functions computerised
7. 'ideal' system with open systems and relational databases

It is arguable that all these steps should be complete (or at least the first six) before consideration is given to the type of toolbox described. While advanced systems have existed for over six years, there are still many places where obsolete software and hardware inhibit a modern approach.

## II. Shortcomings of Traditional Performance Indicators

### (a) THE CURRENT SITUATION IN EUROPE

While the impact of information technology in many libraries in Europe is still limited, the study revealed much notable work and experimentation in performance measurement and decision support techniques. Typically there are but a few 'pioneers' in each country and sector; library managers in general have been slow to adapt to management techniques and tools widely used in other professions. This is due inter alia to

- 'educational deficiencies' in that librarians lack background in statistics and computing
- 'cultural deficiencies' in distrust of machines and computer data
- some qualitative aspects of library operation not susceptible to quantitative assessment
- confusion arising from non-standard terminology
- most texts and manuals only available in the English language
- in that many results confirm a situation already known to the librarian, rather than springing surprises, the effort involved may appear disproportionate
- cumbersome presentation and lack of flexibility in pursuing lines of enquiry suggested by an initial analysis

Two levels of development are called for. The first - and the longest - is to raise the overall standard of performance measurement to that already practised by pre-eminent library managers. In each country, and between countries, there are large and crucial gaps between the average and the exemplary.

The second level involves work at the leading edge to produce more effective and flexible systems by and for leading institutions. There is substantial scope here with the power of contemporary software.

### (b) SHORTFALL FEATURES

If progress has been slow and patchy, this is due both to important deficiencies in the established methodology and also to the limitations of systems software and hardware in the 1980s.

Shortcomings include:

- Early performance measures concentrated on Resources and Output totals - on how well resources were used rather than how well users' demand was met. The need to correct this perspective is now acknowledged.
- Outputs typically not related to user features. For example: public library in-house use can be analysed by age and purpose of users; academic library journal use by users' status and department.
- Analysis at top level only
- Historical data not available for trends to be studied
- Cumbersome nature of complete print-outs; inflexible or inadequate query facilities as alternative

One has only to examine these lists to see that most of these weaknesses can potentially be overcome.

### (c) COSTS AND PERFORMANCE

The Toolbox differs from a number of published guidelines in treating cost analysis as an essential part of performance measurement. While for many years this has been inherently difficult and often avoided, the librarians we consulted were all keen to see Costs included.

The main problem can be presented quite simply. The obvious indicator is the Cost per Loan calculated as *Total (Net) Expenditure* divided by *Total Issues*. This is extremely crude and should mostly be avoided - since it makes no allowance for the extent of non-lending use of the library.

Increasingly this is significant where there are:

- large reference and information functions
- services provided off the premises and through networks
- well developed special services to particular groups of users
- community services, educational programmes and exhibitions

In broad terms there are two approaches - both in theory and as found in practice.



Solution 1 concentrates on the output measure by replacing 'loan' in the 'Cost per loan' formula with a composite measure totalling either all the principal uses provided or all types of document delivery.

A 'total activity' example from a Swedish public library comprises:

Loans + Information queries + Storytelling attendances + Magazine/Newspaper reading + Visits + Event attendances

Using this measure, ratios are developed for indicators such as *Activities per capita*, *Costs per activity*, *Activities per opening hour*, *Activities per staff hour*. Ratios are produced for all service points: the inclusion of *Visits* is optional.

In UK university libraries a prototype 'document delivery' measure is made up of:

Loans + In-library consultations + Inter-library loans + {Photocopies/10} + Electronic documents delivered

Other composite measures, some of forbidding complexity, have been proposed in Italy and in Finland.

Such broad-brush formulae present a crude but feasible approach. Emphasis on diverse activity can have publicity advantages, although the measures are not readily understandable by the public. Less work is involved than in Solution 2 - but the answers are also less satisfactory than separate calculations.

Solution 2 is the Functional Cost Analysis approach - where costs involved in every principal service are estimated to produce a separate *Cost per loan* calculation for each main service provided and in each main location. A matrix outline is given in Figure 1.

A major feature is the analysis of staff costs according to staff time spent on main functions, such as:

- Lending & circulation (adult/children's combined or separate)
- Mobiles
- Information & reference
- Domiciliary service
- Specialist services, eg. archives, local studies
- Promotion
- Study spaces
- User training & instruction
- Acquisitions (Incl. Cataloguing)
- Regular children's activities
- Special events
- Preservation

It should not be necessary to install sophisticated or extra time clocking procedures. Annually each member of staff apportions the percentage of time spent on principal functions - this to be checked and agreed by management. (Percentages have the huge advantage that they must, by definition, come to '100'!) These percentages are then applied to annual staff cost figures and adjusted by an allowance for indirect and overhead charges. Management functions such as personnel and finance, are allocated to service functions in proportion to staff time or staff expenditure. In this way is derived a staff and management cost estimate for each main function on each site/service point.

This point is discussed succinctly in *Keys to success*, p.87 (King, 1990). That publication has a valuable summary of cost calculations (pp.87-92):

'There are three ways to measure staff time:

- use time sheets continuously or periodically throughout the year.
- observe staff on a random basis to determine the proportion of time spent on specific activities, services or functions.
- ask staff or their supervisors to estimate the proportion of time spent on specific activities, services or functions throughout a year.

Interestingly, the three ways of allocating staff time to services do not yield greatly different results.'

It is more straightforward to allocate other costs. Materials are conventionally charged to adult lending, adult reference, children's audio/visual, etc. and/or analysed as books, periodicals, CD-ROMs, music, maps, audio/visual, etc. Premises costs are allocated according to space used for different functions. Automation and other costs are allocated as appropriate - typically in proportion either to space or staff time employed on each function.

The results of this approach are Cost:Output ratios which are more exact and meaningful than any large composite measure can be. These superior measures apply to both the cost and output measures and indicators. In a large library they are vital for informed allocation of resources and to inform decisions on service expansion. Obviously a special or college library employing two to five staff does not need such management data to the same level as a university library system employing 200-500. But in more complex organisations - particularly where convergence brings new or blurred dividing lines - such disaggregation of cost measures are specially important.



Figure 1

<u>Cost benefit data</u>			
<u>Location</u>	<u>COSTS by Type</u>	<u>COSTS by Function</u>	<u>OUTPUTS</u>
<u>A</u>	Staff: professional, managers, etc. other	Lending/circulation	Loans: Books A/V Children's
	Materials acquired I.L.Ls	Information/reference	In-house use
	Automation	Acquisitions (incl. cataloguing)	Information queries
	Networking/Online	Preservation/conservation	Database accesses
	Admin. & Misc.	Specialist services - may include: local studies, archives, mobiles, domiciliary, house bound, schools services, business information, tourist inf., health inf., council inf. etc.	Newspapers
	Photocopying		Photocopying
	Premises	User training/instruction Promotion/special events	Event attendances
	Instit'n recharge	Regular children's activities	Storytelling att'ces
	Cost of capital	Study spaces	Individual study hrs
	GROSS EXPENDITURE (INCOME)		
	NET EXPENDITURE		
	TOTAL COSTS		TOTAL IDENTIFIED
			Total visits
			TOTAL VISITS plus OUTPUTS
<u>Location B</u> (Repeat)			
<u>Location C</u> (Repeat)			
	↓		
<u>All locations</u> (Totals)			

Why has this not happened already? In the past inhibiting factors include:

1. no help with detailed procedures and inadequate definitions
2. no obvious application to the most pressing problems
3. no requirement formulated for systems work

4. lack of appropriate computer hardware and software

5. fear of accountancy precision requirement

The fourth factor should be overcome by modern relational database software on platforms now within a general price range. The fifth factor has been covered above: it is essential not to confuse this sys-



tem with that required to monitor and control expenditure. The first three factors are - in effect - the subject of this study: there are many decision areas where managers are currently navigating in the financial shadows.

The diagram in Figure 1 shows what issues are involved, and the complexities that will arise in local implementation.

Large organisations need to estimate costs in four dimensions:

1. by type of expenditure: staff, materials, premises, automation (income), etc.
2. by location: site, service point, information unit
3. by function: adult lending, children's lending, information, storytelling, events, reading places, etc.
4. by subject category and, for some purposes, academic department

The requirement is not to provide extensive weekly or monthly reports covering all levels of measure and indicator. The requirement is to provide facilities for cost:output calculations, or cost allocation ratios, on an enquiry basis as and when these are required to support particular investigations for decision steps. For this purpose data need to be readily accessible and conveniently manipulated for special reports and for ad hoc enquiries.

#### (d) HARNESSING COMPUTER POWER TO OVERCOME SHORTCOMINGS

In principle what is required is the ability to access datasets, in convenient enquiry mode, on a much larger scale than has hitherto been envisaged. It should now be within the capacity of the present generation of computer hardware and software to provide what is required. The models - and indicators to the level of analysis proposed - can not be said to be 'tried and tested' in practice. Most elements have been in operation in some places. Some items in the Toolbox therefore require feasibility study and development.

This proposal derives from the expressed needs of library managers - and from the logic of the situation. It is not a case of putting new technology to use because it is there, but rather that technology will now permit what has been a requirement for decades. It is in line with the reasoning in the draft IFLA Report *Measuring quality* (pp.11-14). It also represents a culmination of current developments in France (Tableau de bord), Sweden (Kristianstad), Denmark (Copenhagen Business School), Germany (Betriebsvergleich project), and Italy (composite

indicator). In all these instances librarians have been deriving valuable cost:output ratios, but have been unable as yet to come to an overall generalised solution.

The library manager needs to be empowered, not inhibited or impoverished. This is the strategic approach that underlies the innovative aspects of the Toolbox. Working this out represents a major change in approach. Generally systems analysts aim to hold and present only data which is specifically known to be in demand. The proposal here is for data to be held whenever it might be required - often in several years' time.

In this concept data are entered and held with regard to their ultimate not their immediate use. For example to hold date of birth, date of registration and post code area will allow not only correct calculation of fines and privileges but also analyses of lapsed users and comparisons of users:age/sex profile with residents in areas served. Studies can be made of library use by students by year and by faculty/department - compared with previous years' experience.

#### (e) THE MULTI-DIMENSIONAL DATABASE FOR ENQUIRY INTERROGATION

The data required comes from automated library systems, external database sources, and from manual sources. The purpose of this database (or linked databases) is to allow easier and more effective use of established performance indicators as well as more sophisticated features that include:

- functionally analysed expenditure/costs
- several years data held and analysed
- separate units within the library
- separate analyses according to subject disciplines
- 'real' data corrected for inflation indexes
- quantitative measurement of electronic services

The amount of data to be held - by modern industry standards - is not large. However the organisation of such data is a major undertaking relying entirely on Relational database and SQL software. Procedures to maintain a readily accessible historical data file, and to relate this to the next year or two, need to be worked out and maintained with care and adequate documentation. A main objective must be to make the data collection process as easy as possible for the librarian, that is, requiring minimum effort and resources.



**(f) LOWER LEVEL ANALYSIS**

The need for this is paramount. Examples of what is required include the following:

- Library users:
  - breakdown by type of user or other attributes
  - user education hours
- Staff:
  - breakdown by job, function or task
- Library facilities:
  - equipment breakdown by type
  - shelving calculation according to open and closed access
- Library collection:
  - materials spend - breakdown by type of material or subject categories
  - spending on conservation
  - periodicals - paid/new/cancelled subscriptions
- Library use:
  - remote use - defined according to telephone, fax, electronic mail etc.
  - in-library use - breakdown by material type eg. periodicals, reference
  - materials; by facility eg. CD-ROM, photocopiers
  - number of issues - breakdown by loan, renewal and reservation, time of day
  - attendance at in-house activities eg. storytelling sessions

**(g) DATA FOR OTHER YEARS**

To establish trends data need to be held for recent years. Practitioners feel this is important. However in existing computer systems there have been severe feasibility problems in holding and accessing historical data - in terms of the hardware and software employed in stand-alone systems. Neither has such a demand been clearly enunciated.

For some features aggregated data should also be available for the preceding ten years. As can be seen from Figure 1, the amount of data conceptually required for such a database is very large - and it is not feasible for traditional 'MIS type' reports or spreadsheets.

This need is recognised and extended in the 'tableau de bord'.

'The "tableau de bord" does not have the same role as the statistical enquiry. It is not limited to establishing what has happened: it is an instrument for forecasting and navigating - essential to the local plan . . . The "tableau de bord" by way of elaborating these decisions has also a retrospective effect thanks to a regular monitoring of results. Decision makers can then correct or adjust (in good time) the actual events, and effectively reformulate the paths chosen, the objectives and action plans.'

So is added the immediate future and the planning/budgeting dimension.

How long is 'the recent past'? Practitioners consulted in the course of our study focused on the last ten years rather than the last five. On this database the 'future' should at least cover the budget for the present year and a forecast for the year following. Beyond that lies strategic or medium/long-term planning, which will have important connections between this database with its performance indicators and such longer-term plans.

For how many indicators and measures should historic data be held? This is not easy to decide, but the following guidelines should be helpful:

- there is no need to hold more than annual results: data for intermediate periods will not be required
- detailed analysis needs to be held either in percentage form or in absolute numbers, not both
- at least the first level of breakdown will be required for expenditure, materials, subject categories, user categories etc.
- whether to hold data for each site or for the whole library system will depend on the size and structure of the library authority. For all but the smallest units, it will normally be valuable to hold data separately for the central library and for the whole system. Much data should also be held for each service point.
- since organisational arrangements and provision of buildings and technological features change unpredictably over time, the holding of disaggregated data is to be encouraged.

Sights need to be set beyond the circumstances of the present scene to the uncertain future. As already propounded above, here it is not appropriate to follow the limiting maxim that 'data should only be collected and held where there is a demonstrable need'.



### III. Particular Proposals

(For all items in this section measures can be used as such or converted to give 'per capita' ratios of performance.)

#### III (a) ANALYSIS OF STAFF TIME

As discussed above, this is to provide data (1) for monitoring, review and decisions on optimum allocation of staff time; (2) to publicise to outsiders the variety of tasks undertaken; and (3) to calculate cost:benefit (cost:output) ratios.

The categories for analysis will vary according to local circumstances. The lists that follow indicate likely minimum or core requirements and a longer list of further options:

<u>Core Categories</u>	<u>Further Options</u>
Lending & Circulation	Children's/Adult work
Reference/Information	Mobile Service
Acquisitions/Cataloguing	Specialist services, eg.
Training Users	Archives
Automation	Local Studies
Management	Business
Promotion/Special Events	Domiciliary Service
Miscellaneous	Conservation / Preservation

#### III (b) SPEED OF SUPPLY/REACTION BY RETROSPECTIVE SAMPLING

Measuring this is properly done by sampling. However it is not everywhere realised that there are advantages in taking the sample at the end of the process rather than identifying sample items at the start. Clerically much less work is involved; it is also less susceptible to manipulation in that staff do not have the opportunity to give preferential treatment to items earmarked as part of a sample. In presenting average results the 'median' is preferred to the 'arithmetic mean'. This technique only takes account of items that have been supplied, so the number or proportion of failed actions has to be a separate measure.

We give here examples to illustrate the technique rather than a comprehensive set of applications.

To determine the time taken to acquire items and to make them available to users the following steps are undertaken:

1. Take a sample of items that are newly available on the shelves.
2. Obtain data on the date each item was ordered by the library.
3. Subtract the order date (or publication date where books were ordered prior to publication) from the current date.

4. Calculate the median number of days taken for all items in the sample - or the proportion of items made available within  $n$  days.

For more detailed analysis each individual stage through ordering, checking, cataloguing and processing can be analysed separately, if data is collected at each point. This is an important measure to identify bottlenecks and delays at different stages in the supply process.

This sampling technique should also be applied to the overall speed in satisfying requests - the time taken to satisfy all types of request for material not immediately available on site. This covers time taken for delivery of material to be supplied through acquisition, interlibrary loan, fetching from other sites/service points, and material recalled where it is already on loan. Each of these is also an indicator in its own right. (Note the Essex 'success stories', illustrated in Figure 2, where one graph shows both increased use, shorter throughput times, and the trends over recent years.)

From a selection of satisfied requests the time is taken from the original request date to the date the user is notified of availability. The indicator is the average (the median, not the arithmetic mean) of these results.

#### III (c) (1) USER ANALYSIS BY TYPE OF USER

Categorisation of users will often be demanded for these measures. In academic libraries this will typically be by faculty/department and by status, in public libraries by age, sex, status and residence - such as:

- |                          |                 |
|--------------------------|-----------------|
| - undergraduate students | - children      |
| - postgraduate students  | - young adults  |
| - academic staff         | - adults        |
| - external visitors      | - pensioners    |
| - others                 | - non-residents |
|                          | - unemployed    |
|                          | - disabled      |

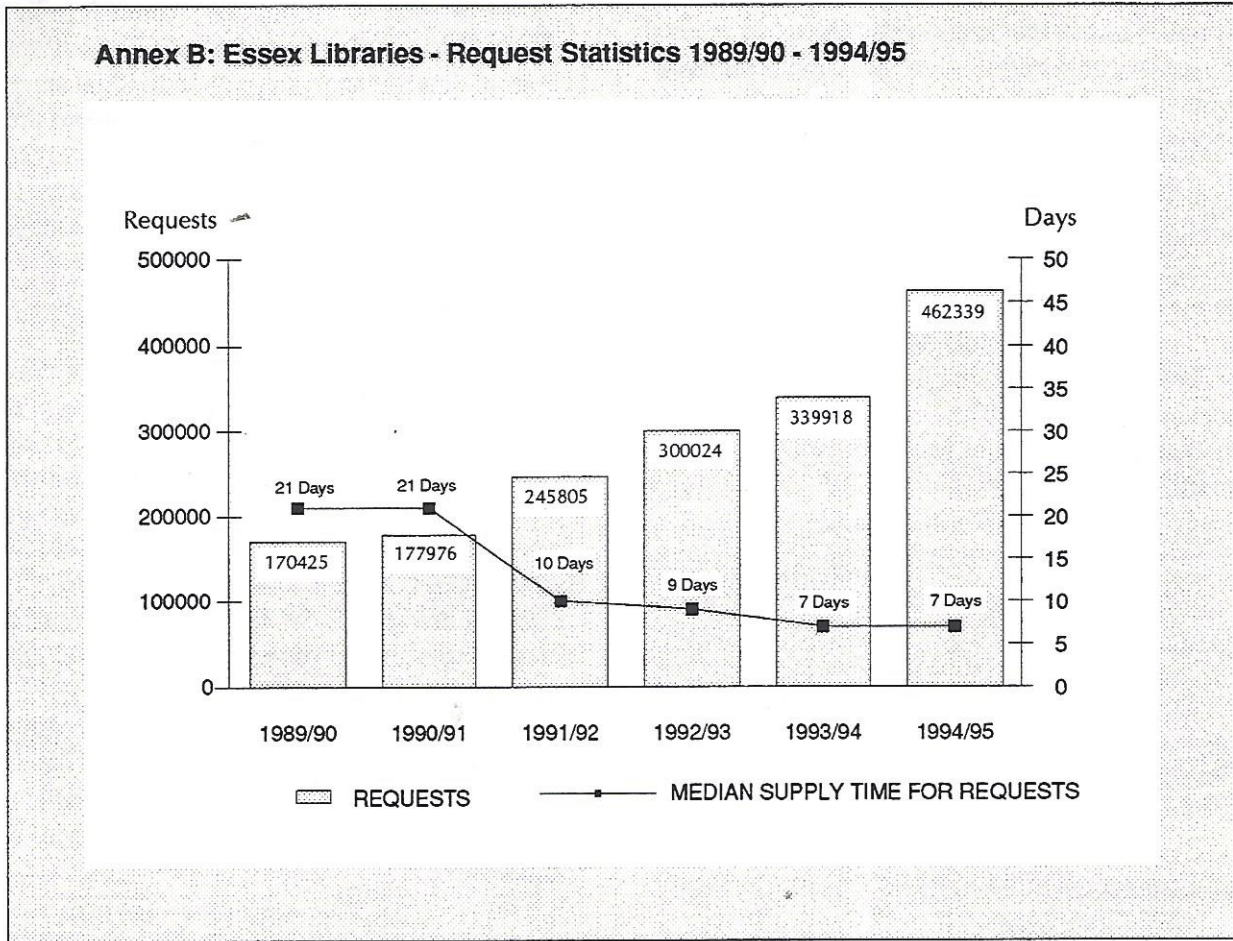
#### III (c) (2) ACTIVE USERS

To determine the number of active borrowers (those who have had at least one item issued to them in the last 12 months) is possible with most automated circulation systems. If the system, or a significant part of it, is not automated, this can be difficult or impossible. But to limit the count to borrowers is not ideal, so there are ways to extend this to all active users.

To establish the proportion of the population using the library we need to know the number of people from the *target population* who have used the library during the last year. This can be obtained



Figure 2



by one of two methods: either (1) In a survey of the *target population*, people are asked whether or not they have used the library during the last year; or (2) Establish from a questionnaire survey the proportion of users who never borrow material and apply this percentage to the *number of active borrowers*.

Example: A users' survey establishes that 14% of users have not borrowed material in the previous 12 months. The number of borrowers who have taken out at least one book or A/V item in the previous 12 months from that service point is 12,260. The number of *active library users* is therefore:

$$\frac{12,260}{(1 - 0.14 = 0.86)} = 14,256$$

III (d) USE OF INFORMATION SERVICES

Counting the number of Reference Transactions handled is not without its problems. It is difficult to achieve consistency when transactions are counted by library staff either on a sample or an ongoing basis. However, a major drawback is that success in getting users to help themselves to information - by

well signposted stock, for instance, has a negative effect of the Transaction count.

To overcome this weakness a modification to the ALA Needs Fill Rate questions is proposed by including a question:

If you were looking for information (ie. to find something out) were you successful?  
 YES / NO / PARTIALLY

Did you consult a member of staff? YES / NO

The results assess (1) the success of users in obtaining information on their own, (2) their success in queries addressed to staff, and (3) the proportion of users requiring information. The data relate to specific needs on a particular day, and they rely on the users' immediate assessment of satisfaction.

III (e) SPACE PROVIDED

This can be categorised according to purpose:

- (i) 'Library Services' includes space used for reading, studying, information delivery, computers and any other services delivered to users by library staff.



- (ii) Library operations includes receipt of materials, bindery, acquisitions, cataloguing, computing, and management.
  - (iii) Materials storage includes all areas principally devoted to materials whether open access, closed access, special collections or reserve stock.
  - (iv) Special events includes seminar and meeting rooms, space for groups to meet, and exhibition space.
  - (v) Miscellaneous includes cafés, toilets and staff recreation areas.
  - (vi) Access measures space required only for access to other areas, ie. corridors and gangways.
- (v) and (vi) need not be separated; in small libraries categories (i), (ii) and (iii) will be sufficient.

Measurement of space is useful to review allocation of the space provision and to establish or avoid the need for new building. A further analysis by principal services delivered will also be valuable in many situations, eg. space taken up by special collections, local history, special information services, etc. Factors for the allocation of premises costs to particular services and/or functions can be established.

Measurement of floor areas can often be taken from data used for other purposes, eg. cleaning contracts, insurance quotations. Space measurements should be checked for an annual review, but there is no need for frequent recalculation. Precision in the allocation of space between categories is not essential.

This measure should not include space occupied by theatres, museums, concert halls where these are not used for 'library' purposes but may be physically on the same premises. Space for reserve stock is included in (iii).

III (f) STOCK QUALITY ANALYSED BY AGE AND BY TITLE COUNTS

The Age of items in stock is a simple calculation showing the proportion of stock more than  $n_1$ ,  $n_2$ ,  $n_3$ ,  $n_4$  . . . .  $n_x$  years old. Items are counted relative to year of acquisition or year of publication. Generally the date of acquisition is preferred - since an old book acquired during stock revision will clearly be still popular at the date of acquisition.

Example:

Bookstock	0-5 years old	61%
"	6-10 years old	12%
"	11-15 years old	4%
"	16-20 years old	3%
"	21 + years old	20%

There is more scope for Title counts in sets of performance indicators than is indicated in recent literature. To assess the staleness/appropriateness of stock a count of titles that have issued during the year (or quarter) can be compared with the number that have stayed on the shelves. This can be particularly revealing for separate sections of stock, although it does not, of course, cover use on the premises.

Titles added per capita, Copies added per title added, and Titles issued per capita are all indicators revealing the extent to which multiple copies of best-sellers conflict with objectives of stock variety and depth of interest. These are of particular interest to large public library authorities needing to balance decisions in the 'popular materials' interest of particular service points as against the breadth required in the overall collection of the authority.

III (g) INTER LIBRARY LOANS v. ACQUISITION

Cost and performance data for demand satisfied through Interlibrary Loans are required to compare with costs of acquisition and holding. Measurable costs include payments for staff time, storage space, overheads, notifications and subscriptions as well as direct payments for material bought in. Measurable performance covers speed of supply. Some important unmeasurable factors are also relevant.

III (h) SERVICE POINTS AND OPENING HOURS

Service points that open for only a few hours each week, and small informal collections of material, can be excluded from the count where there is a minimum qualification, for example: 'Service points open 10 hours/week and more'. Another method to assess differences is to tabulate the count:

Example:

Service Points open 45 hour/week and more	2	
Service Points open 30-44 hours/week	4	
Service Points open 20-29 hours/week	7	
Service Points open 10-19 hours/week	1	
Mobiles	2	<u>16</u>
Service Points open less than 10 hours/week	5	
Homes, hospitals, etc. served	18	<u>39</u>

As a base for performance measures these totals are of limited value.

Multiplying Service Points by Hours Open (to give Service point hours open) is some improvement, but it only gives an accurate reflection of the level of service where (i) there is a single service point in the authority/institution, (ii) where all service points open for the same number of hours each



Figure 3

	1993			1994		
	Bookstock '000s	Opening Hours	Mult'n	Bookstock '000s	Opening Hours	Mult'n
Central Library	30 x	60 =	3000	50 x	48 =	2400
Large Branch	30 x	50 =	1500	32 x	48 =	1536
Medium Branch	20 x	44 =	880	18 x	42 =	756
Small Branch	6 x	24 =	144	5 x	24 =	120
New Small Branch	-	-		4 x	24 =	96
	106		5524	109		4908
<u>Weighted Average</u>	5524			4908		
<u>Opening Hours</u>		----- = 52.1			----- = 45.0	
	106			109		

week, or (iii) where the subsidiary service points are not significant and can be ignored. Total service point hours can give a very misleading picture where there are multiple service points open for a different number of hours per week.

To overcome these problems a new measure is proposed:

Weighted average hours open per week

**Definition:** Average hours per week library services are available. A weighting factor relating to the size or use of service points is used in calculating the average.

**Method:** Opening hours for each service point are weighted according to the size/use of that service point to produce an average figure. Weighting factor can be either Issues, Floor Space, Staff numbers, Stock, items On Loan, Readers' Seats or Visits - whichever is most appropriate or critical. For public libraries Issues or items On Loan will be favoured. For academic libraries it may well be Readers' Seats (student bias) or Stock (research bias).

**Example:** For the purpose of illustration we choose Bookstock for the weighted average calculation, which then gives these results for 1993 and 1994 (Figure 3).

This measure refers to hours services are physically available to users on library premises. Distinction can be made between (a) full services, and (b) partial services. In academic libraries separate counts are needed for term time and vacations.

IV. Differences between Types of Library

During our consultations surprise was frequently expressed that we were covering, in one study, both academic and public libraries. The tradition in

the literature of performance indicators is for separate treatment. We believe it was good to have the combined approach - partly because computer systems generally have to cater for all types. However this does mean that the Toolbox must be viewed sensitively. Many of the indicators and proposals will apply to some types of library only.

Some of the most significant variations are these:

- large university library with central and departmental libraries on several sites
- university library on one central site
- special libraries employing 2-5 staff with heavy online information load
- large public library authority employing hundreds of staff in 30-80 service points grouped in areas
- substantial public library authority with large central library and several branch service points
- city public library
- small town public library

The principles underlying the Toolbox can apply to all these situations, but the appropriateness of particular indicators will vary greatly.

School libraries were not considered as part of this project; special libraries and college libraries have received less consideration than university and public libraries. National libraries or regional co-operatives were not covered.

Even more important is the question of size. There are substantial variations between large and small library authorities. The Toolbox is constructed to cater for the largest. Clearly there are many items that will not be appropriate for smaller organisations, and this needs to be borne in mind throughout.



## Conclusions

In practice local and national definitions will be required. It was not an objective of this study to standardise detail - but rather to outline information requirements for future computer systems development. This work is being undertaken in the four successor projects of the European Commission - DECIDE, DECIMAL, EQLIPSE, and MINSTREL - for which this Toolbox study is a base.

There is also the obvious need to extend performance measures to the software and networks that handle electronic journals and new media. This all represents an ambitious work programme!



Example page from the Toolbox Study to be published October 1995 by Office of the European Communities in series 'Libraries in the information society' ref. EUR 16448 EN.

Title: *Library Performance Indicators & Library Management Models*. Authors: Sumsion, J. and Ward, S.

### **J.22 Number of items of equipment in the library per capita**

*Method:* The number of items of equipment (e.g. CD-ROM access points, OPAC terminals, PCs, photocopiers) available to users in the library, divided by the target population [This can be expressed per 1,000 or per 100 or inverted]. Each category should be calculated separately.

*Interpretation:* Indicates the level of provision. Use and user satisfaction should also be considered.

### **J.23 Seat Occupancy**

*Definition:* The ratio of occupied seats to the total number of readers' seats.

*Aim:* To indicate the extent to which seating is occupied as an indication of availability of seats for users.

*Scope:* The indicator is suitable for types of library offering facilities for study and reading. It can be applied to separate areas of the library.

*Method:* At predetermined time intervals count the number of seats occupied and divide by the total seats available. This can be done in two ways:

(a) **Peak** To determine an occupancy rate when pressure is greatest, for example in an academic library at 1100, 1200, 1400 and 1500 hours during the busiest weeks of term.

(b) **Average** Sample at hourly intervals during typical weeks three or four times a year (in academic libraries: mid-term weeks).

*Interpretation:* A high occupancy rate may point to inadequate seating for users.

*Factors affecting the Indicator:* Weather, time of year, timing of examinations and vacations.

### **J.24 Facilities use rate**

*Definition:* The proportion of time a library facility (e.g. a seminar room) or an item of equipment is busy.

*Method:* Equipment and facilities are observed at sample times to determine whether or not they are being used. Every person using, or waiting to use the equipment or facility is counted, and the total is divided by the number of that type of equipment or facility. (See *Measuring Academic Library Performance* pp82-88 for detailed description.)

### **\* J.31 Users' satisfaction with library facilities**

*Definition:* Users' rating of their satisfaction with library facilities, e.g. readers' seats, CD-ROM, OPAC, computers, photocopiers. (Ratings for each should be collected and analysed separately.)

*Method:* In a questionnaire-based survey, users of the reference service are asked to rate their satisfaction with the particular facility. Questionnaires frequently use a five-point scale, ranging from 1 for "not satisfied" to 5 for "very satisfied".

*More detailed analysis:*

1. Users could also be asked to rate the importance (to them) of the particular facility.



# Building a Climate of Continuous Improvement

**Gilda Queiroz**, Librarian

**Natanael Bruno**, Engineer

Comissão Nacional de Energia Nuclear, Brazil

## Abstract

This paper describes an experience of continuous development climate aiming at excellence towards the users of the Promotion Division of CIN/CNEN - Brazil. The program established in 1993 has three focuses: critical appraisal of the organisation, evaluation of the procedures, and attention to personnel morale, education and training. It ranked people management and human development at a higher importance level than any other aspects of the administration. Some results are also reported.

## 1. Introduction

### 1.1 THE NUCLEAR INFORMATION CENTRE

The Nuclear Information Centre - CIN, a department of the Brazilian National Nuclear Energy Commission - CNEN, started operations in 1970.

CIN plays an outstanding role in the Brazilian Information scene. It is the Brazilian representative of INIS and ETDE; it has been involved in many Latin American co-operative systems and participates in the main national programs, such as a country-wide document delivery system - COMUT. The know-how it acquired in developing and managing information systems is well recognised and all this technology is transferred to other Brazilian and foreign organisations in many ways, such as technical visits and on-the-job training, participation and organisation of courses and seminars, technical assistance in the country and abroad, and software transfer.

CIN has three Divisions:

- Documentation Division - DIDOC, in charge of services, including SDI, document delivery, the maintenance of union-catalogues and the library.
- Promotion Division - DIPRO, in charge of an active marketing program, besides giving assistance on the use of services and more recently on how to reach them through the nets.
- Technology Division - DITEI, in charge of retrospective searches, databases construction and the development of new products and systems.

CIN offers services in a wide scope of scientific and technical subjects. Regular users are around 1,000, although some 3,000 prospects are registered in the users archive. They are mainly engineers, biologists, chemists, physicians and physicists and come from universities, industries, research centres, hospitals and governmental bodies related to science and technology. Around 40% of users are CNEN employees, while the remaining 60% belong to other institutions spread all over Brazil and other Latin American countries.

### 1.1 THE PROMOTION DIVISION

The team of DIPRO consists of four librarians, including the Head of the Division, one engineer, one systems analyst - all of them with MD or post-graduate courses, one business administrator, one designer and two clerical employees.

Almost all of the users are at remote places and this condition affects not only how personnel are organised but also their interface with the users. Some of the indirect impacts over DIPRO are the need to maintain a complex 'qualified' users database and an effective help-desk by telephone and e-mail, as well as the need to acquire know-how for the development of manuals, guides and promotional material.

The main reason to start a quality program is meeting users' demand. Acting as the interface between users and the internal staff, DIPRO felt directly the demand for better services. At a moment of management renewal, in 1993, all the conditions were in place to raise the question of quality improvement at the Division since there was pressure from outside and internal disorder caused by administrative problems coming from previous periods. This general inadequacy of work organisation caused a widespread uneasy feeling in the team. A marked fall in the number of incoming users, a decrease in the rate of usage of services and the number of complaints also indicated that something should be done to improve the performance and obtain reliability.

Since the authors have had long discussions about the feasibility of implementing quality programs in a public institution, it seemed also the right opportu-



nity to put theory into practice. The team decided to overcome all difficulties, that will be discussed later, and to carry forward an improvement program within its own limits, leaving it clear that maybe it would even be impossible to have the support of all in the Division.

## 2. A Quality Program for the Promotion Division

### 2.1 OBJECTIVE

The Promotion Division of CIN has been engaged since 1993 in this experience of continuous development climate aiming at excellence towards users.

The program had three central points: critical appraisal of the organisation, evaluation of the procedures, and attention to personnel morale, education and training. It ranked people management and human development at a higher importance level than any other aspects of the administration. That implied the adoption of a set of actions and conduct intending to remove fears and barriers, and to generate self-regard, satisfaction and self-confidence.

Taking into account user satisfaction, four main indicators were chosen to measure the future results: number of new users, rate of usage by the present users, billings and number of complaints over a year.

The main features of the program are:

- building a customer driven Division
- making the best of the very special sensibility developed by those who work directly with users, in answering their demands
- performing an experiment within the limits of the Division, even when not all of the institution were involved from the top down
- a program directed towards the user instead of towards the production
- trying to construct a tailor-made model, using the basic principles of quality but avoiding one single traditional model or ready imported models.

### 2.2 CRITICAL APPRAISAL OF THE ORGANISATION - THE ENVIRONMENT

Various external and internal factors affect the quality conditions at work in the Brazilian public services as a whole, and become a real challenge to management. We do not intend to construct an exhaustive panel, but just point out some of these factors to show their nature and how they influence the way administration is conducted.

#### 2.2.1 The national factors

Unstable conditions of varied origin are routine for managers in Brazilian public institutions. The Brazilian unstable economic situation, for instance, has had lasting effects on governmental agencies such as CNEN. Planning, specially Financial Planning, is a very complicated and sophisticated operation, for all management levels.

Political changes also exert great influence on Brazilian institutional life, bringing discontinuity. Every four years, at the beginning of a new presidential period, management staff may be changed from the top down to the lowest levels. Therefore, it may happen that fluctuations, sometimes gaps or, even worse, paralyses in the programs occur, at not very long intervals.

Uncertainty related to personnel is a recent event. A huge number of employees retired for fear of losing rights. Beginning in the late Eighties, government has had the shrinking of public services as a main point in its programs. First, in 1989, all officials with no stability in the job were fired. It must be explained that some time before, with the 1988 new Constitution, some of the governmental employees obtained permanent positions, which is now considered by many a major source of loss of interest in the work. Second, salaries were kept low in a high inflation economy and as a result of this orientation, some people simply left for better salaries. The institutions suffered the consequences of rapid drainage of experienced people and of many vacant functions, since, as it was later proved, the Brazilian civil servants were not as numerous as they were claimed to be.

All those factors continuously affect the climate of work at governmental agencies. There are still others, such as the lack of a nationwide human resources policy for the public sector and specifically the absence of professional management.

These negative points are counterbalanced by the Brazilian people's characteristic enthusiasm and inventiveness, which to some extent produce islands of excellence in many public sectors.

#### 2.2.2 The internal factors

In the late Seventies CNEN attracted many young professionals with high salaries and the possibility of promising jobs. High investments have been made towards personnel qualification: postgraduate and specialisation courses in the country and abroad, foreign language training, in-house specific courses and so on.

This generation was greatly involved in the rebuilding of democracy in the country, which led to



the desire to participate, that to a certain extent is carried over to other spheres outside politics. At work this drive is translated into the expectation of involvement in decision-making. Of course, management is influenced by such behaviour, since managers cannot impose conditions and need to find ways of effective leadership.

Managers have nevertheless to face a contradictory feeling of unconcern that prevails among the officials towards their daily tasks, due to the inadequate nature of some of their tasks. As a result of the situation discussed in the external environment, such as the lack of a hiring policy, there has been no renewal at CNEN for years. Consequently, since there are no juniors among technical personnel, some officials are simply assigned tasks beneath their ability. On the other hand, sometimes they must exceed themselves to replace more experienced people who retired or simply left. In addition, the shortage of clerks burdens the technical staff with clerical tasks.

CIN's premises are also a source of problems. The original project, designed before 1977, didn't foresee the increase in electronic equipment now in use. Therefore, people dispute space with micro-computers and printers. There is also a high level of noise coming from equipment and, since the individual space is not broad and the wooden workwalls are low, voices make concentration very difficult.

As the main positive factor, we could point out that CIN's staff has extensive and solid experience and specialisation. Another positive factor is that the Centre is well equipped with hardware and software.

### 2.2.3 Preceding conditions

Quality programs were not new for the group. CNEN as a whole had passed through two previous attempts to implement Total Quality Management programs. This imported model failed due to cultural differences and poor strategy. It is important to emphasise here that no matter what the main cause for its discontinuance, it is certain that it generated a clear opposition towards its rigid rules and that frustration would prevent future support from the employees in the implementation of formal programs.

There was even a sarcastic atmosphere regarding quality programs led by expensive consulting firms, which, in spite of that, spent enormous efforts with endless top management training but were unable to solve the elementary problems anyone could see without applying surveys and forms.

Nevertheless, the value of continuous improvement was recognised by the group. The employment

of methods and techniques like the Edward Deming's cycle (plan, do, check, act) were really feasible for the development of products and services aiming at simple and practical solutions to problems that were simple but not of least importance. That means that we might implement concepts about changes, but doing first things first.

### 2.3 PROMOTING BEHAVIOUR CHANGES, KEEPING OBJECTIVES

Since there was a pervasive feeling that many obvious changes had to be made before a rather sophisticated program was implemented, it was clear that measures should be taken to eliminate the hindering problems that could be easily identified by anyone.

It has been pointed out earlier that an unpleasant anticipation of discontinuity is very common among the employees when management changes. To prevent that, all the tasks and previous projects continued to be done the same way, until their destination could be decided by the group.

Brainstorming sessions were used to identify and to rank the problems. They were divided into two groups: the ones that could be solved internally were organised along the time-schedule, waiting for their turn. The ones that depended on an external solution were channelled to the proper level, always demanding an answer within fixed spans.

Of course, the officials were reasonable: they didn't expect everything to be cleared up in a second, but they wanted to be sure that there was some concern about solving problems. To prevent the natural impatience, a 'gaucho' saying was very much used at that time. When someone in the group wanted to have everything solved within the shortest time we used to repeat, 'Let's start eating the hot porridge by the brim'.

Careful planning has been done, having in mind the program objectives: increase of services use and special attention to users. Of course, the careful promotion program, the maintenance of the help-desk, the marketing database and a complete revision of manuals and guides were the first priority, since those points had been identified as having great impact on users' perception of our services. The projects were sub-divided according to the main subjects, but inversions for each month and each responsible person were also obtained by the use of a management software.

Care was taken to ensure rhythm to the work, so that the workload could be well distributed among the components and along the year.

Planning has been done in an interactive manner, as was usual in CIN. Each person in the group was



invited to present suggestions - goals, revisions, whatsoever. A first plan was drawn up and new discussion sessions have taken place, to adjust volume of work, schedules and priorities. At last we had a program for the Division and well established personal programs to which all had a commitment. This way of acting has been repeated every year. The period from December to February, when the promotion projects slow down, is dedicated to general revision and a detailed work plan for the following period. Follow-up mechanisms were created, but it is always stressed that they are tools to give consistency to a collective work, not to watch individuals.

The first important change came after six months, when a reorganisation of functions took place. At that time, a thorough re-allocation was effected, according to individual potentialities and skills, such as presenting ideas in public, writing, organising and so on. A concentration of tasks according to individual abilities was effected and then this distribution was adopted on a trial basis. Later on, a comparison between the functions of an advertising agency and those of DIPRO helped to improve the assignments.

Another concern was the logical work flux and the distribution of responsibilities among the Divisions, to avoid re-work and failures. Just as an example, it was very common that some small but important duties remained unattended. Those were the cases when 'anyone' could do something. In the end, since nobody felt responsible for the task, it was not done and we had frequent failures, as a result of the omission of these minor tasks.

Special attention was given to users' reception. In a first example, the designer built a plan for the complete rearrangement of the premises, so that the Division could have a special and friendly place to receive the users. Attention to phone-calls was also regarded as highly important. How to answer, what to say, which documents should be near the phone and many other aspects were taken into consideration. Some small changes, with great results, were also introduced. For instance, notes are taken of all telephone calls. The records that at first were filed by date, began to be filed by name and left near the telephone. In a third round of discussion, it was decided to file all the received and replied correspondence together - phone-call notes, letters, fax, e-mail - to build a complete picture of all the users' contacts when they called again. The mail 'package' is complemented by the data recorded in the main electronic file and is bringing speed and completeness to the attention given to users.

## 2.4 COMMUNICATION AND TEAM EMPOWERMENT

That aspect of our program created the psychological conditions for the emergence and consolidation of a continuous improvement impulse in the group.

Efficient channels for receiving criticisms and absorbing new ideas were created. The first rule was to listen. Listen with the mind. Consider everything that is said, not only by words but also by attitudes and ideas behind the words. The head of the division set an example so it rapidly spread and contaminated the group. Of course, communication flows up and down freely. There is no barrier for information to come from top management downwards and all ideas and complaints come from the bottom upwards, as much as practicable. Everybody has the freedom to say anything, being sure that his ideas will not be considered silly or useless, or that a criticism will cause anger or revenge. Being open to others' remarks is valid also when the case is to listen to colleagues from other branches and to users.

Team-work is emphasised in many ways. No-one has the sole possession of his share in the work. Information should be passed on as intensively as the others can afford to receive it. No secrets to reaffirm a pretended personal importance are allowed. On the other hand, the authorship of any idea is recognised by all. It makes someone proud to hear that a certain idea came from him, so he may trust no-one will take it away and, on the contrary, it will be spread wider. Further, in team-work, ideas are added easily, without any interference sensation, for one person's idea immediately becomes the group's idea.

To make the group work together smoothly, we had to avoid isolated 'clans', or 'court', or 'favourites'. Nobody has first-hand information on purpose. All are subject to the same rules.

Special attention is given to ensure coherence between discourse and practice. The behaviour adopted must be consistent with the policy lines drawn. This is particularly true of the head of the Division, who is frequently required to redefine her actions upon hearing about someone else's complaints.

## 3. Conclusions

Unlike many authors predict, the effort of a small cell seems appropriate even when the institution from top down is not engaged.

We are just beginning, but good results have already been obtained in those two years: better planning, programs and communication; schedules



followed regularly resulted in better promotion and user interface, which in turn influenced the measured results of other Divisions, as the increase of billings, new users, volume of usage by actual users and fall in users' complaints. The studies conducted on the users' 'mail package' resulted in new surveys and services improvement.

Some other results are not so easy to evaluate, such as good performance and work flow and a clear understanding that work can bring a dynamic and pleasant environment. But their significance can be realised on a day-by-day basis. So, the results obtained by the Quality Program of DIPRO show the way to achieve a pro-active environment to develop and conduct work towards excellence.

Nobody in DIPRO will ever try to prevent changes by saying that something has always been done that way. Not any more, because transition is part of our lives. We want it, we want things to run better, to appear better. We know that our results depend on others. So, our policy is that of gently persuading many people from other Divisions, hoping that maybe in the future they will also be engaged.

## Note

Gilda Queiroz is the head of the Promotion Division/CIN and Natanael Bruno is engineer at the Waste Management Division/ Licensing and Control Department - CNEN. He has a particular interest in improvement programs and has taken part in the Internal committees for a wide quality control project at CNEN. They worked together during the introduction of the program at CIN and he has given theoretical support to the project. They have written this paper, but the real authors are their colleagues from DIPRO.

## Bibliography

- Ishikawa, Kaoru (1989) *TQC basic concepts*  
(Transcription of a video-tape)
- Juran Institute, Inc. (1992) *Workshop on business process quality management*
- Sweeney, Richard T. (1994) 'Leadership in the post-hierarchical library' *Library trends*. 43(1) Summer. 62-94
- Takashi, Osada (1993) *Housekeeping 5S*
- Whiteley, Richard C. (c.1991) *The customer-driven company: Moving from talk to action*.  
Massachussets: Addison-Wesley/The Forum Corporation

## Appendix 1

### Acronyms

- CIN - Centro de Informações Nucleares  
 CNEN - Comissão Nacional de Energia Nuclear  
 COMUT - Programa de Comutação Bibliográfica  
 DIPRO - Divisão de Promoção  
 ETDE - Energy Technology Data Exchange  
 INIS - International Nuclear Information Systems







# Performance Indicators: Sickness and Absence Rates as Indicators of Staff Morale

Sandra Parker

Department of Information and Library Management, University of Northumbria at Newcastle

## Introduction

Employee absenteeism is a problem faced by all library and information service managers as it erodes both salary budgets and productivity. It can have an undermining effect on staff morale, and it may be an indicator of low staff motivation levels. Morale is part of the culture of organisations and as such can be difficult to measure in any quantitative form, thus any indicators in this area must be valued.

Maslow (1943) indicates that insecurity and change can cause increased sickness and absence rates, increased turnover of staff and poor industrial relations. As information and library workers live in the greatest period of change in 200 years, staff may succumb to greatly increased pressure and managers must have accurate methods of recognising and responding to any changes. It may be possible to predict stress in some change situations and thus be able to take appropriate action ahead of the problem.

Managing a service industry where the quality of the service depends directly upon the effectiveness and efficiency of well-trained and motivated staff is much more difficult if those staff become unreliable in attendance. In *Absent from work*, a survey by recruitment consultants Alfred Marks, 40% of companies say that high levels of absenteeism were caused by poor management and 35% low job interest or motivation - both issues which could be addressed by an effective change in management (Bolton, 1993).

Sickness and absence rate measurements must be easily obtainable and accurate. Analysis by managers can reveal trends and patterns that can quickly indicate areas which need to be addressed. In the UK at present the average number of days of absence is eight per annum, but is much less than this in Japanese owned companies (Employee . . . , 1993). This would indicate that the culture of the organisation and management response to the problem could significantly affect performance.

## How should an Organisation Define and Measure Absenteeism?

### DEFINITION

Absenteeism falls into two distinct groups. This first is Unavoidable absence which employees and employers believe to be legitimate under the terms of their contract. This includes illness, bereavement, jury service etc. Avoidable absences involve some kind of individual choice, which employers would not see as justifiable and where motivation is seen as playing a part.

A firm personnel policy document must address the grey areas which might be thought to belong to either category such as doctor or dentist appointments, driving tests, or the death of a non-family member. Such absences must be firmly allocated in a classification system so that meaningful and useful performance measures can be developed. These may not be universally applicable and may lose their viability over time, for example what may be acceptable during slack time may not be acceptable during busy time.

### MEASUREMENT

Any measurement of the problem - 'an essential precursor to effective action' - is dependent on access to accurate information. ' . . . The number of companies that don't have the right picture is amazing.' (Bolton, op. cit.)

Lost time rate is the most common form of measurement. This shows the percentage of the total time available which has been lost because of absence from all causes in a given period.

$$\frac{\text{Total absence (hours or days) in the period}}{\text{Possible total (hours or days) available}} \times 100 = \text{Lost Time Rate}$$

For example, if the total absence in the period is 124 hours, and the possible total working time is 1550 hours, the lost time rate is:

$$\frac{124}{1550} \times 100 = 8\%$$



The lost time rate can be regarded as a measure of 'severity'. If it is calculated separately by department or group of workers, it can show up particular problem areas. This may consist of a small number of people who are absent for long periods, or a large number absent for short spells. A measure of 'frequency' is needed to show how widespread the problem is, so that organisations can decide action to take.

The frequency rate shows the average number of spells of absence per employee (expressed as a percentage) irrespective of the length of each spell.

$$\frac{\text{No. of spells of absence in the period}}{\text{No. of employees in the period}} \times 100 = \text{Frequency Rate}$$

If the organisation wishes to monitor the number of employees absent at all during the period the individual frequency rate can be used:

$$\frac{\text{No. of employees having one or more spells of absence}}{\text{No. of employees}} \times 100 = \text{Individual Frequency Rate}$$

If for example in an organisation which employed 80 people 12 employees had periods of absence; one was away three times, two were away twice and nine once, a total number of 16 spells of absence, the frequency rate would be:

$$\frac{16}{80} \times 100 = 20\%$$

The individual frequency rate was:

$$\frac{12}{80} \times 100 = 15\%$$

Use of these measurements will determine the scale of the problem and highlight specific areas which need attention. Further examination of the figures according to the reason for absence is essential (Advisory . . . , 1991).

Where absenteeism does become a focus of management attention, there are very tangible improvements. One company in the food processing and distribution market claimed that it experienced a 50% reduction in absenteeism from 8% to 4% over a three-year period.

When accurate information is available for analysis by management, trends and patterns will emerge and appropriate action can be taken. Absenteeism may relate to particular individuals, a particular supervisor, specific buildings, branches or departments, Mondays or after Bank Holidays.

## Computer-based Monitoring

The most important aid to establishing absenteeism patterns is the introduction of computer-based monitoring systems.

Systems are developing all of the time. Some of those that are available are as follows: Midland Software's Delphi Absence application, which was part of its Delphi integrated human resources management suite of personnel systems, allows users to record all periods of employee absence in a classification system which includes holidays, lieu days, jury service, compassionate leave, study leave, examinations, Territorial Army and sickness. This mainframe system can be customised to fit the individual and the organisation, detailing employee sickness and holiday entitlements, absence type, frequency and pattern.

Peterborough, whose clients include Marks & Spencer, Reuters and Exxon, has a range of solutions for use on IBM mainframes, IBM AS/400, ICL mainframes, open systems and PCs. It has a time and attendance system, called Unistar, but which is sold and supported through Smart Systems. Peterborough's PS 2000 absence management system provides instant access to detailed information on all absence.

Harwood Personnel, a PC-based system, runs on any IBM or PC compatible system and on any DOS compatible network. The system is flexible and fits in with the user's way of working. It is based on Q&A, the database and word processing system. It is easy to work with, not just for the end user, but also for the programmer, allowing Harwood to tailor systems quickly to meet particular requirements.

Imago Systems supplies integrated human resource management applications for use on mainframes, minis and multi-user PCs for medium to large-size companies, providing very functional systems that can be tailored to meet different users' requirements. Imago's users include Hotpoint, Gallaher, Taylor Woodrow and the Yorkshire Building Society.

Many employers allow their staff to work on a flexi-time basis which can be an administrative nightmare. However, when it is well-managed, it is a useful management tool for reducing absenteeism. Research undertaken by The University of Bangor on women in senior management (1995) has indicated that after childcare support, flexible working is the greatest aid to removing barriers for women in gaining senior posts. In a profession where 72% of the staff are women, flexi-working becomes increasingly important. By giving staff flexibility to



attend to private matters more easily during the working week, it raises their levels of motivation and morale, thus producing lower levels of absenteeism.

Data Collection Systems has a dedicated package, Core Control, for monitoring flexi-time. The system offers a fast and reliable method of electronically collecting attendance 'clockings' for immediate analysis by any managers authorised to access the system. By defining work patterns for each employee, the system knows when to expect attendance. Any deviations from the normal hours worked are clearly highlighted in automatic exception reports.

'In the past it was difficult to get the data and identify any absenteeism problems,' says chief information officer Alan Hodgson of Derwentside District Council, who installed the system on its IBM AS/400 in November 1991. It covers 550 staff in twelve remote sites. 'Before we had the system, sick cards and payroll were the best method we had of monitoring absenteeism. "Flexi-time" was seen as a staff perk, but the new system gave us, management, something back . . .

'When we got our first serious analysis from the system in January 1992, there was a minor panic at the amount of sick days reported, although it was not quite so bad when we analysed the figures further and found that one employee's long-term sickness was affecting the averages. The beauty of the system is that the information is there instantaneously and there is no more scrapping around with bits of paper', says Mr Hodgson (Bolton, op. cit. p.46).

## What are the Underlying Causes of Absence?

Morale has been described by Brian Enright as 'a fickle jade, fragile and illusory' (1989). However, low morale as evidenced by high sickness and absence rates should be a cause for concern because of the effect particularly on the service delivery. If there is a problem with an employee's attendance, counselling should be the first option as it is much more expensive to sack someone and recruit a new employee.

'Every organisation has to prepare for the abandonment of everything it does' said Peter Drucker (1992). This is particularly true of information and library organisations, and the pace of change must affect the staff.

In a study in 1991, *Library staff in times of change: a study of absenteeism figures* (1991), Claire Pegg found after looking at the figures for

two public libraries and an academic library, that two libraries experienced increased absenteeism following a major organisational change, which seemed to suggest a direct link between morale, absenteeism and change, with absenteeism increasing by 21% in one library during the period examined. More investigation of the reasons for the absenteeism is necessary in further research, but the literature strongly supports a connection.

Structures of organisations, having been ignored in the literature for many years, are now being recognised as having a strong effect on motivation and productivity. The structure must be appropriate to the task. As information workers we expect much from our staff: we expect them to be intelligent, written word and computer literate, inquisitive, curious and questioning and to play an important part in service delivery. Our organisations therefore should be non-hierarchical, flexible, flat and responsive. Empirical research reveals that high job-involvement and organisational commitment reduce the likelihood of absence (Bunning, 1988 p.46).

## What are the Best Methods that an Organisation might Adopt to Reduce Absenteeism?

The best methods currently available for coping with this pervasive problem include:

### MODIFYING THE ORGANISATIONAL ENVIRONMENT THROUGH THE ADOPTION OF A GOOD ATTENDANCE POLICY

This provides a sound foundation for reducing absenteeism. Good physical working conditions should be provided, with health and safety standards that are observed. Induction training should stress good attendance habits and welfare provision so that communication is easier if an employee has problems. Small working groups often encourage responsibility to the rest of the team, and thus improved attendance. Supervisory training should be adequate and supervisors should take an interest in their employees' health and welfare.

For employees an ideal attendance policy should:

1. be fair and consistently applied
2. have a substantial reward system
3. be easily understood and administered
4. be self-policing
5. be financially sound (Bunning, op. cit.).

This encouraged one organisation, Sola Barnes-Hind, which allowed 12 sick days per year, to



replace these with Personnel Insurance hours (Michals, 1992), which are similar to a paid leave bank. Instead of allowing 12 sick days per year, the company adds six days to an employee's vacation time. The responsibility is shifted to the employee to set aside vacation days to cover unexpected illness, while providing employees with the flexibility to use these extra days however they choose. This removes the motivation to feign illness in order to take a day off (Bunning, *op. cit.* p.47). Alternatively special leave could be arranged for emergencies and reasonable absences such as business, or medical appointments or religious observances.

Other aids which might be considered are flexible working and the provision of crèche facilities. Long-term illness will require careful management response, especially if the cause is work related. Counselling on return to work should be undertaken by a line manager where possible, as a more clear picture of the overall pattern of absence will be more clearly understood.

#### PARTICIPATION AND REWARDS

Traditional solutions to absenteeism attempt to motivate employees through increased participation and rewards. Employee participation can come from involvement in decision-making, profit-sharing, share ownership, and fringe benefits (Wilson and Peel, 1991).

Rewards can come in the form of bonuses, or a modified work week. A study conducted at 52 engineering and metalworking firms in the UK demonstrated that profit-sharing and share ownership had a positive effect on employee attendance. It is suggested that these participation schemes lower the absentee rate through their positive effect on job involvement, job satisfaction, and organisational commitment.

A minority of employees tend to account for a majority of absences. For example, one study revealed that 25% of the employees accounted for all the avoidable absences (Sadri and Lewis). In the 1980s General Motors was losing 9% of its payroll hours to absenteeism at a cost of over \$1 billion and offered a reward system of a \$50 bonus every quarter to an employee with no absences. This had no effect on G.M.'s absentee rate, so it was forced to pay bonuses to the majority of its employees who would have attended work anyway. It cost over \$400 million to implement and sent the message to G.M. employees that regular attendance was not something to be expected.

Some organisations have a process of 'Banking Time' where, if not used to cover sickness, time can

be saved and converted into extra holidays, long sabbatical leave or even early retirement.

#### SELF-MANAGEMENT TRAINING

Self-management training teaches people to manage, in order to modify their own behaviour. Frayne and Latham suggest that self-management training, which improves perceived self-esteem and confidence, will positively affect employee attendance (Latham and Frayne, 1989 p.411).

There are three advantages to this approach over more traditional approaches to controlling absenteeism: (a) it requires minimal training costs; (b) research shows that such training is successful in modifying behaviour in spite of an environment that reinforces it; and (c) it focuses on the particular problems of people who do not come to work because they are unable to cope (Frayne and Latham, 1987). The group that Frayne and Latham studied volunteered to receive training to overcome their chronic absentee problems. The 12-hour self-management training programme covered a description of problem behaviour, the environmental conditions, coping strategies, monitoring and behavioural change.

Post-training attendance was measured and the programme evaluated. The study did find that the employees' self-esteem was much higher after training, as was their attendance at work (*ibid.* p.387-390). A follow-up study two years later found that the effects of training had not diminished; employees were still using the problem-solving skills learned in the self-management training.

These employees had volunteered for training. They wanted to change their behaviour. An employee who believes sick days are a 'right' will not desire to change her/his behaviour. Desire to change is critical in order for self-management training to succeed.

#### Conclusion

'Extinction works. If you get rid of employees with absentee problems, you'll have less absenteeism.' (Green, 1988)

There may be several alternative solutions. There is not a 'best' solution for coping with employee absenteeism; rather a variety of tools for addressing the problem. The challenge for the manager lies in analysing the organisational environment, the characteristics of her/his employees, and choosing the best tool for the job.



## References

- Advisory Conciliation and Arbitration Service (ACAS) (1991) *Absence*. Advisory Booklet No. 5
- Bolton, L. (1993) 'Absence makes the company poorer' *Accountancy* 11. January. 44-46
- Bunning, R. L. (1988) 'A comprehensive approach to improving attendance' *Personnel journal*. August p.46
- Drucker, P. (1992) *Harvard business review* Sep-Oct. p.98
- 'Employee absence: Industrial Society and CBI chart patterns and policies' *Industrial relations review*. May 1993
- Enright, B. J. (1989) 'Animadversions on library morale' *Assistant librarian*. September. 130-136
- Frayne, C. A. and Latham, G. P. (1987) 'Application of social learning theory to employee self-management of attendance' *Journal of applied psychology* 72-3. 389-390
- Green, R. (1988) Interview with Davis Blitz. *Forbes* magazine. January.
- Latham, G. P. and Frayne, C. A. (1989) 'Self-management training for increasing job attendance: A follow-up and a replication' *Journal of applied psychology* 74. p.411
- Maslow, A. H. (1943) 'A theory of human motivation'. *Psychological review*. 50
- Michals, D. (1991) 'A new solution for employee absenteeism' *Working woman* 16. June. p.22
- Pegg, C. (1991) *Library staff morale in times of change: a study of absenteeism figures*. Master's Dissertation, Department of Information and Library Management, University of Northumbria at Newcastle
- Sadri, G. and Lewis, M. 'Combatting absenteeism in the work place' *Management research news* 18(1) 24-30
- The University of Bangor (1995) *Women in senior management: Research study of career barriers and progression in the library and information sector*. Unpublished Report.
- Wilson, N. and Peel, M. J. (1991) 'The impact on absenteeism and quits of profit-sharing and other forms of employee participation' *Industrial and labor relations review* 44-3. April







# Benchmarking and its Relevance to the Library and Information Sector

Interim findings of 'Best Practice Benchmarking in the Library and Information Sector', a British Library Research and Development Department project

**Margaret Kinnell and Penny Garrod**

Department of Information and Library Studies, Loughborough University

## Abstract

This paper details the interim findings of a one-year British Library Research and Development Department research project entitled: Best Practice Benchmarking in the Library and Information Sector.

Definitions and types of benchmarking are described, and the relevance of benchmarking to Library and Information Services (LIS), is evaluated.

The aim of the project is to assess current activities and attitudes to quality management in LIS in the academic sector, and in a sample taken from the commercial/industrial sector. Benchmarking is seen as one of a range of 'quality' tools which might be of practical use to the LIS sector. Benchmarking techniques are being tested so that their relevance and utility to the information sector can be assessed.

The methodologies used throughout the research project, and the interim findings to date, are detailed. The questionnaire survey found that the majority of respondents have no written formal policy on quality, whilst benchmarking is used by 7% of respondents. However, user feedback is a popular method of measuring and evaluating performance, with 81% of respondents claiming to use it. Examples of current practice, gathered at the follow-up telephone interview phase of the project, reveal the problems faced by LIS, in both the academic and commercial sectors.

The paper concludes that benchmarking is a 'quality' tool which should form part of an overall quality programme, aimed at improving services. Quality management is considered to be beneficial to the library and information sector, but a model which is in harmony with the needs of the sector has not yet been identified. The self-assessment model, as developed by the British Quality Foundation (BQF) and the European Foundation for Quality Management (EFQM), has been identified as the most appropriate model for the information sector at

the present time, although further research would be necessary before it could be considered for adoption.

## Introduction

The concept of benchmarking has become significant for library and information services (LIS) with the growing recognition that quality management principles and practices provide the means to delivery of effective services in the current climate of increased accountability and dwindling resources (Mullen, 1993; Lawes, 1993).

Successful companies have demonstrated that benchmarking can be a useful tool for implementing quality management in the equally demanding operating environment of the business sector. Rank Xerox is the company most commonly associated with the successful use of benchmarking techniques; in 1979 they introduced benchmarking to establish how their competitors had achieved success, and then emulated them. According to one leading authority on quality, benchmarking is now widely credited with being one of the main factors responsible for improvements in company performance (Zairi and Hutton, 1995). It is against this background of intensifying use of benchmarking activity in the commercial world that benchmarking for LIS is being considered.

## The Project

Loughborough University of Technology is engaged on a one-year project for the British Library Research and Development Department (BLRD&D) to investigate the viability of benchmarking techniques for the library and information sector. The project began in November 1994 and ends in December 1995. The team comprises: Margaret Kinnell Evans, as Project Director; Penny Garrod, as Researcher; together with John Brockman, Quality Manager at the Ministry of Defence Headquarters Library, London, and Alan Gilchrist of Gavel Con-



sultancy. The latter are respectively the Secretary and Chair of the Quality Issues special interest group of the International Federation for Information and Documentation (FID/QI). FID will soon be publishing, jointly with BLRD&D, a select bibliography of quality management items compiled by the Loughborough benchmarking team.

The aim of the project is to assess the levels of quality management activities within the sector, with special reference to academic and special LIS. Benchmarking is one of a range of approaches available, with attitudes to quality management in general, and to benchmarking in particular, also being investigated. Barriers to change, which may be limiting current levels of activity on quality issues in the library and information sector, are being identified, whilst the beneficial effects of implementing quality programmes are being highlighted as a way of overcoming the problems of limited resources and customer dissatisfaction. The project is complemented by the Quality Management and Public Libraries study, also funded by BLRD&D, and jointly being undertaken by Sheffield and Loughborough Universities. The data collection for this project is designed to provide some basis for comparing quality management practices across the whole of the LIS sector.

## Methodology

### a) SURVEYS

A questionnaire survey was undertaken to establish current levels of quality related activities in the library and information sector. All library and information services in the higher education sector, and a sample of 197 information units from the commercial/industrial sector, were surveyed. The overall target group was 511 library and information services. Respondents to the questionnaire were asked to state whether they were prepared to take part in a follow-up telephone interview. A sample of those who agreed to this has been interviewed to date.

### b) LITERATURE SEARCHING

Literature searching has been an ongoing process for the duration of the project. New items on quality related issues are constantly being published, as the topic is highly dynamic and subject to constant review and criticism. Literature searching has so far concentrated on identifying items for inclusion in the select bibliography, which is soon to be published, and surveying previous research in the field to supply data for an interim position paper. Searching in the area of quality management is

made difficult by the proliferation of terms used eg. performance measurement/performance indicators; quality management/total quality management; quality systems/quality standards etc. This abundance of jargon-laden terminology, and varied definitions, represents one of the major barriers to the implementation of quality programmes.

Coopers and Lybrand have carried out two surveys into the use of benchmarking: one in the United Kingdom in 1993, and one in Europe in 1994 (Coopers . . . , 1993, 1994). The first of these revealed that out of 105 UK respondents, comprising directors drawn from the Times Top 1,000 list of manufacturing and service companies, 67% claimed currently to be benchmarking. The second survey involved major companies from The Netherlands, Switzerland, Spain, France and the UK. Once again, benchmarking was used as a management tool by 72% of respondents; for the UK alone the figure was 78%. More importantly, 86% of UK respondents in the European survey stated that they had learned lessons from benchmarking activities. These activities are important if the concept of 'The Learning Organisation' is to become a reality. One of the frequently reported benefits of benchmarking is its ability to heighten awareness of internal processes and communications; this in turn facilitates identification of areas where improvements can be made.

However, benchmarking is a difficult concept to put into practice, especially for those in the service sector where there are no tangible products, and there are many variables, which renders comparisons difficult. Benchmarking is now being referred to in government literature as a 'challenge' (Department . . . , 1995). Whilst the government, the Confederation of British Industries (CBI), and other influential bodies exhort all organisations, irrespective of size and industry, to adopt benchmarking techniques, others are cautioning that it is not an easy task, and that it cannot be achieved overnight (Bullivant, 1994, ch.1 p.53). Smaller organisations which have tried benchmarking have yet to confirm whether it has been successful or not. However, they do affirm that it has been a useful learning exercise.

A 1992 report from the USA sees benchmarking as benefiting only the higher performing organisations (Ernst and Young . . . , 1993). The authors of the American study relate the failure of benchmarking in lower and medium performing organisations to their choice of inappropriate models for comparison. These models tend to be the 'best of the best,' whose practices are ineffective



when adopted by lower performing organisations. Instead, the authors suggest that lower performers should concentrate their resources on their 'core infrastructure', rather than waste them on what they term 'sophisticated practices'. The extent to which the findings of this study has relevance for the LIS sector has yet to be tested, although the present project will consider them. Identifying 'higher' and 'lower' performing organisations in LIS is problematic, given the lack of objective criteria for success. However, certain factors can be seen as significant to ensure that LIS are compared on equal terms. Size and annual budget are two of the more obvious, as is the experience of quality management in the organisation. It seems unnecessary, for example, to point out that it would be unwise for a small HE college library, with no quality programme in place, to attempt a comparison with a large, university library, where total quality management (TQM) had been implemented some time ago.

#### c) 'DEMONSTRATOR' PROJECTS

Three 'demonstrator' projects have been set up, consisting of library and information units which have volunteered to undertake a benchmarking exercise for the project. These organisations represent a cross-section of the academic, public and commercial sectors. Each 'demonstrator' project has selected a key process for benchmarking purposes; these are processes which they perceive to be essential to the success of their particular unit or organisation. Benchmarking partners are in process of being identified and contacted, as the next phase of the process is entered.

The aim of this element in the methodology is to put benchmarking into practice, and thereby to assess its relevance to the library and information sector. As well as providing valuable data for the benchmarking project, the exercise should provide an insight into the type of problems which LIS may encounter, when trying to implement benchmarking techniques. The organisations involved will report on any learning experiences they have had, and whether the methods used were appropriate for their particular organisational culture. A subsequent analysis of these data will enable the benchmarking team to establish the viability of benchmarking for the library and information sector, and evaluate how it can best be adapted to this environment.

#### Definitions

There are many definitions and several types of benchmarking. Definitions range from the general to the specific, and many of them originate

from well-known authorities or 'gurus' on quality management, such as Robert Camp and John Bullivant (Camp, 1989 and Bullivant, 1994). However, a definition which is relevant and meaningful to the library and information sector is needed. As far as the various types of benchmarking are concerned, one of the aims of this project is to evaluate these models, in order to identify those which are best suited to the LIS sector. Two key concepts, which should be kept in mind when grappling with the many definitions, are: Measurement and Comparison. The term 'benchmark' has its origins in industrial practice, and is synonymous with inspection and tangible products. However, it is now widely used to mean anything taken as a point of reference or comparison.

The 'demonstrator' organisations are currently in process of testing benchmarking techniques for the project using the concepts of measurement and comparison in tangible ways. Their experiences will provide valuable data on the practicalities of benchmarking for the LIS sector.

The following example provides a concrete example of the way in which benchmarking can be applied to a library and information service. The demonstrator projects are basing their activities on these procedures:

#### Checklist of procedures

- Identifying a process which is critical to the success of the library and information service (LIS) eg. an enquiry or interlibrary loans service.
- Documenting or mapping the sub-processes, which are carried out as part of this process.
- Taking measurements of those factors which are deemed critical to the success of the process, eg. the speed of document delivery, or the relevance of a response to an enquiry.
- Analysing the results of this exercise.
- Choosing and then visiting benchmarking partners, in order to compare the results with other organisations using a similar process.
- Identifying 'best practice', ie. methods used by benchmarking partners which can be adopted in order to improve one's own level of service.

#### Types of Benchmarking

Five main categories of benchmarking have been cited in the literature:

1. Competitor - comparing with leading organisations with similar products or services and



adopting their approach. This method is suited to the with-profit sector, but the Department of Trade and Industry (DTI) also recommend its use by organisations providing the same services, but where there is no competition on a commercial basis, eg. NHS trusts, government departments, and universities (Department . . . , March 1995. p.5).

2. Generic - comparisons of business processes or functions that are very similar, regardless of industry (Oakland, 1994, p.182).
3. Internal - a comparison of internal operations by different departments within the same organisation (ibid., p.181).
4. Functional - comparisons to similar functions within the same broad industry, or to industry leaders (ibid., p.182).
5. Customer - the aim of the improvement programme is meeting and exceeding customer expectations.

The DTI has recently suggested this latter concept of customer benchmarking, which may be of particular relevance to the library and information sector. The DTI state:

'The benchmark is customer expectations. Customers develop their own benchmarks of performance when selecting and judging suppliers. The improvement programme is aimed at meeting and exceeding customer expectation.' (Department . . . , March 1995 p.5)

It is already common practice in the LIS sector to use customer feedback and customer satisfaction surveys to measure the quality of service provision.

The findings of this project have revealed these methods to be widespread. However, it must be acknowledged that customer expectations can be unrealistic, and responses to them have to be tempered by constraints on resources. Despite these reservations, it would be worthwhile assessing the development of customer benchmarking in the library and information sector. Many LIS already use a range of techniques to obtain feedback from their users, and then take action to implement changes where possible. Customer benchmarking would merely formalise these activities, and could establish optimum levels of service on the lines of charters already in use in many public library services. These may or may not be considered desirable more generally to information services and their customers in the academic and special library fields.

## Relevance

### THE PUBLIC SECTOR

The application of benchmarking to the public sector, and in particular to service environments, has now been acknowledged in the literature and in practice. The DTI argues that benchmarking is not exclusive to international corporations, but that: 'many of the techniques transfer well to smaller businesses, the health sector, service organisations and government departments' (ibid., p.2). However, examples of the use of benchmarking are mostly taken from large, successful companies, despite the reiteration of its application to smaller organisations. Smaller organisations may be deterred either by a lack of resources to expend on quality management techniques, or require hard evidence to demonstrate the utility of benchmarking to their operations.

The National Health Service has taken a lead role in promoting the use of benchmarking in the public sector through the NHS Benchmarking Reference Centre based in Wales. Its Director, John Bullivant, has stated that there are many models of benchmarking models from which to choose (1994, ch.3, p.81) and that it is better to adapt the approach to suit the needs of the individual organisation, rather than reinvent benchmarking. He advocates learning from the experiences of others, and the use of benchmarking clubs and benchmarking visits (ibid., ch.3, p.85). Benchmarking is seen to be part of an overall quality programme as one method among many, which organisations may consider when looking at ways of improving performance.

### ACADEMIC LIS

Throughout the literature, benchmarking is referred to as a means of improving an organisation's competitiveness. LIS managers in the academic sector may find this emphasis alien to their culture and work practices, and view themselves as remote from the world of commerce. This is understandable for those who grew up viewing education, libraries and knowledge as fundamental to a civilised nation, to which everyone, irrespective of income and status, has a right, free of charge at the point of delivery.

Times change and this ideal has largely disappeared. Education and information are now seen as tradable commodities - especially now that demand is high and funding is geared to research ratings and numbers of students. Obtaining funds from the Higher Education Funding Council for England (HEFCE) is highly competitive, and institutions are having to compete to attract students and



resources. LIS have been identified as playing a fundamental role in the provision of quality education in two surveys discussed in the Follett Report (Joint . . . , 1993 p.37). They may wish to improve existing services by focusing on internal processes, with the aim of identifying and eliminating non-value-adding procedures. These may have been in place for many years; often they entail unnecessary duplication of paper-based transactions to satisfy internal, departmental requirements. These processes have frequently 'always been done this way', but the original purpose for carrying out the procedure has long disappeared. Benchmarking offers a way of focusing on essential processes and eliminating unnecessary tasks, through comparison with other organisations. Benchmarking is essentially a learning experience. Participants reappraise their internal operations, so that all activities are firmly focused on the customer, and learn through an exchange of information with other organisations.

#### INDUSTRIAL / COMMERCIAL LIS

Benchmarking is of particular value to LIS in the industrial/commercial sector, as it builds on the success of others to improve performance. Benchmarking focuses on areas which are vital to the success of the organisation, and therefore has a positive impact on performance. This is critical if companies are to succeed in today's competitive marketplace. Fewer complaints and more satisfied customers can help establish a good reputation, and in the case of an LIS, it can raise its profile in the organisation. Those companies which value information as an essential resource will want to ensure that their information service is applying best practice.

### Project Outcomes and Dissemination of Findings

The findings for the project will be fully described and evaluated in a final report to BLRD&D. In the interim period there will be various publications, which are currently in process, or are anticipated:

#### SELECT BIBLIOGRAPHY OF QUALITY MANAGEMENT ITEMS

The first of these, a select bibliography, will soon be jointly published by FID and BLRD&D. This comprises around 200 annotated items under a range of quality related headings, and is aimed at busy library and information services managers interested in a compact guide to the literature. There is now such a wealth of literature on quality issues, that a

bibliography which selected from this vast pool seemed essential to support managers in their implementation of quality management techniques. Items included range from books on general management to journal articles in the information field.

#### FURTHER PROJECT DOCUMENTATION

A position paper is currently being drafted, which outlines the current status of quality management for all sectors. This also identifies networking opportunities for library and information managers interested in quality related issues. The final results of the project will be also be disseminated through journal articles and further conference presentations.

### Interim Project Findings to Date: the Questionnaire Survey

#### (i) AIMS AND OBJECTIVES

The aim of the questionnaire survey was to establish the levels of implementation of quality management programmes in the library and information sector, and to evaluate which techniques and methodologies were currently being used. The questionnaire instrument was designed to complement that of the Quality Management and Public Libraries study, in order to ensure comparability of data collection.

#### (ii) RESPONSE RATE

The overall response rate to the questionnaire survey, which was addressed to heads of LIS, was 56.5%. For the academic sector it was 73%, whilst for the commercial sector it was 30%, although 28 additional questionnaires were returned uncompleted from commercial organisations.

The comments appended to various sections of the questionnaire provided the most illuminating data on attitudes to quality issues and barriers to change. These were all extrapolated and recorded for reference and analysis.

#### (iii) FINDINGS

##### 1. Written Policy on quality at organisational level

The first question aimed to establish how many organisations had written policies on quality. In both sectors (academic and commercial), 33% of respondents stated that they did have a written policy at organisational level, whilst 53% had no written policy. The remainder was made up of organisations in process of preparing a written policy (12%) and those who failed to respond to the question. There was little variation between the two sectors. Almost 26% of commercial sector



respondents had a written policy on quality, and 46% had no policy. Eleven per cent claimed to have a written policy in preparation.

## 2. Written policy on quality at library and information services level

We then sought to establish whether a written policy on quality existed at library and information service level. Here, the level of those answering positively that LIS did have a written policy was 12% for both sectors combined. Those without a written policy totalled 74%. In the commercial sector alone 10% had a written policy on quality, revealing that once again levels of implementation for both sectors were similar.

## 3. Formal Quality programme in place

When asked if there was a formal quality programme in place only 14% answered in the affirmative, although a larger number - 19% - stated that a programme was being prepared.

## 4. Quality initiatives

We also asked managers if they were involved in a range of quality initiatives. These were: TQM; Quality Circles; BS 5750; Customer Contracts; The Learning Organization; Investors in People (IIP), or any other unspecified methods. Investors in People proved the most popular initiative with 19% of respondents claiming to use it. Total quality management had been implemented by 13% of respondents, and Customer Contracts by around 2.5% of respondents.

## 5. Management initiatives

Respondents were also asked whether specific management initiatives had been introduced into their LIS. They were presented with seven possible initiatives: Management by Function; Management Information Systems; Cost Centres; Flatter Management Structures, Performance Indicators; Staff Appraisal and Team Working. Staff Appraisal and Team Working proved to be the most commonly used approaches, at 61% and 53% respectively.

## 6. Training

Of equal importance is specific training in quality for staff at all levels. However, 72.5% of LIS had no training programmes in place. Only 18% of respondents had training in quality for middle managers and paraprofessionals; whilst 14% offered training at senior manager level.

## 7. Measurement and evaluation of performance

Of particular relevance to this project was the use of benchmarking techniques. Benchmarking, along with usage statistics, performance indica-

tors, user feedback and cross-charging were offered as methods which might currently be used to measure and evaluate performance in library and information services. Just over 7% claimed to be benchmarking (19 LIS in the academic sector, and one future benchmarker in the commercial sector, where they planned to introduce benchmarking in 1996). User feedback was the most widely used measure at 81%, closely followed by usage statistics at almost 79%.

## 8. Methods of communicating policies to staff

The responses to this question are significant, as effective communication is essential to the success of any organisation, especially if the organisation is embarking on a quality programme. Poor communications are frequently the cause of the failure of management initiatives. Respondents were asked which methods, from a list of nine, they used to communicate policies to LIS staff. Staff meetings were the most used method of communication (71% of respondents). 'On the job training' was the second most used method (54%), followed by appraisal schemes and managers 'walking the floor', each used by 40% of respondents.

## Telephone interviews

A number of follow-up telephone interviews has been conducted to date to probe the findings further. These were divided equally between LIS in the commercial sector and the academic sector. They have provided insight into individual practice and cultures, and have served to highlight problems which hinder organisations trying to implement quality programmes.

### THE ACADEMIC SECTOR: SIGNIFICANT FINDINGS

Institution A - Benchmarking was considered to be of relevance to the LIS sector by this interviewee. Informal benchmarking is carried out through analysis of the annual reports and reviews of other universities, and through contacts. Formalising procedures was viewed as a natural progression. A barrier to implementation was considered to be lack of time, and problems associated with the transition from old methods to new quality approaches. The latter problem required cultural change, which was deemed difficult as there were many long-serving members of staff (referred to as 'platform performers'), who were opposed to change, so that the institution could make little progress until these people retired or left. A new Vice-Chancellor was about to take up appointment, with the expectation that this



would effect change. However, the LIS was viewed as being well-placed, with representation on all the 'right' committees, and it had support from higher management.

Institution B - the interviewee at this institution also felt that benchmarking was relevant to the LIS, and expressed a keen interest in 'evaluating others'. Their current practice was to arrange visits and exchanges of staff with other institutions. The purpose of this is to gain knowledge of how a host organisation works. They had a formal twinning arrangement with a counterpart in the USA, and planned to exploit the expertise of the US institution in an area which was new to them. This institution had both a mission statement and a five-year strategic plan, and perceived themselves as being advanced in their use of performance indicators and user satisfaction surveys. The interviewee was very positive about looking outside of the LIS community for ideas. He stated that they had looked at the example of Marks and Spencer when deciding to close the library for an hour on one morning a week, in order to carry out staff training. Prior to this they had thought such actions were inappropriate, and would be opposed by users. He also expressed the view that the LIS sector was already very advanced, and that the progress which had been made, for example in the introduction of IT, had been underestimated.

Institution C - Benchmarking was judged, by the interviewee, to be relevant to the LIS sector with the proviso that the term meant 'finding best practice and then emulating and comparing with this'. If, on the other hand, benchmarking was closely tied to standards and prescriptive then it was judged to be of no relevance or use to the LIS sector. Performance indicators, the interviewee felt, had been effective in generating standards in the past. However, performance indicators needed to be tailored to local aims and objectives, so that similarities were highlighted. This would overcome the common reaction of the LIS profession - which was to claim their organisation was 'different', which precluded comparison.

#### THE COMMERCIAL SECTOR: SIGNIFICANT FINDINGS

There was found to be a diversity of cultures and practices in the sample organisations interviewed in the commercial sector. Most interviewees considered benchmarking to be relevant to the LIS sector. Some expressed reservations, for example that it *ought* to be relevant, but might not be practical, as

considerable time and resources needed to be allocated for it to be implemented. Several expressed the view that the aims of benchmarking partners should be similar; if organisations had different purposes then their processes would differ, and comparisons would be difficult. Specific processes, eg. document delivery and journal circulation, were perceived as being best suited to benchmarking exercises, as they were easy to monitor.

Organisation A - This organisation had both a written policy on quality and a formal quality programme, and had disbanded its corporate centralised library. The one remaining library professional had been given a new job title, which reflected her new 'support' and 'secretarial' status. Holdings had been dispersed to individual departments, according to their relevance to the work of that department. In-house qualified librarians were no longer employed, and information requests were outsourced to information brokers.

Organisation B - The LIS in this organisation anticipated the doubling of the level of enquiries - currently around 10,000 a year - with only one new member of staff being appointed to help deal with the increase. They were acting as a pilot project for a Department of Trade and Industry (DTI) scheme, known as 'Technical Transfer Services'. This project involves extending the organisation's high profile enquiry service, with access to a collection of technical information resources, to non-members. The aim of this initiative is to provide small and medium-sized enterprises (SMEs) with information on those examples of best practice which would enable them to improve their services and products. The interviewee expressed concern regarding the impact this initiative could have on quality. The organisation's 'bottom line' was to view all non-members as potential members, a view with which the interviewee agreed. However, enquiries outside the expertise of the organisation were anticipated, which would require referral elsewhere. This could impact on the reputation of the information service, if referrals proved unsatisfactory. This LIS has well-documented, formalised procedures, for a range of services, as well as a quality manual. They have been involved in BS 5750 and Investors in People (IIP) initiatives. However, there is now a genuine concern for the quality and reputation of the service with the development of a new element in service delivery, which would fall outside the direct control of the information service.

Organisation C - The LIS in this organisation can be categorised as a 'special' library. Here the organisa-



tion was undergoing what was termed 'soft privatisation'. This involved plans to merge the organisation with a university. Original plans for market testing and service level agreements had been jettisoned, due to the uncertainty of the future of the unit. Redundancies were anticipated following the merger. The interviewee stressed that the organisation was driven by financial concerns alone; no consideration was given to customer satisfaction. He expressed the view that teleworking might be adopted to save costs; one worker was already working in France and communicating with the home-base by electronic mail. He also added that many organisations in the commercial sector were only planning six months ahead. It can be inferred that this is partly due to the recession, and to insecurity about the future. Libraries, he suggested, were commonly perceived to be too expensive to maintain, as well as taking up expensive space. They were therefore viewed as prime candidates for cost-cutting exercises.

**Organisation D** - An interviewee from this organisation mentioned the familiar 'what's in it for me' question, which is often posed by managers, when evaluating new management initiatives. She felt that benchmarking, and quality programmes in general, had to have some easily identifiable and quantifiable gain attached to them, in order to justify the time and resources which would need to be allocated to them.

## Conclusions

### (i) BENCHMARKING MODELS FOR THE LIBRARY AND INFORMATION SECTOR

The approach which has been adopted by the LIS taking part in the benchmarking exercise for this project is a bottom-up approach. Processes, which have been identified as critical to the success of the service, have been selected for measurement and comparison with other LIS - irrespective of sector. The two functions chosen are interlibrary loans and enquiry services. This approach is commensurate with the comments made by interviewees that processes which are easy to monitor and measure should be chosen for benchmarking exercises. The results of this part of the study have not yet been analysed. The data are now being collected and the 'demonstrator' library and information services have yet to report on their experiences.

Customer benchmarking would also be worth evaluating for use by the information sector. Libraries already use customer feedback and user surveys to a large extent. It might, therefore, be fea-

sible and cost-effective to set benchmarks based on this feedback, with the proviso that the benchmark be both realistic and attainable after improvements have been effected. Where user expectations were unreasonably high, adjustments would have to be made to the benchmark, and the reasons fully explained to users.

### (ii) BENCHMARKING AND QUALITY MANAGEMENT

It is thought unlikely that benchmarking could be implemented by any LIS where there was no quality programme in place. Benchmarking is a 'quality' tool, and the aim of this project has been to evaluate it within the context of quality management.

Quality management has been judged to be beneficial to the library and information sector by many library and information managers, by academics and by managers in the commercial sector. However, no one 'right' approach or model has yet been identified. LIS serve a variety of communities and organisations. Each has its own culture, problems, and resource limitations. A quality model which is in harmony with the needs of most LIS is required - a considerable difficulty, given that LIS are so varied. It needs to be flexible and easily adapted to different sectors. It needs to focus on the human interfaces which are so vital to the success of most LIS. The self-assessment model, as developed by the British Quality Foundation (BQF) and the European Foundation for quality management, (EFQM) seems to be the most appropriate model at the present time (British . . . , 1994 p.8). This focuses largely on the 'people' element of organisations and thus seems well suited to the service environment, and to a variety of organisational settings. The BQF/EFQM model is shown in Appendix 14.

### (iii) TRAINING

The importance of training cannot be overestimated. Managers need to be both informed and committed for a quality programme to be successful. They are then able to form teams, empower process owners, and motivate their staff. Front-line staff, in particular, need to be motivated and convinced of the value of quality methodologies. Training in customer care is as vital as knowledge of the information service. The image and reputation of the library is linked to the customer's first impressions, and it is front-line staff who constantly interact with the customer.

Training in quality tools and techniques is important for all levels of staff. They need to understand why certain procedures are in place, and the value of taking a broad view of the service as a whole.



Those who deal with one process day in and day out tend to become isolated and lose contact with the overall workings of the unit. Quality management involves meetings, staff involvement, team work, and cross-functional co-operation. Above all, it requires excellent communications at all levels. By raising staff awareness of the impact of their contribution to the effectiveness of the service, they become more motivated and less isolated. The questionnaire highlighted these issues. LIS with quality programmes in place often listed the benefits of heightened staff awareness of their role and input to the organisation.

Whilst the project is yet to be completed, and the data from the demonstrator projects are not yet available for analysis, some tentative overall conclusions have been possible.

#### (iv) OVERALL CONCLUSIONS

1. Benchmarking can only be effective in those LIS which already have a commitment to quality management, and have begun to implement quality management practices.
2. Many LIS still have some way to go before quality management - as practised in the commercial sector - can be implemented. There appears to be little commitment to quality management evident amongst many of the managers surveyed.
3. However, there is, paradoxically one might argue, evidence of continuing interest in measurement and comparison, the key elements in benchmarking. Performance measurement and the use of informal comparisons, together with the continuing use of comparative measures by funders, have been growing in significance in recent years. The use of SCONUL and COPOL performance measures, and the emphasis on accountability - to users as well as funders - have been important in shifting the perceptions of LIS managers. There appears now to be the need for a further shift to encompass the more holistic approval of a quality management programme. This would enable LIS to support more fully the range of quality management techniques, particularly best practice and other forms of benchmarking.

## References

- British Quality Foundation (1994) *Towards organisational excellence*. London: BQF
- Bullivant, J. (1994) *Benchmarking for continuous improvement in the public sector*. Harlow: Longman
- Camp, R. (1989) *Benchmarking. The search for industry best practices that lead to superior performance*. Milwaukee: ASQC Quality Press
- Coopers and Lybrand *Survey of benchmarking in Europe 1994*
- Coopers and Lybrand and the Confederation of British Industry (January 1993) *Survey of benchmarking in the UK*. Coopers and Lybrand/CBI
- Department of Trade and Industry (March 1995) *Benchmarking the challenge. A practical guide to business improvement*. London: DTI
- Ernst and Young and the American Quality Foundation (1993) *Best practices report. An analysis of management practices that impact performance*. New York: Ernst and Young. p.38
- Joint Funding Councils' Libraries Review Group: *Report*. (1993) The Follett Report. Bristol: Higher Education Funding Council for England
- Lawes, A. (1993) 'The benefits of quality management to the library and information services profession'. *Special libraries* 84(3) Summer. 142-146
- Mullen, J. (1993) 'Total quality management: A mindset and method to stimulate change'. *Journal of library administration*, 18(3-4) 91-108
- Oakland, J. (1994) *Total quality management*. Oxford: Butterworth-Heinemann
- Zairi, M. and Hutton, R. (1995) 'Benchmarking: a process-driven tool for quality improvement'. *The TQM magazine*, 7(3) p.35

## Appendices

Content of OHPs used at the Conference presentation.

### Appendix 1

#### Methodology

- Surveys: questionnaire  
telephone interviews
- Literature searching
- Demonstrator projects



## Appendix 2

### Definitions

- Measurement
- Comparison

## Appendix 3

### Checklist of Procedures

- Identify process
- Document / map sub-processes
- Measure critical success factors
- Analyse results
- Choose benchmarking partners
- Identify 'best practice'

## Appendix 4

### Types of Benchmarking

- **Competitive** competitor to competitor comparisons for product/function of interest
- **Generic** similar business processes and functions regardless of industry
- **Internal** internal operations of different departments within same organisation
- **Functional** similar functions in same broad industry/industry leaders

(Oakland, J. *Total quality management* (1994) Oxford: Butterworth-Heinemann. 181-182)

- **Customer** the benchmark is customer expectations

(Department of Trade & Industry (March 1995) *Benchmarking the challenge. A practical guide to business improvement.* p.5)

## Appendix 5

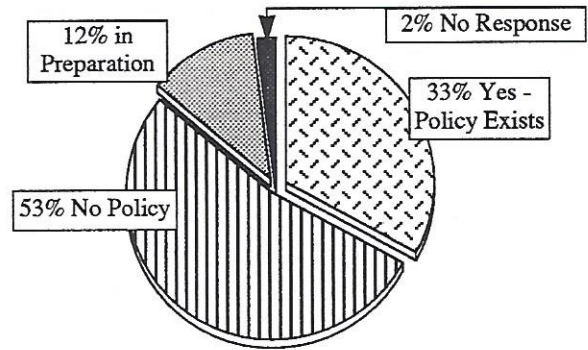
### Relevance

- Public sector
- Academic sector
- Commercial / Industrial sector

## Appendix 6

Question: Does your organisation have a written policy on quality?

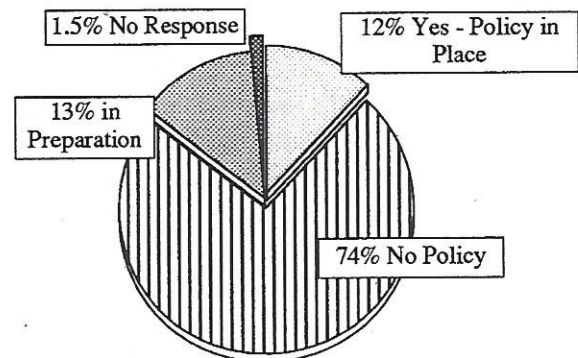
### Written Policy on Quality at Organisational Level



## Appendix 7

Question: Does your organisation have a written policy on quality?

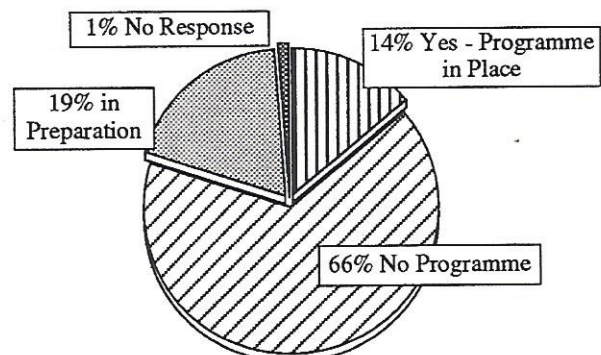
### Written Policy on Quality at Library and Information Services Level



## Appendix 8

Question: Do you have a formal quality programme in place?

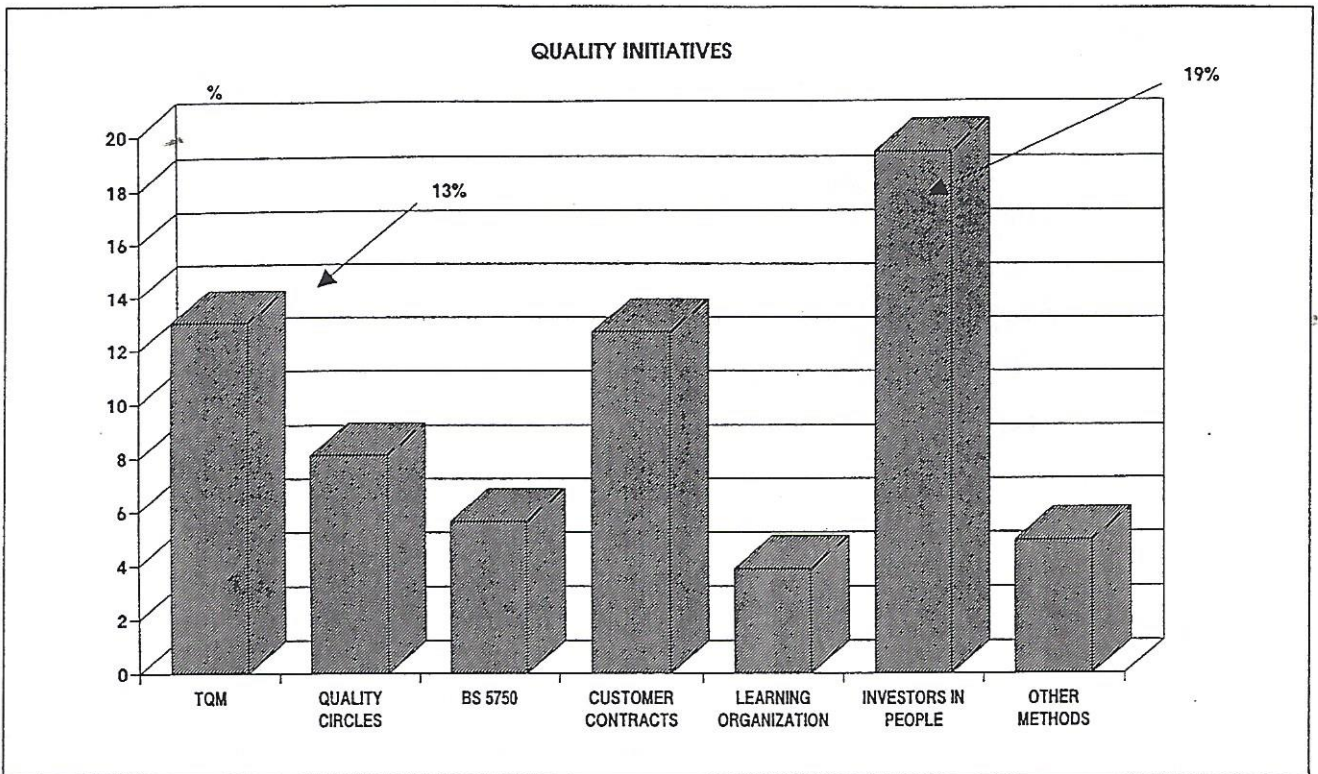
### Formal Quality Programme in Place





### Appendix 9

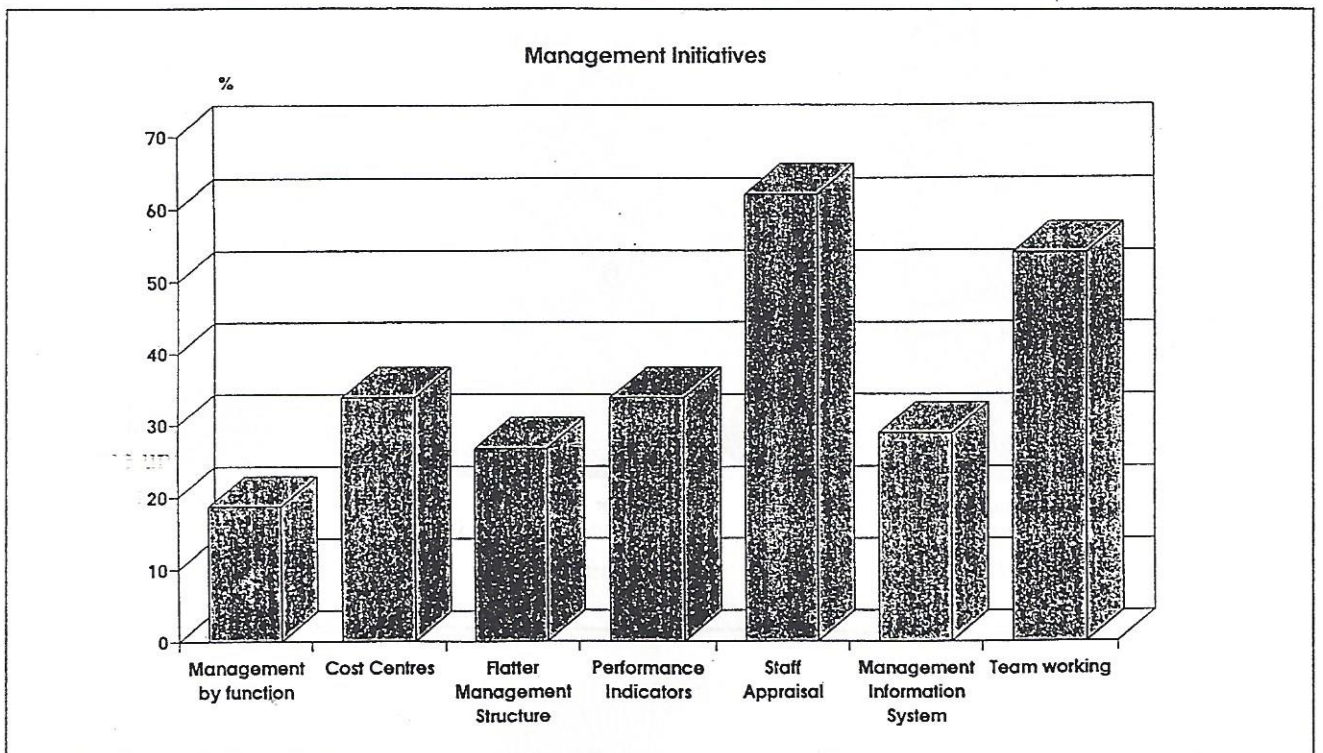
Quality Initiatives used in Academic and Commercial Library and Information Services



### Appendix 10

Question: Has your library and information service implemented any of the following?

Management Initiatives

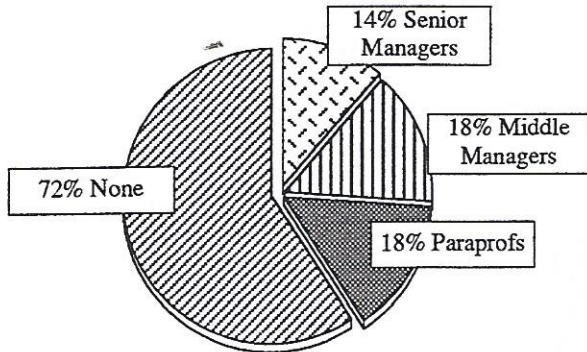




### Appendix 11

Question: Are there training programmes in quality for staff?

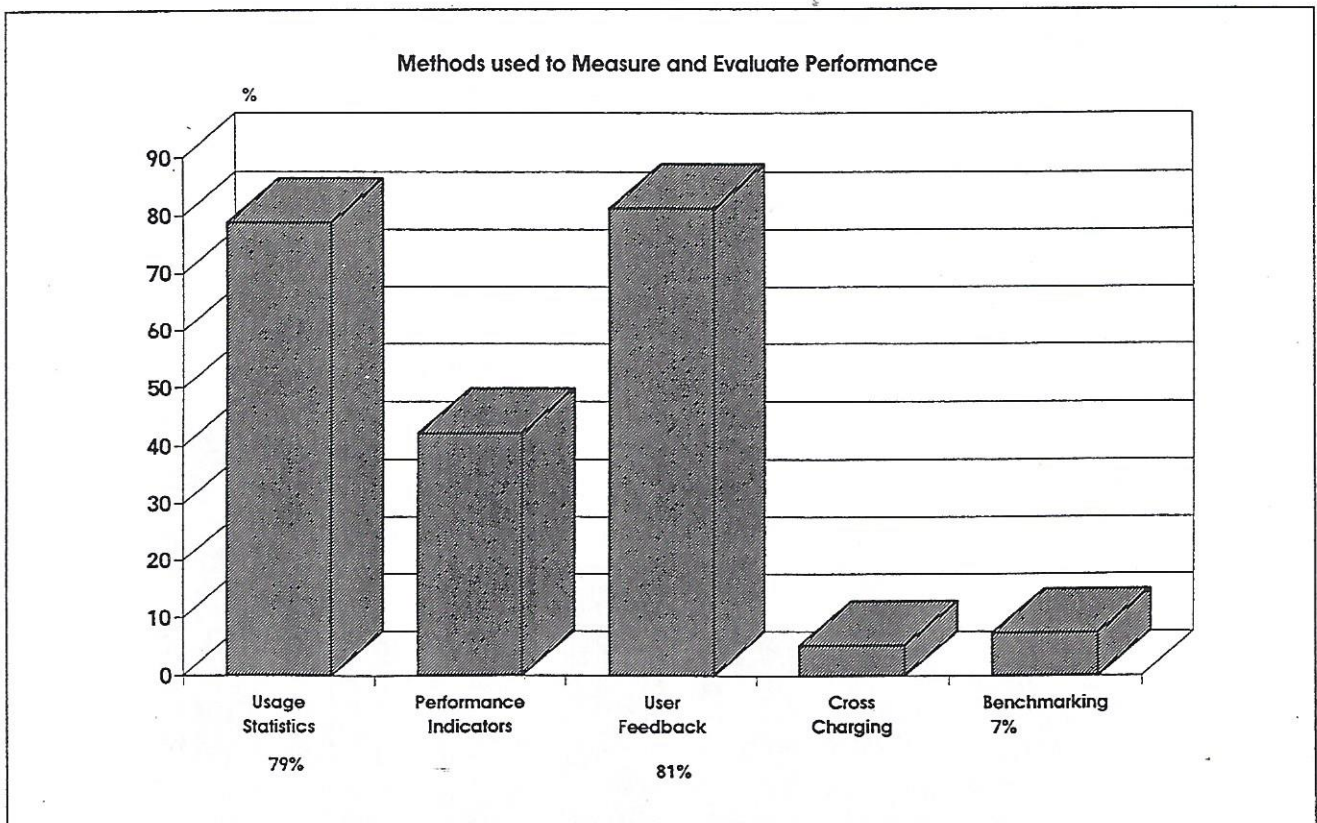
Staff Training in Quality



### Appendix 12

Question: Which of the following methods does your LIS use to measure and/or evaluate performance?

Measures used to Measure and Evaluate Performance





**Appendix 13**

**Communication - How Policies are Communicated to LIS Staff**

- Staff Meetings 71%
- On Job Training 54%
- Appraisal Scheme 40.5%
- Managers - 'Walking the floor' 40%
- Training Courses 37.5%
- Mission Statement 35.5%
- Team Briefings 30.5%
- Bulletins / Newsletters 30%
- Quality Groups 9%

**Appendix 15**

**Future Publication**

*Quality Management Issues: a Select Bibliography for Library and Information Services Managers*

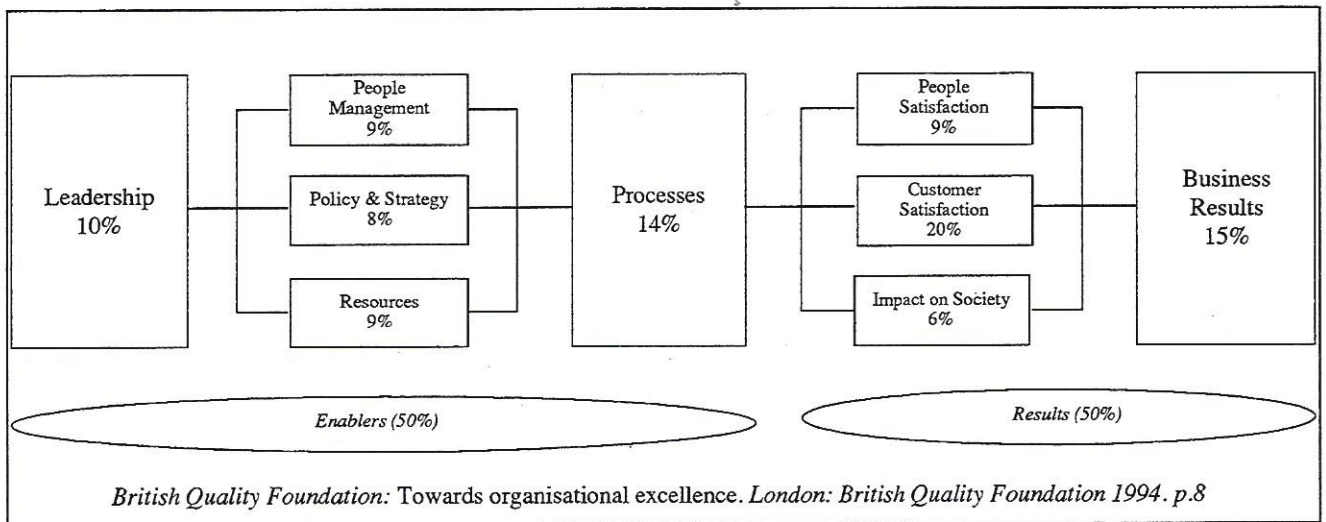
FID Occasional Paper 10  
British Library R&D Report 6220

Compiled by Penny Garrod  
Margaret Kinnell Evans

FID: The Hague 1995  
ISBN 92 66 00 7102  
[Not yet published]

**Appendix 14**

**UK / European Model for Total Quality**





Apoc

172



# Measuring Quality: International Guidelines for Performance Measurement in Academic Libraries

Roswitha Poll

Director: Universitäts- und Landesbibliothek Münster

## Abstract

The IFLA Section of University Libraries and other General Research Libraries instituted a working group in 1990 for drawing up guidelines for performance measurement. This paper comments on the purpose and contents of this handbook and the criteria for the selection of indicators. It also points to further problems of quality measurement that have only been touched on slightly in the handbook and that the Section might take up in future years.

## Introduction

This paper deals with a sort of phantom: A handbook that has not yet been published, but that is nonetheless heavily cited and used in performance measurement: The IFLA guidelines for performance measurement (*Measuring . . .*). The Section of University Libraries and other General Research Libraries of IFLA committed itself to the theme of performance measurement as early as 1988 at the IFLA Conference in Sydney and has since regarded this as a main topic. At the conference in Paris in 1989 a workshop on possible performance measures found enormous interest, and in 1990 in Stockholm a working group was appointed to draw up guidelines for performance measurement suitable for academic libraries all over the world. This was felt to be desirable as existing handbooks dealt either with public libraries or with library problems on a national scale.

## Purpose of the Handbook

The main purpose of the guidelines - as commissioned by the section - was to combine a set of performance indicators that would be applicable in academic libraries all over the world, in developing as well as developed countries. This charge made it needful to choose indicators that would fit a broad range of libraries: libraries with open access or closed stacks, libraries in every state of automation (or without any automation until now), libraries with a distinct clientele or serving a broad public. The restriction to academic libraries only was, of

course, based on the special mission of this section, serving general research libraries.

The working group from the very first tried to keep the set of indicators to a manageable size, though all relevant activities of the library should be covered. Another issue was to have the indicators user-oriented and - if possible - easy to use in order to propagate the use of performance measurement.

A first selection of possible indicators had been named at the workshop of the section in Paris, 1989, where the following indicators had been voted most interesting (in order of priority):

	<u>Votes</u>
1. Relevance in collection development	104
2. Degree of user satisfaction	102
3. Opening hours	88
4. Delay between ordering an item and availability on shelves	81
5. Percentage of requested items obtained (availability)	74

Working through the existing literature on performance measurement - handbooks as well as articles - the group discarded all performance indicators measuring only quantity, not quality of service, eg.

- circulation (without relation to the collection or population)
- library visits (without relation to population).

It was decided to present only indicators that would allow for an immediate evaluation of the quality of a service and that could be set in relation to a distinct user-oriented goal of the library, eg.

- to have opening hours that correspond to demand
- Indicator: Opening hours compared to demand.

In order to give help for setting such goals, the handbook presents a general mission statement for an academic library including details about collection building, access and facilities, information policies, and preservation. The handbook stresses the importance of defining the library's mission and setting goals and objectives that can be set in relation to the results of performance measurement.

The final list of indicators now comprises only 13 indicators (with variations), all documented in liter-



ature and/or tested by members of the working group and other libraries. Two indicators on remote use are still under discussion. Each indicator is described with definition, aims, methods, and 'interpretation and possible reactions'. The working group has tried to show reasons for failure and to point out possible solutions and reactions based on the measurement.

Comparison of the guidelines with sets of indicators in existing handbooks or drafts shows a clear difference. One example: In comparison to the American handbook on academic library performance (Van House et al, 1990), only six indicators are more or less the same, though differing in detail; all others are different. Comparison to the ISO draft on performance indicators (ISO . . . , 1995) also shows distinct differences, due to the different purposes of both projects, one of which is meant to explain the logical structure of each indicator, the other to give practical help for application and interpretation. The IFLA guidelines sometimes combine several questions (purposes) in one indicator, where it was thought more practical to use one interview or questionnaire only (Figure 1).

### Cost-effectiveness

Deviating from most other sets of indicators, the guidelines do not include problems of cost-effectiveness or efficiency. The working group has always been aware of the fact that measuring cost-effectiveness is of high interest for quality management, as optimal use of resources will enable the library to improve its performance. But though it would not have been difficult to propose indicators

like 'cost per user' or 'cost per title catalogued', the group did not feel competent to give the necessary details in cost-accounting suitable for academic libraries all over the world. Not only sources and amount of funding differ greatly in all countries and nearly in every library, but also all the details that belong to the different unit costs. If an indicator measures 'cost per issue', this could mean either total operating costs - including depreciation of buildings and equipment - or direct costs or only staff costs. But even staff costs involve many different aspects:

- Basic salary by type of employee
- Compulsory health insurance, employers contribution to private health insurance
- Social insurance
- Pension contributions
- Christmas bonus, vacation bonus
- Other (severance pay, assistance with removal expenses, overtime pay, expenses for persons acting on an honorary basis)
- Staffing costs from special funds.

The literature for cost-accounting in libraries shows various methods for defining depreciation of buildings or for allocating central costs to separate cost centres, activities and services. The working group was of the opinion that it would be imperative to give detailed help for calculation if cost factors were included in indicators, and that this problem could be dealt with better in separate guidelines. But the guidelines give a short introduction into what is important in cost-accounting.

Figure 1

ISO		IFLA	
1.	Proportion of required titles in collection - to what extent titles in demand by users are owned by the library	Availability	
2.	Catalogue search - title success rate - to assess the library's success in informing the user where and how to find a title	Combining	- existence of title in collection - user's success of finding title in catalogue - availability for use (several causes for non-availability)
3.	Required titles availability - to what extent titles owned by the library and in demand by users are actually available	Title success rate	



## Standards for Staff Costs

Indicators of cost-effectiveness like 'cost per use (or user)', 'cost per issue', or 'cost per title catalogued' rely in a great part on staff costs. To calculate staff costs, a library must know

- either: What number of staff is assigned to a service (eg. cataloguing department)
- or: The average time needed for a special task (eg. cataloguing a title).

Staff is the most important factor for a library's performance. User satisfaction surveys reflect the user's opinion of this performance; other more objective indicators like 'collection use' complement the results of satisfaction surveys. But for questions of efficiency and for allocating staff to different services a library needs rough standards that can only be obtained by comparing with other libraries, eg.

- titles catalogued per employee per year
- volumes sent to the bookbinder per employee per year.

Some such standards have been published in former years, but they are mostly outdated as they were set up before the beginning of automation and copy cataloguing in libraries, and new services like databases in electronic networks are not included.

Benchmarking can be used for obtaining such standards, but again the working group did not think it expedient to include this problem in the guidelines, as it is bordering on staff appraisal and therefore might complicate the use of performance indicators in libraries.

The guidelines, as they will be published now, concentrate on measuring the effectiveness of a library in meeting its goals. But a project on cost-effectiveness is in discussion in the Section of University Libraries and other Research Libraries of IFLA.

## References

- Measuring quality: International guidelines for performance measurement in academic libraries.*  
München: Saur (forthcoming)
- Van House, N. A., Weil, B. T. and McClure, C. R.  
(1990) *Measuring academic library performance; a practical approach.* Chicago, Ill: Ass. of College and Research Libraries, American Library Association
- ISO 11620, Working Draft 10: Library Performance Indicators.* August 1995



Handwritten text, possibly bleed-through from the reverse side of the page. The text is faint and difficult to decipher but appears to include several lines of writing.

Handwritten text, possibly bleed-through from the reverse side of the page. The text is faint and difficult to decipher but appears to include several lines of writing.



# The Stakeholder Approach to the Construction of Performance Measures

**Dr. John C. Crawford**

Library Research Officer, Glasgow Caledonian University Library

## Background

Glasgow Caledonian University is one of Britain's new universities and was created in 1993 out of the former Glasgow Polytechnic and Queen's College, Glasgow. The Library is spread over three campuses which, in order of size are: City Campus with 9,435 students (80%); Park Campus with 1,342 students (11%) and Southbrae with 1,082 students (9%). There are about 566 teaching staff and 435 support staff. The model of administration is a centralised one, the university being administered by a University Management Group (UMG) consisting of the Principal, vice principals, assistant principals and secretary to the University Court. With the addition of the three deans of faculty this becomes the Strategic Planning and Resources Committee (SPARC).

Glasgow Caledonian University Library has a policy of evaluating its services by a range of methods and if the issue examined is of general concern we sometimes seek external funding to research it more widely. In recent years the library has conducted surveys on such issues as the needs of part-time students, research students and OPAC satisfaction. An annual general satisfaction survey was introduced in January 1994, using, on this first occasion, the survey model recommended by Van House (1990).

The stakeholder project originated as part of the continuing programme of activity and interest in qualitative evaluation at Glasgow Caledonian University Library. A review of the work undertaken, in 1993, showed that although it was useful an overall framework of performance issues, linking specific concerns, was needed. Previous experience suggested that these performance issues should spring from the needs and experiences of different categories of users and be used to facilitate data collection and decision-making (user orientated evaluation). This focused attention on the multiple constituencies model which defines effectiveness as the extent to which the needs of key constituencies are met. This originated with the work of Van House and Childers who split public library users into key constituencies, ie. groups of people who would be

expected to influence decisions about the public library directly or indirectly. Questionnaires which contained a list of 61 items were administered to representatives of constituent groups and constituent members were asked to rate these 61 items or performance indicators on a scale of 1 (low) to 5 (high) importance (Childers and Van House, 1989).

These methodologies have been adopted by Philip Calvert and Rowena Cullen in their work on library effectiveness in New Zealand. This related initially to the public library sector (Calvert and Cullen, 1992) but, more recently, has been applied to academic library management (the published results are still to appear).

They identified six constituent or stakeholder groups:

1. The resource allocators (vice-chancellors, deputy vice-chancellors and members of key planning and resource allocation committees)
2. The decision makers - senior library staff
3. The service deliverers - library staff
4. Graduate students
5. Undergraduate students
6. Faculty (academic staff)

The questionnaire was formed using 99 performance indicators and again each issue was rated on a 1-5 scale.

## The Pilot Study and its Methodologies

Contact was established with Philip Calvert and Rowena Cullen who readily agreed to their methods being adapted for use by Glasgow Caledonian University. Their questionnaire was circulated around the professional library staff for their comments and criticisms and the questionnaire was modified and extended slightly as a result. There were now 103 questions to be rated on a 1-5 scale.

For the purposes of the study at Glasgow Caledonian University eight stakeholder groups were identified which reflected the experience of the university.



1. SPARC (Strategic Planning and Resources Committee, 10 members)
2. Senior library staff
3. Other library staff
4. Teaching (academic staff)
5. Research students
6. postgraduate students
7. Full-time undergraduates
8. Part-time undergraduates

Administrative/support staff were not included because they do not make much use of library services or impact significantly on their provision. The need to break down students into four categories reflected past experience. In Glasgow Caledonian University, for example, part-time students comprise about a third of the total.

The actual administration and analysis of the questionnaire became the subject of a mathematics honours project and was undertaken by Siobhan Friel, a BSc Mathematics for Business Analysis 4th year Honours student. Before going to university she had worked as a university library assistant. The groups she sampled were as follows: The populations of the first three constituencies ie. SPARC, senior and other library staff were so small (9, 8 and 35) that all members were sampled, giving response rates of 55.56%, 62.5% and 74.29% respectively. Academic staff were surveyed by stratified sampling. The staff list in the internal telephone directory was used as a population list. The population was stratified by department and then simple random sampling was performed within each strata to get an overall sample of 176 staff from 22 departments. This generated a response rate of 28.41%. Research students were sampled systematically. Every second student received a questionnaire through the internal mail, giving a sample of 108 with a response rate of 19.46%.

Postgraduate, full-time undergraduate and part-time students were quota sampled on the basis of faculty: Business, Health and Science and Technology. Full-time undergraduates were further subdivided by year of study. Postgraduate and part-time students were surveyed to give samples of 40 each. Some 216 full-time undergraduates were sampled.

The total sample size was 632. The data was analysed using Microsoft Excel.

## Results

Ranked outputs were produced, both generally, and for specific stakeholder groups. There were eight indicators contained in the 'Top 20' of each constituency:

1. Helpfulness, courtesy of staff
2. Quietness of study environment
3. Availability of sought material on shelf
4. Expert staff assistance to users available when needed
5. Expertise of reference staff
6. Provision made for disabled users
7. Total amount of library budget
8. Equipment (eg. photocopiers) kept in service by good maintenance

The word 'staff' appears three times. This list has been used to devise a new general satisfaction survey questionnaire which was administered in January-February 1995 and proved easier to analyse and interpret than that based on Van House.

There were, however, important variations between stakeholder groups. Detailed comparative rankings of these were not produced and this will have to be addressed in the main study. Senior and other library staff agreed about what was most important: themselves. They identified *Helpfulness, courtesy of staff* as the most important indicator.

Four categories: academic staff, postgraduate students, undergraduate students and part-time students selected *Quietness of study environment* as being the most important. SPARC selected 'Match of opening hours to user needs' as its most important indicator, while the indicator ranked highest by research students was *Reciprocal access to other university libraries*.

The indicator *Competence of library management* was considered important by all stakeholder groups, except full-time and part-time students. Part-time students was the only stakeholder group which did not rate *Provision of multiple copies of items in high use* as important enough to be in their 'top 20', perhaps an indication of their ability to obtain key texts by other means (Friel, 1994). Figure 1 lists the top five indicators (as identified by all categories) and shows how each category valued them. For satisfactory indicator evaluation more detailed work will be necessary.

Even a cursory glance at a small number of indicators shows interesting variations. The senior library staff rate the noise issue lower than any other



Figure 1

The Top Five Issues (Indicators)									
Issues	All	Sparc	FTU	PTU	PG	RES	Acad	SLS	OLS
Quiet	1	5	1	1	1	12	1	14	5
Help	2	2	3	9	8	16	8	1	2
Multi	3	43	2	35	22	5	4	5	18
Assist	4	14	8	10	5	9	5	32	4
Avail	5	3	5	17	11	7	7	16	27

*Keys to the table*

<i>Stakeholders</i>	<i>Issues</i>
<i>All</i> - all categories combined	<i>Quiet</i> - quietness of study environment
<i>Sparc</i> - SPARC	<i>Help</i> - helpfulness, courtesy of staff
<i>FTU</i> - full-time undergraduates	<i>Multi</i> - provision of multiple copies of items in high use
<i>PTU</i> - part-time undergraduates	<i>Assist</i> - expert staff assistance to users available when needed
<i>PG</i> - postgraduate students	<i>Avail</i> - availability of sought materials on shelf
<i>RES</i> - research students	
<i>Acad</i> - academic staff	
<i>SLS</i> - senior library staff	
<i>OLS</i> - other library staff	

category, despite its obvious importance, perhaps a reflection of the limited success in combating it over many years. Research students also do not rate it highly but research students have their own office accommodation. Academics rate it the most important issue which, presumably, shows them identifying with their undergraduate students. *Provision of multiple copies of items in high use* shows the academics (and senior library staff) identifying with full-time students while SPARC, from a remoter perspective, consider it relatively unimportant.

Overall, two general points seemed to emerge:

1. The higher the academic status of the respondent in the university, the more importance is attached to quality of staff and their management performance.
2. Non-library staff respondents, on the whole, rated highly indicators which related to service provision. Technical and management issues they rated lower, presumably taking the view that technical or purely professional librarianship issues were of less concern to them.

### Methodological Conclusions

1. Clearly the questionnaire, with its 103 performance issues was too long. Some measures were given a low rating by all stakeholder groups.

2. The terminology of some of the measures was clumsy. Poor terminology needed to be improved and clumsy wording needed to be re-examined to see if the measure itself is inappropriate.
3. Some measures appeared to overlap or duplicate themselves.
4. Service based measures may be more appropriate than technical ones.
5. The measures are somewhat dated and take little account of electronic networking and electronic information services.
6. Recent work such as *The effective academic library* (Joint . . . , 1995) and the current research work summarised in it need to be taken into account.
7. Detailed comparative analysis of the different stakeholder groups is needed.
8. The random order arrangement was perceived by some to be unhelpful.

### The Main Project

On the basis of the pilot study an application for research funding was made to the British Library Research & Development Department in July 1994 to employ a research assistant for a year to administer a modified version of the questionnaire, both at Glasgow Caledonian University and other universities.



The overall aim of the project is to design a set of user chosen performance measures which can be used in British academic libraries for data collection and decision-making

The specific aims are:

1. to identify a set of user chosen performance measures
2. to compile a meaningful list of stakeholders
3. to identify a small number of generally applicable 'parsimonious' measures
4. to identify performance measures appropriate to specific stakeholder groups
5. to allow decision-making librarians to concentrate their attention on a defensible, validated set of measures
6. to help non-librarians to participate usefully in library performance measurement
7. to design questionnaire skeletons which can be applied in all British university libraries for  
a) a short, general satisfaction questionnaire, using the set of parsimonious measures arrived at  
b) specific stakeholder groups.

The project was approved at the end of January 1995 and partners were immediately sought with considerable success. The research assistant, Helen Pickering, who had previously worked at LISU, was appointed in June and began work at the beginning of July. The project is in three main phases

1. July-September: formalising contacts with participants, redesigning questionnaires in conjunction with participants and planning operational methodologies.
2. October-December 1995: Questionnaire administration will take place and data input will begin.
3. January-June 1996: Data input will be completed, analysis and writing up and questionnaire design will be done.

## Progress to Date

1. We now have 15 participants, mainly in universities founded after 1960.
2. There has been surprisingly little argument about stakeholder groups. The only needed additional category seems to be 'research fellow' or equivalent (ie. someone not pursuing a higher degree, but mostly working on research).
3. The main concern among partners seems to be about sample sizes and the labour costs associat-

ed with administering the questionnaire. This reflects a common paradoxical attitude among library managers. They are anxious to collect, both quantitative and qualitative data about their services, but fear the costs involved. In planning sampling, which is being done with the help of the university's Departments of Economics and Mathematics, we hope to learn some lessons which will allow reliable and realistic sampling at an acceptable cost. Undergraduate populations are the main problem and here, systematic random sampling seems the only solution.

## Redesigning the Questionnaire

Following criticisms about the random structure of the questionnaire the measures have been categorised into six groups into which they appeared naturally to fit. The groupings proposed in *The effective academic library* (JFC, 1995) were considered but were found to be inappropriate. The six groups are as follows

1. Management and administration
2. Equipment / computer hardware
3. Staff
4. Stock maintenance and provision
5. Physical library features/environment
6. Users, services to users and service usage.

Overall analysis of each group will be possible and it will be possible to relate stakeholder groups to specific categories.

## Outcomes

The main outcomes of the project will be

1. a report to BLR&DD
2. sets of performance measures, both general and those appropriate to particular stakeholder groups
3. a set of questionnaires ie. a general one and questionnaires appropriate to each stakeholder group
4. advice on methodologies for questionnaire administration and costing in British university libraries
5. every effort will be made to report on the work at conferences and other fora.

The overall impression seems to be that a standardisation of concerns is taking place in British university libraries and, if this is the case, then the implications are very wide.



## References

- Calvert, Philip and Cullen, Rowena (1992)  
'Performance measurement in New Zealand public libraries: a research project'. *Australasian public libraries and information services*. 5(1) 3-12  
The published results of this study are still to appear.
- Childers, Thomas and Van House, Nancy A. (1989)  
'Dimensions of public library effectiveness'.  
*Library and information science research*. 11(3)  
273-301
- Friel, Siobhan (1994) *A study of performance measurement within Glasgow Caledonian University Library*. Glasgow Caledonian University Honours Project (unpublished)
- Joint Funding Councils' Ad-Hoc Group on Performance Indicators for Libraries. (March, 1995) *The effective academic library*.
- Van House, Nancy et al. (1990) *Measuring academic library performance*. American Library Association

## Appendix 1

### Pilot Study Questionnaire



## GLASGOW CALEDONIAN UNIVERSITY

### PERFORMANCE MEASUREMENT PILOT STUDY

This is a list of criteria which might be used to judge the performance of a university library. Which of these seem, from your point of view, more important and which least important in judging the performance of a university library?

Put a circle around one number on each line. Circle 5 if you think the item is most important. Circle 4 if it is not quite so important, and so on. Circle 1 for the items you think have the least importance.

Please remember, **you are not judging the performance of your own university library**, but saying what criteria you would like to see used to measure the performance of a university library.

	MOST IMPORTANT			LEAST IMPORTANT
Regular evaluation of building	5	4	3	2 1
Facility for users to recommend items for purchase	5	4	3	2 1
Access to library catalogues via networks throughout campus	5	4	3	2 1
Expert staff assistance to users available when needed	5	4	3	2 1
Frequent stock editing procedures	5	4	3	2 1
Competence of library management	5	4	3	2 1
Proportion of staff professionally qualified	5	4	3	2 1
Regular communication with user groups	5	4	3	2 1
Level of staff workload	5	4	3	2 1
Speed of acquisition of new materials	5	4	3	2 1
Availability of library catalogues throughout the library	5	4	3	2 1
Conservation principles used in housing library materials	5	4	3	2 1
Match of goals and objectives to user group needs	5	4	3	2 1
Provision made for disabled users	5	4	3	2 1
Expertise of reference staff	5	4	3	2 1
Number of library staff per full-time equivalent academic staff	5	4	3	2 1
Provision of personal computers for users' own work	5	4	3	2 1
Availability of sought material on shelf	5	4	3	2 1
Speed of provision of items through inter-library loans	5	4	3	2 1



	MOST IMPORTANT		LEAST IMPORTANT		
Openness of management procedures and documents to users	5	4	3	2	1
Equitable allocation of materials budget amongst subjects taught	5	4	3	2	1
Availability of reference staff when needed	5	4	3	2	1
State of repair of materials (books, journals etc.)	5	4	3	2	1
Use of collection development policies	5	4	3	2	1
Proportion of library budget spent on materials	5	4	3	2	1
Distance of library from teaching areas	5	4	3	2	1
Division of library materials expenditure between books and periodicals	5	4	3	2	1
Arrangement of library collection	5	4	3	2	1
Facility to reserve items on short loan	5	4	3	2	1
Provision of adequate number of photocopiers	5	4	3	2	1
Proportion of materials budget spent on research materials	5	4	3	2	1
Adequate and pleasant workspace for staff	5	4	3	2	1
Feedback to users who request items for purchase	5	4	3	2	1
Total number of registered borrowers	5	4	3	2	1
Match of open hours to user needs	5	4	3	2	1
Total number of items held by library	5	4	3	2	1
Extent to which services are free	5	4	3	2	1
Total number of items borrowed per year	5	4	3	2	1
Range of types of material (videos, computer software etc.)	5	4	3	2	1
Number of seats per full-time student equivalent	5	4	3	2	1
Quietness of study environment	5	4	3	2	1
Proximity of refreshment service during library open hours	5	4	3	2	1
Provision of multiple copies of items in high use	5	4	3	2	1
Provision of microfilm and microfiche readers	5	4	3	2	1
Library staff involvement in organisational life of university	5	4	3	2	1
Provision of group study rooms	5	4	3	2	1
Equitable and effective fines policy	5	4	3	2	1
Provision of photocopiers in all areas of the library	5	4	3	2	1
Equipment (e.g. photocopiers) kept in service by good maintenance	5	4	3	2	1
Access to CD-Roms and databases via networks throughout the campus	5	4	3	2	1
Use of planning procedures (short and long term)	5	4	3	2	1
Number of seats occupied at peak hours	5	4	3	2	1



	MOST		LEAST		
	IMPORTANT		IMPORTANT		
Proportion of library materials listed on computer catalogue	5	4	3	2	1
Amount of use of materials in library without being borrowed	5	4	3	2	1
Total amount of library budget	5	4	3	2	1
Display of new books and periodical issues	5	4	3	2	1
Availability of printed periodical indexes	5	4	3	2	1
Currency of library materials	5	4	3	2	1
Safeguards against mutilation and theft	5	4	3	2	1
Equitable allocation of materials budget between groups of users (staff/students)	5	4	3	2	1
Speed of recall of items out on loan requested by other users	5	4	3	2	1
Proportion of journals bound as opposed to unbound	5	4	3	2	1
Efficiency / cost effectiveness of library	5	4	3	2	1
Availability on shelf of items listed in catalogue	5	4	3	2	1
Library expenditure per full-time equivalent student	5	4	3	2	1
Percentage of collection borrowed each year	5	4	3	2	1
Number of library staff per full-time equivalent student	5	4	3	2	1
Success rate in answering reference questions	5	4	3	2	1
Provision of personal study carrels	5	4	3	2	1
Amount of total library budget as proportion of university expenditure	5	4	3	2	1
Availability of all library collections for browsing	5	4	3	2	1
Extent to which library achieves goals and objectives	5	4	3	2	1
Adequacy of library collection compared with other institutions	5	4	3	2	1
Speed of recall of reserved items	5	4	3	2	1
Amount of user education (i.e. teaching use of library and materials)	5	4	3	2	1
Extent of involvement of user groups in decision making	5	4	3	2	1
Ease of use of public catalogues	5	4	3	2	1
Proportion of total stock restricted to short term loan	5	4	3	2	1
Provision of teaching facilities within library	5	4	3	2	1
Comfort, appeal of building	5	4	3	2	1
Flexibility of budget to respond to new subject areas	5	4	3	2	1
Regular notification of users of new materials added to stock	5	4	3	2	1
Proportion of library budget spent on staff	5	4	3	2	1
Extent to which users are made aware of services available	5	4	3	2	1
Availability of user seating near reference collection	5	4	3	2	1



	MOST		LEAST	
	IMPORTANT		IMPORTANT	
Speed and accuracy of re-shelving of materials	5	4	3	2 1
Cost per item (books) added to stock	5	4	3	2 1
Percentage of stock not used in past five years	5	4	3	2 1
Amount of time journals are out of circulation for binding	5	4	3	2 1
Rate at which collection is growing	5	4	3	2 1
Number and quality of signs for direction / guidance	5	4	3	2 1
Range of library services available whenever library is open	5	4	3	2 1
Number and quality of written management policies	5	4	3	2 1
Availability of periodical indexes on CD-Rom	5	4	3	2 1
Percentage of potential users actively using the library	5	4	3	2 1
Availability of user-pays online searching of periodical indexes	5	4	3	2 1
Helpfulness, courtesy of staff	5	4	3	2 1
Proportion of items wanted by user finally obtained	5	4	3	2 1
Flexibility of loan periods	5	4	3	2 1
Staff training and development	5	4	3	2 1
Number of items borrowable at one time	5	4	3	2 1
Reciprocal access to other university libraries	5	4	3	2 1
Cost of photocopying	5	4	3	2 1

**Thank you for participating in this pilot research project.**

Please return this completed questionnaire to any site Library, put in the internal mail, or post to either undernoted address:

John Crawford	Siobhan Friel
Library Research Officer	BSMB4(Hons)
The William Harley Library	c/o Maths Dept. Office, W619A
City Campus	City Campus
Glasgow Caledonian University	Glasgow Caledonian University
Cowcaddens Road	Cowcaddens Road
GLASGOW	GLASGOW
G4 0BA	G4 0BA

Category:







# Performance Measurement of Academic Liaison in Higher Education Libraries

Hilary Johnson

Chief Librarian, Nene College of Higher Education, Northampton

## Introduction

I would like to focus upon an area of library work which has so far received scant attention in the debate about performance measurement - that of academic liaison. Very little seems to have been written about academic liaison in this country, although there is some literature emanating from the US. I would like to begin with some contextual comments which bear upon liaison, review why performance measurement of liaison is currently important, attempt to define what I at least mean by academic liaison, and review some of the ways in which the effectiveness of liaison may be measured. For this talk I am using the term 'academic liaison' in the sense of 'two-way communication between a particular academic area and the library, focused through an individual or group of library staff'.

## Context: the Higher Education Library Scene

Firstly I would like to briefly highlight some contextual factors which bear on the subject. The Follett report (Joint . . . , 1993) was a major landmark in acknowledging the enormous changes that have taken place in higher education libraries, in terms of both scale - the growth in student numbers - and intent - the desire of librarians that libraries cease being passive book depositories and become 'a partner in course delivery' (para 145).

For those of us reading the Follett Report in what were by then 'new universities', the changing role of the library was something which we had been living for several years. I am probably not the only one to experience a sense of *déjà vu* on reading Follett. I quote from an internal paper prepared for the users' committee at Brighton Polytechnic (as then was) in 1981. This identified the 'need to turn the library from being a passive storehouse of information into a subject- and course-based consultancy, information, training and resources service'. This was not even new in 1981 - the statement here is in itself a quote from an earlier statement of the learning resources ideal.

Even before the recent growth in student numbers

there were distinct tendencies, certainly amongst the polytechnics, to student-centred learning, in many cases triggered by (or at least provided with a rationale by) new technology and organisational convergence. In this regard, Clive Hewitt, the first Head of Learning Resources at Brighton Polytechnic, was a pioneer in developments in integrated approaches to learner support. In those days the 'new technology' which provided the push was of course video technology, and the organisational convergence was that of libraries and media services units.

Follett was followed by Fielden (John . . . , 1993). This authenticated more of these changes, and attempted to assess the future role of LIS personnel, highlighting changes such as 'the roles of staff will alter with those currently labelled as "professional" playing a greater role in learner support and academic liaison while other staff provide the technical support and enquiry services'. Again, a sense of *déjà vu*. The Brighton Polytechnic document quoted above goes on to state that, because of this shift in emphasis, the need would exist for 'specialist staff working with teaching and educational development staff and with media specialists in flexible groupings.' These specialist staff were to become the Course Resources Officers responsible for the liaison function.

So, in many libraries the sorts of changes which Follett and Fielden observed and predicted were not seen as futuristic but were the here and now of our working lives. An intrinsic part of this approach is the ideal of 'academic liaison', of which more later.

Other aspects of the current context in HE libraries have not got quite such a long history. One area of our work that has become omnipresent and yet was not envisaged in 1981 is the 'academic audit', using this term to mean both the process-driven examinations of our institutional systems and the subject-based quality assessments. I have now been in two institutions which have been through the 'academic audit' mill, and it appears to be one of the more thorough 'mills' through which to go. Having also been involved in a number of subject assessment visits, these appear to be more variable in terms of the impact upon and consideration of library matters. Both sorts of activity are compara-



tively recent and yet are already assuming the status of monumental landmarks in the scenery of HE. The Research Assessment Exercise looms for 1996.

The Eighties also saw the advent of some other 'spirits of the times' which are still with us - Efficiency and Effectiveness, the two 'E's, and the related idea of 'value for money'. There was also increased emphasis on 'customer care' and service charters. I am not sure that 'customer care' was really anything new for libraries, but the 'value for money' idea, explicitly articulated, was one of the more intractable notions with which to try and marry the ideals of the early Learning Resources pioneers at Brighton. The fact of the matter was that the system of liaison librarians at Brighton was (and remains) costly to maintain.

I spoke earlier of the organisational convergence of libraries and media. Nowadays it is convergence with IT that is the bandwagon. However this is to deal slightly with perhaps a much more fundamental technology-led change in libraries. The marriage between libraries and media was perhaps always rather a 'shotgun' affair and certainly not all the converged services of today have entered into the state of matrimony totally willingly. Nevertheless librarians have as a breed embraced the call of the computer in a way which never seemed to happen with 'media'. Perhaps this has most to do with the comfort of text as opposed to the anarchy of images.

A final contextual point is my perception that the advent of subject librarianship is linked very closely with the notion of a flexible, responsive, service which is intrinsically part of the academic process. In this regard many of the 'older' universities are able to demonstrate a longer history of subject specialisms, although perhaps originally this was more to do with acquisitions, cataloguing and classification than with user education or involvement in course planning. The notion of 'subject librarians' with specific links to academic organisational areas was something which I believe the 'new universities' took up and developed in an extensive fashion. It is interesting that Richard Heseltine (1995), writing recently in the *Library Association record*, has seen fit to fire a salvo on the idea of subject librarianship, looking at it from the 'network training' point of view. Where will that leave academic liaison?

### Why is Academic Liaison Important?

The HE sector itself is drawing attention to the quality of the link between libraries and acade-

mic staff. The following is from the Higher Education Quality Council (HEQC) report *Learning from audit* (1994):

'The adequacy of linkages between library/computer services and different departments also varied . . . In several cases, the working relationships between academics and library staff were unclear.' (Chapter 7, para 10)

The report also noted the lack of involvement of the library in the new programme planning process in several audits. 'Similarly, it was unclear at some universities how changes in demand for existing programmes could be monitored and fed back to the library to ensure that sound judgements were made about the resource implications for the library.' (Chapter 7, para 11)

This follows on from the recommendations in the Follett Report that:

' . . . as part of their overall information planning, institutions should ensure that there is effective coordination between teaching staff and those responsible for library and related provision'. (Para 146)

and

' . . . that the existence of these procedures should be taken into account by the HEQC and the teaching quality assessments made by the Funding Councils.' (Para 147)

The SCONUL librarians have taken this into account in their proposals for the development of performance indicators, summarised in their report *The effective academic library* (Joint . . . , 1995):

#### P1 Integration

##### P1.4 Liaison between service providers and users

'Evidence of formal and informal communication channels between the library service, the senior management of the institution, academics and students is required in order to assess the degree of effective and dynamic communication to inform service provision.'

There is further consideration of liaison in the section on user satisfaction . . . 'Through this mix of formal and informal liaison, library and faculty staff can make a formative evaluation of the relevance of the library's objectives and goals, identify any problems being experienced by users, and give consideration to suggestions and recommendations for improvements.'

To these sectoral pressures can be added the pressures at the institution level - the continuing driving down of the unit of resource, the insistence on



demonstrable 'value for money', and the need to justify resources spent on libraries, and librarians' salaries!

## What do we Mean by Academic Liaison?

I would like to talk about what I mean by academic liaison under two broad headings - activities and relationships. My personal view is that academic liaison is primarily about the latter, but that what librarians actually *do* as context to this is important because it is the catalyst for the establishment of the relationships. My list of activities is essentially formulated from my experience of 'subject librarianship' in four institutions. Your perspective may suggest a slightly different list.

### liaison activities

- committee / course board membership
- user education
- materials selection and collection development
- bookfund management
- advice and assistance ( individuals or eg. seminar groups)
- developing and maintaining subject awareness
- cataloguing and classification\*
- course planning and development
- monitoring the feedback loop

(\* Classification is often seen as legitimately part of the liaison role in a way which cataloguing is not.)

The activities provide the stimulus for dialogue and exchange with an academic area. If all or most of these activities are centred in an individual librarian, the onus for effective liaison is a heavy burden on that one individual. Nowadays the advent of the subject team is a great way to spread the burden. Of course, in many libraries *not* organised on a subject basis the spread of these activities may have been through practically the whole of the 'professional' staff. In some libraries the liaison roles are superimposed upon a functional organisational structure, with individuals wearing two hats - for example, responsible for acquisitions and for liaison with the Chemistry Department.

Of these activities some are the traditional preserve of the librarian (book selection, cataloguing and classification, enquiry work). The areas which are perhaps most concerned with what I shall call the 'subject librarian' approach to liaison are user

education, course planning and development, and the gamut of feedback activities.

User education is well established as a sub-specialism and at one time was considered trendy enough to almost have its own specialist staff. My initial role at Plymouth Polytechnic (now the University of Plymouth) was very close to this and I even underwent a short-term transmogrification into a 'User Education Librarian' at one point. This was short-lived as the push towards focusing on at least some kind of sub-area in terms of subject matter was irresistible. Perhaps the area where the 'partnership in course delivery' is currently most obvious is the involvement of library staff in course planning and development. The shift towards modular course models has not limited this involvement, indeed in some cases it has provided a positive impetus, and a number of instances where subject librarians have been drawn into devising, delivering and assessing student work have been apparent. On a more limited basis a number of institutions have mechanisms for involving subject librarians in assessing the resource implications of new course developments. This is markedly so at Nene College, where the course planning activity requires input from the Faculty Librarians in order for a new development to achieve planning 'approval'. Whilst this is valuable and necessary it seems to limit the perception of academic colleagues into thinking that library staff are only concerned with the pounds, shillings and pence of a course.

Another key area for liaison is the monitoring of feedback from students, not just for library concerns, but often a level of participation in overall feedback monitoring which comes when the liaison librarians are seen as sufficiently part of the academic process to understand and empathise with the students, whilst at the same time sufficiently detached to be seen as objective. Involvement of the Course Resources Officers in what were known as 'Student Consultation Exercises' at Brighton was at a high level when this particular form of feedback gathering was being extensively used.

### relationships

- with individual academics and students, researchers
- with academic hierarchy (management)
- with library representatives/ library committees
- with course teams/subject groups
- with course groups (students)
- with administrative staff
- with rest of library staff



Like all relationships these are complex and liable to friction. Again, if all these relationships are centred in one individual (or even a team) that is a lot to ask. One particular point I would like to make is that the individual (or team of) liaison librarian(s) is 'piggy in the middle' between the library and the academic area. Views from the academic area are to be forwarded to library (and increasingly, converged service) colleagues, and responses (or lack of them) have to be fed back, rounded out and justified to the academic area. The effectiveness of the liaison has to be measured both ways. The status of the individual or the team is crucial to this - not enough weight to get their arguments heard and they lose credibility in the academic area. Too strong a voice for one area might lead to an imbalance in the service. The relative 'pecking orders' of different departments or faculties in this regard is an interesting variable.

A number of factors bear upon these relationships, and can affect how they develop, and just how effective they are:

- status (whether librarian seen as equal to academic staff - often boils down to pay)
- individual character and personality
- experience and subject knowledge
- organisation within library (ie. status within the library pecking order)
- level of responsibility (eg. being a budget holder)
- relative organisational or 'political' position of academic area
- how forward-thinking the area is, or open to new ideas.

Whilst some at least of the activities which liaison librarians undertake can be measured in a quantitative fashion, measuring the quality of these relationships is a far more complex issue.

### How Might we Measure the Effectiveness of Liaison?

There are some actual or potentially quantifiable elements, such as:

- no. of library staff involved
- ftes per member of liaison staff
- numbers of hours of user education
- user education per fte
- membership of appropriate committees/boards

- proportion of time engaged in formal communications (meetings!)
- no. of enquiries/requests for advice

The number of library staff involved in direct liaison may be measurable, if the organisation of such activities is confined to a section of the staff. If, on the other hand, you take the view that all staff are involved in liaison, this is less meaningful. A more established measure is the user education activity. The COPOL (now SCONUL) Statistics produced annually have been including figures for this for some time now. The performance indicators included in *The effective academic library* (Joint . . . , 1995) include 'number of students receiving post-induction instruction in information-handling skills'. There is a trend to separating out 'induction' or 'orientation' sessions from post-induction, which is probably a valid distinction to draw. Many chief librarians have probably watched these numbers grow at a greater pace than student numbers with a certain satisfaction. Is, however, 'more' necessarily an indicator of 'better'? I suspect (I know) that despite much literature on the subject of evaluating user education it is still the Cinderella part.

Just a note about committee work. It seems that the more collegial the modus operandi of an HE institution, the more committees it has. Course committees, boards of study, faculty boards, quality enhancement committees, the list is endless. Since liaison librarians do spend considerable portions of their time in committees it seems on the one hand a straightforward measure. On the other hand this may have little to do with effectiveness!

Many areas of the liaison function are qualitative in kind:

- user satisfaction
- academic quality assessments
- reputation or standing within academic area
- being in-demand
- effectiveness as a teacher - evaluation of user education
- position within the library - the 'gatekeeper'
- 'trouble-free' nature of relationship

User satisfaction questionnaires quite often identify things like the 'helpfulness' of the library staff overall, however it is usually considered invidious to single out any individuals or groups for comment. I am not aware of many surveys of satisfaction amongst teaching or academic staff, at least in this country, as a separate group which might more use-



fully focus on their perceptions of how the liaison functions. Some studies have been undertaken in the United States. I have heard of one institution which was regularly gathering input from academic areas as to their perceptions of the liaison librarian, as a contribution to a quality enhancement programme. However I have yet to hear any teaching staff say that 'their' subject librarian is other than the most wonderful human being alive - any variation is in the warmth with which this is asserted.

When your subject librarians are inundated with requests for help, advice and user education sessions, you might feel some justification in thinking they are doing a good job, so 'being in-demand' may be one of the best indicators. Measuring this would involve combining a number of factors which are difficult to equate. Does effective user education stimulate enquiries or deflect them? This is similar to the difficulty in assessing whether a 'trouble-free' relationship with an academic area is a good or bad thing. Too smooth a relationship may indicate insufficient challenge to accepted orthodoxies on the part of the liaison librarian. Some particular case studies may be the way to proceed.

### Will Measuring Liaison Performance Mean Anything?

As with many other performance indicators the caveats which can be found are many and various. Like all our areas of work it is bound up with questions of resource adequacy. Circumstances may vary so much from one academic area to another that drawing comparisons even within that institution may be impossible. It seems to me to be one of those areas where the process of making the attempt is the important factor. The end result may be too ill-defined to be of much direct use (probably trying to compare across libraries would be pretty meaningless). However, as we found at Brighton, putting a considerable emphasis on effective liaison is an expensive affair. If the 'learner support' ideal for the future of academic libraries is to be followed, we must have some means of assessing the effectiveness of the results, and we had better start now by making some more systematic attempts to measure what we can. As a first step I feel there needs to be more discussion about what we mean by liaison. Ironically enough, a major part of this will have to be asking academic areas about their views. Surveys such as that reported from Kent State University (Ryan et al, 1995) should be repeated more widely. It is my hope that this paper will stimulate others to consider what their definition of liaison is so that we

can stumble towards some consensus on what we need to do to measure its effectiveness.

### References

- Heseltine, R. (1995) 'The challenge of learning in cyberspace'. *Library Association record* 97(8) August. 432-433
- Higher Education Quality Council (1994) *Learning from audit*.
- John Fielden Consultancy. (1993) *Supporting expansion; a report on human resources management in academic libraries for the Joint Funding Councils' Libraries Review Group*. The Fielden Report. Revised September 1993
- Joint Funding Councils' Ad-Hoc Group on Performance Indicators for Libraries. (1995) *The effective academic library: a framework for evaluating the performance of UK academic libraries*. HEFCE, SHEFC, HEFCW and DENI. March 1995
- Joint Funding Councils' Libraries Review Group: Report. The Follett Report. December 1993
- Ryan, Cynthia C.; Suresh, Raghini S.; and Zhang, Wei-Ping (1995) 'Assessing an academic library liaison programme'. *Library review* 44(1) 14-23







# The Use of IT in Library Evaluation: Electronic Surveying at the University of Newcastle

**Keith G. Webster**

Sub-Librarian, University of Newcastle upon Tyne

'The right in-house study of the right issues at the right time is a valuable managerial resource for library administrators' (Rodger, 1989).

Many delegates at this conference will agree with these views, and a glance through any issue of *Library and information science abstracts* or *Library literature* will reveal many reported studies carried out by library managers. Much has been written on survey methodology; the challenge is to conduct such studies as effectively and efficiently as possible. This paper describes how the University of Newcastle upon Tyne has taken advantage of IT developments to improve the conduct of in-house surveys.

The University of Newcastle upon Tyne Library operates from three sites - the Robinson Library, which is the main library, and divisional libraries for Medicine and Dentistry and for Law. Together, these libraries serve a population of over 12,000 predominantly full-time students as well as several thousand academics, researchers and other staff and external borrowers. Reciprocal access arrangements with other local universities also exist.

In recent years, considerable efforts have been devoted to carrying out surveys to aid management decision-making, to inform objective setting and to review performance. In 1987, a university working party was established to review all academic services including the library. One particular question asked of the library was to provide:

'An indication of the Library's strategy in achieving a balance between quantity of service offered and quality of service offered' (McDonald, 1990).

The response to that question was informed by the range of strategies adopted by the library to assess the quality and quantity of services; including an evaluation of user reactions, complaints, suggestions and by conducting surveys. The ability to respond to the review confirmed the importance of in-house surveys and work in that area has been developed in recent years.

Surveys have been conducted, for example, into the pattern of library use of Sundays, to inform the selection of strategy to reduce issue desk queues, to

evaluate the student induction programme, to survey attitudes to reading lists and to examine cross-use of library services between local university students.

However, these surveys were labour intensive. Questionnaires had to be distributed and collected, the results collated and tabulated. Interviews had to be conducted and the results written up. Further, people who came into the library had traditionally been surveyed, and it was desirable to try to reach people elsewhere on campus.

An approach was sought where surveys could be conducted using computers. Newcastle University Library has a long history of innovation in the use of information technology and a computer application to improve surveys was seen as a natural development. Such a move would dispense with the pencil and paper approach and provide responses instantaneously in machine readable form. It was decided to develop a surveying mechanism which could be tied to the library OPAC, as many people, both inside and outside the library, are regular OPAC users.

What was envisaged was a facility where a sample of OPAC users would be presented with a survey screen when first accessing the OPAC. A specification was submitted to Geac, suppliers of the Advance library automated system used by Newcastle University, to develop an electronic surveying facility.

The specification set out several requirements:

- An ability to determine the respondent's identity, from name or borrower number
- Facility for the library to design the screen layout
- Ability to compare composition of sample with user population as a whole
- Automatic analysis of multiple choice responses
- Facility for users to quit survey at any time to return to the OPAC
- Analysis of the number of users quitting at each stage of the survey
- Logging of users' locations when completing the survey.



## The Electronic Surveying Package

From the above specification Geac developed software to incorporate into the Advance OPAC. Three aspects of the surveying package are considered below: creating surveys, the user interface and survey analysis.

### CREATING SURVEYS

Surveys are created within the Advance menu structure used by library staff. The first step is to record a description of the survey and to set any start and finish dates. These dates are optional, but do allow surveys to be created before they are required and to come into use on the appropriate date. A 'random factor' is then selected - this determines the frequency with which the survey is offered to OPAC users. Whenever a valid access is made to the OPAC a counter is increased by 1 and then divided by the random factor. Whenever the remainder of this calculation is zero the survey is displayed. Therefore, if the survey was to be administered to every user, the factor would be set at one; for every tenth user the factor would be ten.

The system allows acceptable users' locations to be pre-determined. For example, if OPAC users in the Robinson Library only were to be surveyed, this could be requested.

After these general points have been completed, the questionnaire can be created.

The first element of the questionnaire is an opening screen which sets out the nature and purpose of the survey, and can be used, for example, to thank users for their help and explain why the survey is being conducted. The welcome screen is entirely free text. The second element is a prompt for the user's identity. This is a divergence from practice in many paper-based questionnaires where confidentiality is assured, but has been adopted to allow a comparison to be made between sample size and user population, and to minimise opportunities for anyone to complete the questionnaire more than once.

User identities can be entered in a number of ways:

- By borrower number - the system checks its validity and prompts for a new number if necessary
- By name - must be alphabetic and have text before and after a comma eg. Smith, John

Whilst it is impossible to prevent silly names being entered, every effort is made to restrain practical jokers!

These two elements (Introductory screen and User ID) must be completed before any questions can be entered.

The electronic surveying package permits a number of question types to be established:

- Free-text where the responder can enter anything (eg. What single improvement would you make to the library?)
- Questions with Yes/No responses (eg. Are our opening hours adequate for your needs?)
- Numeric questions (eg. How many books do you have on loan at present?)
- Multiple-choice (eg. Which of the following extensions to opening hours would you prefer?
  - a. Saturday evening
  - b. Sunday morning
  - c. Sunday evening
- Dates (eg. When did you last visit the library?)

### THE USER INTERFACE

Whenever a user begins a new OPAC search the system retrieves a list of existing surveys - it is possible to hold a range of surveys at any one time. The system will check the various elements mentioned above: start and finish dates and users' location. Assuming that all of these restrictions are complied with, the system determines whether or not the questionnaire should be displayed using the frequency counter.

The user prompts at the foot of each screen are presented and used in the same way as those with which OPAC users are familiar. There are two prompts which appear on every screen: quit and help. Quit is self-explanatory but nonetheless important. People using the OPAC generally do so with the intention of consulting the library's catalogue and not to complete a questionnaire, and it is unlikely to foster good relations if people are forced to complete the questionnaire before they can conduct their search. Help on completing the survey is available at any stage from screens which explain to users how to move about the survey and change answers if required. However, it is not possible to amend the user ID response.

On completion, the survey response is filed, and identified by either user name or borrower number. This is important, because if someone is presented with a survey and enters an identity which is already



held on file, they are informed that they have already completed the questionnaire, and returned to the OPAC search screen.

#### SURVEY ANALYSIS

Each completed survey response is allocated particular data about the date and time of completion, the user's ID and the location at which the response was prepared. At present, the software generates three reports to aid survey analysis.

The first is the summary of survey control data which reports:

- The survey's dates
- The number of times the questionnaire was presented
- The number of times the questionnaire was completed
- The number of users who did not complete the survey - and the number of times quit at each question
- Number of users identified by borrower no.
- Number of users identified by name
- Number of respondents identified as non-members.

The second report offers a summary analysis of responses:

- For multiple choice questions, total numbers are shown for each possible selection
- For free text questions, each response is listed.

Thirdly, the summary of survey respondents:

- Provides a response by response analysis showing respondent's name or borrower number and the time, date and location of completion. It then sets out the user's response to each question.

#### The Results to Date

The first live survey was carried out between 24 April and 5 May 1995, and looked at two themes: opening hours and a general study of desired changes or additions to the library's services. The questionnaire contained both multiple choice and free text questions. Copies of the survey screens may be found in Appendix 1.

The questionnaire was presented 1,639 times; from which 150 completed responses were received. The majority of non-respondents quit before entering their name or borrower number. One-third of responses were received from OPAC users outside the library.

## First Impressions

### DRAWBACKS

There were a high number of non-respondents. The survey was presented over 1600 times, but only 150 usable responses were gathered. A completion rate of less than 10% would be regarded as a disaster for many traditional questionnaires.

The poor response rate can have several explanations:

- The survey was carried out at the start of the final term, just before the examinations period, when people were likely to have other pressures on their time.
- People may not have realised that the questionnaire consisted of only five questions, and didn't want to embark upon an unknown exercise. This is something which we will remedy in the introduction screen of future surveys.
- People use the OPAC for a specific purpose - to search for catalogue records - and when given an easy option to quit and return to OPAC use, chose to do so quickly.

After a day or so it was realised that the sample frequency would have to be shortened to gather sufficient responses.

The second problem was the disproportionate number of network accesses, from people using the OPAC in their office or laboratory. This could clearly skew the results in favour of academics and researchers who are the principal users of network access to the OPAC. It would be important to compare the sample population to the entire user community.

There are a number of possible explanations for this problem. People on campus perhaps have more time and are happier to spend a minute or two completing a questionnaire. Perhaps 'senior' users have a longer term perspective on library use. There is one system-related explanation for this observation - users logging in from the network enter the OPAC through the menu structure. In the library, users often walk away from the OPAC mid-search. The next user may then take over without returning to the home page which triggers the survey process. In this way, new OPAC users may be missed.

For the first survey, considerable time was required to set up the screens and test the survey package. It is to be hoped that future surveys can be created rather more quickly.



## ADVANTAGES

Although the creation of the questionnaire was time consuming this was more than offset by the time saved by the automatic analysis of responses.

Surveying user opinion always seems to generate positive publicity, as a demonstration of commitment to reviewing and improving services.

## Future Developments

It is intended to continue surveying, probably once a term. Any reduction or increase in the problems outlined above will be monitored closely, and steps will be taken to reduce or remove their impact.

At the same time, a new package - Libra - will be tested. Libra is a PC-based qualitative survey package designed specifically for use in libraries. It is believed that Geac surveying and Libra will complement each other nicely, and may compensate for any respective sample bias. Libra will gather a more representative sample of users, whilst Geac will continue to reach people outside the library building.

Further guidance on assessing user satisfaction with library services will be issued by the Higher Education Funding Councils in due course. It is to be hoped that whatever framework is finally proposed, IT applications may be used to gather at least some of the required data.

Traditional surveys will not disappear; there is a continuing need to survey services and facilities which have no direct link to OPAC users. However, developments such as those described in this paper make a valuable contribution to the gathering and analysis of valuable user opinion.

## References

- McDonald, A. C. (1990) 'Strategies for achieving a balance between the quality and quantity of service in an academic library'. In *Quality assurance and customer care*, edited by Maggie Ashcroft and Alex Wilson. Stamford: CPI. p.26
- Rodger, Eleanor Jo (1989) 'The right study of the right issues at the right time: conducting in-house studies in public libraries'. *Library trends* 38, Fall. p.313



## Appendix 1

### Sample survey screens

31 AUG 1995      Geac ADVANCE Library System (5.4.4)      DEFAULT NU  
14:02              Newcastle University Library

#### QUESTIONNAIRE

Page 1 of 3

#### LIBRARY OPENING HOURS

The University Library aims to provide the highest standards of service for all users. As an integral part of that process the Library will ask the opinion of its users on the services offered and, within available resources, will respond positively to the information received. Library users should expect a courteous service at all times, and comments on the service received and suggestions for improvement are always welcome.

In order to help us improve our services, please answer the five questions below. You may enter "Q" or "q" at any time to leave the questionnaire and return to the catalogue.

Please enter the number from your Library card (with no spaces and letters in upper case e.g. U13040156) or your name (in the format Last name, First name e.g. Smith, Jane)

Q to Quit, '?' for help on completing the survey

31 AUG 1995      Geac ADVANCE Library System (5.4.4)      DEFAULT NU  
14:02              Newcastle University Library

#### QUESTIONNAIRE

Page 2 of 3

1. If opening hours were to be extended (from 9am-9pm Mon-Fri, 9-4.30pm Sat, 11-4.30pm Sun (Robinson Library only)), when would you like it to be? Please indicate your choices in order of preference :

- A. 9.00 - 10.00 pm weekday evenings
- B. 4.30 - 7.00 pm Sundays (Robinson)
- C. 9.00 - 11.00 am Sundays (Robinson)
- D. 4.30 - 7.00 pm Saturdays

2. If you would prefer the Library to be open at some other time, please give details below :

Q to Quit, '?' for help on completing the survey



31 AUG 1995  
14:02

Geac ADVANCE Library System (5.4.4)  
Newcastle University Library

DEFAULT NU

QUESTIONNAIRE

Page 3 of 3

3. In order to extend opening hours as indicated above, when would you prefer the Library to close? Please indicate your choices in order of preference :

- A. 5.00 - 10.00 pm Fridays
- B. 9.00 - 12 noon Saturdays
- C. No further closing

4. If you would prefer the Library to close at some other time, please give details below :

5. Which single change or addition to the University Library service would you like to see implemented ?

Thanks for your assistance  
Q to Quit, '?' for help on completing the survey



# Deriving a Quality Assurance Toolkit from the Outcomes of Information Use

**Christine Urquhart**, Principal Researcher (now Lecturer)

**John Hepworth**, Project Director and Senior Lecturer

Health Information Management Team, Department of Information and Library Studies,  
University of Wales Aberystwyth

## Introduction

A vital aspect of performance measurement is the assurance that the service provided by the library and information service is valued by the users. Many performance measurement tools attempt to gauge customer satisfaction but services that are 'satisfactory' may not in fact be providing a service that is truly useful as such satisfaction measures depend on the expectations of the user which may be low. In the Value project (Urquhart and Hepworth, 1995 [a]) the value of a library and information service was measured in terms of outcomes of information use, ie. would the information make a difference to decisions made at work? As the users studied were clinicians (medical staff in hospitals and the community) clinical decision-making was the focus of the project. As clinical decisions made about patient care affect patient care outcomes the value of a library and information service, expressed in terms of benefits to clinical decision-making, can be related to organisational objectives for improved patient care.

Study of the value placed on information and how that information is actually used provides a basis for an audit approach which is firmly based on the users, their information needs and patterns of information use. The quality assurance toolkit (Urquhart and Hepworth, 1995 [b]) which was derived from the findings of the Value project is aimed at performance improvement, not as a means in itself but for the clinician users of the library and information services. A more effective library and information service should thus contribute to more effective patient care.

## Tracking the Value of a Library and Information Service

'...there is no point in deciding where your business is going until you have actually decided with great clarity where you are now'

John Harvey Jones (1994)

For clinician users the 'business' will cover information needs for patient care and also continuing education and research. Information for present patient care needs will usually be associated with immediate outcomes for patient care. However, information for present continuing education and research needs is less likely to be associated with immediate outcomes for patient care. Outcomes do have to be judged subjectively by the user and those outcomes concern present and future clinical decision-making.

In the Value project over 700 requests were tracked. These requests included interlibrary loan requests, end-user searches and mediated searches at 11 hospital sites in two regions of the UK. The hospital sites were chosen to give a good cross-section of types of hospital setting and library service. The clinicians were asked not just whether the information would be - or was - valuable to clinical decision-making, but also how it was valuable, and which categories of clinical decision-making would be affected.

The results showed quite emphatically that information provided by NHS library and information services would or did affect clinical decision making. 89% of the clinician respondents agreed that the information obtained would affect one or more categories of clinical decision-making. The questionnaire survey was followed up by selective interviews which provided case study evidence of the way information contributed to clinical decision-making.

Profiles of information use can help in analysis of performance at a more detailed level than is normally practised. The Value project showed that outcomes of use varied according to user group, categorised by stage of postgraduate medical training. Career stage affects the outcomes of use in two ways. First, the stage affects the type of clinical decision-making priorities, and secondly, the career stage affects the gross valuation placed on the information provided. Not surprisingly, the most junior registered doctors value the information provided more as they are still on the steep slopes of the



learning curve. Another interesting finding was the high valuation placed on information by the group of remote users of MEDLINE, the users of the BMA (British Medical Association) Dial-Up MEDLINE service. Although this group is likely to be more information conscious (as they have made the effort to kit themselves out with the necessary hardware and software), the value of information on the desk-top, whether at home or in the office, is clearly appreciated.

### Evaluating Infrequent Use

Any estimation of the performance or value of a library and information service should not neglect the infrequent user or the 'non-user'. In the Value project, the surprising finding was the contrast between the high valuation the junior doctors (senior house officers) placed on information provided and with their low level of use of services that would provide up-to-date information on patient care. Analysis at this level of detail provides a better indication of performance failings than would be possible using gross statistics of use alone. In common with other 'infrequent user' groups among clinicians, the senior house officers not only have problems accessing services, but also seem unaware of services that are available.

### Outcomes-based Audit

The analysis of the outcomes of information provision, combined with a survey of the patterns of information need and use among a random sample of clinicians (users and 'non-users' of the library and information services) provided the underpinning evidence for the quality assurance toolkit - having established that the information provided does have a value, that it does bring benefits, that knowledge gained can contribute to improvements in information provision. The audit cycle of needs - provision - outcomes is a circular process where the starting point can be at any stage. The main sections of the toolkit cover Assessment of user needs, Information service provision and Focus on the service outcomes (including targeting of services). Each of the topic sections follows a similar pattern: Nature of evidence to be sought (what to find out); Supporting research evidence (the reasons why evidence should be gathered) and Data required. Checklists of questions help to identify the evidence that should be gathered, and toolkit users are directed to appropriate survey tools, based on those used and tested in the Value project

### Toolkit Examples

The supporting research evidence included the following findings:

- Research and publication purposes were involved to some extent in 55% of information service requests and searches.
- Information needs and patterns of information use vary with the type of post held by the clinician and their career point.

The relevant checklist questions include:

- Are the following details obtained at registration: grade of post, type of post (research, GP training etc.) contract term?
- Would it be possible/useful to arrange a survey of the purposes of information need among users and non-users (eg. to assess how well the service is performing in respect of purposes such as clinical care, education, research . . .)?

If the answer to the latter question is 'Yes' the suggested method is a critical incident type survey which was used in the Value project. A one-page questionnaire was sent out once a week for four weeks to a random sample of clinicians asking them to think of one occasion during that week when they had needed information for patient care, teaching or continuing education. They were asked to tick categories for purpose, sources tried and the degree of success obtained. The response rate for the Value project was 46% overall, and 69% of the sample replied at least once.

### Audit Survey

The Value project included an audit survey of around 35 UK libraries serving clinicians. This survey provided quantitative data (for a three-month period) on who was using the service, which services were being used, the profile of use for certain user groups, and the percentage of potential clinician users who did use the service. The main phase of the project had indicated the possible problem areas and the audit survey provided the quantitative data which indicated, for example, the level of use that might be expected for particular user groups. Although all the libraries surveyed collect statistics for aggregate use, very few could profile use by individuals and groups.

The audit survey provided targets for levels of use of the library and information service for certain user groups and certain services. These should be regarded as initial benchmarks only, but they do



Figure 1

TARGETS FOR ACTIVE USE	
Group or activity	Medium site (100-199 acute medical staff)
Acute medical staff: percentage active use	55%-65% (minimal) >70% (maximal)
SHOs (senior house officers) - percentage active use	60%-75% (minimal) >80% (maximal)

RESULTS OF AUDIT SURVEY	
Group or activity	Range found
Acute medical staff: percentage active use	40%-71%
SHOs: percentage active use	42%-96%

provide indicators by which information services can assess their performance against that of other services. For example, see Figure 1.

Some library and information services do already target Senior House Officers (SHOs) and are rewarded in time by a percentage active use that is nearly 100%. Active use was defined for the purposes of the project as use of one (or more) of the following services: loans from stock, requests for material not held locally (interlibrary loans), CD-ROM end-user searches, and mediated searches. Borrowing one book in that three-month time period surveyed did make a user an 'active user'. The audit survey complemented study of those easily measured services with an activity sampling exercise which helped to define the 'browsing' use of the service eg. consulting current journals, or reference books.

### Targeting Services

Resources for library and information services are finite, and the problem today is to deal with real cuts. Better services for a neglected group of users may mean that other services have to be controlled or re-organised to make the most effective use of human and material resources. Librarians often operate in isolation and rigid mindsets about operations and procedures can deflect attention from required changes to meet alterations in user patterns. The checklist questions on targeting of services encourage reflection about the purposes of the service and the lateral thinking that may be required to provide a good service when budget constraints appear to limit the type of service deemed desirable. Checklist questions ask whether certain services can be costed, and whether benefits can be assessed not

just for the user, but whether there are organisational benefits. Provision of a particular information service may give useful clues about the information behaviour of the user group, clues that will feed into improved provision of other services. There may also be training benefits for the information service staff providing these services.

Sometimes services do have to be controlled or rationed in some way. Charging for some services is an emotive issue, but the alternatives, usually rationing or low-profile advertising of services, are often less fair on the occasional user, who might be the very person who needs to use the information service. It is therefore important for the library and information service to be able to answer checklist questions about trivial use of some services by an active minority.

### Resourcing and Performance

While services can be adjusted to match user needs, there is still a need for resources, and some librarians would argue that performance measurement is only worthwhile if the resources are sufficient. In the audit survey the funding levels for journals subscriptions were considered alongside the indicators for active use, to see whether poor resourcing would result in poor performance (judged by active use) and better than average resourcing would correspond to better than average performance (judged by active use). The results were mixed. Although better funding was generally associated with better performance there were some variations. Of the six libraries which had below average resourcing for journals, two were performing better than might be expected for active use. At the other end of the scale, above average resourcing



did not guarantee an above average performance. Clearly the information professional in charge does make a difference, and can add value to resources.

## Conclusions

The toolkit is essentially a set of guidelines and methods to help information professionals find evidence for the effectiveness and impact of their service. There is no obligation to use the whole toolkit at once, or in any particular order. The aim was to produce a quality assurance toolkit which librarians could use themselves, creatively, to secure evidence that the information service does have an impact and value, and to use that evidence to find ways of improving the service. Certainly the evidence and the targets relate to libraries serving doctors but many of the questions and methods could be adapted for any library and information service which does serve distinct user groups and where benefits of use need to be assessed. The Value project is to be complemented by a study of the effectiveness of library and information supply to nurses, midwives and health visitors, and a similar toolkit will be produced.

## References

- Harvey Jones, J. (1994) *Making it happen: reflections on leadership*. Glasgow: Collins (paperback edition Harper Collins, p. 21. ISBN 0006383416)
- Urquhart, C. J. and Hepworth, J. B. (1995) [a] *The value to clinical decision making of information supplied by NHS library and information services*. Boston Spa: British Library Document Supply Centre. British Library R&D Report no. 6205
- Urquhart, C. J. and Hepworth, J. B. (1995) [b] *The value of information services to clinicians: a toolkit for measurement*. Aberystwyth: Department of Information and Library Studies (Open Learning Unit), University of Wales Aberystwyth. Price £12.00 including postage and packing.



# Database Quality: Label or Liable

C. J. Armstrong

The Centre for Information Quality Management (CIQM)

## Database Quality

Amongst a lot of recent talk, articles and papers about quality in the information industry, an initiative by two professional organisations has already gone a long way in helping users cope with quality issues and, at the same time, has begun looking for a means of providing some security for future database users. The Centre for Information Quality Management (CIQM) was set up by the Library Association and the UK Online User Group to act as a clearing house to which database users may report problems relating to the quality of any aspect of a database being used (search software, data, indexing, documentation, training). CIQM undertakes to forward the problem to the appropriate body (information provider, online host, CD-ROM publisher) and route the response back to the user. This activity enables the collection of statistics on database quality issues which are fed back into the information industry. The service is free to users.

The overall objective of the Centre is to improve the quality of databases (online, CD-ROM, diskette, tape) and, in so doing, work towards developing a set of metrics by which database quality can be measured. Funding from the British Library Research & Development Department has enabled the Centre to begin work in this area and the remainder of this paper explores one possible methodology which offers users guaranteed performance levels for databases.

Currently, users have no knowledge of the formal specification for a database they are using - in effect, they are paying for an unknown quantity. Added to this, publicity material frequently generates unrealistic expectations that are not met when searching at the terminal. More reasonable expectations - for example, that authority files are used in the generation of primary index fields - are not always met either. No database so far evaluated at CIQM has standardised publisher names; this means that users frequently need to search for both 'John Wiley' and 'Wiley, John', for example. In one database the place of publication index contained over 40 variations on London including mis-spellings,

concatenated MARC fields, and comments - 'Lond', 'Londin', 'LondonbRoutledge' (the 'b' is the remains of the '\$b' sub-field marker), 'London sic', etc.

Many of the quality issues reported to CIQM reflect this gap in expectations and there seems to be a clear need - as a part of any drive to improve database quality - to develop a means by which users are made aware of database capabilities. The means being investigated at CIQM is Database Labelling.

## Database Labelling

Database Labelling was first suggested by Péter Jacsó in a guest editorial in *Database* as analogous to food and drug labelling (Jacsó, 1993). Database Labels are short specifications which include some qualitative assessment of a database's performance. They offer potential users a means whereby they can determine exactly what is in a database and whether they want to use it: the extent to which they can 'trust' it.

The brief current description is supplied or created by the database owner/information provider and summarises the more complete and lengthy documentation in a way that users would find both easy to understand and accessible: a 'Contents List' supplied in a standard, recognisable format. One possible example is given in Jacsó's article.

On the one hand, the Label would supply a database specification including a complete statement of subject coverage (perhaps in the form of a topic list), the total number of records, detailed geographic, language and time coverage, and simple statements of policy on such points as indexing and inclusion. On the other hand, some measure of these might be given by noting the numbers of records against years, countries and languages, the average numbers of descriptors per record, and percentages for information points such as records with abstracts.

Factual information, such as number of records, geographical coverage, subject description or available fields, is supplemented by qualitative information which qualifies it: thus, geographical coverage could include the percentages of records for each



country and the list of available fields could include the number (or percentage) of records with actual data in each of the field types.

The Label would immediately show exactly what a database could do for users, leaving them with no unreasonable expectations. The Label would become a quality assurance statement demonstrating to what extent the database could be relied upon or 'trusted'. The factual information would give unambiguous parameters for coverage and use while the qualitative metrics would demonstrate how well the database functioned in these areas.

The Label removes the possibility of unsubstantiated marketing claims such as, 'The database has 26 access points' (indexes to be used in searching) which can no longer disguise the fact that - as has often been found - many of the 26 indexes do not contain data from every record. If an indexed field has only been filled for 80% of the records this will show on the Label.

Databases appear on different online hosts or CD-ROMs and may have a quite different appearance in each version. Different fields may be made available (with or without abstracts, for example), the indexing is generated by the vendor, print formats will almost certainly vary and software-related aspects which affect access and ease of use are certain to differ. For these reasons, Labels for each manifestation of the database will have to be generated - probably as a joint effort which involves both the information provider and the vendor/publisher.

Labels must have a uniform appearance in order to distinguish them from other documentation and a standard layout will make their use by users and prospective users simpler - comparisons can be made more easily. Some form of branding on the Label, for example by incorporating the CIQM logo, might be appropriate as it would mean that users could readily identify an independent 'Label' from other sales or marketing literature from the producer.

Effectively, the Label would become a database-specific standard. However, in using the term, 'standard', care has to be taken to distinguish between a Standard as defined by BSI or ISO procedures and the idea of an entirely local standard (or level of quality) which is specific to a given product. The information provider would specify database parameters as they pertain to a database at the point in time that the Label is first generated and then seek to adhere to or better that performance.

To be effective, the Label should be generated regularly - ideally to coincide with the normal vendor update cycle - and should be circulated with

publicity material and made available on exhibition stands. It must also be made available to prospective users - published - in some form.

Even as described so far, a Database Label would perform a useful function, demonstrating to users the exact performance level of any database and acting as a benchmark against which future performance can be tested by users and producers alike. If Labels were accredited by an impartial agency, their value would be significantly enhanced. Labelled databases would, in effect, have a guarantee of quality. The Label would be seen by the user as an independent assessment of the database offering them a security hitherto unavailable.

## The Accreditation Body

Accreditation by means of the Labels offers users a guarantee of quality and producers a 'kite mark' to flag their database as trustworthy. In turn, accreditation implies the existence of a neutral body which would be responsible for the mechanism of Label provision, verification and publication.

One of the most apparent problems with Labelling is the amount of additional work thrust on information providers and vendors. Labels become far more viable in terms of the workload if the central body (perhaps CIQM in association with the Library Association) produces a form to be filled in by producers.

As has been suggested, all Labels should look identical to the user. Consistency of Labelling is desirable but different services and different types of data are designed to meet different needs. The central body - liaising with database producers, hosts and publishers - will first need to take responsibility for developing a format for the Label and for producing guidelines as to what information should be put against the headings. It would be, in essence, a blank form which producers then fill in. It is not possible to define a single, standard dataset that can be applied to all databases; each database is different (bibliographic, image or text, for example) so it is not practicable to use one form of Label for all. A more pragmatic approach using a standard core of headings with options for the producer's own information or different Labels for different type of databases, might be more practicable.

In addition to specifying headings on the form for what should be included on the Label - for example, the number of records, coverage, fields, indexing, or publication years, definitions or 'scope notes' rendering the form easy to complete will be required. It



is essential that the task of producing the data for the Labels is simplified and automated as far as possible so that the information providers and vendors are able to supply the information regularly without detriment to their database production schedules. It may be most convenient for forms to be generated and returned electronically.

Once a database producer and database publisher have filled in the 'form', it would be submitted to CIQM for audit and checking. When they have been approved these Labels could then be published and/or distributed to users by CIQM or some other publishing body. Simplicity is vital if the Label is to be of real help to users of a database. After the Label has been issued, the database will have to be periodically checked against the Label and the Label updated to ensure that it continues to accurately reflect the content and nature of the database. Periodically, new Labels will be published.

The mechanism for publishing the Labels has yet to be decided but, apart from making copies available to the information owner and the vendor to be distributed with documentation and publicity material, a means has to be identified which will make the Label readily available to any existing or potential user. The Internet may offer the most appropriate channel. Additionally, it is hoped that publishers of independent database directories might flag accredited databases in some way.

## Will Labels Work?

In setting out this methodology for database quality assurance and in describing the possible advantages, it is important not to overlook the cost element - which would fall largely to the information provider - and other issues of use.

Labels must provide an accurate picture of a database as it exists when the Label is created or updated. Many of the major and most-used databases have been available electronically for 20 or more years and in this time have changed considerably. New fields may have been added (for example, an abstract) or fields may have been divided up to provide better access (Source field divided into Journal, Publication Year, Volume, Issue, etc, for example); thesaural control may have been introduced at some point; and coverage will almost certainly have improved. To give 'scores' representing the entirety of the database would give a false or a skewed impression of current production. It is not sufficient, for example, to show that 80% of the total content is from the United States when the average update since 1995 is 50% from USA, 20% from the UK,

with the remaining 30% from continental Europe. One solution may be to show the dates of change: the date that fields came into existence and their rating for use in records from that date only, for example.

Unlike some publicity material and database fact-sheets, the Labels will need to be completely re-produced or updated several times each year; this clearly has considerable overheads in terms of both time and costs. Updating such Labels for all of a producer's databases in all their various forms would be a major task. It will certainly be necessary to date the Labels clearly on the front in order that users can see clearly that they are using a relevant and current version.

The volume of data to be condensed into a relatively small amount of space - no more than four A4 pages - is also problematic. It may be possible to balance the short, summary Labels with documentation made available electronically - possibly via the Internet - with links from individual databases. This is already happening to some extent; for example SilverPlatter has made available a free database of software parameters, hardware specifications and database details on their homepage.

A further consideration is the increasing use of databases distributed over local area networks (for example, in universities); how are the many users (many of them vulnerable end users) to be presented with the Labels. Users in any situation cannot be *made* to read the Label but it will be necessary to make users aware of the possibilities for quality control that are open to them. Local training and publicity supplied by library staff can back up efforts made by the information providers but the most useful tool may well be a logon message asking, 'Have You Read The Label?'

## The Future

Database Labelling offers considerable benefits to users but will require a not inconsiderable infrastructure to function. Is it all possible? There is a huge backlog of databases to be 'Labelled' and a feasibility study will be necessary to assess the scale of the project. The consensus of opinion at a meeting of information providers earlier this year was that, at the very least, some preliminary research should be undertaken.

Future work at the Centre for Information Quality Management will aim to:

- raise the level of awareness of its aims and activities amongst users and the information industry



- gather more information from users across Europe on what they consider to be important quality issues as well as on the efficacy of Database Labelling
- develop a design for the Labels and the input form (complete with scope notes), and will
- set up feasibility and pilot studies to look at the mechanisms for the various stages of Labelling and the costs involved for both an accreditation body and the database industry.

It may be that a part of the infrastructure ultimately involves legal requirements to Label databases or it may be that Labelling progresses naturally due to peer and user pressures. One thing does seem clear: if the scheme goes ahead, the unaccredited databases will tend to lose marketshare to those that are accredited while the Labelled databases will be less liable to complaints from users - the Labels will ensure that users have no misconceptions about database scope and capabilities at the same time that the Label's benchmarking role gradually drives quality up.

## Reference

Jacsó, P. A. (1993) 'Proposal for database "nutrition and ingredient" labeling'. *Database* 16(1) 7-9



# From Rationale to Results: Implementing Performance Indicators in a Public Library

Ruth Alston

Principal Assistant Librarian, Essex County Library

## Abstract

The paper describes the theoretical design and practical implementation of a set of performance indicators in a public library context (Bromley Libraries). It analyses the aims and objectives of the project, and considers how the indicators were selected; it describes production criteria and the chosen set of indicators; finally it assesses what was learned from the project, and considers how the indicators are used in practice.

It concludes that the main values of the indicators are as a practical management tool, as a means of pre-empting problems, and as a platform for further informed questions; the main test of a good set of indicators is their fitness for purpose in pointing to whether the service is making a good job of delivering its own chosen objectives.

## Introduction

The project was designed and implemented in Bromley Libraries, in London, and was a joint project with Leo Favret.

## The Rationale

The first question is why? Why did we need performance indicators and what did we want them to achieve?

### MANAGEMENT CONTROL

The main impetus was the need for improved management control, for assessing performance and monitoring progress. Bromley has 15 branch libraries, serving 300,000 people. In 1991, when we began the project, Bromley Libraries were about to be restructured into groups whose managers would have more delegated authority. We felt we needed a better mechanism for reviewing the progress of these new decentralised performance centres, the more so because of a strong tradition of independence and variety in local service delivery at different branches.

The second spur was the climate of Compulsory Competitive Tendering (CCT) and the enabling culture - a UK Government initiative affecting an

increasing range of local government services (DOE, 1991). Bromley's council has a strong policy commitment towards competition, and believes that there are considerable advantages in early contracting out. One aim of the libraries restructuring was therefore to set up separate client and contractor sides. This meant that the client side needed performance indicators as a more comprehensive monitoring mechanism, while the contractor side needed indicators to help them prepare for maximum productivity to tender as a Direct Service Organisation.

We were also much influenced by the activities of the Audit Commission - the UK's watchdog for local government services - , while the impending 1992 Local Government Act was also pushing us strongly towards better indicators.

Fourthly, we wanted our policies and planning to be based on better knowledge. We wanted better informed decisions, especially for resource allocation, and we wanted better forecasting, especially for pre-empting potential problems.

### SELECTION CRITERIA

The second question is how? How did we choose a set of indicators, and what criteria did we use for our selection? We had six criteria.

- The first was that the indicators must fulfil our information needs. They must answer the questions we were asking.
- The second criterion was validity and reliability. Are we really measuring what we think we're measuring, and are the findings accurate? We gave this factor considerable weight.
- The third criterion was practicality. The indicators must be fairly quick and easy to produce, so that they are cost-effective. We therefore decided to make maximal use of system-generated performance measures, while also taking care to ensure that a report didn't get included *only* because it was readily available. We were helped in this by a good computer system (a Geac 9000) and a high level of in-house systems expertise.
- Fourthly, we wanted to select a balanced set of indicators which would give a rounded overall picture, and would avoid staff distorting what



they did in order to do well on just one indicator. At the same time, we wanted a set that was brief enough to encourage use. We were also keen to be able to compare inputs with outputs - for example, funding categories against issue categories.

- The fifth factor was actionability. The indicators were meant to be a practical tool, that staff could readily both interpret and act on. We therefore excluded measuring things we couldn't change. The emphasis on action was another reason why we didn't want too long a list of indicators.
- Our final criterion was comparability across Authorities, where it fitted in with our own questions. We did therefore actively try to incorporate some of the King Report's suggestions (King Research Ltd, 1990).

We were also involved in the South East London Performance Indicator Group (SELPIG), a group of five South East London Borough libraries established by Ian Rawlinson of Lewisham in 1991 to agree and report to each other a set of indicators. The other three Boroughs were Southwark, Greenwich and Bexley.

#### PRODUCTION CRITERIA

The next area for decision was when and how the indicators should be produced.

Our decision on frequency reflected the aim of using the indicators as a practical tool for regular management control. We needed an interval of time far enough apart to even out minor irregularities but frequent enough to enable appropriate action to be taken if necessary before a service went too off course. We therefore chose intervals of one month, with a quarterly cumulation to highlight trends.

Our aims also meant that prompt and regular production was vital. We specified that the indicators should be distributed by the tenth day of every month.

We then had to decide how the indicators should be presented. Because we wanted to encourage practical use, we felt it was important to present the indicators as powerfully and attractively as possible, making liberal use of graphics and colour. Most information is given once as figures and again as coloured bar graphs or pie charts. The aim is to give all the users as much help as possible in speedily absorbing and understanding the information. The information itself is short and straightforward. This relates to our emphasis on indicators as a springboard for action.

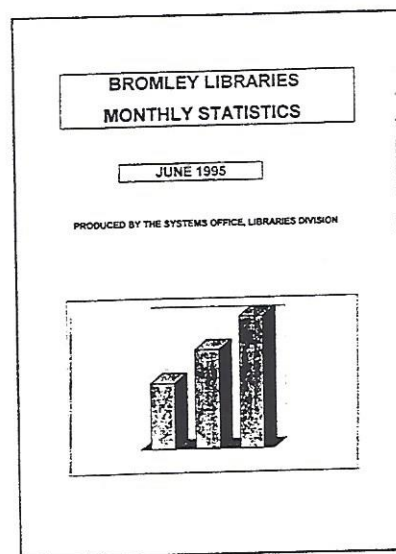
It is these features which, I feel, are one of the distinctive strengths of the project. Together with strict adherence to the selection criteria I've discussed, they transform the indicators from mere data into genuine information for managers.

## The Results

So what was the result of these considerations? What did we choose, and what do they look like?

The product itself is an A4 heat-bound booklet, with a clear cover. (Figure 1)

Figure 1



For monthly monitoring of library performance, we chose a set of 12 indicators.

Most of the inputs were already covered in our returns to the UK's CIPFA (The Chartered Institute of Public Finance and Accountancy) and LISU (Library and Information Statistics Unit). What we wanted to know more about now mainly revolved around the amount and type of use being made of our outputs, ie. our effectiveness. We therefore devised five reports which detail our issues and analyse them in terms of branches, material types and borrower types.

I can give here only a few brief examples (for details see Alston, 1995):

- Perhaps the most useful is 'Issues by material type by branch'. This is presented both as figures and as bar graphs. The material types cover categories such as adult fiction and non-fiction, junior fiction and non-fiction, videos, maps and scores. From it we can see whether particular material types perform at particular branches markedly above or below the Borough's overall average.



- Another example is 'Issues by borrower type by branch' presented similarly as figures and in bar graphs. Borrower types cover such categories as adults, juniors, pensioners, and housebound people. This was designed to tell us which types of borrowers are making most use of which branches.
- Two more of the reports also look at effectiveness in terms of the amount of use being made of the stock. These reports cover the percentage of all lending items on loan (*Figure 2*) and the percentage of all lending books on open shelves on loan. The reports are shown by branch in bar graph form, with the percentage for each branch given. This forms a basis for easy comparison of the performance of different branches in relation to each other.
- Two of the reports look at our impact on the community. These reports measure Registered borrowers by branch (*Figure 3*) and Active borrowers by branch (*Figure 4*), each presented in figures and as a bar graph. The percentage of active borrowers for each branch is shown, giving an instant inter-branch league table as a basis for comparison.
- The final two reports measure system availability, and the percentage of fines waived - the collection of this latter had a dramatic effect in curtailing lost fines income!

This original basic set of Branch Indicators was piloted from the end of 1991, and began to be circulated to staff as authoritative from 1 April 1992. Exactly one year behind this timetable we were able to add a set of four tables comparing performance with the same month in the previous year.

The Branch Indicators are accompanied by the Bibliographic Services Indicators, which are produced in a similar style in a separate booklet. These indicators have a somewhat different emphasis, reflecting our different questions and the different audience. This section had had to cope with a 40% staff cut coupled with a 45% workload increase. Following rigorous service reviews, we had put massive efficiency gains in place. The indicators had both to ensure and demonstrate that these improved levels of productivity were being maintained. The selected set therefore measured quantity and quality of output, and includes staff productivity as throughput per staff hour.

The quantitative measures cover the number of orders placed, the number of items receipted, and the number of titles catalogued. This latter also shed

light on MORI's finding that the public care very much about the variety of items which is provided (MORI, 1992). We also analyse the items receipted and the titles catalogued by material type.

Quality of output is indicated by timeliness. We therefore record the average waiting time before an order gets input, the time from order to receipt (analysed in percentages by timebands), and the waiting time for non-urgent cataloguing (urgent cataloguing is done in three days.)

Operational efficiency is measured by throughput per staff hour for orders, receipting and cataloguing. So that this would be accurate, staff had to start using time sheets. Mindful that the weight of the superstructure should not in itself decrease outputs, we kept this very simple! We used the concept of a core job activity for each type of post, and asked the staff to record only significant amounts of time spent on other things, such as meetings, training or sickness. The simplicity means that a month's time can be covered on one A4 sheet per post, which staff total themselves. This is then cumulated into one sheet which appears in the bound booklet.

Inter-library loans output quality is measured by request satisfaction time, against the new target of 80% in 30 days (a dramatic improvement from the former 50% in 30 days!) (Alston, 1994).

This set of indicators is, I feel, a great strength. It removes the dangers of the halo effect whereby general judgements are based on isolated incidents, and provides a powerful tool for both monitoring and optimising performance.

These two bound sets are accompanied by others, such as monthly budget monitoring against targets and the performance of our materials suppliers. The SELPIG indicators include several which cover the disaggregated costs of specific activities such as lending, reference enquiries, acquisitions and local studies services (Alston, 1995).

At the same time, other work was being done on a broader basis to look at some qualitative aspects of the service. Focus Groups were used to look at both customer and non-customer perceptions of the library service.

#### LEARNING POINTS

We found that some aspects of getting the project implemented and incorporated into ongoing management were rather challenging.

Foremost has to be getting staff commitment. If the staff are not committed, even the automated measures may not necessarily be wholly reliable or valid, while the more manual and derived indicators, such as those involving the time sheets,



Figure 2

All lending items on loan/ All lending items on open shelves -  
End June 1995

	All Lending items on Loan	All lending items on Open Shelves	Total number of items	Percentage of lending items on Loan
Anerley	7,392	22,203	29,595	24.98%
Burnt Ash	3,537	10,626	14,163	24.97%
Beckenham	24,567	51,126	75,693	32.46%
Biggin Hill	8,607	34,368	46,715	18.42%
BH (Mobile unit)	3,740	0	46,715	8.01%
Central Library	39,765	77,662	117,427	33.86%
Central Music	5,509	20,090	25,599	21.52%
Chislehurst	11,646	26,363	38,009	30.64%
Comm Services	18,362	11,080	29,442	62.37%
Hayes	5,419	13,512	18,931	28.63%
Mottingham	5,890	15,195	21,085	27.93%
Orpington	30,553	68,789	99,342	30.76%
Penge	5,869	11,465	17,334	33.86%
Petts Wood	12,120	25,907	38,027	31.87%
Shortlands	5,379	16,024	21,403	25.13%
Southborough	9,554	17,865	27,419	34.84%
St Pauls Cray	6,137	16,484	22,621	27.13%
West Wickham	16,368	29,590	45,958	35.62%
<b>TOTAL</b>	<b>220,414</b>	<b>468,349</b>	<b>688,763</b>	<b>32.00%</b>

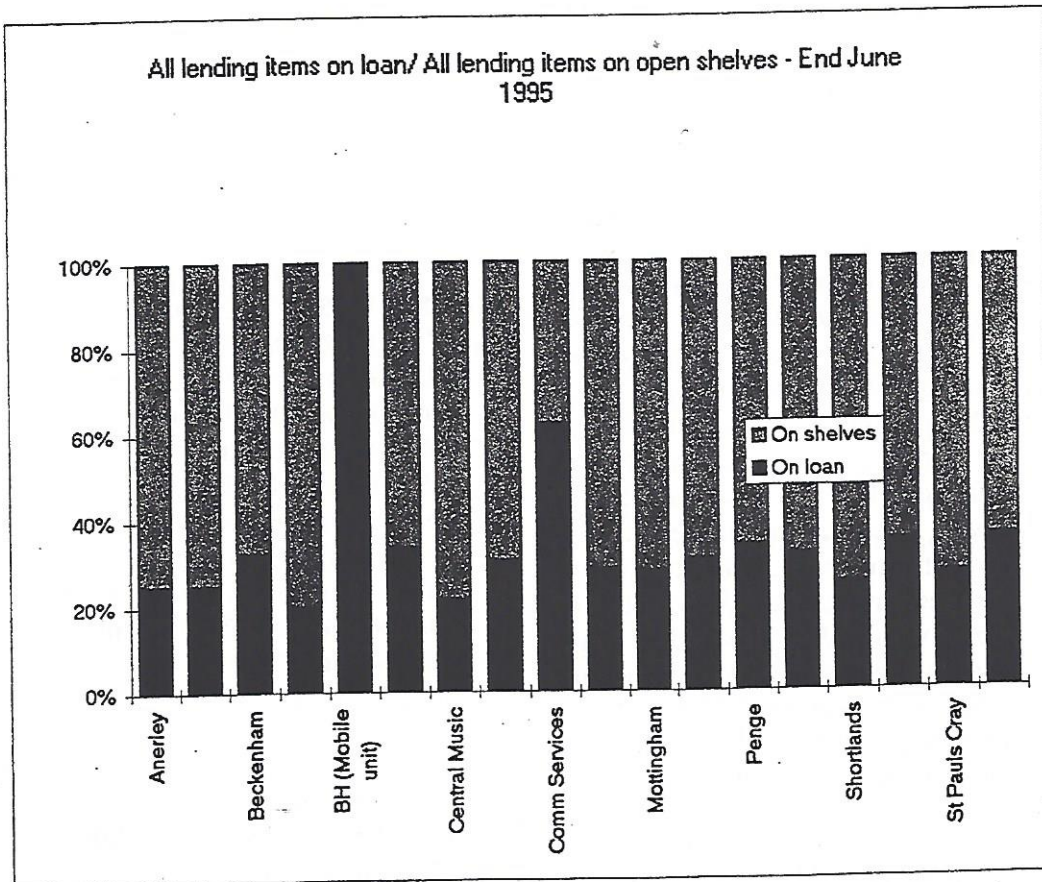




Figure 3

**Registered borrowers by Branch - End June 1995**

	Number of registered borrowers	Percentage of borough total
ANE	6,470	3.45%
BA	2,394	1.28%
BEC	21,605	11.52%
BH++	9,700	5.17%
CEN+++	55,220	29.44%
CHI	10,303	5.49%
COM	600	0.32%
HAY	3,610	1.92%
MOT	5,418	2.89%
ORP	25,741	13.72%
PEN	5,949	3.17%
PW	9,539	5.08%
SHO	3,208	1.71%
SOU	4,977	2.65%
SPC	4,889	2.61%
WW	14,394	7.67%
<u>DEF/OTHERS</u>	<u>3,582</u>	<u>1.91%</u>
Total	187,599	100%

++Includes Mobile  
+++ Includes CMA

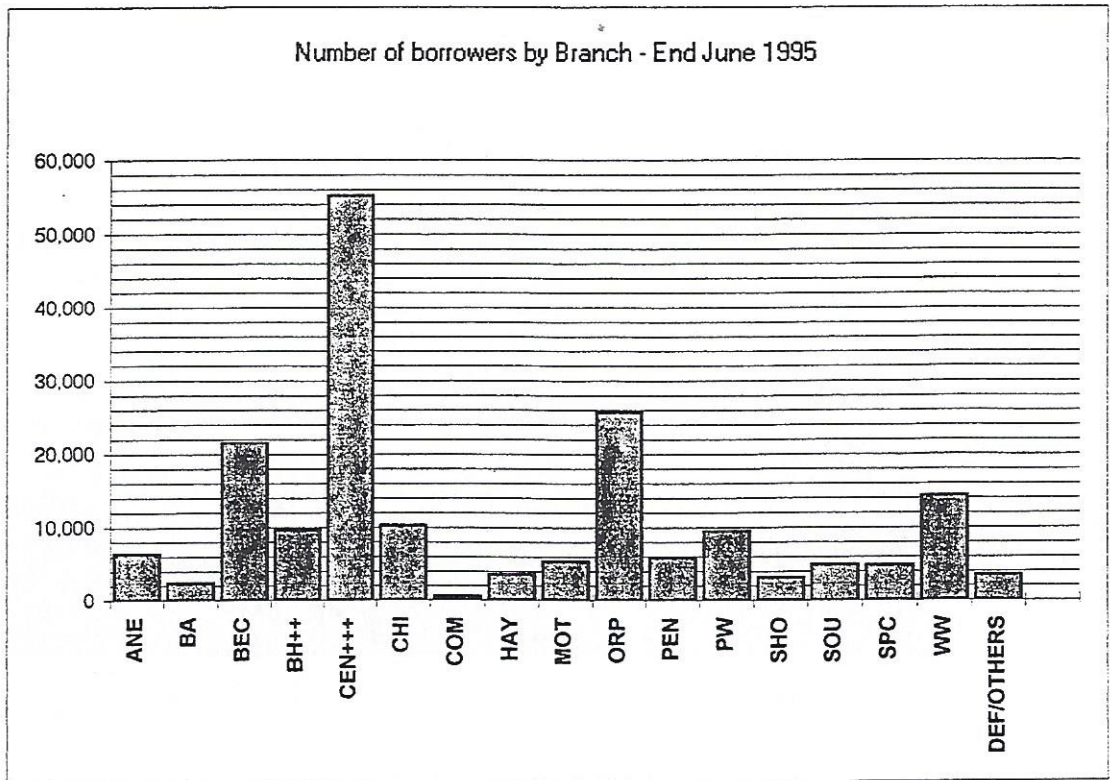




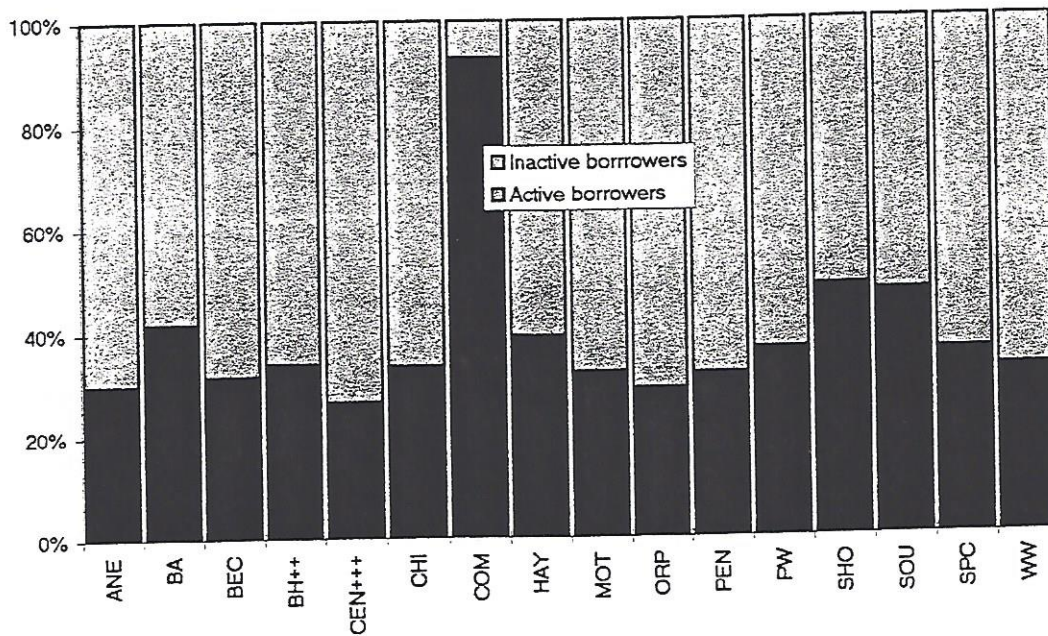
Figure 4

**Active borrowers by Branch - End June 1995**

	Active borrowers	Number of registered borrowers	Inactive borrowers	Percentage of active borrowers
ANE	1,932	6,470	4,538	30%
BA	1,000	2,394	1,394	42%
BEC	6,824	21,605	14,781	32%
BH++	3,296	9,700	6,404	34%
CEN+++	14,668	55,220	40,552	27%
CHI	3,436	10,303	6,867	33%
COM	557	600	43	93%
HAY	1,413	3,610	2,197	39%
MOT	1,741	5,418	3,677	32%
ORP	7,441	25,741	18,300	29%
PEN	1,891	5,949	4,058	32%
PW	3,484	9,539	6,055	37%
SHO	1,556	3,208	1,652	49%
SOU	2,359	4,977	2,618	47%
SPC	1,754	4,889	3,135	36%
WW	4,671	14,394	9,723	32%
DEF/OTH	71	3,582	3,511	2%
<b>Total</b>	<b>58,094</b>	<b>187,599</b>	<b>129,505</b>	<b>31%</b>

++Includes Mobile  
+++ Includes CMA

**Ratio of active/inactive borrowers - End June 1995**





demand full staff co-operation for them to be any use at all. The climate of CCT and enabling acted as a catalyst to get the project accepted more quickly. Success demands explaining fully to staff why the project is necessary, and working closely with them on the details of how best to achieve the objectives. Inevitably for the first few months the statistics will take very much longer to produce than they will a year later: convincing the staff of this can be one of the more formidable challenges of the entire project! Securing scheduled regular, prompt production was another aspect requiring determined persistence, and was one reason for having a three months trial run. All in all, ensuring the routine performance by everyone involved of their contribution to the regular production of the indicators was the part of the project that took longest to settle down. The Chambers and Stoll report on this project includes more detail on this area (Chambers and Stoll, 1995).

Definitions was another area that proved quite tricky at times, even for indicators intended as an internal management tool. For the system generated statistics, for example, it proved difficult to define an active borrower in a way that could be easily measured; eventually we settled on a snapshot method. For the manual measures it took even longer to define, for example, exactly which activities do and don't count as receipting. But consistency is vital for validity and reliability, and this stage cannot be skimmed. We found that it must be the subject of ongoing vigilance, especially, for instance, if there are staff changes. Indicators involving cost had to be clear on exactly what was included - do you, for example, apportion central overheads?

The third area that proved to be something of a challenge was ensuring reliability and validity and therefore credibility. Apart from staff error, the computer system proved capable of generating information in several different ways which did not always agree with each other! Considerable detective work was required in order to diagnose and then rectify the reasons for these discrepancies. Issues, for example, was found to include issuing for binding and for processing.

#### USE MADE OF THE INDICATORS

My final questions on Bromley's performance indicators are what use is made of them, and are the results what we intended?

One of the strengths of Bromley's indicators is that they are a manageable set closely targeted to their respective purposes, providing, as intended, a practical management tool.

One of the most helpful ways this can be used is for comparisons between different branches in the same month, between different Authorities in the same year, or for longitudinal trend analysis to compare the same branch or section with itself at different times. This led us to discover, for example, the development of especially high levels of use of maps, scores and large print at particular branches. We also discovered that our average acquisitions throughput had achieved double the London Borough average, while our interlibrary loans review has increased speed of delivery by 60%.

One of the effects of having detailed current knowledge of our stock use has been to propel us in the direction of systematic stock provision along the lines described by Doug Betts (Betts, 1982). By discovering the actual cost required to sustain issues at their current level, decisions on resource allocation can become much better informed. The cost of maintaining the status quo is known, and judgement can then be used as to whether this should, as a policy matter, be changed. This exercise highlighted the importance of matching inputs to outputs - we needed, for example, to separate out our issues for large print and talking books to see what output our funds were buying.

Identifying and pre-empting problems was especially improved by the Bibliographical Services indicators. The balance of staff against workload was still, even after all the improvements, a delicate one. If spending slipped behind, it became possible to predict, for example, precisely what level of receipting backlog would result. Bottlenecks also became easier to spot, so that staff could be put where they were most needed. As with budget allocation, resources could be much more accurately quantified. We were thus able to be pro-active rather than reactive.

Perhaps one of the greatest values of the indicators is that they provide a platform for questions and further investigation. They raise questions, and they provide both the impetus and a factual basis for discussing those questions. The indicators are used as tools not answers.

Another value of the indicators has been the effect on staff perceptions of their activities. Increasingly these are seen as a means rather than an end in themselves. The knowledge that outputs will be measured has provided an incentive to productivity, while quality, as measured by error rates, has been maintained.

So finally, in conclusion, I stress that for public libraries, both what we choose to measure and how we interpret the results should reflect the aims and



objectives of the particular service. Because these can vary with widely different policies between Authorities, it means that we have the difficulty of little consensus on what constitutes absolute optimal performance. In one Authority it may be policy to maximise reading of light fiction, while in another it may not, resulting in very different indicator results.

The main test of a good set of indicators is their fitness for purpose, rather like choosing an appropriate map according to whether you intend to travel by motorway, sail, walk or prospect for oil! Indicators in themselves can tell us only whether we are making a good job of what we have chosen to do, not whether we should be doing something else altogether. The main test of a good use of indicators is to see them as a vital tool, but not as an end in themselves. The approach of Thomas Gradgrind 'with a rule and a pair of scales, and the multiplication table always in his pocket . . . ready to weigh and measure any parcel of human nature, and tell you exactly what it comes to' - that approach must always be treated as a part of the whole picture which must include the many intangible benefits of public libraries, just as the sea is so much more than a navigational chart.

## References

- Alston, Ruth (1994) 'Inter-library loans - performance improvements at Bromley Libraries' *FIL newsletter* 15 (March)
- Alston, Ruth (1995) 'Performance indicators in Bromley - purpose and practice'. *Library management* 16(1) January. 18-28
- Betts, Douglas A. and Hargrave, Roger (1982) 'How many books?' *Library management* 3(4)
- Chambers and Stoll (1995) *The use of management data in public and academic libraries: four case studies*. NAG/British Library
- DOE (1991) *Competing for quality: competition in the provision of local services: a consultation paper*
- King Research Ltd. (1990) *Keys to success: performance indicators for public libraries*. OAL ISBN 0 11 430048 8
- MORI (1992) *Library indicators: research conducted for the Audit Commission*



# Quality-Driven Service Agreements as Performance Indicators

Stephen Richard

University of Glasgow

This paper argues that service agreements can provide a basis for deriving indicators of quality of service performance to supplement cost, efficiency and other financially based indicators. The essential characteristic of indicators is that, although they are rarely absolute measures, they are comparative; either with other organisations at a point in time or within one organisation over selected time periods. The comparisons may be with established standards, performance targets, benchmarks, or competitors, among others. However, performance indicators need to be relevant to indicate good performance.

One of the elements of relevance is 'relevant to whom?' Performance indicators are primarily for internal or external audiences and their use. The external use of performance indicators is by governing bodies, financial authorities, and occasionally by users of services. This is an important accountability element which performance indicators perform.

The importance of making a distinction between internal and external performance indicators is in the emphasis and purposes of the two. External performance indicators tend to concentrate on efficiency, while user oriented ones tend to concentrate on effectiveness. So the choice of indicators can be important in influencing governing and financial bodies. If academic libraries were to collaborate with the CVCP (as they are not) in providing exclusively financial performance indicators, there would be no indicators of effectiveness. The emphasis would change to cost without considering the effectiveness of the services. Effectiveness measures can be assisted by relating the performance indicators to mission, objectives, and target statements. How relevant to the users' perceived quality these will be is also debatable, since normally, the process of deriving the statements does not include the users. This lack of involvement must limit the relevance of mission statements to determining the appropriate performance indicators.

SCONUL is approaching the task of providing external measures by developing a series of performance indicators based on work done by COPOL. These are largely aimed at national comparisons, and to indicate the efficiency and effectiveness of

performance to the financial authorities of parent institutions and funding bodies. The principles of the performance indicators being developed are indicated in the following table (Winkworth, 1990):

## Overall Performance Indicators for Libraries

Relevance	Relation of library objectives to the institutional objectives (descriptive)
Delivery	Relation of library outputs to library objectives
Effectiveness	
- Satisfaction	Client satisfaction
- Market share	Outputs related to clientele
Economy	Inputs related to clientele groups
Efficiency	
- Cost	Outputs related to inputs
- Staff	Outputs related to staff and service hours

These, of course, have been elaborated to a great extent (there are five measures of client satisfaction in the SCONUL indicators, for example), although the market share indicator has been dropped. Of course, these are much better than the existing exclusively financial performance indicators from the CVCP. But in what proportion of these does quality become the focus? and how do they touch the user in any direct way?

What we all are really interested in doing is measuring quality. 'Quality can't be measured' is a frequently heard statement. My approach is a rather traditional one as indicated by Lord Kelvin in the 19th century - 'If you can measure that of which you speak, and can express it by a number, you know something of your subject; but if you cannot measure it, your knowledge is meagre and unsatisfactory'. It is worth noting here that scientific measurement often uses surrogates such as effects to indicate the operation of the object of study when the object cannot be directly studied because of size, speed, or complexity. For example, the splitting of the atom cannot be directly observed, so the traces of degeneration were captured on a photographic plate in the first experiments. This form of measurement appears to be the most productive approach to



be taken in studying the quality of services.

Before the discussion continues, it is important to state that indicators of efficiency and economy will continue to be required to ensure that a cost-effective form of quality is being provided. The emphasis in this discussion is to devise means of providing indicators of increasing relevance to the users of the services. They are the internal indicators and those of most local interest.

So, we need to look at the meanings of quality in relation to performance indicators. A useful classification has been developed by Peffer and Coote which helps this consideration (1991):

#### A Classification of Quality Meanings

1. Traditional approach - conveying prestige or positional advantage
2. Scientific or expert approach - fitness for purpose, conformity to standards set by experts
3. Managerial or excellence approach - measures of customer satisfaction and success in meeting needs of customers
4. Consumerism approach - empowering the customer, giving the customers what they want
5. Democratic approach - achieve common goals in the interest of the community as a whole.

We have been forced from the traditional approach by our governing bodies, although we all seem to hanker after such indicators of quality in our daily and to some extent professional lives. There is a case for the establishment of a grading of our libraries on the basis of star ratings by analogy with those for hotel accommodation. Experts could establish the descriptions for the grades in various contexts (higher education, further education, public, commercial, research, etc.), and examine the libraries to award the relevant rating. Just as we know five-star hotels cost more than three-star ones, so an institution could choose what kind of library it wants and finance it accordingly. This is similar to the academic research assessment exercise currently being conducted. It would save a lot of angst about definitions and, more importantly, time and effort in statistical reporting.

We are now mainly involved with the expert approach: where we are establishing the indicators that we as experts believe are relevant to the services we provide. For example, development of performance indicators at Glasgow initially focused on internally determined performance targets, some of which related to the users (accuracy of enquiry responses, speed of response, queuing times) as

defined by librarians, and which derived from the mission statement (also prepared by library staff).

The SCONUL draft performance indicators are moving toward the excellence approach by using a small range of satisfaction measures and relevance or institutional involvement measures. Still, the areas of satisfaction and relevance are determined by the librarians as the experts. This is also the point the privatised industries have reached. For example Scottish Power has recently sent to its customers a pamphlet about service standards which they called their customer charter. This outlines a variety of response times for various services. The one which matters most to all customers is 100% availability of electricity supply, but it is the one of which it makes very little, preferring to rely upon the number (few) of breakdowns in supply. This leads them to setting response times for repairs. But only if notified in office hours Monday to Friday and Saturday morning. The experts have decided what they can provide and set the standard of response within that range, rather than within the range of customer expectations.

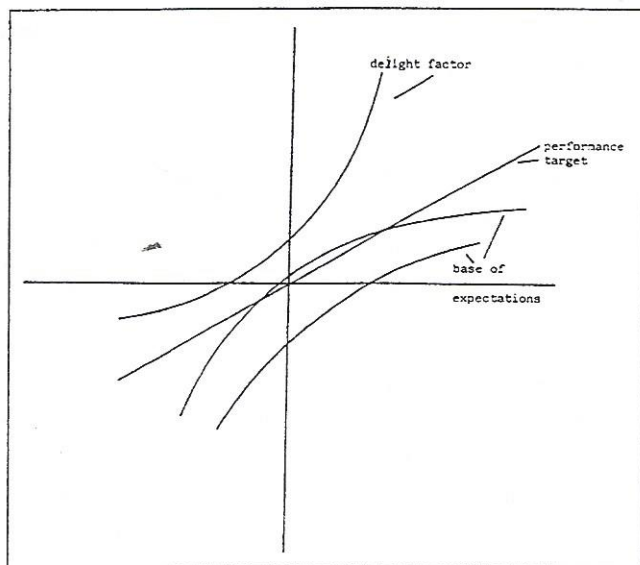
The need in providing indicators of quality is to move on to the consumerism and democratic approaches where the user becomes more important. Empowering the customer and giving them what they want are different. Empowerment may mean as little (or as much, depending on how open the organisation is willing to be) as providing information on performance. Supine delivery of what the customer wants is probably not possible except in very limited operational contexts (eg. a departmental library). The users have unrealistic expectations as well as competing demands. So, the consumerism approach can only be a temporary, logical stage, not a real position.

The democratic approach is where the participatory establishment of services and expectations for them occurs. Quality tends to be 'in the eye of the beholder'. So determination of quality measures depends on the standpoint taken. A different set of indicators will be derived from the quality expectations of the parent institution; the library experience and expectations; and the user. If we are serious about providing quality services, we need to learn of the users' quality expectations. This is squarely within the democratic approach indicated by Peffer and Coote.

Quality (in the view of users) relates to a series of expectations (*Figure 1*). The base expectations are those, without which, no quality will be perceived. These will vary in various circumstances, with experience of the service, and over time. The organ-



Figure 1



isation must know the basic expectations of the potential customers about service performance to be able to set relevant performance targets. It is possible to set targets below the base expectations without knowledge of what and where they are, as shown by the intersection of the base expectations curve and the performance target line. The delight factor is the element of service delivery which prompts the user to be pleasantly surprised, to write a letter of thanks, or give a public acknowledgment. This delight factor is the one which draws up the base expectations of the users, or, in its absence, reduces base expectations. It is the movement of the user expectations that requires a user focus in determining performance targets.

The use of service agreements is one of several methods to find the levels of expectations, negotiate the performance targets in relation to resources, and monitor the changing expectations. Other methods are charters, service standards, questionnaires, focus groups, and stakeholder approaches. Charters typically are determined by the service providers with or without input from the users and possibly with some base in experience of complaints. Service standards are similar to charters but normally without statements of legitimate user expectations or methods of redress. Questionnaires tend to develop predictable answers unless they are very well designed and extensively analysed, and relate to the librarians' concerns. Focus groups can help establish the users' areas of interest and service expectations. The stakeholder approach is being fully described by John Crawford at this conference, but essentially relies on determining the interest groups and the performance measures appropriate to their group. This works toward deriving a minimum set

of indicators to serve the identified groups but fails to do two things: accommodate changing expectations and determine the level at which the performance becomes a quality performance. Service agreements come in a variety of forms, but typically are negotiated with identified groups of users and potential users. This can provide the library with the service expected by users for the areas identified as crucial. Charters most often deal with the processes of getting the services to the users. At Glasgow University it was decided to negotiate how the identified services were to be provided. The desires of the users for quantities and speed of delivery are discussed and compromises reached. Throughout this process of discussing the terms of the service agreements the mutual interest of the users and the library to obtain appropriate funding for realistic service levels is an important background.

At Glasgow University, the (teaching) quality assessment reviews were combined with the interest of the Scottish Higher Education Funding Council in reviewing the quality of the support services to begin a review of the library. (The review of the library has now moved on into slightly different channels, but the service agreements continue.) It was realised early in the preparation, that the quality of the library services could not be adequately measured unless the expectations of the clientele were established. Simply asking what is expected had led in the past to demands which were unrealistic given the funding available. The service agreement idea was adapted to form a forum for discussion and negotiation relating to services which teaching staff and students indicated were key in their teaching and educational experience. The services to researchers is being dealt with in a separate series of discussions.

The service agreement discussions were staged to fit with the subject areas to be assessed. The discussions are begun approximately 18 months in advance of the session in which the subject will be assessed. This gives the opportunity to test and modify the agreement (if needed) for application in the session prior to assessment. The initial choice had been to discuss services with each department. In the process of establishing the meetings, it was determined that one, relatively homogeneous faculty would be dealt with as a whole. Both approaches worked well in providing fora for adequate discussion with the relevant interest groups in the relevant subjects. The interest groups in general terms were considered to be the staff, the students, any departmental library staff, and the University Library represented by the head of reader services, the head of



undergraduate services, and the relevant subject librarians.

A key set of considerations for the library staff involved in these discussions were the SCONUL elements labelled as SMART:

- the statements should be specific
- the services and facilities offered should be measurable
- the targets set should be achievable within the finance and time available
- that also means they should be realistic
- all the elements should be timed, that is reviewed regularly.

The agreements were made with different subjects with differing numbers of staff and students, variable locations of service (as only some have departmental libraries), and requirements for different kinds of material or levels of service. This led to a group of agreements, each with variations, rather than a single university-wide agreement. Not all agreements equally satisfied all parties, as the library was sometimes forced into services not previously offered, and staff and students required to acknowledge that certain prerequisites were demanded of them before the services could be provided to the timescales wanted. A number of items for further discussion and resolution have been appended to each agreement. These are to be worked upon during the agreement period (normally for one or two years only).

Although these agreements were made in a university context, they do not need to be limited to the educational sector. The principle of negotiating the services to be provided to make the best use of resources in providing wanted services can be applied to all library sectors. The process avoids unrealistic demands by involving the users in the resource requirements for the services to be provided. This helps in making real judgements about priorities.

The obvious danger of making subject-based service agreements is that of providing differing levels of service to different groups of people. Some of these can be met and some can't. It is extremely difficult for a central university library to provide differing loan periods for students of different departments (especially in Scottish universities where students may be taking classes in several departments), if only because the same item may be used from different standpoints by several departments. This requires the establishment of certain services which will be provided in the same quantity, with the same

interval, or the same speed for all students. It does not avoid the necessity to consider amending those levels.

However, it does provide the opportunity to put more effort into providing services which are valued and less into those which are not seen to be so important for each subject area. This helps to make the services more specific to the user group, rather than treating all students as having the same requirements, with a few exceptions to deal with the obvious.

In essence this concern over variable service levels is about conflicting quality standards. It is, of course, possible to determine a service level to be applied across the organisation. This will be perceived by (it is to be hoped) the majority as a reasonable quality of service. There will be minority groupings who do not find the standard service acceptable. This is what libraries have done during the latter half of this century.

Many user groups began to develop their alternatives as a result. Some of these have turned into world-class services, others are providing sub-standard and low-level services. The approach taken by Glasgow University Library (a highly centralised library) shows a willingness to attempt to meet the quality requirements, even though different, of various groups of users. This is required to meet the need of teaching staff, and increasingly students, for services relevant to the subject materials, and teaching methods used in research and learning. The ability to provide services targeted to individuals is increasingly near to being provided by commercial competitors and so becomes a standard by which library services will be judged.

The costs of providing 'excessive' quality need to be brought into the equation of service provision. The service agreement discussions can show the areas where less (eg. quantity, speed, documentation) would be acceptable. In many cases, the effort saved in these areas can be applied to the priority service areas. Without adequate investigation there may be many opportunity costs which are being incurred. This is something that performance indicators, which are set without detailed discussion and negotiation with the users, cannot discover.

To take advantage of the opportunity of more targeted services to distinct groupings of users, the means of providing different levels of service will have to be considered. The organisation which is decentralised may have much less difficulty in providing targeted services, than the highly centralised libraries. A library system with a central library and a number of branch libraries can have a variety of



service levels to suit the area or subject mix of the client group. This, of course, has always been a feature of the local library and a main reason why a number of people will defend their local services, even if it can be demonstrated to be sub-standard in a number of respects. Service agreements make this process SMARTer.

The consequence of using subject- or user-group-based service agreements is that the means of providing different levels of service from a single organisation have to be devised. Although this is not the paper in which to expand upon these means, the use of 'business operating systems' concentrating on the various kinds of users, subjects, etc. as a business stream is a promising area to enable the devising of services appropriate to coherent groups of users. The whole-hearted use of a focus on the user in devising performance indicators, whether by use of service agreements or other methods, requires extensive and sometimes radical thinking about what and how we provide our services. This is the real challenge of performance indicators based on user expectations.

## References

- Peffer and Coote (1991) *Is quality good for you?; a critical review of quality assurance in welfare services*. Institute for Public Policy Research
- Winkworth, I. (1990) 'Performance indicators for polytechnic libraries' *Library review* 39(5) p.31







# A Search for Appropriate Measures with which to Evaluate Academic Library Services at the University of Cape Town

Dr. Karin de Jager

Lecturer, School of Librarianship, University of Cape Town

## Introduction

An academic library is a complex system designed to serve several user groups with different and sometimes conflicting needs and expectations. Shrinking resources are forcing libraries to recognise that they are no longer able to purchase everything their users might need. Conflicts may then arise between librarians who wish to serve their different user groups to the best of their ability, and the organisational administrators responsible for allocating resources, who perceive the library as a major consumer that does not yield directly quantifiable benefits.

Quantification of the performance and especially of the benefits of academic library services has proved to be an exceptionally difficult problem. Many quantifiable activities take place in libraries, but figures that merely describe a situation have very little evaluative use. For the effective evaluation of an academic library, the performance of various activities should not only be measured, but findings should also be compared with goals that have been set for each particular aspect of performance.

Expectations of academic library performance may also be affected by factors from outside the immediate academic environment. Since the democratic election in April 1994 for example, the South African education system has been in the process of major change. Academic libraries will inevitably be part of such change and will have to take cognisance of increases in student numbers, changes in the composition of student bodies as well as new educational approaches and policies.

## University of Cape Town

The University of Cape Town (UCT) is the oldest university in South Africa. It is expressly committed to excellence in both teaching and research, and at present has the best research record of all academic institutions in the country (*Mail & Guardian*, 1995). Traditionally liberal and English-speaking, it is now committed to radical change and

reconstruction. Its student body, which in 1985 had 15% black students, had 43% by 1995.

The library system at UCT, in common with much of the rest of the world, has for some time been operating under severe financial strain, finding it increasingly difficult to address all the claims to its resources. Dissatisfaction and conflicting demands have been expressed by members of all the user groups who felt that particular needs were not being met. Increasing numbers of students from seriously disadvantaged academic backgrounds have voiced demands for more basic learning materials, while researchers have suffered the consequences of extreme hikes in periodical prices.

For the UCT library to function optimally within its financial constraints and to serve all parts of the academic community fairly and impartially, it was realised that measures would have to be designed to assess the extent to which the library was conforming to its own perceived objectives. The statement of the Goals and Objectives of the UCT Library system expressed its 'basic goal' as 'the effective development of library and information services to all sections of the University community to promote the educational, research and service programmes of the University' (*UCT . . .*, 1985).

While measurement and quantification based on such a vague and generalised statement was not possible, it was realised that to measure anything at all, a base-line would be required. A set point is necessary to state from where the measuring will take place. The 'basic goal' as stated above referred to promoting the university's programmes of teaching and research.

It was therefore decided to attempt to find out what the library was actually doing as far as teaching and research were concerned and how well it was doing or perceived to be doing in these two areas. In the process, a number of empirical surveys and investigations were conducted in order to provide basic information upon which a system of performance evaluation could eventually be built. The objective was to obtain as rich a picture as possible of the support provided by the UCT library services for the university's twin obligations of teaching and



research. These investigations were both qualitative and quantitative in nature and are briefly summarised below.

## User Studies

In October 1990, the UCT libraries began to install the integrated computerised library system which had been planned for several years and would enable students and researchers to have more comprehensive access to existing resources as well as those that could still be acquired. The first module to become operational was the online catalogue. It was therefore opportune to conduct a survey of library and catalogue use before the implementation of the online catalogue, in order to provide a basis for later comparison once it was fully established and operational (De Jager, 1991). As its implementation did not proceed as smoothly as had been anticipated, the follow-up study was eventually completed in 1993.

A significant component of these investigations was a study of the UCT library *users*. Their opinions about the library services and their ability to find what they need in the library were specifically sought. It was possible to conclude from both studies that the majority of the students coming into the library, were undergraduates wishing to find a place to study. While they generally rated their ability to find in the library what they needed 7 out of 10, they also had serious misgivings about the book stock which they perceived to be out-of-date, inadequate for study purposes or simply unavailable. While the second study indicated that they were generally pleased with the OPACs and confident in using them, they were concerned about frequent down times, missing location marks and unreliable information. In both cases they asked for longer opening hours and silence. In other words, this seemed to be a library used primarily for studying and learning.

## Support for Researchers

As the original study had elicited student opinions about perceptions of library use and support, the next investigation was designed to study the support provided by the UCT libraries to identified researchers. For this purpose the annually published UCT *Research report* (1976-) was used. This publication cites the titles of all works by members of the ten different faculties during each previous year. The citations are categorised so that it is possible to distinguish between on the one hand those

that meet with international and South African standards of research excellence, and on the other hand publications in unrefereed journals or conference proceedings. As the university is explicitly committed to research excellence, it was assumed that if researchers in turn regard the library as important for their research activities, this would provide an objective assessment of the value of the library to this segment of the population.

A study was therefore undertaken in 1990, in which publications listed in the UCT *Research report 1989* and which were considered to be 'refereed publications of international standing' were selected. In a variation of a 'critical incident' study, their authors were asked a number of questions about the support they had received from the library for the research in preparation of that specific publication.

The faculties of Arts and of Science were chosen to explore this issue as a preliminary investigation (De Jager, 1991). Some interesting and significant differences as well as similarities between the two faculties were produced. Two years later, in 1992, a follow-up study was done, employing the same methodology, but using the UCT *Research report 1991* and directing questionnaires at members of all ten faculties at UCT.

While this investigation contained elements of a user study, it also aimed to assess *perceptions of availability* from identified researchers. It was found that a high quality service to a population selected on the basis of proven activity in research, was clearly evident. Although the inevitably subjective nature of such an opinion-based investigation is not denied, it could be shown that consistent trends in the results achieved in two studies spaced two years apart, provided a reliable indication of satisfactory research support provided by the library.

It could however also be shown that research support seemed to have declined in the period between the two studies. By 1993, 10% of respondents claimed that between 90%-100% of the material they required for their particular paper had been available from UCT, while in 1991 25% had claimed that level of availability. Further indications of this apparent decline in library service were suggested by results indicating increased use of interlibrary loans and a rising tendency for researchers to buy their own copies of required materials.



## Short Loan Collection Investigation

It was however thought that the question of library support for learning and teaching had not yet been adequately explored and that quantitative data was required to enhance the more subjective data from the user surveys that had been completed. Accordingly, a new study was undertaken at the end of 1991 to investigate evidence of the use of the study collection in the Linear Library (De Jager, 1992).

Many teaching departments at UCT place library items from prescribed reading lists that are expected to be in heavy demand by undergraduate students, in a special collection known as Short Loan. Circulation from here is limited to periods of one or three hours, or for overnight or weekend use only. It is heavily utilised by undergraduate students and it was assumed that the Short Loan collection may be regarded as a significant manifestation of the library's objective to function as a teaching support system for undergraduates at the university.

For this study, Short Loan circulation statistics for 1990 were combined with statistics reflecting the items placed on Short Loan by the various departments, together with the circulation frequencies of these items. From these figures it became possible to measure the extent of use of the Short Loan collection by various departments and to conclude that intense competition existed for a small number of items in heavy use. Less than 2% of the total book stock accounted for nearly 47% of the book circulation in that year. Departments in the faculties of arts and the social sciences and humanities made the most use of the Short Loan collection, while departments in the science and engineering faculties used it to a far lesser extent. This investigation confirmed that the library spent much more on supporting research than on supporting studying and learning activities as evidenced by use of the Short Loan collection.

## Open Shelf Stock Study

The original survey of catalogue and library use had elicited a number of student responses commenting negatively on the age and quality of the open shelf book collection. It was known that financial constraints were eroding the book budgets, so that fewer new books were being purchased. At the same time, it was informally noted by library staff that some fairly new items in the collection were very little used. In addition, the library was suffering from a severe shortage of space. It therefore seemed important to continue this investigation into

the *extent of use* of the library collections, by attempting to establish what proportion of books in the library was actively circulating, and whether the accepted phenomenon of the decline of use with age would be apparent in an environment where a reduction in the purchase of new books was evident (De Jager, 1994).

This study enabled the researcher to draw further conclusions about the extent to which the library supported the university's teaching and research activities. It could be shown that while only a small proportion of the library's open shelf book stock had never circulated (16%), a much larger proportion is no longer in active use (only 54% of the sample had circulated in six years). More unusually, it could also be shown that when resources become scarcer and fewer new books are purchased, students return to older materials which had been heavily used in the past.

Traditionally, *extent of library use* was measured by circulation statistics, but figures merely indicating the number of loans per year show nothing more than whether circulation increases or decreases from year to year. Extent of use indicators are primarily quantitative and have to express both the degree to which the library is used by the population for whom it is intended, and the amount of use made of the library materials. Purely quantitative indicators of extent of use include *loans per user*; which may also be contrasted with *loans per capita of the population*. Loans per student ratios from the Statistical Reports published annually by the UCT Library Services indicated that both the total circulation per student and the Short Loan circulation per student figures had shown a gradual decline between 1989 and 1993. The two studies investigating use reported above, provided a much richer picture of the extent of library use than could be obtained by ratios alone.

## Library Use and Academic Achievement

Assessing the impact and *quality* of an academic library service is widely recognised to be the most difficult aspect of evaluation. Yet most writers recognise that the ultimate aim of evaluation is to prove what good the library actually does. Childers had noted that libraries have tended not to set adequate objectives by which to judge impact (Childers, 1989). King, however, commented that in measuring outputs, one could never be sure that they actually represented the outcomes that could



not be measured (King, 1983). He illustrated this point by noting that a student may pass a bibliographic instruction test, but that one may still not know whether the acquired knowledge will be used to modify information seeking behaviour.

In a search for a true measure of 'output' of library service, a study was launched to establish objectively whether any statistically significant correlation between academic performance and library use could be shown to be present at UCT. If it could be shown, through a correlation between student results and borrowing records, that students with the best academic scores used the most library materials and those with low or failing grades used significantly fewer, the value of the library service could be demonstrated objectively. An investigation was therefore conducted at the end of the academic year in December 1993 to explore whether this assumption could be proved in selected subjects.

It could be shown that in the subjects of history and sociology, heavy use of open shelf material indeed correlated positively with academic achievement, but that such correlation did not exist in economics. It was proposed that further investigations of this nature could assist the library in demonstrating objectively the benefits of library use.

## Performance Indicators

An extensive investigation into the literature on library performance measurement and evaluation revealed that a number of indicators may generally be regarded as meaningful and informative in measuring aspects of library service. Some of these were addressed by the reported investigations. The most significant indicators seem to be the following:

- User satisfaction
- Availability of materials
- Extent of use
- Accessibility
- Efficiency
- Cost-effectiveness
- Effectiveness and quality

The completed investigations discussed above provided considerable amounts of qualitative information on user satisfaction, on aspects of availability, although true availability studies had not been attempted, and on extent of use of both the Short Loan Collection and the open shelf book stock. An

attempt was also made to demonstrate the effectiveness of library services.

Indicators of accessibility, efficiency and cost-effectiveness are generally more quantitative in nature. Such indicators are derived from combinations of measures, frequently given in ratios, and which may express value when viewed in comparison with others, either derived over a period of time, or in comparison with other similar institutions. In addition, therefore, annually published Statistical Reports from the library were used to compile quantitative ratios.

## Quantitative Indicators

The simplest measure of accessibility is reflected in the number of *hours* per week that the library is *open*. The Follett Report noted that academic libraries in the United Kingdom were on average open between 60-65 hours per week, but noted that this was considerably below the Australian recommendation of 75 hours per week (Higher . . . , 1993). The percentage of *seating places* per capita of the student population provide an indication of accessibility which may be compared across institutions through a ratio of the *number of students per seat*. In addition, performance measures for seating space may be obtained by counting the extent to which seats are occupied during the academic year. Revill had noted that this measure of utilisation is frequently disregarded, as the provision of study space was appreciated more by users than by librarians (Revill, 1990). Further indicators of how accessible the library is to users are found in ratios such as the numbers of *answered reference queries* per library user. The extent to which the library enables or empowers users to satisfy their information needs, may be measured in the numbers of bibliographic instruction classes taught by members of the library staff and the numbers of students who have attended such classes.

It could be shown that UCT libraries were open for 70 hours per week during term time, that there were 7.3 students for each library seat and, rather alarmingly, that the number of reference queries had been declining over the past few years. It also appeared that fewer bibliographic instruction classes were held than at the other two universities in the western Cape.

Cost-effectiveness refers to the cost of running library services and is of prime concern to funders. When resources are optimally applied, the system is cost-effective. Useful comparative data may be obtained by calculating ratios such as the *cost per*



use of monographs, serials and other materials. An additional benefit of cost per use ratios are that they indicate the 'true cost' of serials use, which many library users at present regard as 'free'. This may in turn enable one to compare on a more realistic basis the costs of providing access to serials as opposed to their purchase. *Cost per user* or *cost per capita* would also provide interesting comparative data on the cost-effectiveness of different library systems. The first mandatory library performance indicator for local authorities prescribed by the Audit Commission in the UK, is 'net expenditure per capita'. (Sumsion, 1993)

Cost per use ratios over five years could show that the costs of library services at UCT had more than doubled over the years 1989-1993.

**Efficiency** refers to productivity and to how well the system performs its operations, or how much can be produced from given resources. It may be measured in *time*, such as the average time it takes for an item to be processed, or to be catalogued, or for an ILL loan to be made available to the requester. Such measures may be obtained for in-house use or inter-departmental comparison and might be regarded as sensitive information by staff. Efficiency ratios were not calculated for this investigation.

## Conclusion

Results obtained by these investigations suggest that library support for studying at UCT could be enhanced by a number of approaches, including increasing the availability of items in heavy demand through extended duplication of Short Loan materials, the weeding of unused stock to make the remainder more accessible or to make room for more study spaces and the enhancement of study support by improving reference services and bibliographic instruction to ensure the provision of quality education to all students at the university. A powerful method of enhancing research support could be found in increasing the number of available serials through the provision of access to full-text databases.

It is to be emphasised that the indicators discussed were but a selection from a range of quantitative as well as qualitative indicators that may be used for the evaluation of library systems. Individual libraries may choose to use different measures and indicators to suit individual circumstances and requirements. Furthermore, it should be noted that quantitative indicators on their own are seldom sufficient to give a complete picture of a

library situation. They should where possible be used together with qualitative indicators, which may significantly enrich one's understanding of the situation or service in question (Hall, 1992).

These investigations could provide the library services at UCT not only with a clear picture of its activities, but with a range of suggestions for implementation which, it is believed, would enable the library to demonstrate as well as enhance the value and the benefits of its services to the community it serves.

## References

- Childers, Thomas (1989) 'Evaluative research in the library and information field'. *Library trends*. 38(2) p.256
- De Jager, Karin (1991) 'The researcher as library user: a study of library support for successful research activities in the Arts and Science faculties at the University of Cape Town'. *South African journal of library and information science*. 59(2) 143-147
- De Jager, Karin (1991) 'Whom do we serve? User perceptions in a South African university library'. *South African journal of library and information science* 59(4) 276-281
- De Jager, Karin (1992) 'What is the use of the library? Or, they only use the study collection anyway'. *South African journal of library and information science* 60(4) 209-213
- De Jager, Karin (1994) 'Obsolescence and stress: a study of the use of books on open shelves at a university library'. *Journal of librarianship and information science* 26(2) 71-81
- Hall, Sally (1992) 'Reviewing the performance of an information service'. *Aslib information*. 20(6) p.248
- Higher Education Funding Council for England . . . et al. (1993) *Joint Funding Council's Libraries Review Group: Report*. London: HMSO par. 161
- King, David N. (1983) 'Evaluation and its uses'. In: *Evaluating bibliographic instruction: a handbook*. Bibliographic Instruction Section. Association of College and Research Libraries. Chicago Ill: American Library Association. p.11
- Revill, Don H. (1990) 'Performance measures for academic libraries'. In: *Encyclopedia of library and information science*, v. 45; supplement 10. New York: Dekker. p.306
- Sumsion, John (1993) *Practical performance indicators - 1992*. Loughborough: LISU. p.39



*UCT Libraries orientation manual*. 1985. 2nd rev. ed.

Unpublished report.

'UCT top of the rankings'. *Mail & Guardian* 1995

July 14-20, p.13

University of Cape Town (1976-) *Research report*.

Annual.



# Developing Performance Indicators for an Australian University Library

F. C. A. Exon

R & D Librarian, Curtin University of Technology, Western Australia

## Objectives of this Paper

The objective of this paper is to describe current developments in a project funded at Curtin University of Technology Library and Information Service, and not to contribute to the theory of performance measurement. Its purpose is therefore to describe the pragmatic response of a working library to demands for accountability in a practical situation.

## Performance Measurement: A Practical Approach to Theory

The literature of performance measurement in libraries is extensive and goes back a long way. The current draft of the ISO Standard on Performance Indicators for libraries says:

'Although there has been a worldwide interest for several decades in library performance measurement, the development and application of evaluation processes have been hindered by a lack of focus, co-ordination and standardisation in approach. For this reason the international library community has expressed its commitment to the development of an international standard for library performance indicators.' (International . . . , 1995, ii)

The current importance of performance measurement for librarians lies perhaps partly in the increasing demands for organisational accountability, and partly in the client focus of modern strategic planning processes. These and other issues will be covered in other papers, but it is interesting to note that while user studies has had a long and honourable history in library and information science research, the consensus seems to be that proof of the causal connections between client/information service interactions and the perceived benefits of these interactions has remained elusive. We know that using information and libraries is potentially beneficial - we just can't prove it. Within this context, it is very hard to persuade library managers that they can easily measure performance in terms of client perceptions.

Performance measurement can be of theoretical or practical interest. Although the latter is the concern of this paper, it should be noted that the theoretical interest is the primary source of developments in performance measurement, and that this theoretical interest stems from a variety of intellectual sources. These can include problems in organisation theory, and econometrics, as well as the theoretical problems, within library and information science research, which used to be labelled user studies. The apparent failure of this latter endeavour may have reinforced the tendency of practical performance measurement in libraries to regard the validity of client perceptions as performance indicators as at best problematic, if not downright impossible to measure.

Against this view of the theoretical background, the following approach has been taken at Curtin Library and Information Service (LIS) to the theory of performance measurement.

Our organisational imperative is accountability (to our clients and funder, and to ourselves as managers), rather than operational understanding for its own sake. We have a number of accountability systems imposed on us from a range of sources, all coming from quite different theoretical starting points, some of them quite opaque to us, and others simply contradicting each other methodologically.

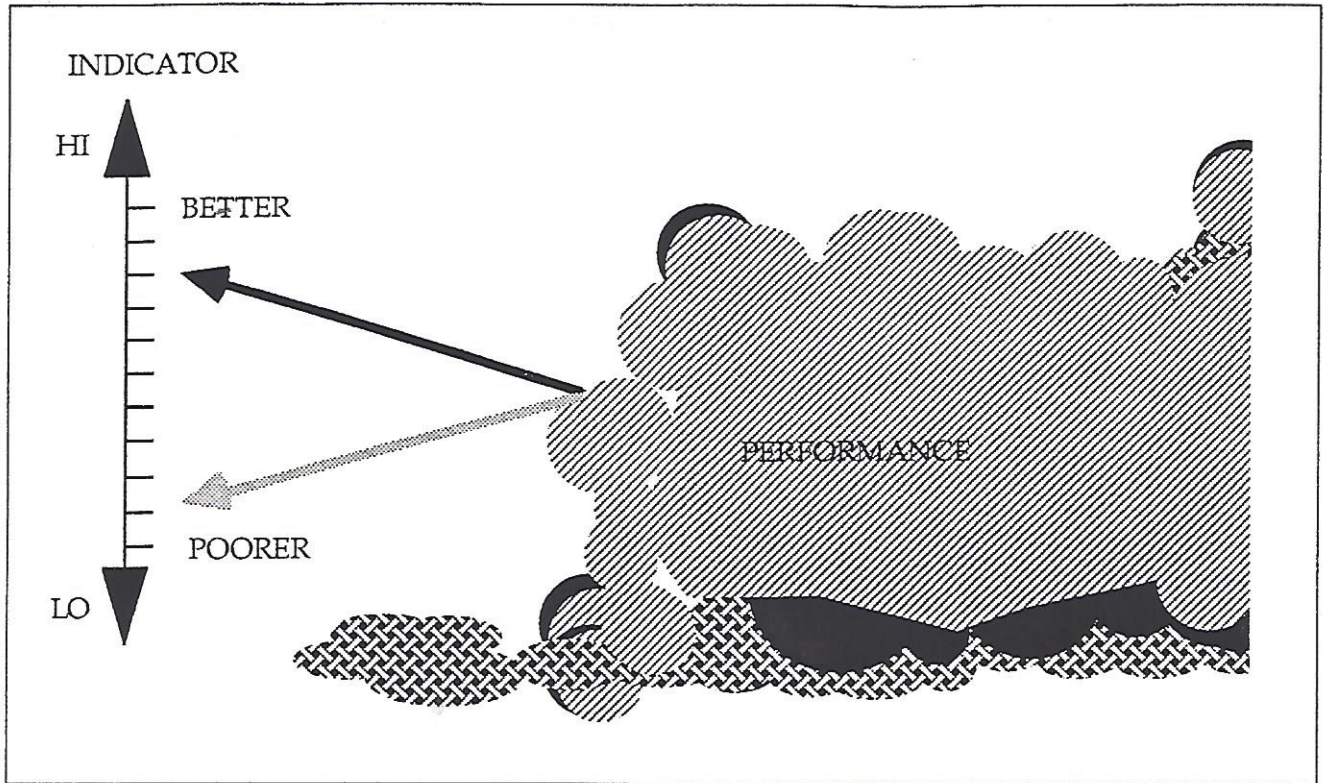
Our response has been to adopt a simple, possibly simplistic, analogy between performance measurement and using a thermometer to measure body temperature, and thus indicate state of health. We recognise that within an organisation there will be a construct labelled 'performance', but a construct which we cannot physically objectivise, in a classic scientific manner. Instead, we have to posit some other construct, visible in the system, whose behaviour can be interpreted or inferred as reflecting the behaviour of the 'performance' of the system (*Figure 1*).

The indicator may have a very clearly articulated relationship with the performance it is trying to measure. For example, the mean number of books borrowed per student would be a fairly clear indicator of effectiveness, although one would need more information about loan policies (maximum number



Figure 1

## The Relationship between an Indicator and Performance



of books borrowable at one time, maximum duration of loan, etc.) and other factors (such as the sizes of the book collection and student population, teaching practices, effectiveness of collection layout and catalogue retrievability, etc.) before we could be certain that this indicator *truly* measured the effectiveness of lending.

Other indicators might have a more remote relationship with the performance construct; this paper will return to that point later.

It might be possible to argue that while client-based performance measurement for libraries is problematic, it is safer to rely upon input/output based performance measurement. On the other hand, it is possible to paint an alarmist doomsday scenario in which research shows that most libraries cannot hope to be valued highly by more than 30% or so of their potential client base, leaving them with the choice between a niche market based on print media (about to be superseded by electronic communication, and set for inevitable physical decay within a few generations) and the development of information services designed to deliver information to the point of generation of information need.

Certainly at Curtin LIS we feel that like most other academic libraries in Australia we are poised between these two futures. However, for now, the

context of Australian higher education and performance measurement in academic libraries will be discussed, before the Curtin LIS project is described.

At this point I should make the point that in this project we are not concerned with the work performance of individuals, even though that is a factor in the behaviour of performance indicators.

### Australian Higher Education and Performance Measurement in Academic Libraries

In Australian librarianship, the principal performance measurement activity is based upon statistics of activity, although there are some interesting PI developments in hand. Exon and Ecclestone reviewed the state of Australian library statistics in 1988 (Exon and Ecclestone, 1988) while the National Think Tank (Exon and Smith, 1991) provides insights into the then current thinking both within the profession, and within government agencies. The proposed national framework of library statistics does not yet seem to have appeared (Exon et al, 1995). While it is now up to the individual sectors to develop their own, the longest and most reliable data series appears to be that for academic libraries. While these are principally input/output



statistics, a working party is currently reviewing them. Meanwhile, the Council of Australian University Librarians (CAUL) has commissioned the development of three performance indicators (Gorman and Cornish, 1995; Robertson, M., 1995; and Taylor, C., 1995), which have just been published.

There have been some interesting papers. McIntyre (1984) developed some performance measures for public libraries a decade ago, while Henty (1989a) wrote an excellent review article on performance indicators for CAUL, a version of which was later published (Henty, 1989b). Maguire and Willard (nd) wrote an incisive critique of the theory underlying the development of performance measures for libraries, notably relating to the work of Orr (1973) and Buckland (1988). Several authors had addressed the issue from various standpoints (eg. Broadbent and Lofgren, 1991; McIntyre, 1984; Ralli, 1987; and Sheppard, 1990). There has even been a manual of performance measurement for Western Australian Public Libraries produced, but not published (Moore and Bryson, 1987), and Kay Poustie will tell us more about that.

The Ross Report (National Board . . . , 1990) considered the issue of performance measurement, as did Follett (Joint . . . , 1993), and reviewed theoretical offerings (Lancaster, 1988), standards (Standards, 1989), some key sets of performance indicators (Kantor, 1989; Van House et al, 1990), and the statistical base (*Australian . . .*). The recommendations included commendation of the choice of normative performance indicators, and recognition was given to the Working Party created by CAUL to examine the question of the development of performance indicators for Australian academic libraries.

At the national level, the Australian higher education system had been given an enormous shake-up after the Labor government won the 1984 general election, and immediately introduced (among other reforms) an industrial reform agenda. A key enabler of this was the creation of new mega-department - the Department of Employment, Education and Training (DEET), whose name signalled a new socio-economic accountability for education, and which took responsibility for higher education among other education sectors.

Up to 1984, the Australian higher education system (which had included the Technical and Further Education stream, TAFE) consisted of universities (founded at various times since the 19th century, and including those founded during the 1970s Whitlam expansion of universities) and Colleges of Advanced Education (CAEs). The latter were

designed primarily to support the growing need of teachers for the primary and secondary sectors, but quickly grew into general degree-awarding bodies. They included the Institutes of Technology, which were intended to provide the technological basis for the then reform of the Australian economy (Exon et al, 1995).

The 1984 Labor government decided to reform higher education, as a key critical success factor in the achievement of its economic objectives, by removing the previous binary divide between universities and CAEs, creating a Unified National System (UNS) of Higher Education. This was achieved with some pain, but eventually, in 1993, 36 public universities emerged, alongside three private universities (Department . . . , 1993); Owen (1992) estimates that there were over 200 TAFE colleges in 1992. The Minister of Employment and Education who initiated these changes was Mr. John Dawkins, who later became Federal Treasurer.

The amalgamations coincided with a period of economic recession. DEET responded to a variety of pressures by launching a Quality Audit of universities in 1993.

The methodology was loosely based (we are to understand) upon that developed by the Scottish Education Office, and used by the UK government for the quality audit of British universities. A significant variation from the British pattern was the much smaller amount of money available as a 'reward', and the much reduced duration of the visit and the quantity of information required. Nevertheless, the Australian teams had direct access to the British officials' and auditors' experiences, and developed a range of auditing techniques.

As a direct result of the reorganisation associated with the UNS, the Linke Report (Performance . . . , 1991) identified the quality of teaching as an important issue. This was followed by a Quality Audit using a three-year cycle. The first year of the cycle, focusing generally on Teaching & Learning, R&D and Community Service) was completed in 1993. The second year focused on Teaching and Learning (1994), while the third year, focusing specifically on R&D and Community Service, is currently under way at the time of writing, and will include examination of libraries. The cycle will conclude in 1995, and is unlikely to be continued. The Minister has traded some of the funds needed for the review against protecting the rest of the education budget. However, there are likely to be two reviews of university management in the next few years.

The valuations of the first round resulted in the now infamous 'ranking' of universities into six



bands, based upon the Audit Panels' judgements of their quality assurance processes (Department . . . , 1994). The relative positions of universities which had previously held their own views of their position in the pecking order, unchallenged by anybody, now found themselves in some cases not just judged differently, but having those judgements placed firmly into the public domain. They were picked up by a standard guide to good universities, used by students (particularly overseas and full-fee-paying).

The first round was something of an experiment, and looked very disorganised from the outside - timetables, guidelines and criteria arriving too late, etc. Furthermore, the short duration of the audit visits (one-day) did not seem sufficiently in-depth to many observers. Worse, the rules changed at half-time. To begin with (while the Minister was Mr Kim Beazley), the 'top' 15 universities were to be 'rewarded' by Quality money. After his replacement by Mr Simon Crean, all universities were graded within six bands, each band being awarded Quality money as a percentage of their budget, the higher bands receiving larger percentages than the lower (Department . . . , 1994). This led to excruciating anomalies, since quite small universities (which therefore had proportionately small budgets) were classified in higher bands alongside very large universities, the latter receiving larger sums in real terms. The reverse happened in the lower bands where large universities would receive large payments in real terms, even though they had been classified with small universities.

The process remains subject to intense criticism, and its workings remain a mystery, despite a detailed report referring to correlation, cluster analysis and factor analysis: the committee never revealed the nature of the data, nor the results of their calculations (Department . . . , 1994).

It is a personal observation that the entire Quality Audit was marked by a confusion both within DEET and several universities, between education processes and outcomes, and quality assurance processes. The Quality Audit was looking not so much at the quality of the education processes and outcomes, but at the quality assurance policies and practices in place to monitor the educational processes and outcomes. The rankings by DEET should be regarded as reflecting the adequacy of the university's quality assurance processes, not the quality *per se* of the university. Thus, the fact that Sydney University, one of Australia's oldest and recognised internationally as one of Australia's most prestigious universities, was put into the second rank is more of a reflection of DEET's judge-

ment of its quality assurance programmes, than of its educational quality. At the risk of labouring the point, it is also worth pointing out that the universities which 'did well' (in terms of rankings) were those which had excellent quality assurance policies and practice in place, and were able to speak the quality language, irrespective of the quality of their educational outcomes.

Anecdotal evidence suggests that while DEET will complete the first three-year cycle of Quality Audits, they were never designed as more than a device to deliver a shock to a system which they regarded as having 'lost the plot', and that the adoption of quality service management by the universities will for DEET be a satisfactory outcome, and that the cycle will not be repeated. This, if true, may be just as well, for several universities (in all ranks) were reportedly considering withdrawing from the Audit if they did not achieve what they regarded as a satisfactory outcome from the second round. Given the paucity of the financial reward, this is hardly surprising.

It has to be acknowledged that the country's investment in higher education, the scale of the budgets of individual institutions, and the potential role of universities in the achievement of society's goals, all render universities to substantial public accountability and it is highly likely that the system created by the amalgamation of big old universities with newer smaller colleges benefited from a long hard look at management practices and quality assurance processes.

During this period, libraries were not without consideration of accountability. CAUL had transformed itself from a somewhat inwardly-focused grouping into an effective lobby group, and worked well with the Australian Vice-Chancellors' Committee (AVCC). The Ross report (National . . . , 1990) had been a government inquiry into academic libraries, and its recommendations, along with a range of recommendations from other meetings, formed an agenda for action which is now complete. These ranged across the whole gamut of issues facing university libraries, and taken together form a comparison with the UK Follett Report (Joint . . . , 1993).

In an attempt to find out what effect the Quality Audit had had upon academic libraries, a survey was conducted (Williamson and Exon, 1995) of university librarians in Australia. The criticisms of the process were much the same as those of their academic colleagues reported in the newspapers (disparity between workload and reward, opacity of process, inadequacies of Audit Panels: lack of time,



ignorance, lack of investigative skills, etc.). The responses indicated that the libraries had in fact been intellectually very well prepared indeed for this process, with substantial training and education at the upper layers of library management, and put in place because of a commitment to quality client service which had in many cases preceded the espousal of such visions by their host organisation.

They had also been rewarded by receiving (or winning) some of the Quality funds which had been distributed by DEET to the universities. The responses did not seem to show that these funds were being directed to the improvement of quality assurance processes in themselves, but had been directed more towards the improvement of the quality of the library systems or services. A subsequent, much more specific study (Private communication, 1995) not only revealed that some libraries had been rewarded very handsomely indeed, but raised some interesting questions. The overall percentage of recurrent budget dependent upon quality funds was tiny, and the sanction was thus entirely moral, rather than financial. However, as has already been pointed out, a small percentage of a large recurrent budget may well reflect a relatively poor quality rating, but can result in a larger absolute number of dollars than that achieved by a university rated much higher, but having a smaller recurrent budget. The game is obviously a perilously complex one, and to believe that it was completely understood by anyone, certainly in its ramifications, is closer to a conspiracy theory than the likely truth.

In completing the picture of Australian higher education, it is necessary to say something about the statistics we have available to us, before turning to the story of Curtin Library and Information Service.

### Australian Higher Education Library Statistics

The best statistical series for Australian academic libraries is that published as an annual supplement to the journal *Australian academic and research libraries* (AARL). Since 1953, academic libraries in Australia and New Zealand had contributed statistics for a growing set of indicators. The data collection has been managed by various libraries on behalf of CAUL, and is now managed by CAVAL (Co-operative Action by Victorian Academic Libraries), a library co-operative in Victoria. CAVAL can now supply data for the two years of their management of the process in electronic form, while data 1969-1991 is available from Curtin University's FTP archive.

These statistics have biblical status amongst university librarians, and have been modified over the years in response to changing circumstances and imperatives. There are, however, some curious gaps. For example, there is no report of institutional finances, thus preventing calculation of libraries' budget as a percentage of university funds. A working party of CAUL is currently re-examining this data collection exercise.

### Curtin University of Technology Library and Information Service

At Curtin Library, there has always been an interest in library statistics and research. It was the second Australian university library to appoint a full-time, designated position of Research and Development Librarian. For some years the library was responsible for collecting the sector's annual data series (*Australian . . .*).

The idea of creating a Performance Indicators Database grew out of the request that the Research and Development Librarian develop a suite of performance indicators for the library. The Research and Development Librarian's response to this was that rather than try to impose performance indicators upon the library, it would be more effective if the managers themselves were assisted in selecting them for themselves. This was regarded as an empowerment of the managers, and recognised both variations in their knowledge and understanding of performance measurement, as well as the different accountability imperatives of operational units.

The principal difficulty was that this strategy confronted the managers with a plethora of literature, much of it very difficult to understand, much of it based upon conflicting theoretical positions, and very little of it being comprehensive either in viewpoint or scope. At that time (*Keys to success*, (1990) had been published, the King Research Team had made some impact upon the profession in their visit to Australia in 1990, but it was felt that while their model was then the nearest approach to an overarching theoretical model, what was needed more urgently was the ability to provide managers with access to performance indicators as well as their choice of theoretical viewpoint.

It was therefore decided to collect from a carefully chosen set of sources apparently relevant and useful performance indicators, and index them in ways which library managers would perceive as relevant. While the process of reviewing sources, collecting performance indicators and indexing them proceeded, the planning envelope which surrounded



the university changed dramatically.

The DEET Quality Audit became the all-important focus of work in the library. LIS had already been through two strategic planning exercises (both using variants of the Soft Systems methodology), and now had to align its objectives with those developed by the university's own somewhat hurried approach.

The result of this alignment can be seen in Figure 2, which is reproduced from the University's 1992 *Quality portfolio*, in which it was argued that this matrix enabled the LIS not just to demonstrate how its objectives supported those of the university, but also enabled LIS to specify the level of priority of the conjunctions between university and LIS objectives. Figure 2 illustrates the linkages between the LIS Strategic Plan and the university's principal and supporting goals.

The university had received a substantial grant to develop a self-assessment methodology which could be used at the School level. This process, which came to be called Programme Review, included the administrative units as well as the academic. This process (due for completion in the next few weeks) is interesting for its quite different methodology from that of the Quality Audit.

Figure 3 shows how in theory each process within the LIS should be linked to a strategic objective, this providing the basis for its accountability. This accountability is in theory achieved by recognising the outputs and outcomes of the process, as well as defining the QA process which overlays it. The QA

process concentrates upon the QA process, rewarding those universities who can show that while their outcomes may be less than desired, they have excellent QA processes in place with which to measure them. The Programme Review process, however, concentrates upon evaluation of the outputs and outcomes of the processes, leaving it to each unit to define its own performance indicators; the external validation of the review is concerned not with the quality of the QA processes, but with the quality of the process outcomes.

Nevertheless, the Programme Review process has become the catalyst for a first shot at both systematising the numerous QA processes which have grown up over the years, and identifying their gaps and weaknesses.

### Programme Review

In 1994 the university received a substantial grant from DEET to develop a self-assessed review process. This project, led by Professor Joan Cole, used a set of five schools and administrative units in 1994 to pilot test the manual. The process assumes that the unit has no strategic plan or process in place, leads them through the development of such a plan, and then subjects the unit to a thorough review of its operations. The review requires the unit to evaluate its performance against around 150 criteria, grouped under the headings of the university's own strategic goals. The unit's response to each criterion is meant to be specification of the performance indi-

Figure 2

Relationship between University and LIS Strategic Goals (*Quality portfolio*, 1994 p.A20)

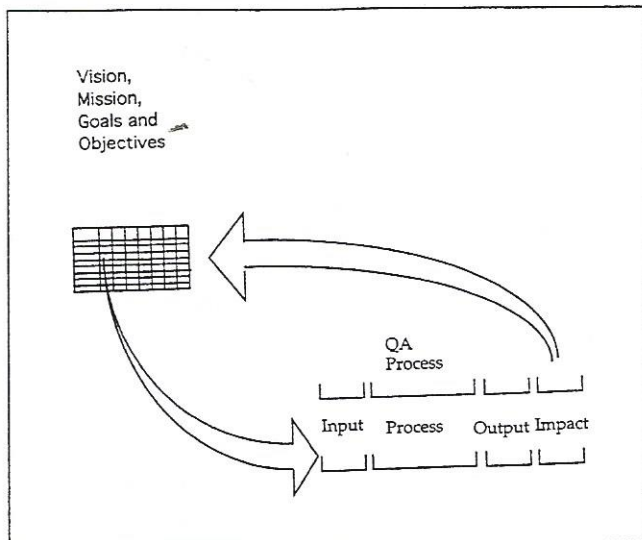
LIS Objectives	University Objectives					
	Quality Client Services	Education	Information Technology	Collection / Information Access	Staff	Strategic Alliances
Teaching & Learning	H	H	M	H	H	M
Research & Development	H	H	M	H	H	M
Community Service	M	L	L	M	H	H
Ethics & Social Justice	H	M	H	H	H	M
Internationalisation	M	H	L	M	M	H
Technology	H	M	H	M	H	H
Quality & Leadership	H	M	M	M	H	M

H = High      M = Medium      L = Low



Figure 3

## Processes and Quality Assurance Processes



cators they feel ideally measure their performance and the evidence revealed by them. There is space for additional comments on each, and for each objective the unit specifies what, on reflection, are its principal strengths, and what needs attention. The external validator has the opportunity to respond to each of the criteria, as well as these summary reflections, as well as making an overall response on both the process and its outcomes.

The LIS is participating in this process this year, as a means of rejuvenating its strategic planning process, which had necessarily become dominated over the last few years by the strategic objective of selecting and replacing our integrated library automation systems.

Two outcomes are significant for the project I shall describe. First, the process has been widely participative (we have over 110 staff positions, and around two dozen of these, at all levels, were involved), and has turned up a wide range of issues and problems which the staff of the LIS feel need urgent attention. This list will be a rich mine of instruments for culture change and increased efficiency once the Programme Review Process is complete. Second, the concentration of the Programme Review Process on performance indicators has created a climate in which the LIS senior and middle managers have become committed to the *idea* of performance measurement, even if they are not wedded to any particular PI or performance measurement ideology.

From the point of view of the PI Project, this is the most valuable change in the surrounding context. But for the LIS itself it is an important confirmation of our approach to the ideology of quality.

Given the highly devolved structure and culture of the university, and the presence of academic experts espousing almost every individual academic approach, the university has settled for the eclectic approach of the Australian Quality Council (AQC), and especially the criteria used for their Quality Awards. Without committing the university to seeking such an award, the university, and the LIS, feel comfortable in tying quite comprehensively its own quality processes to the theoretical and mechanical aspects of the AQC's approach.

## Curtin LIS Strategic Planning Cycle

The LIS Strategic Planning Cycle began in 1992 with the appointment of the new University Librarian. Beginning with a series of carefully chosen consciousness-raising training experiences, provided by the Australian Information Management Association (AIMA), which covered 50% of the LIS staff, the middle and senior staff of the LIS worked for two days in a workshop, using the Soft Systems Methodology (Checkland, 1981) to develop a Strategic Plan. This identified a set of Action Plans, which were then distributed widely within the LIS, and work began. As has been said, one of the principal objectives was the replacement of our computer system and this gradually came to dominate our activity. In 1995, we took advantage of the offer to participate in Programme Review to rejuvenate this process. However, each year, the Senior Management team (SMT) spend one or two days on a retreat, where they review the past year, and set priorities for the coming year. Although the integrity of the original plan, and the LIS commitment to open, participative management is honoured, the Plan has remained flexible.

The Internal Self-Assessment stage of the process was completed just before I left Australia, and we are now eagerly awaiting the report of our External Validator, and the conclusion of the first year of the cycle. We shall then address the issues raised by staff, and then the matter of selection performance indicators. There has been a rich mixture of PI types suggested by staff, and we need to evaluate their potential value. One way we can do this is by using the already existing PI Database.

The database is in the form of an electronic index to selected sources of library performance indicators. The sources used for this were eclectic, biased towards Australian conditions, and somewhat personal: over the years a number of individual experts have generously shared their work. The method of extracting them was the very simple one of record-



ing each PI which seemed of use, and including in the record a reference to the document which described it.

The so-called performance indicators listed in the database consist in reality of:

- Performance Measures (statistics)
- Performance Indicators (indirect measures derived from the statistics)

To facilitate their retrieval, the performance indicators are indexed using a very simple thesaurus reflecting which part of the library system is being examined. This thesaurus consists of a small set of terms describing the broadest level of interest (Figure 4), while the second set goes to higher level of detail (Figure 5).

Figure 4

List of Broader Terms

PHYSICAL PLANT
COLLECTION
CATALOGUE
CATALOGUING
DOCUMENT SUPPLY
STAFF
TIME PERIOD
SERVICES
ACQUISITION PROCESS
MONEY
POPULATION
CLIENTS

It will be seen that the broader terms consist of components of a library system (eg. collection, catalogue), processes within a library (eg. cataloguing), as well as factors to be taken account of in performance measurement (eg. time period). It should be also noted that the client is included as a component of the library system.

A third kind of indexing is done, linking the performance indicators with the model developed by King Research in *Keys to success* (1990). This is the only element in the system which is based on external theory, and its choice lies in the coincidental publication of the *Keys to success* and the ALIA Biennial Conference held in Perth in 1990. With the assistance of the Director-General of the National Library of Australia, a consortium of interested parties was put together which was able to support a national study tour by the King Research Team, cul-

minating in their participation as speakers in the ALIA Conference in 1990.

Their presence in Perth was invaluable for Ms. Sue White (White, 1992), Information Services Librarian, LIS, who was in the throes of integrating their model into a Strategic Planning model which was to form the basis for her Masters Dissertation. She has since developed a suite of performance indicators for the university-wide Information Literacy Programme operated by the LIS, and a consensus developed that for LIS staff, the King model offered the most logical means of differentiating between the purposes of constructing performance indicators.

Using these three sets of terms, it is therefore possible for staff to express their problem in the form of a query expressed in the indexing language of the system, such that when it is applied to the database, a list of retrieved performance indicators can be inspected. Experience has shown that negative response sometimes occurs, because the staff are searching for performance indicators which are not indexed in the system. However, there is generally a reasonable response rate, which suggests that the system works, as an information retrieval tool.

Retrieved records show what data would be needed to calculate the PI (if it is not a simple measure), and in which document the PI is described in detail.

At present, the system remains a prototype. It had been the intention that this year the database would become a working tool for the LIS managers. However, the decision to participate in Programme Review meant that the development work had to be postponed. This has proved a good decision, for the putative performance indicators developed for Programme Review will need to be thoroughly reviewed, and the decision taken as to which are to be implemented. It is planned that the PI database should support this process of review.

It is planned to support the selection of performance indicators with two other tools.

First, Orr's well-known criteria will be offered as a means of evaluating their utility. However, recognising that performance indicators are being sought at every level within LIS and the surrounding organisation, Ford's framework of viewpoints will be used as a second means of setting the work window.

But the PI selector (or designer) still needs to know something about the behaviour of the PI in terms of the data it yields. Work is currently in progress at Curtin to bring all our statistical data into a single database, linked to the PI database so that users can move from a selected PI to the data and quickly obtain an application of it to time-series



Figure 5

## List of Expanded Terms

PHYSICAL PLANT	Buildings
	Floors
	Seats
	Carrels
	Terminals
	Rooms
COLLECTION	Collection (as a whole)
	Collection (parts)
	Monos
	Serials
	Non-print materials
	Publication date
	Binding
	Shelving
CATALOGUE	
CATALOGUING	Cataloguing
DOCUMENT SUPPLY	Inter-library Lending
	Inter-library Borrowing
	Document Supply
STAFF	Number
	Qualifications
	Time
TIME PERIOD	Time period of study
SERVICES	Opening Hours
	Business hours
	Current Awareness
	Exhibitions
	Information Literacy
ACQUISITION PROCESS	Acquisition
MONEY	Includes: Income, Expenditure, General
POPULATION	Registered clients
	Visitors
	Population
CLIENTS	Borrowing (Main collection)
	Borrowing (Short Loan)
	Reservations
	Inter-library Borrowing
	In-library Use
	Browsing
	Photocopying
	Reference Queries
	On-line Information Retrieval
	Use
	Time
	Success/Failure
	Infringements
	Vandalism
	Reader Education
	Need
	Want
	Attitudes



data for this library. In the case of some performance indicators, it will be possible to include in this a comparison with data for other Australian academic libraries, using the AARL database, which goes back to 1969.

## Other Performance Measurement Systems at LIS

The LIS staff have developed a range of other performance measurement systems, for a whole range of completely different reasons. Some of these will now be described.

### THE DECISION-SUPPORT SYSTEM (DSS)

The DSS was designed in the days of a home-grown library automated systems and a mainframe computer. Using home-grown software, the DSS enables staff to create reports from the system's active files. We can thus (in theory) collect financial, collection and borrowing data, and relate the two together. The system is designed to produce specific reports, but can be made (with programming) to produce others. It is now somewhat cumbersome, and outdated in its technology, but it works for the staff who have to use it. Although the introduction of the proprietary DRA software has now forced us to make a choice between passing flat files across to the DSS, or learning how to use DRA's Report Writer software, the practical reality is that culturally we have an interest in crunching data to gain ideas of trends, and this has to be a sound basis for performance measurement.

### THE STUDENT READING DATABASE (SRD)

The principle of the SRD is that in order to maximise access to materials recommended for students to read, references in Unit Outlines are fed into a database, judgements made about the number of copies to buy, and circulation data used to measure the effectiveness of the decision. Only a relative minority of schools participate in this system to date, and the system is resource-intensive to run. However, it is highly regarded by both those staff who have to order such material, and the academic staff whose students need to borrow it. In theory it would be possible (given the potential interconnectivity of databases at Curtin) to 'correlate', at a high level of aggregation, the recommendation patterns of academic staff with the borrowing patterns of students and their academic grades. It is actually unlikely that we would ever embark on such an exercise, but the fantasy gives a flavour of the potency of this performance measurement system.

### PERFORMANCE MEASUREMENT IN INFORMATION LITERACY EDUCATION

White (1992) describes an attempt to apply the *Keys to success* (1990) model to the process of delivering an Information Literacy Programme at LIS. This Programme covers nearly all students at Curtin (around the 20,000 mark), and thus measurement of the performance of such a programme is more than of general interest. As LIS struggles to adapt to the changing demands of the paradigm shift from collection-building to information access, such a programme becomes a key critical success factor in the achievement of our strategic goals. The actual use of some of these performance indicators in the management of her Section have led White to be able at least to study the behaviour of her operation, and to infer the causes of changes in the observations.

### SERVICE QUALITY (SERVQUAL)

The fourth performance measurement initiative which merits special mention is the recent conduct of a SERVQUAL Survey by Professor G. Soutar (*Service quality . . . , 1994; Use of the library . . . , 1994*). The methodology for this method is described by Parasuraman, et al (1988). This is a client-centred market analysis methodology which posits that client perceptions of service can be measured in terms of a gap between expectations of the ideal, and perceptions of the actual, service levels, and that this gap may be caused by internal gaps between the expectations and perceptions of delivery of client services amongst the staff groupings. The level of client satisfaction was resoundingly low, and although the LIS was able to rationalise these very effectively, nevertheless a range of actions was identified and gradually put into effect.

The companion report (*Use of the library . . . , 1994*) was based on an instrument devised by the LIS staff, and added to the SERVQUAL items. The important finding of this component of the survey was that concerned with the extent to which the library was perceived as important to the respondents. This question was phrased in terms of which of a list of potential information sources the respondent could least afford to lose. Thirty percent of respondents chose the library. The question this poses for LIS is, should we congratulate ourselves on the size of our niche market, recognising that it is based on a medium (print) which is both in danger of being displaced, and in any case has a short life? Or should we attempt to attract the 70% who do not need us, and try to find ways of identifying their information needs, and designing services to do



that? We have not, needless to say, answered these questions, but are, as has been said, wrestling with the paradigm shift (White, 1994).

## Current Developments

1. The development of the database reflects the shift from mainframe to personal computers over this period. The PI Database, being small, was developed using Microsoft Works on a Macintosh. The statistical data is being collected in Excel spreadsheets. The adoption by the university of developments within its own Executive Information System, led to the decision to use the university's expertise with *Power Play* to develop an integrated approach to the library's access to its own data, and the PI Database and its associated statistics are included in this. This work is under development, and is designed to meet the needs of modern managers for desktop access to trend data. The brake on this demand will have to be the quality of the data, and the ability of staff to interpret the trends being viewed. This brake is not easy to apply. However, it is intended not to give them what the systems will allow, and let them loose.
2. Most measures are quantitative and at Input/Output Level. This is what might have been expected, although the literature has revealed some very interesting performance indicators. The Programme Review process also yielded a very wide range of performance indicators, including some highly tendentious, qualitative ones. We shall be spending next year sifting through these, and selecting those we think most appropriate.
3. This paper has looked at the issue of performance measurement at the organisational level. Obviously, the individuals' performance is a factor in that, even if the performance measurement does not usually identify it. The topic of measuring individuals' performance in their job is a very large and complex related issue, but one which cannot be dealt with within the limitations of this paper. However, for the sake of completeness, it should be recorded that Curtin is using the new industrial climate of enterprise bargaining, and the terms of the Enterprise Agreement currently in force at Curtin, to try to develop what can only be described as a courageous experiment in these dimensions of Australian higher education industrial relations. From the point of view of performance measurement, the key issue is the recogni-

tion given by the university to the pivotal role in the whole human resources management process of staff development and staff performance measurement. It is important to know this, to understand the extent to which the library and the university are in harmony in their wish to achieve culture change through transformation in order to achieve corporate vision.

## Conclusion

This paper has reviewed some of the forces at work on and within the Australian higher education system, the accountabilities currently operating upon the libraries within that system, a specific performance measurement project at the Curtin LIS, and some of the other performance measurement work within that library.

Kay Poustie will provide a complementary picture of performance measurement in Australia, from a broader perspective, and it is hoped that these two papers might (despite their different starting-points) offer the reader some insights, or at least the basis for further questions, about the performance measurement scene in contemporary Australian libraries.

## References

- Australian academic and research libraries, supplement*. Annual. Canberra, ACT: Australian Library and Information Association
- Broadbent, M. and Lofgren, H. (1991) *Priorities, performance and benefits: an exploratory study of library and information units*. Melbourne, Vic: Centre for International Research on Communication and Information Technologies and Australian Council of Libraries and Information Services
- Buckland, M. (1992) *Redesigning library services: a manifesto*. Chicago, Ill: American Library Association
- Checkland, P. (1981) *Systems thinking, systems practice*. Chichester, UK: Wiley
- Curtin University of Technology (1994) *Quality Portfolio*. p.A20
- Department of Employment, Education and Training, Higher Education Division (1993) *National report on Australia's higher education sector*. Canberra, ACT: Australian Government Publishing Service



- Department of Employment, Education and Training, Higher Education Division. (1994) *Diversity and performance of Australian universities*. Higher Education Series Highlights Report No. 22. Canberra, ACT: Department of Employment, Education and Training
- Exon, F. C. A. and Smith, K. (Eds.) (1991) *National think tank on library statistics*. Perth: Library and Information Service of Western Australia
- Exon, F. C. A., Exon, M. J., and Calvert, P. J. (1995) *Review of library and information services in Australia and New Zealand*. British Library R&D Report 6194
- Exon, F. C. A. and Ecclestone, J. (1988) *Statistical data gathering in Australian libraries: a resume*. Paper delivered to the 54th IFLA General Conference, Sydney (NSW)
- Gorman, G. E. and Cornish, B. A. (1995) *Library/clientele congruence; CAUL Performance Indicator A*. Canberra, ACT: Council of Australian University Librarians
- Henty, M. (1989a) *The development of performance indicators for Australian higher education libraries; a report prepared for the Committee of Australian University Libraries*. Private communication
- Henty, M. (1989b) 'Performance indicators in higher education libraries'. *British journal of academic librarianship* 4(3) 177-191
- International Standards Organisation (1995) *Information and Documentation - Library performance indicators*. ISO/TC 46/SC 8
- Joint Funding Council's Libraries Review Group. (1993) *Report by Sir Brian Follett for Higher Education Funding Council for England, Scottish Higher Education Funding Council, Higher Education Funding Council for Wales [and] Department of Education for Northern Ireland*. London: Higher Education Funding Council for England
- Kantor, P. (1984) *Objective performance measures for academic and research libraries*. Washington, DC: Association of Research Libraries
- Keys to success: performance indicators for public libraries; a manual of performance measures and indicators developed by King Research Ltd.* (1990) Library Information Series, no. 18. London: HMSO
- Lancaster, F. W. (1988) *If you want to evaluate your library . . .* London: Library Association
- Maguire, C. A. and Willard, P. (nd). *Performance measures for libraries: statistical, organizational and cosmetic*. Private communication
- McIntyre, B. (1984) *Public library output measures project data collection manual*. Draft 1. Private communication
- Moore, N. and Bryson, J. (Eds.) (1987) *Measuring performance in WA public libraries*. Private communication
- National Board of Employment, Education and Training (1990) *Library provision in higher education institutions*. (Ross Report) Canberra, ACT: Australian Government Publishing Service. (Commissioned Report; no. 7)
- Orr, R. H. (1973) 'Measuring the goodness of library services: a general framework for considering qualitative measures'. *Journal of documentation* 29 (September) 315-332
- Owen, R. (1992) 'TAFE libraries: from the ashes, a phoenix rising?' In: Steele, C. (Editor) *Australian tertiary libraries: issues for the 1990's*. Adelaide, SA: Auslib Press
- Parasuraman, A, Zeithaml, V.A. and Berry, L.L. (1988) 'SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality'. *Journal of retailing*, 61, 12-40
- Performance Indicators Research Group (1991) *Performance indicators in higher education: report of a trial evaluation study / commissioned by the Commonwealth Department of Employment, Education and Training; Performance Indicators Research Group chaired by R. D. Linke*. Canberra, ACT: Australian Government Publishing Service
- Ralli, T. (1987) 'Performance measurement in academic libraries'. *Australian academic and research Libraries* 18(1) 1-9
- Robertson, M. (1995) *Document delivery performance; CAUL Performance Indicator B*. Canberra, ACT: Council of Australian University Librarians
- Service quality: an evaluation by library and information service users*. (1994) Private communication
- Sheppard, M. (1990) 'Some thoughts concerning a structural framework for performance indicators.' *Australian academic and research libraries* 21(1) 44-47
- 'Standards for university libraries: evaluation of performance.' (1989) *College and research libraries news* 50, p.686
- Taylor, C. (1995) *Materials availability; CAUL Performance Indicator C*. Canberra, ACT: Council of Australian University Librarians



- Use of the Library and Information Service, Curtin University of Technology.* (1994) Private communication.
- Van House et al. (1990) *Measuring academic library performance.* Chicago, Ill: American Library Association
- White. A. (1994) *Information Access: a framework for LIS towards 2000.* Perth: Curtin University of Technology - Library and Information Service
- White, S. P. (1992) *Investigation into the use of performance measurement to provide information for planning and decision making.* M.Sc. (Information Management - Curtin University of Technology)
- Williamson, V. and Exon, F. C. A. 'The quality movement in Australian university libraries'. Forthcoming issue of *Library trends.*







# Upward Appraisal: A Tool for the Continuous Improvement of Library Managers' Skills

Joan E. Stein

Head, Resource Sharing and TQM Trainer, Carnegie Mellon University Libraries, Pittsburgh

All too often, library professionals are promoted into managerial and supervisory positions based on their functional expertise and years of experience without the benefit of any formal management training and without any previous supervisory experience. Given their background and area of expertise, it is no wonder, then, that John Murdoch and John Sherrod, the authors of a review paper on library management literature found that 'librarians and information scientists who perform management functions see themselves only secondarily as managers. This attitude may even have a negative effect on their performance as managers' (Murdoch and Sherrod, 1976).

Effectively managing the staff of a department, a division, or an entire library calls for a different set of skills and traits than does effectively managing the library's physical resources and one's own workload. Leaders within the library community recognize this lack of effective management and have made various appeals and suggestions to overcome this deficiency. Charles McClure, Professor at Syracuse University, in his 1980 essay 'Library Managers: Can They Manage? Will They Lead?' stated that 'academic library managers have not provided leadership in the solution of societal information problems, nor have they effectively utilized innovative managerial techniques to administer the library. Instead, a hybrid between "concerned paternalism" and "crisis management" impedes the library from serving as a problem solver in society and limits the librarian from utilizing his/her full potential to improve the performance of the library.' (McClure, 1980). Any library or information service can only be as effective as its managers. Effective managers have been defined as those who excel at achieving results through people, yet librarian managers frequently excel at managing physical resources and acting independently. How, then, does such a library manager develop the skills and traits necessary to manage his or her staff and better accomplish the goals of the organization?

With the rise in commitment to total quality management principles and practices in libraries and information centers across the United States and the United Kingdom the importance of feedback in rela-

tion to improvement becomes crucial. As is said repeatedly in the literature of quality improvement, 'What gets measured, gets done'. If management performance is not measured in some meaningful fashion, then performance improvement cannot be targeted toward the specific, necessary changes that would help the manager, and thereby the library, to become more effective. Library managers should be held accountable for their managerial skills and this can only happen when these skills are measured and the results of that measurement communicated to the manager in some fashion.

Currently, where annual performance appraisals do exist in libraries in the United States, library managers are most often evaluated by their immediate supervisor in the traditional top-down fashion, even though the evaluator may have difficulty in developing an accurate idea of how well the manager actually supervises his or her staff on a day-to-day basis, or how well the manager communicates with that staff. When evaluating the manager's performance, the manager's supervisor most often judges on the results produced by the manager's department, not how those results were produced. The accomplishments and output of a department don't tell the whole story of a manager's performance, nor do they reveal much about how a manager relates to the people they supervise. Consequently, the manager learns little of real value to assist him or her in improving crucial supervisory skills. It seems self-evident that feedback to managers from those people who are under their direct supervision would provide valuable insight into how well that manager functions as a communicator and motivator. Yet upward or subordinate appraisal of managers is used infrequently as an assessment tool in libraries and other organizations.

## Use of Upward Appraisal in Libraries

Gay Helen Perkins, Business Reference Librarian and Assistant Professor at Western Kentucky University Libraries in Bowling Green, has written two excellent articles on the use of upward evaluation in libraries (Perkins, 1992 and 1995). Her first article, entitled 'Enhancement of organizational structure through upward evalua-



tion', provides a thorough review of the use of upward appraisal systems in libraries throughout the United States. Most notable of these is the 20-year successful experience with upward appraisal at the University of Texas at Austin. There the stated purpose for conducting these evaluations is 'to encourage individual and continued self-development by staff in supervisory positions, as well as to allow every library employee to express an opinion on the supervisory skills of his or her supervisor.' (Rice-Lively, 1991). Feedback forms are tabulated by computer and the results reported as averages. Because the feedback is anonymous, it is not retained in the rated manager's personnel file and only the evaluated manager sees the cumulated results. In addition, a computerized report is produced showing average scores library-wide. Each year, these aggregate scores are published in their General Libraries *Library bulletin*. Areas of strengths and weaknesses are highlighted. Staff and managers alike have shown strong support for the process. Another notable example, this time for its lack of success, is the Center for Health Sciences Library at the University of Tennessee, where, in the second year of the program, a lowered response rate and overall higher ratings for managers resulted when anonymity was eliminated from the program and signed feedback forms were mandated. This caused the director to discontinue the program. Upward appraisal has been tried with varying degrees of success at these and other US libraries.

### Advantages of Upward Appraisal

**H.** John Bernardin, Professor of Management at Florida Atlantic University, who writes extensively on performance appraisal, and particularly upward appraisal, cites three compelling reasons to support the formal use of subordinate appraisals of managers (1986). First of all, subordinates are a valid source of information about their managers because they are often in a better observational position to evaluate certain managerial dimensions than any other source of assessment. Second, because appraisals are often available from several subordinates, the multiple assessments have potential for greater validity than that which is typically found in ratings by a single rater, most often the superior to the manager. Third, a formal system of subordinate appraisal of managers fits nicely into the employee commitment or involvement models which are gaining in popularity today. When properly implemented, subordinate appraisal systems enhance worker job satisfaction and morale.'

An upward appraisal system offers additional advantages:

- Properly implemented, the system can lead to improved supervisory effectiveness.
- Staff members can provide valuable suggestions about how they need to be supervised in order to perform to the best of their abilities.
- Upward appraisal contributes to a more participative management style, which is a hallmark of today's quality-driven organizations.
- It increases employees' sense of empowerment and lets them know that their opinions about how they are managed are valuable to the organization.
- Upward appraisal also increases communication by opening a channel of information that was previously neglected.
- Because the appraisals are conducted anonymously, they may be more accurate than face-to-face appraisals, which tend to be more lenient.
- Upward appraisal can reinforce good managerial behavior that may go otherwise unobserved by the manager's supervisor.
- It can also point out and facilitate needed changes in a manager's department by revealing problems that the manager may have overlooked or ignored.

### Disadvantages of Upward Appraisal

**U**pward appraisal systems also have potential disadvantages. The literature mentions a variety of these, but lacks empirical evidence to reinforce the legitimacy of these concerns. Instead, the literature suggests that a carefully planned and implemented system could overcome some of the perceived disadvantages. The most critical concerns mentioned about this system are:

- subordinates are not qualified to give valid ratings on the performance of their supervisors because they lack the ability, aptitude, or training
- subordinates may not give an accurate appraisal because they fear retribution from their manager
- the system will undermine managerial authority
- the manager will focus too much on pleasing employees at the expense of other responsibilities



- subordinates do not adequately understand the supervisor's job and lack organizational perspective about the job
- the process will turn into a popularity contest
- the subordinates who are pushed the hardest will rate the lowest.

These drawbacks must be kept in mind when designing and implementing an upward appraisal program.

### Steps to a Successful Program

An upward appraisal program usually has the following components:

- a questionnaire or a series of statements designed to measure how a given manager performs along certain targeted performance dimensions such as communication or delegation of authority
- an evaluative scale of some sort, usually a Likert scale which rates performance along a continuum from best to worst
- a comments section
- a set of procedures to guide the evaluation and reporting processes, and
- supporting documentation such as schedules, procedures, instructions for raters and for supervisors preparing reports on feedback.

What constitutes a successful upward appraisal program? The available literature on upward appraisal suggests several guidelines that should be followed in order to ensure a successful implementation and acceptance of the program. Following these suggestions will increase the probability that the program will be useful and effective.

1. Determine the purpose of the program. Will it be used strictly for management development and improvement or will it also be used as the basis for personnel decisions such as pay and promotion? Most authorities recommend that the program be used only for development purposes for the first three years to allow employees time to become accustomed to the process. If it is to be used solely for development purposes, who will see the results? Will they only be seen by the manager, or by the manager and his or her supervisor? Will an action plan be developed to ensure that issues raised in the evaluation are addressed?
2. Protect the confidentiality of rater's responses. The confidentiality of subordinates' responses is critical to the success of the program. Raters must feel that they can trust the process before they will feel confident enough to give an accurate evaluation of their manager's behavior. In departments that have only one or two employees, protecting confidentiality is difficult, if not impossible. Many organizations with upward appraisal programs require that there be at least four employees in a department before that department head can be evaluated by his or her subordinates.
3. Develop a questionnaire thoughtfully. Predesigned forms are available from management consultants, but these forms tend to be too general to be of any real value. Designing your own form has the advantage that the questions can be specific to your organization. When devising the questions for your feedback instrument, ask for input from the staff. In addition, your questions should be as specific as possible. A manager attempting to improve his or her performance on a given dimension will not be helped by vague feedback. Each question should focus on only one behavior or skill. Open-ended responses are also important and may be provided for either through a comments section at the end of the feedback instrument or by allowing space for comments after each question. The designer may also want to include a few open-ended questions at the end of the questionnaire, such as 'Which two or three things is it most important for your supervisor to focus on improving during the coming year?' or 'What would you say are your supervisor's two greatest strengths and two greatest weaknesses?'
4. Target the appropriate behaviors. Be sure that subordinates are asked to rate those people-oriented dimensions of performance that they observe regularly. Include questions about leadership, communication, interest in subordinates' development, provision of adequate training, delegation of authority, setting and maintaining performance standards, provision of timely performance feedback, and fairness and honesty in evaluations. The choice of items to include in the questionnaire should also be guided by which managerial behaviors are most important to the organization. If an organization has recently implemented a quality program, questions about how well the manager uses quality principles in their interactions with staff can be included.
5. Provide fast turnaround of the results of the evaluations to the managers involved. Raters and



ratees alike will become frustrated and disillusioned with the process if too much time goes by before they receive their feedback. Ensure that whoever compiles and prepares the reports on the feedback has adequate time to do so in a timely fashion, even if this means relieving them of other duties or extending deadlines on other projects.

6. Establish performance norms. Providing computerized data analysis not only can speed up the turnaround time of results, but can also facilitate the establishment of performance norms for each item on the questionnaire. The existence of such norms allows managers to see how their ratings compare with the standard and puts their results in a larger organizational context. It also allows the organization to identify any training needs for their managers as a group.
7. Evaluate the responses carefully and use them to develop action plans to improve managerial performance. H. John Bernardin recommends that 'managers above the rank of managers being appraised should serve as the major vehicle for the feedback and action planning to correct acknowledged problems' (ibid.). Both the manager being evaluated and his or her manager should focus on those items that suggest corrective action and draw up an appropriate action plan. One of the biggest causes of failure in upward appraisal programs is ignoring the results received.
8. Keep the results in perspective. Upward appraisal should always be used in conjunction with other appraisal techniques and incorporated into a multiple rater system. There are many dimensions to a manager's job that their subordinates are not qualified to rate. The results should be properly weighted and compared with all other sources of information.
9. Solicit feedback on the process itself from both the raters and the managers being rated. This should be done at the time of the appraisal, or as soon as possible thereafter. This step is important for determining which questions were ambiguous, if the procedures and instructions were clear enough, if new questions need to be added, and whether or not the staff thought the process had value. Revise the process based on the feedback that is received.
10. Repeat the process every year. This will allow managers to track their improvement over time and give them feedback on the success or failure

of their efforts to improve. Upward appraisal should be conducted at a time that is separate from the annual performance appraisal process to avoid confusing staff about its purpose.

## Upward Feedback at Carnegie Mellon University Libraries

The impetus for the upward appraisal program at the Carnegie Mellon University Libraries stemmed from the total quality management tools and techniques training sessions that all library staff members underwent in small groups during 1993 and 1994. At the end of the comprehensive three-and-one-half-day training sessions, each group was asked to brainstorm a list of issues specific to the libraries that would benefit from the application of TQM principles. Among the list of issues which arose during these sessions, increasing and improving communication between managers and their staff members surfaced repeatedly as an issue. Managerial accountability was another important issue that arose. In later large group meetings, library staff members were then asked to combine the lists from each session and to rank the issues on that combined list in order of priority. Improved communication and managerial accountability were both ranked as high priorities by staff members.

The Department Heads Council, a group of the library's middle managers (a total of ten people, including myself), was charged with reviewing the prioritized list and recommending ways to address the five highest priority items. The Council agreed that a program of upward appraisal would be one way to address the staff's concerns about managerial communication and accountability.

The Council felt strongly that the feedback should only be used for development purposes, especially in the early years of the program. Once this was decided, we worked to develop a feedback questionnaire that would reflect our environment and the concerns of our staff. We based our questionnaire on one contained in the article 'They Shoot Supervisors, Don't They?' (Jaffe and Ives, 1987). Questions were combined, added, eliminated, or revised until the Council felt that we had an instrument that elicited information about the behaviors we hoped to target and one that reflected the concerns of our organization.

Behaviors we hoped to measure concentrated on:

- effective communication within the manager's department as well as with other departments and with senior administrators



- the appropriate use of total quality management principles in running the department
- training and development of subordinates
- provision of clear job responsibilities and goals, and
- fairness and honesty, especially in evaluating subordinates.

Statements were devised to measure these behaviors using a Likert scale rating of between one and five, with one being the lowest rating and five being the highest. Each statement also had a choice for not applicable. The final survey instrument contained a total of 27 statements. In addition, staff members were asked to indicate the two statements from the rating instrument that they would most like their supervisors to address during the coming year. They were also given the opportunity to make any other comments about their supervisor's strengths and weaknesses that they felt were relevant.

The draft was given to the full staff for comment and revised once more to incorporate those comments. We then devised a procedure for the process that would ensure anonymity and confidentiality for staff and managers alike and, in addition, not create too great a work burden on those supervisors compiling and reporting results. The questionnaire and the process were then submitted to the library's senior administrators for final approval (see Appendix A).

The Council decided to have the completed evaluation forms tabulated by the rated manager's supervisor in order to increase the incentive for the manager to actually act on the feedback they received. We also felt that this was the only way to ensure that staff members could give comments on their supervisor's performance without worrying that the manager would recognize their writing. Staff members performing the evaluations were asked to put their names on the cover sheet of the evaluation form, but only the rated manager's supervisor saw these names.

The supervisor preparing the report on the upward feedback was instructed to compile the ratings on to one form, indicating the average of responses per statement as well as the variation of the responses per statement. They were then to indicate which numbered statements staff wanted the manager to concentrate on during the coming year. Finally, staff comments were to be restated by the manager's supervisor to make certain that they were not recognizable. This was all to be prepared into a written report and given to the manager, followed

by a meeting one week later to discuss the meaning of the feedback and to create an action plan to address any areas for improvement. The original feedback forms from staff members were destroyed. Only the report was retained, and that was to be retained only by the rated manager, not his or her supervisor. The report was not to be placed in the manager's personnel file.

Our upward feedback forms were distributed to staff in early May of 1995 and returned to the appropriate managers' supervisors within one week. A total of 88 forms were distributed to the full staff of the University Libraries to be used to rate 26 staff members with supervisory responsibilities. Sixty-four questionnaires were returned for a response rate of 73%. The written reports summarizing the results and comments were to be given to the evaluated managers by the following month.

We learned a great deal from this first year of our upward appraisal program. Perhaps most importantly, we learned the importance of considering the first year of such a program as a trial run and acknowledging that there will be some confusion and some deviation from the stated instructions and procedures. Staff and managers alike need time to get used to this new method of performance appraisal, to understand what is expected of them and to have the necessary confidence in the process to make it work. You can never anticipate every eventuality and prepare for it before it happens. Following is a summary of the more important lessons we learned from this first year of our upward appraisal program:

1. Be very explicit in your instructions. For example, we had some staff members place a rating midway between two numbers on the rating scale, which made these very difficult to decipher. Nowhere in the instructions did we state to choose only the numbers on the scale, not some midpoint in between. We also had some deviation in the way that reports were prepared by managers' supervisors. We will give them more explicit instructions when we repeat the process next year.
2. Ensure that supervisors compiling results have adequate time to prepare them. We scheduled our upward appraisal program for May because it was far enough away in time from our annual performance appraisal process (which is conducted in January). The timing of this new program coincided with the migration to a new library management system and we all underestimated how time consuming that would be. I would also rec-



commend investigating the feasibility of having the results compiled by a computer program since this would facilitate preparation of the reports to managers and allow for the establishment of performance norms library-wide.

3. Recognize that your results will be skewed in departments that have only one or two staff members reporting to a manager. During interviews, managers in five such departments (out of a total of 10) in our libraries who received very high ratings (all fours and fives) wondered if this was because they were excellent managers or because their staff felt that the department was too small for them to give an honest evaluation of the manager's performance. As a general rule of thumb, the mean of data from less than four or five raters may not be a statistically valid assessment of managerial performance. The Council will address this issue before we repeat the program next May.
4. Ask staff members to evaluate the instrument itself at the time that they evaluate their manager. Staff feedback, particularly in the first year of your program, is necessary to determine what works and what doesn't from their point of view and which questions need revision.

### Managers' Reactions to Their Results

The reaction to upward appraisal by the managers at Carnegie Mellon University Libraries has been very positive. I was able to interview seven of the 26 evaluated supervisors in early August in order to get a sampling of comments and reactions from feedback recipients. All of them felt that the feedback was valuable, sometimes confirming what they already knew about their managerial behavior, both good and bad, and sometimes pointing out things that they weren't aware of. Five of the seven felt that the feedback from their staff was more valuable than the feedback from their supervisors. Several of them stated that the staff feedback focused on 'how' they performed their duties while their supervisor's appraisal focused on 'what' they accomplished and was more results based. Four of the managers interviewed felt that the upward feedback corresponded to their own self-assessment of their managerial behavior while three felt that it did not, which made it all the more valuable to them. All seven felt that it was difficult to judge the accuracy of the feedback. Some felt that it was too subjective to judge the accuracy. Others mentioned that it was difficult to separate out criticisms of the envi-

ronment from criticisms of their managerial behavior.

Two managers felt that their scores were too uniformly high to be truly accurate. They felt sure there must be areas where they need improvement. Four of the seven managers mentioned that their feedback was not really anonymous, in spite of the best efforts of their supervisor to disguise responses, since their departments were small and they knew who would give which types of scores.

Managers interviewed listed the following advantages to the upward feedback process:

- 'provides valuable input on your performance that you wouldn't otherwise get'
- 'it lets you know if you are really giving your staff what they need to succeed'
- 'lets you see where you stand with your staff'
- 'allows staff members to vent their frustrations and creates an illusion of control over their work environment'
- 'opens channels of frank communication'
- 'provides an opportunity for growth'
- 'shows whether or not your supervisor can follow directions in preparing the feedback report'
- 'gives you positive reinforcement for the things that you are doing well'

Disadvantages mentioned include:

- 'creates unnecessary anxiety and tension among managers'
- 'there is the possibility of retaliation with some managers'
- 'vindictive employees could take the opportunity to hurt the manager'
- 'it isn't as reliable or anonymous for smaller departments and may not be as honest as a result'
- 'it is difficult to know how to interpret the results in some instances'

Only two of the managers interviewed believed that upward appraisal should ever be used as a basis for personnel decisions and merit pay, and both were adamant that managers should be held accountable for their managerial behavior since it is a large part of their job. They also felt that the process would never be taken seriously by staff unless the results affected pay and promotion. Four felt that it should be used mainly for development purposes, but that any results indicating corrective action should



become part of that manager's goals for the year and those goals would affect pay and promotion since they are part of the annual appraisal process.

Three of the managers plan to develop action plans to address the issues that arose from the feedback they received and to incorporate that plan into their goals. Four others are not planning any formal development, but will keep certain issues in mind when dealing with their staff throughout the year.

## Does Upward Appraisal Really Work?

If subordinate appraisal is such a valuable tool for improving management performance, then why isn't it used more widely? Several factors contribute to its relative obscurity. Managers' resistance to the idea is perhaps the greatest stumbling block, particularly in traditionally top-down organizations. Some reasons for this resistance include concerns about challenges to management authority, worry that subordinates are not sufficiently well-informed about the managers' duties and responsibilities to rate them on their performance, and fear of retribution from vindictive employees. In addition, upward appraisal is an innovative technique with little empirical research to back up its claims of success. However, what research does exist shows positive results.

In a study conducted at the University of North Carolina, managers in the experimental group, which received feedback from subordinates, significantly improved their supervisory behavior in the eyes of their subordinates when compared with the control group, which received no subordinate feedback (Hegarty, 1973). In addition, organizations like British Petroleum's Exploration division, RCA, Syntex, and IBM, that have been using this technique for several years, have found that the process has had a significant impact on improving the supervisory skills of their managers. Management training institutes are also beginning to employ this technique as a way of providing specific, relevant training targeted to strengthen a manager's weak areas, defined by the upward feedback provided by their subordinates.

It is too early to have accumulated any data on how the upward appraisal program at Carnegie Mellon will impact managerial performance. We are encouraging managers to retain their feedback reports from this year and use them for comparison purposes after next year's upward appraisal cycle is complete. Anecdotal evidence from informal discussions with my colleagues suggests that many man-

agers are already beginning to use the feedback from their staff to make suggested corrections where indicated. In addition, many of our managers say that the feedback has made them more self-observant in their dealings with their staff. Our experience with upward appraisal has also prompted the members of the Department Heads Council to look for ways to begin sharing advice and information with each other about how we manage our staffs and which techniques have or have not worked effectively for us. Carnegie Mellon University Libraries is committed to using this method of feedback and making it a permanent feature of our overall appraisal program.

## Conclusion

As libraries are asked to do more with less money and staff, managers will need to become more creative and effective if libraries are to flourish. Effective management is becoming a crucial issue for libraries, as it has become for industry. In addition, the role of the manager is changing. According to Maureen Sullivan, of the Office of Management Services at the Association of Research Libraries, 'As the manager's role shifts from one of direction and control to one of guidance and coordination, the role of staff shifts from that of subordinate to a partner or participant in the accomplishment of work and the achievement of organizational goals.' (Sullivan, 1992) Managers need to use all of the tools at their disposal to develop the skills necessary to take our organizations into the future. Upward appraisal is one such tool that addresses a long overlooked source of valuable management development information. It can bring about positive change.

## Note

The author would like to acknowledge the contributions of colleagues, the members of the Department Heads Council, for their work in developing the upward appraisal program at Carnegie Mellon University Libraries, the assistance of the many staff members who provided input and patiently answered questions, and of Erika Linke and Henry Pisciotta for valuable editing suggestions.



## References

- Bernardin, H. John (1986) 'Subordinate appraisal: a valuable source of information about managers' *Human resources management* 25(3) Fall. 421-439
- Hegarty, W. Harvey (1973) 'Supervisors' reactions to subordinates' appraisals' *Personnel* 50(6) Nov/Dec. 30-35
- Jaffe, Martin E. and Ives, Sheila (1987) 'They shoot supervisors, don't they?' *Library journal* 112(3) Feb 15. 116-118
- Linkins, Germaine C. (1984) 'Department head evaluations: the Virginia Tech experience' *Journal of library administration* 5(4) Winter. 53-60
- London, Manuel, et al. (1990) 'A feedback approach to management development' *Journal of management development* 9(6) 17-31
- Ludeman, Kate (1993) 'Upward feedback helps managers walk the talk' *Human resources magazine* 38(5) May. 85-93
- Martin, Jess A. (1979) 'Staff evaluation of supervisors' *Special libraries* 70. January. 26-29
- McClure, Charles R. (1980) 'Library managers: can they manage? Will they lead?' *Library journal* 105(20) Nov. 15. 2388-2391
- McEvoy, Glenn M. (1988) 'Evaluating the boss' *Personnel administrator* 33(9) Sept. 115-120
- Murdoch, John and Sherrod, John (1976) 'Library and information center management' in Martha E. Williams, ed. *Annual review of information science and technology*. V(ii). American Society of Information Science. p.394
- Perkins, Gay Helen (1992) 'Enhancement of organizational structure through upward evaluation' *Library administration & management* 6(4) Fall. 198-202
- Perkins, Gay Helen (1995) 'The value of upward evaluation in libraries - Part II' *Library administration & management* 9(3). Summer. 166-172
- Rice-Lively, Mary Lynn (1991) 'Your opinion matters' The General Libraries, University of Texas at Austin. *Library bulletin* 20(9:1). March 15
- Sullivan, Maureen (1992) 'The changing role of the middle manager in research libraries' *Library trends* 41(2) Fall. 269-81
- Hegarty, W. Harvey (1973) 'Supervisors' reactions to subordinates' appraisals' *Personnel* 50(6) Nov/Dec. 30-35
- Hegarty, W. Harvey (1974) 'Using subordinate ratings to elicit behavioral changes in supervisors' *Journal of applied psychology* 59(6) 764-766.
- Jaffe, Martin E. and Ives, Sheila (1987) 'They shoot supervisors, don't they?' *Library journal* 112(3) Feb 15. 116-118
- Linkins, Germaine C. (1984) 'Department head evaluations: the Virginia Tech experience' *Journal of library administration* 5(4) Winter. 53-60
- London, Manuel, et al. (1990) 'A feedback approach to management development' *Journal of management development* 9(6) 17-31
- Ludeman, Kate (1993) 'Upward feedback helps managers walk the talk' *Human resources magazine* 38(5) May. 85-93
- Martin, Jess A. (1979) 'Staff evaluation of supervisors' *Special libraries* 70. January. 26-29
- McClure, Charles R. (1980) 'Library managers: can they manage? Will they lead?' *Library journal* 105(20) Nov. 15. 2388-2391
- McEvoy, Glenn M. (1988) 'Evaluating the boss' *Personnel administrator* 33(9) Sept. 115-120
- Murdoch, John and Sherrod, John (1976) 'Library and information center management' in Martha E. Williams, ed. *Annual review of information science and technology*. V(ii). American Society of Information Science. p.394
- Perkins, Gay Helen (1992) 'Enhancement of organizational structure through upward evaluation' *Library administration & management* 6(4) Fall. 198-202
- Perkins, Gay Helen (1995) 'The value of upward evaluation in libraries - Part II' *Library administration & management* 9(3). Summer. 166-172
- Peterson, Lorna (1983) *Administrative review at the Iowa State University Library Technical Services Division: a case study*. December. Eric Document #241 035. 20 pp.
- Redman, Tom and Snape, Ed (1992) 'Upward and onward: can staff appraise their managers?' *Personnel review* 21(7) 32-46
- Rice-Lively, Mary Lynn (1991) 'Your opinion matters' the General Libraries, University of Texas at Austin. *Library bulletin* 20(9:1). March 15. p.1
- Rice-Lively, Mary Lynn (1991) '1991 Supervisor evaluation results' The General Libraries, University of Texas at Austin, *Library bulletin* XX(19) May 24. 1-2

## Bibliography

- Antonioni, David (1993) 'Upward appraisal for managers' *Industrial management*, 35(6) Nov/Dec. 20-22
- Bernardin, H. John (1986) 'Subordinate appraisal: a valuable source of information about managers' *Human resources management* 25(3) Fall. 421-439
- Bernardin, H. John and Beatty, Richard W. (1987) 'Can subordinate appraisals enhance managerial productivity?' *Sloan management review* 28(4) Summer. 63-73
- Hansel, Patsy J. (1986) 'Appraisal of supervisory performance by supervisees: one library's experience' *Public library quarterly* 7(1/2) Spring/Summer. 11-21



- Starratt, J. and Tollman, T. (1986) 'Upward evaluation of library middle managers' *Reference services review* 14. Spring. 87-90
- Sullivan, Maureen (1992) 'The changing role of the middle manager in research libraries' *Library trends* 41(2) Fall. 269-81
- Turner, Anne M. (1978) 'Why DO department heads take longer coffee breaks? A public library evaluates itself' *American libraries*. April. 213-215



## Appendix A

### CARNEGIE MELLON UNIVERSITY LIBRARIES

Date: \_\_\_\_\_

Your Name: \_\_\_\_\_

Person Being Evaluated: \_\_\_\_\_

Return completed evaluation to: \_\_\_\_\_ by May 5

#### *Upward Feedback*

**Background:** As follow-up to the TQM training, library staff designated several areas in need of quality improvements. One of the designated areas chosen to be implemented in 1994/95 was management accountability. Upward evaluation, a technique by which people evaluate their supervisors, was chosen from among the staff suggestions for TQM improvements. Department Heads Council then created the feedback form incorporating suggestions from library staff. The results will be used to improve both accountability and managerial skills of supervisors.

**Confidentiality:** Please take time to evaluate the competencies of your supervisor as they apply to you and your job in the past year. The information you provide on the feedback form will be confidential. The feedback form should be submitted to the manager (indicated above) to whom your supervisor reports. The manager will summarize and discuss the results of the questionnaire with your supervisor without identifying the source of the comments. Your supervisor will NOT see the completed feedback forms.



**Appendix B**

*Upward Feedback Questionnaire*

**SECTION A. - Rate your supervisor.** For each statement check the number that most closely describes your supervisor from Almost Never (1) to Almost Always (5). If a question does not apply to your situation check Not Applicable. The rating should reflect the interactions of you and your supervisor in the past year.

1. My supervisor is fair and consistent in dealing with employees (treats each individual in a fair and balanced way without showing favoritism).

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

2. My supervisor shows a willingness to help out when there is a staff shortage in the department.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

3. My supervisor is willing to try new ideas.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

4. My supervisor shows concern and interest in my career development.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

5. My supervisor listens to and considers my suggestions and is willing to suggest my recommendations to management.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

6. My supervisor maintains open communication within the department and with other departments.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

7. My supervisor is honest with me.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

8. My supervisor displays patience, diplomacy, and competence.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

9. My supervisor clearly establishes and monitors job responsibilities.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable



10. My supervisor provides/supports well-planned training and orientation.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√

11. My supervisor gives explanations clearly.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√

12. My supervisor takes requests and complaints seriously and responds promptly.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√

13. My supervisor gives praise when deserved.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√

14. My supervisor is willing to act as an advocate for staff concerns to higher management.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√

15. My supervisor is an effective manager.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√

16. My supervisor shows effective communication skills.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√

17. My supervisor uses excellent leadership skills.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√

18. My supervisor avoids responding with hostility or defensiveness when receiving a complaint.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√

19. The skills and attributes of my supervisor help to build and maintain a high level of staff morale.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√

20. My supervisor promptly and confidentially discusses performance problems with me and recommends strategies for improvements.

(Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

√



21. My supervisor evaluates me on clearly communicated job criteria.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

22. My supervisor is willing to admit mistakes or lack of knowledge.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

23. My supervisor has earned my respect and trust.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

24. My supervisor promotes independent decision-making and risk taking by discussing alternatives with me, but trusts my judgment.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

25. My supervisor helps me interpret my role in achieving the goals of the University Libraries.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

26. My supervisor uses TQM appropriately to facilitate work in the department.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable

27. My supervisor encourages me to communicate and solve problems with others outside the normal chain of command, whenever appropriate.

√ (Almost Never) 1 2 3 4 5 (Almost Always) Not Applicable



**SECTION B. - Help your supervisor improve his/her performance.** Review your responses to the statements above and indicate the numbers of the two statements you would like your supervisor to address in the coming year.

**SECTION C. - Comment on your supervisor's performance.** Use the space below to elaborate on the strengths and weaknesses of your supervisor. Feel free to refer to specific statements in Section A by number or to address areas not specified in Section A. You may attach another page if you need more room for your comments.

Submit to \_\_\_\_\_ by May 5.  
Thank you for your participation.



# Decision-Making in Libraries and the Use of Performance Measurement

Tony Oulton, Shelagh Fisher, Siân Lambert, Jonathan Willson

Department of Information and Library Studies, Manchester Metropolitan University

## 1. Overview

This paper outlines the preliminary results of a current research project on the information used by library managers in making decisions in small to medium sized libraries. Potential information sources used to aid the decision process include performance measurement data in the form of library reports and statistics and user survey data. It is demonstrated that other, non-numeric, information sources are shown to provide significant input to management decisions. The research has also highlighted performance measures and indicators which are used (or would be used were the data available) by librarians of small to medium sized libraries in managing their libraries. In addition, units of measurement which are of little interest to library managers in this sector are identified.

## 2. Background and Context

The Department of Library and Information Studies at Manchester Metropolitan University is the Co-ordinating Partner in the DECIMAL research project which is being partially funded by the CEC Libraries Programme (Framework 3, Action line IV, Theme 18 bis). Theme 18 bis supports 'research in, and development of, models and tools to support decision-making in libraries'. Other related projects under this theme are DECIDE (co-ordinated by Carpenter-Davies Associates [UK]), EQLIPSE (co-ordinated by the University of Central Lancashire [UK]) and MINSTREL (co-ordinated by De Montfort University [UK]).

The primary objectives of DECIMAL (DECISION-MAKING in Libraries: the development of a decision support module for integrated library systems) are to identify decision-making processes, determine information needs of library managers and to design and develop a decision support module. The context of the DECIMAL project is the small to medium size library sectors, eg. college, school, government, commercial, medical libraries. The duration of the Project is 24 months, commencing February 1995. Other Partners in the Project are Inheritance Systems Ltd, Oxford (UK), developers

of the Heritage library management system, University College, Oxford (UK), and library schools at the University of Barcelona (Spain) and the University of Parma (Italy).

This paper draws on preliminary findings from the Research phase of the Project. Subsequent Technical and Evaluation phases provide for the development of a prototype decision support module for integrated library systems, and assessment of the module for its effectiveness as a decision support tool for library managers.

## 3. Method

The Research phase has investigated the information needs of librarians for decision-making and the decision-making processes by a review of the literature, interviews with librarians and the distribution of two questionnaires (180 of each). Questionnaire A focused on information sources used in decision-making in libraries. This was partly adapted from McClure's (1980) US study of 'Information for academic library decision-making'. Questionnaire B focused on the use of statistical information (performance measures) by librarians in managing their libraries. This questionnaire utilised the 'toolbox' of 102 performance measures and indicators identified in the study undertaken by De Montfort University for the CEC DGXIII (De Montfort, 1994).

Questionnaire A and Questionnaire B contained some common questions on the use of management information, information systems and on the locus of power for decision-making and library management. The response rate for Questionnaire A was 44% overall (UK 58%, Spain 53%, Italy 20%). The response rate for Questionnaire B was 34% overall (UK 53%, Spain 40%, Italy 7%).

In Questionnaire A, respondents were provided with a list of 20 'typical' decisions (see *Table 1*) and were asked to indicate from a given list of information sources (*Table 2*) which sources they would use/contact to help in making the decisions. Thirty-four information sources were provided, grouped under the headings: Published/external documents, In-house documents (including user sur-



Table 1

List of decisions provided in Questionnaire A	
1. Recruitment of staff	11. Devising mission statement/library objectives
2. Staff appraisal	12. Devising library rules
3. Buying library materials	13. Implementing copyright procedures
4. Allocation of the acquisitions budget	14. Providing online services
5. Purchasing equipment	15. Evaluating existing services
6. Choosing a library system	16. Contracting out of services
7. Re-location of premises	17. Charging for services
8. Reorganisation of library layout	18. Abandoning a service
9. Establishing a library security system	19. Introducing a new service
10. Changing opening hours	20. Conducting a user survey

Table 2

List of information sources provided in Questionnaire A	
<u>Published/external documents</u>	<u>Interpersonal contacts</u>
1. Books	19. Professional library staff
2. Articles from library-related periodicals	20. Paraprofessional library staff
3. Book reviews	21. Other non-library staff in the organisation
4. Articles from journals NOT directly related to librarianship	22. Other librarians/information specialists outside the organisation
5. Advertisements, brochures, catalogues	23. Library users - internal
6. Standards and guidelines (eg. HMI, BSI)	24. Library users - external
7. Electronic information sources eg. online, Internet	25. Salespeople eg. systems suppliers, publishers' reps.
8. Information from mailing lists via e-mail	<u>Group/organisational contacts</u>
<u>In-house documents</u>	26. Committee or group meetings composed of library staff
9. Company reports and accounts	27. Committee or group meetings of non-library staff
10. Guidelines	28. Library/Information Associations (eg. Library Association, ASLIB)
11. Organisational mission statement	29. Other professional associations
12. Library mission statement	30. Continuing education courses
13. Service Level Agreement	31. Seminars, workshops, conferences
14. Minutes of meetings	32. Exhibitions
15. Memos, letters	<u>Personal</u>
16. Electronic mail (e-mail)	33. Previous work experience
17. Statistical information or reports produced by the library	34. Intuition/personal opinion
18. User survey data	

vey data and library reports and statistics), Interpersonal contacts, Group/Organisational contacts, Personal.

In Questionnaire B respondents were provided with the list of 102 performance measures (counts) and indicators (ratios) identified in the De Montfort (1994) report which reflect performance relating to the library context, staffing, service points, opening hours, library users, library uses, materials, enquiry services, interlibrary loans and facilities. For each

measure and indicator, respondents were requested to indicate one of four responses in the context of managing the library - ie. a) already use, b) available but do not use, c) would use if available and d) do not use and would not use.

The results of these two aspects - the use of information for decision-making and the use of performance measures and indicators - are given in the next section.



Table 3

Percentage frequency of information sources indicated for decisions overall - ranked 'Top 20' (n=2434)			
<u>% of sources indicated</u>	<u>Information source</u>	<u>% of sources indicated</u>	<u>Information source</u>
9.0	Professional Library Staff	3.9	Adverts, brochures etc.
7.8	Previous work experience	3.9	Library mission statement
7.3	Other librarians outside the organisation	3.4	Non-library meetings in the organisation
6.4	Other non-library staff in organisation	2.4	Library Association
5.9	User survey data	2.3	In-house guidelines
5.6	LIS articles	2.1	Published standards
5.4	Library staff meetings	2.0	Organisational mission statement
5.1	Intuition	2.0	Paraprofessional library staff
5.0	Salespeople	2.0	Company reports & accounts
4.9	Library users		
4.3	Library statistics		

## 4. Results

### 4.1 INFORMATION SOURCES USED IN DECISION-MAKING

Over all the decisions, Professional library staff were shown to be the most used source of information to aid decision-making (*Table 3*), closely followed by Previous work experience, Other librarians outside the organisation and Non-library staff in the organisation. Library reports and statistics, and User survey data, accounted for 10% of information sources indicated as used to aid in making the decisions.

For 12 of the 20 decisions, three information sources were shown to have major significance: Previous work experience, Librarians in other organisations and User survey data. Information sources which ranked most highly for the remaining decisions were Salespeople, Non-library staff in the organisation, Professional library staff, Articles from LIS journals, Adverts, brochures & catalogues, Published standards, and Organisational mission statement (*Table 4*).

Library reports and statistics were shown to inform 18 of the given decisions. They were used most in decisions about evaluating services, abandoning a service, allocating the acquisitions budget, introducing a new service, devising library objectives, charging for services and conducting a user survey. Library reports and statistics were not used to inform decisions about staff recruitment or buying library materials.

User survey data was shown to inform 17 of the given decisions. User survey data was used most to inform decisions about evaluating services, intro-

ducing new services, abandoning a service, changing opening hours, reorganisation of the library layout and the allocation of the acquisitions budget. User survey data did not inform decisions about choosing a library system, establishing a library security system or contracting out of services.

### 4.2 PERFORMANCE MEASUREMENT

The extent to which the performance measures and performance indicators were used was analysed by considering the totals of each response category for all variables. 43% of responses indicated that measures were already used, whilst 20% indicated that measures would be of use if the data were available. Only 16% of responses showed that indicators were already used, although 32% of responses showed that performance indicators would be of use if the data were available (*Table 5*). Overall, there is a greater use of, and interest in, the measures than the indicators.

The frequencies of responses for the most and least preferred measures and indicators are given in Tables 6 to 9. The Tables show the 'top ten' units of measurement in each category. There are expressions of strong interest in several of the measures and indicators. For example, of the measures, Current periodical titles received is already used by 83% of respondents, Materials spend by 77%, Number of loans by 73%. Number of active library users is either used, or would be used if the data were available, by 88% of respondents, Library visits by 86% and Number of reference transactions by 76%.

Of the indicators, 88% of respondents are shown to already use, or would use if the data were avail-



Table 4

Most frequently indicated information sources used for each decision		
<u>Decision</u>	<u>Source indicated most frequently</u>	
1. Recruitment of staff	Previous work experience	
2. Staff appraisal	Previous work experience	
3. Buying library materials	Adverts, brochures	
4. Allocation of the acquisitions budget	Previous work experience	
5. Purchasing equipment	Salespeople	
6. Choosing a library system	Other librarians outside	
7. Re-location of premises	Other non-library staff	
8. Reorganisation of library layout	Previous work experience	
9. Establishing a library security system	Salespeople	
10. Changing opening hours	User survey data	
11. Devising mission statement/objectives	Organisational mission statement	
12. Devising library rules	Professional staff	
13. Implementing copyright procedures	Published standards	
14. Providing online services	LIS articles	
15. Evaluating existing services	User survey data	
16. Contracting out of services	Other librarians outside	
17. Charging for services	Other librarians outside	
18. Abandoning a service	User survey data	
19. Introducing a new service	User survey data	
20. Conducting a user survey	Other librarians outside	

Table 5

% of responses to measures and indicators		
	<u>Performance measures</u> (counts)	<u>Performance indicators</u> (ratios)
Already use	43%	16%
Available but do not use	17%	20%
Would use if available	20%	32%
Do not & would not use	20%	32%

able, User satisfaction with library stock. User satisfaction with library facilities is used, or would be used, by 82% and Information success rate by 80%. In-library use per item in stock was already used by only 8% of respondents, yet 52% indicated that they would use this data if it were available.

A smaller percentage of respondents expressed non-use, or potential non-use of specific measures and indicators. However, most striking in this category of measures was Weighted average hours open per week with 61% of respondents indicating that they do not use it (although available) or would not use it even if the data were available. 60% of respondents also expressed no interest in Number of issues from closed access, Expenditure on staff and

Programme/activity attendances.

Of the indicators, the strongest indication of non-use was for Library floor area per capita (71%), Activity attendance per capita (71%), ILL per capita (70%) and Expenditure on professional staff per capita (70%).

The frequency of responses for a number of measures and indicators eg. Number of users per reader seat were evenly distributed between the four categories of response, ie. from 'Already use' to 'Do not and would not use'. Further analysis is being carried out on the data to determine whether this is due to cultural differences between the UK, Spain and Italy, or differences between the categories of library in the sample.



Table 6

Preferred measures			
PREFERRED MEASURES	Already use	Would use if available	Total
No. of items in stock	72%	18%	90%
No. of active library users	53%	35%	88%
Periodical titles received	83%	-	83%
No. of loans	73%	10%	83%
Materials spend	77%	7%	84%
Library visits	58%	28%	86%
No. of reference transactions	33%	43%	76%
Information visits	40%	35%	75%
Target population	60%	15%	75%
No. of items added to stock	67%	8%	73%

Table 7

Preferred indicators			
PREFERRED INDICATORS	Already use	Would use if available	Total
User satisfaction with library stock	43%	45%	88%
User satisfaction with library facilities	37%	45%	82%
Information success rate	28%	52%	80%
Needs fill rates	30%	47%	77%
Reference satisfaction survey	23%	53%	76%
Services used	25%	38%	63%
In-library use per item in stock	8%	52%	60%
Speed of acquisitions and processing	27%	32%	59%
In-library use per capita	15%	43%	58%
Speed of obtaining recalled/reserved items	13%	45%	58%

Table 8

Least preferred measures			
LEAST PREFERRED MEASURES	Available but do not use	Do not & would not use	Total
Weighted average hours open per week	23%	38%	61%
Number of issues from closed access	12%	48%	60%
Expenditure on staff	35%	25%	60%
Programme/activity attendances	11%	48%	60%
Types of catalogue record added	18%	38%	56%
Prices indexes	23%	33%	56%
Total library floor area	26%	28%	54%
Number of service points	27%	27%	54%
Floor area occupied by library services	25%	28%	53%
Number of users per reader seat	25%	27%	52%



Table 9

LEAST PREFERRED INDICATORS	Least preferred indicators		
	Available but do not use	Do not & would not use	Total
Library floor area per capita	36%	35%	71%
Activity attendances per capita	13%	58%	71%
ILL per capita	28%	42%	70%
Expenditure on professional staff per capita	33%	35%	70%
Speed of delivery from closed access	15%	53%	68%
Number of items of equipment per capita	37%	30%	67%
Total expenditure on staff per capita	33%	34%	67%
Spend on binding per capita	22%	43%	65%
Capital expenditure per capita	31%	33%	64%
Mis-shelving	15%	47%	62%

## 5. Conclusions

This survey of librarians in small to medium size libraries has shown that both qualitative and quantitative sources of information provide input to decision-making. The most significant information sources are shown to be librarians working in other libraries, previous work experience and user survey data.

The results of the survey on performance measurement show there to be a general preference for the use of measures, rather than indicators. A simple explanation for this is that the measures comprise statistics which are basic counts, eg. issues, titles, seats, items added etc., and therefore data which is easy to collect. The indicators consist either of more complex calculations of ratios, or require some form of data gathering activity to be carried out, which is time-consuming. Other explanations which could be posited are that some librarians are not required to undertake more complex measurements, or that they do not understand the use of performance indicators or how to utilise complex statistical data.

In some instances, the survey on the use of performance measures and indicators in small to medium sized libraries produced results which were quite different from those which one would expect to find in large public or university library systems. 'Per capita' indicators were shown to be of little interest. Preferred measures and indicators related to services, library materials, user satisfaction, rather than financial accounting, bibliographic records and premises management.

The findings of the DECIMAL project to date largely concur with those of McClure (1980) who in his study of information for decision-making in

academic libraries found that articles in LIS journals were the preferred choice of information source, and second among the preferred sources were interpersonal contacts with staff professionals and information gained in meetings. McClure concluded from his research that many librarians do not know how to seek out information for the purpose of decision-making. He recommended several strategies to overcoming this problem, including extending access to information throughout the organisation, maintaining open-file systems of reports and circulating summary data quarterly around departments. Such strategies are often advocated by those working within the broader realms of organisational information management (eg. Burk and Horton, 1988; Kaye, 1995). Kaye (1995) usefully summarises the nature of information in organisations and its importance for management decision-making:

'Practically speaking, any organisation needs information both about its own internal processes, in order to ensure effectiveness and efficiency, and about its environment, in order to respond and adapt to the actions, attitudes and decisions of external agencies such as governments, competitors and social groups. Both types of information must be put together in a coordinated manner so that the actions and decisions of the organisation can be matched closely to its external circumstances . . . Thus we are concerned with numerical data, factual knowledge, narrative accounts, opinions and evaluations. We also need to be clear that information has meaning only when perceived and interpreted by the human recipient. Information is raw material for the mind, which uses it to develop skills, knowledge and ultimately, perhaps, wisdom.' (p.5)



## References

- Burk, C. F. and Horton, F. W. (1988) *Infomap: a guide to discovering corporate information resources*. Prentice-Hall
- De Montfort University (1994) *Library performance indicators and library management models (PROLIB/PI)* Draft report of the study undertaken on behalf of the CEC DGXIII.
- Kaye, D. (1995) 'The importance of information' *Management decision* 33(5) 5-12
- McClure, C. R. (1980) *Information for academic library decision-making: the case for organisational information management*. Aldwych Press







# Metrics: The Medicine for Customer Focus

**John Burr**

Senior Librarian, Sanofi Research Division, Alnwick

**Julie McLeod**

Senior Lecturer, Department of Information and Library Management,  
University of Northumbria at Newcastle

## Abstract

In this practical presentation we address how a medium-sized pharmaceutical research centre faced the challenge of developing a meaningful framework for performance measurement in information management.

The Alnwick Research Centre is now part of Sanofi Winthrop, a French company with global pharmaceutical interests. There are about 200 scientists at Alnwick, working on research and development of prescription medicines. Research Information Services department covers both library and records management activities, viewing published and proprietary information as complementary disciplines.

Prior to this study we were collecting a variety of workflow statistics and metrics within the department using paper forms. We had no defined purpose for this data gathering, beyond the need to report levels of activity, but hoped to be able to derive some service standards. We recognised that not all the necessary data was available and the material we had was not in a form that could be readily analysed.

We set out to define a clear purpose for data collection, to review the current metrics being collected with respect to their continued value, to identify any gaps (ie. services not being measured) and to implement a revised metrics programme.

We briefly reviewed the literature and defined the purpose of the metrics programme as measuring both the day-to-day activities and development projects. We agreed that metrics should be selected on the basis of their usefulness to report the success of current projects; to provide data to aid selection/prioritisation of future projects; and for agreeing service standards with customers and developing customer contracts.

In implementing the revised metrics programme we decided to build collection and reporting tools using MS Excel, needing more time than we had originally planned for this activity.

It became clear to us that this must be considered one step on the route to a wider quality programme.

This was deemed to be beyond the scope of this project and will be developed further as time allows.

This presentation briefly reviews the evolution of the revised metrics programme and demonstrates the MS Excel Workbooks developed to collect and analyse the data. Some of the areas identified for further development within the framework of the quality management process are to document the department's policies and procedures, to apply control procedures to tighten the focus of information provision, to use the metrics to stimulate feedback from the customers and, where appropriate, to educate the customers' expectations of the services provided.

## Introduction

### SANOFI WINTHROP

Sanofi Winthrop is a world-wide research based pharmaceutical company, 51% owned by the oil company Elf Aquitaine. In 1991 Sanofi formed a strategic alliance with Sterling Winthrop, forming Sanofi Winthrop as the world-wide marketing company. In 1994 Sanofi bought the prescription pharmaceuticals business of Sterling Winthrop to create the company as it now stands.

Sanofi Winthrop has research centres in France, Italy and the US as well as here in the UK, and also owns Hungary's second largest pharmaceutical company, Chinoin.

### ALNWICK RESEARCH CENTRE

The Alnwick Research Centre in the UK is a medium-sized pharmaceutical research establishment with around 220 staff. We carry out pre-clinical research and development on prescription medicines.

Since the purchase of Sterling Winthrop by Sanofi, we have been part of the world-wide Sanofi Research Division. At the time this metrics programme was developed, we were part of Sterling Winthrop Pharmaceuticals Research Division (SWPRD). The principal research establishment of SWPRD was in Philadelphia, USA with around 1500 researchers.



The Research Information Services (RIS) department covers both library services and records management and SWPRD was part of the Information Sciences division, along with the computing departments. Worldwide, RIS had around 30 members of staff out of about 100 in the division. There were six staff in RIS in the UK.

## The Metrics Project

### HISTORICAL BACKGROUND

In common with most library services, Research Information Services at Alnwick had been collecting and reporting statistics on the volume of throughput for some time, solely as a measure of demand on the service.

During 1992 the framework for an RIS worldwide metrics programme was developed with the aim of measuring cost, quality, value and timeliness of key services that were to be covered by a service contract. The programme was launched in January 1993 using paper forms for data collection. These were collected centrally (in the US) for entry into a spreadsheet. It became clear that from the UK perspective there were some gaps in the programme, that the data could not be readily analysed and that a service contract could not be prepared and issued on this basis.

### METRICS PROJECT AIMS & SCOPE

In response to these shortcomings, we decided to review the metrics being collected to define a purpose, assess their continued value, to identify any gaps (ie. services not being measured) and to implement a revised metrics programme. We set out to include electronic methods of collecting metrics and reporting them to customers.

### PRACTICAL CONSTRAINTS

The time available for this project was limited by the need to carry out a number of other development activities throughout the year while continuing to meet the day-to-day service requirements. At the beginning of the year, we estimated the resource each activity could be allowed and prepared a project plan for the whole year using Microsoft Project. This was levelled by resource to define the time-scales available for each activity.

The project was to apply specifically to the RIS group at the Alnwick Research Centre only but we recognised that we also needed to continue to align with the department's worldwide metrics programme.

### METHODS

In line with other RIS objectives during 1994, a team approach was chosen for this project. We found this a useful framework for generating ideas and allowing decisions to be shared by the team.

A detailed plan was prepared by the team leader, using Microsoft Project. This was a particularly useful tool, enabling progress to be tracked as the project unfolded and allowing the team to assess the impact on the project timelines when an unplanned resource constraint arose. This provided information so that a team decision could be reached which enabled the project to complete successfully albeit in a different time frame than originally planned, but within the overall resource allocated.

At the outset, we carried out an informal literature review. A literature search in *Library and information science abstracts* revealed that there were few comparable studies from special libraries. Relevant articles were obtained and reviewed by team members but not written up. This was a conscious response to the time constraint on the team. It was felt that an academic type review of the literature was outside the scope of our project. Instead, the literature was used within the team meetings to help specify the aims and scope and to define the broader context of the Metrics Project.

### Results

Following the literature review, the team considered the scope of the department's Metrics programme and concluded that we should aim to measure all aspects of our work; and to include assessment of the development projects as well as the day-to-day service throughput.

The purpose had then to be defined and we took a pragmatic approach that looked at local needs, rather than trying to define any global measures for external comparisons or benchmarking. On this assumption we agreed that Metrics were to be selected on the basis of three criteria:

- Their use in reporting the degree of success of current projects
- To provide data to aid the selection and prioritisation of future projects
- For use in agreeing and monitoring service standards with customers and developing a customer contract.

### DEVELOPMENT PROJECT METRICS

Two priorities were identified for the development project metrics. Firstly we needed to evaluate the



degree of success of the projects from the planning and management point of view. Secondly there was a need to identify and quantify the improvements or changes to the level of service provided as a result of the project itself.

Setting these metrics for each development activity was defined as the responsibility of the project team leaders although a project closure form was developed to help capture the data in a uniform manner. These project closure forms are completed by the leader of each project, reviewed by the other team members and then circulated to other members of the department and filed.

Measures of the planning and management success of the project were defined in terms of the 'deliverables' for the project and the resources applied. Assessments have to be made of what was actually delivered, compared to what was planned; the timeliness of delivery against the project milestones; the resources, people and materials used compared with what was planned or proposed; and finally a general assessment, 'What went well, what could have worked better', where we could capture any ideas to help us improve performance in the future.

Quantifying the service improvements resulting from any project should involve defining and assessing baseline measures for the current process or service provision. For some time after the completion of the project a new set of measurements can be made and compared with the baseline figures and the degree of change or success can be identified and reported.

#### DAY-TO-DAY SERVICE METRICS

The selected priority for measurement of the day-to-day services was to continue to monitor efficiency by recording the volume of throughput and tracking turnaround times for a number of key service areas, listed below. For a number of the service areas (marked \*), the amount of staff time taken would also be tracked. This would provide additional information for areas where we felt that the procedures were not as well established and where future developments could potentially provide significant advantages.

- Published information retrieval (online searches)
- \* Proprietary information retrieval
- Document delivery (internal & external)
- \* Microfilming (incl. specifically LNB recall)
- Circulation statistics

- Urgent action requests:

- External document delivery
- Online searches
- Proprietary information retrieval

We chose to discontinue metrics for some services where differences in the size, complexity or organisation of the department between the US and UK operations rendered them meaningless for comparison.

In order to allow for local analysis of the metrics, we determined that it was necessary to enter them into an electronic spreadsheet. The most time-saving way to do this is for the member of staff generating the data to be able to enter the figures directly, avoiding any duplication of effort in transferring data from paper. We therefore planned to create simple collection forms using Microsoft Excel.

#### MICROSOFT EXCEL

One of the advantages offered by Excel was that the files could be maintained on a server for access across our local area network. In this way all the members of the RIS team could retrieve or update the data as needed.

To a beginner, Excel looks easy to use and it is, in fact, very easy to produce simple tables. We were taken in by this apparent simplicity of spreadsheet software and initially underestimated the learning time required to become suitably proficient with Excel. As a result we had to reassess the most appropriate way to resource this task within the project.

Within the RIS team, we were all new to Excel before the start of this project. One point in favour of this program was that we knew that it was used elsewhere within the company. We were therefore able to enlist help from a member of staff outside the RIS team which we found very invaluable, given the complexity of the software.

We had planned to share out development of the collection tools but found it better for one team member to become our Excel expert and complete the framework for the spreadsheets before training the other team members.

There were a number of decisions that had to be made over our use of Excel. There is a variety of ways to present and analyse the data and in making our choices, we discovered that we needed to learn and apply a number of advanced features, such as a variety of different types of formulae and the use of crosstabs for summarising data for continuing analysis and display. There were also questions over



the best choice of graph styles for meaningful display although here, the program has proved truly easy to manipulate and different graphs can be generated at will. We have been able to choose different displays for different types of data, including simple bar charts, stacked bar charts, pie charts and linear plots in both 3d and flat presentations.

The spreadsheets were combined into workbooks so that the data, crosstab files and chart files were linked into a single bound workbook. As well as making it easier to maintain the links, each file within the workbook could be given a longer, more meaningful name that was not limited to the DOS 8-letter filename.

## Conclusions

Collecting and reporting metrics in this way has kept Alnwick RIS in line with US colleagues in a way that would allow metrics to be shared. At the same time it allowed us to carry out our own analysis of our local metrics and statistics.

Further development of the Excel workbooks is still possible. We could link the Excel metrics and statistics workbooks for automatic data update. That we have not yet done this demonstrates a practical application of the 80:20 rule. We have applied what we have considered to be an appropriate level of resource to achieve a workable solution. Adding additional features is not, at present, seen as providing sufficiently valuable returns on the investment of our time needed.

We have learned a valuable lesson for any future projects involving the application of a new software package. We should, in future, consider using alternative methods for learning new software tools. For example it may be possible to include a local expert as a member of the project team from the outset; and/or we could plan projects which require training to take advantage of supplier or third party training courses.

The collection of these metrics and statistics must not become an end in itself, however. Now that we have collected a significant amount of data further steps can be taken. Selections of the data have already been disseminated to the customers. Performance standards for all the services will next be determined and published. We also identified in the objectives for the metrics programme that it should be only a part of a larger Quality Programme.

## Quality Programme

Our ideas for a wider quality programme were discussed with US colleagues and the principles were mutually agreed before the change of ownership. As we integrate with our new colleagues we are now reviewing the proposals to ensure that our ideas continue to meet the needs for Quality Management in the information department. We also hope to learn from our new colleagues' prior experience.

We believe that the quality management project should be comprised of a world-wide RIS project team and should be aiming to measure the performance of day-to-day service and development projects, taking into account a number of factors.

- Efficiency: This clearly remains important. It is largely addressed in our Metrics Programme, measuring volume of throughput, turnaround times, cost, availability, accessibility, and project deadlines.
- Effectiveness: Effectiveness is a more problematical issue and may not be quantifiable in the same way. Customer satisfaction, take-up of services, level of awareness, and success rates need to be assessed in some way that can be analysed for trends and comparisons.
- Value: This is also a nebulous concept in a service context. Consequences of use, beneficial effects of the service and the relationship to customer and company objectives are nevertheless important strategic considerations.

All of these attributes need to be quantified to provide information that can be used strategically for making decisions and taking action such as:

- Planning: Setting strategic direction, defining objectives, and deciding on which development activities to pursue.
- Resource management: Allocating and utilising people, space and budget to meet the prioritised needs of the company.
- Service management: Deciding which services to offer and how, what standards need to be applied, how customer contracts can be established, and project management.
- Advertising and publicity: Targeting communication with the customers to achieve optimum results.



## Acknowledgements

The work reported here was carried out as a team activity and thanks are due to the other two members of the project team. Individual contributions can not be attributed, but without the efforts of Cath Reid, Assistant Librarian/Information Scientist and Alan Straker, Graphics Specialist, this study could not have been completed in the timely, controlled manner that was achieved.

## Appendix 1

### Statistics Workbook

Statistics file created on Pathworks Server

- STATS95 .XLW RIS Workflow Statistics

### Metrics Workbook

Metrics files created on Pathworks server

- OLCOST95.XLW Online Literature Searching
- EXT\_DOCS.XLW External Document Delivery
- INT\_DOCS.XLW Internal Document Delivery
- MFILM .XLW Microfilming
- PROP\_S95.XLW Proprietary Information Searching
- BKCOST95.XLW Book Purchasing

## Appendix 2

### Draft Service Standards

We have derived some draft service standards which have been incorporated into the appropriate workbooks

#### ON-LINE LITERATURE SEARCHING

- Turnaround in two working days or as otherwise negotiated
- Current Target: 80% on-time delivery
- Literature searches needed in less than two working days will be counted as Urgent

#### DOCUMENT DELIVERY REQUESTS

- External photocopy requests to be supplied within 8 working days
- Current Target: 80% on-time delivery
- Photocopy requests from stock to be supplied in two working days
- External document delivery requests using the BL Urgent Action Service will be counted as Urgent

#### PROPRIETARY INFORMATION

- Searches to be turned around in two working days or as otherwise negotiated
- Current Target: 100% on-time delivery







# Quality Management and Public Library Services

Bob Usherwood

Department of Information Studies, The University of Sheffield

In one sense the experienced public library manager is entitled to wonder what all the fuss is about. The idea that success, either in business or service depends on the 'quality' of the product or output is not new. Anyone who has checked either their own work, or someone else's for mistakes, has been a 'quality manager'.

## What is Quality?

That having been said, 'Quality' has become the new 'buzz-word' in the literature and practice of management. It is a concept that is now debated in both the public and the private sectors and supported by the main political parties. In Britain the Conservatives' Citizen's Charter (1991) emphasises the importance of quality in local authority services while the Labour Party seeks 'to ensure that quality is the hallmark of all local services' (Labour Party, 1991). However, despite the wide use of the term, 'there is no consensus about the meaning of quality' (Pfeffer and Coote, 1991) and academics and practitioners alike are attempting to answer the question 'what is meant by "quality"?' (Sanderson, 1992)

There are some definitions with which readers will be familiar. For example British Standard BS 4778 (1987) defines quality as 'the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.' Juran (1979) defines it more simply as: 'fitness for purpose or use'. Stewart and Walsh (1989), who write specifically about public services, define a quality service as one that: 'does what it is intended to do and is responsive to the needs of the user.'

Although these definitions seem relatively clear, they are not particularly helpful to the service manager. First, they beg the question: what does 'quality' mean in the context of a particular product or service? A manager specifying the requirements for a high quality database, for example, would come up with a list of attributes very different from a manager trying to define a 'quality' counter service in a community library.

Secondly, the definitions approach quality in terms of the end product. Of course, this is perfectly legitimate, since the outcome of any effort to improve quality must be a better product or service,

measured by increased user satisfaction with it. However, when the question is asked: 'how might the quality of this service or product best be raised?' differences in approach to quality are revealed. The answers may involve not just adjustments to the end product or service, to improve performance but may also include the application of specific techniques to improve the efficiency of processes within the organisation, a review of organisational relationships, or indeed, a fundamental re-think of how the organisation approaches its business.

Thus the literature and management practice demonstrate many different approaches to the concept of 'quality'. Writers (Foster and Whittle, 1990) have referred to the 'quality management maze' and while phrases such as 'quality centre', 'quality assurance', 'total quality management' (TQM) are sometimes used interchangeably, in fact they reflect very different views of the subject. It has been argued, for instance, that public service managers need to be able to differentiate between 'quality that derives from systems [and] quality that derives from people and their commitment.' (Walsh, 1992) Similarly the practical application of BS 5750 / ISO 9000 to services such as public libraries which deal with information, imagination and ideas rather than a physical product has not been fully investigated.

Pfeffer and Coote (1991) have identified a number of different approaches to quality but argue that many fail in terms of public service management 'because they do not acknowledge important distinctions between commerce and welfare.'

The approaches identified by Pfeffer and Coote are:

- (i) The traditional approach. This is associated with very high standards of production, delivery and presentation. The kind of quality that goes with the no-expense-spared approach of expensive restaurants, French fragrances, Rolls Royce cars and beautifully bound books.
- (ii) The scientific approach. This is seen in those organisations that have focused on performance indicators. It is the approach to quality advocated in *Keys to success* (Office of Arts and Libraries, 1990) and *The Citizen's Charter performance indicators* (Audit Commission, 1992).



- (iii) The managerial or excellence approach. This can be found in the work of Peters and Waterman (1982). The aim is customer satisfaction. Quality is achieved by constantly striving to meet customer requirements.
- (iv) The consumerist approach. This seeks to put power in the hands of the consumer by giving her or him redress for complaints.
- (v) The democratic approach. This has been developed by Pfeffer and Coote as a reaction against some of the approaches given above. It seeks to satisfy the community as a whole and to achieve common goals and, they would argue, it is the most appropriate model for public services.

Pfeffer and Coote's research is significant in that it highlights the difference of approach which may be necessary for public sector organisations as opposed to those in the private sector. The different approaches focus not only on *what* defines the quality of a service, but also, *who* should define that quality. These are important matters and ones that will be considered later.

## Issues of Quality for Library and Information Services

As we have seen the literature of quality management in the profession is voluminous, and is growing (Milner et al, 1994). Services that have adopted either TQM or BS 5750, however, are still in the minority. The variety of approaches that the literature reveals, shows that for libraries the quality 'maze' has not yet been solved. Moreover it can be seen that many library authorities are undertaking activities which contribute to a 'quality' service although that term is sometimes not used. Evidence of this can be found in the research carried out by Porter (1992), into quality initiatives in British library and information services, Kinnell and MacDougall's (1993) work on marketing and Levy and Usherwood's (1992) project on interpersonal skills.

The British Library funded research project at Sheffield and Loughborough sought to build on this work and to define an approach to quality appropriate for the delivery of public library services. Our objective was to ascertain the approach, scope, nature and method of 'quality management' practised in selected public library services and to compare this with practice in commercial organisations so as to enhance quality management techniques for public library services.

The need to achieve this has been accelerated by a number of factors. These include:

- The expectation from Government that public services will adopt a business ethos
- Financial constraints and the need to make every penny count
- Legislative changes for public services such as Compulsory Competitive Tendering which has led to the development of service specifications

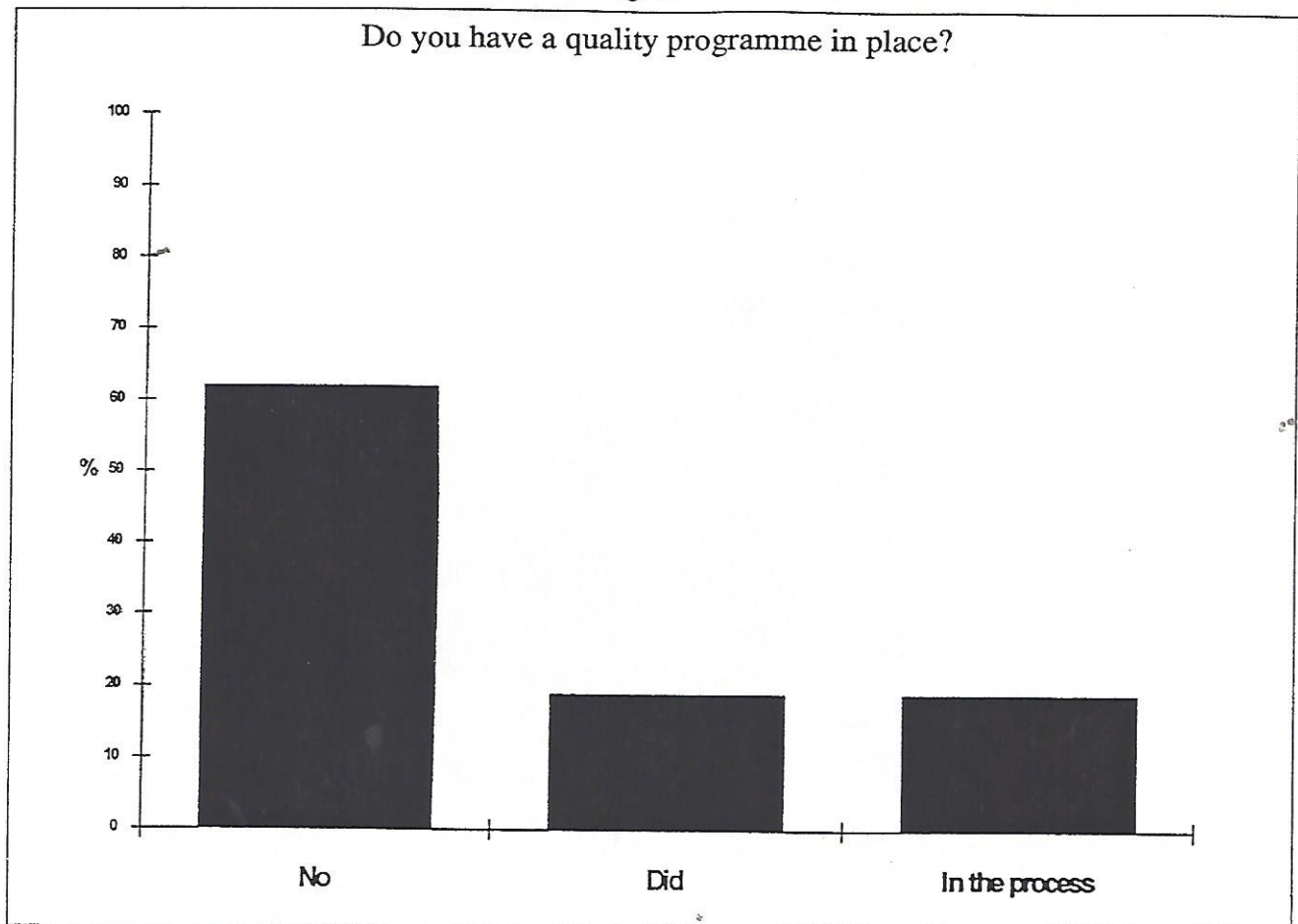
With the new emphasis on contracts in local government, it will become increasingly important to establish definitive approaches to quality as the prelude to the tendering process. There is also the pressure to gain certification to quality standards such as BS 5750 and ISO 9000. In addition there is what Walsh (1992) has called the maturity of public service with a greater emphasis on choice. The emphasis has now moved from *more* housing, *more* education, *more* health care, etc. to *better* housing, *better* education, *better* health care. In addition performance indicators are increasingly being used to enhance the quality of service delivery (Sumsion, 1993). Therefore there is a need to explore concepts of quality and performance so as to further develop the effective management of public library services.

Our research is concerned with quality management as a specific system or technique for securing a high quality library service. As part of our attempt to do this we focused our investigation on three interlinked areas: organisational issues, client issues and policy issues. In so doing we asked the following questions of public library managers.

1. Why has the quality concept been introduced by the library service and how has the concept affected the determination of performance indicators?
2. What approaches to quality have been adopted by the library service? (eg. Never ending improvement: BS 5750: Total Quality Environment: TQM etc.)
3. What quality systems are perceived to be in place? That is systems for collecting, measuring and using information in order to support decision-making.
4. Why were these approaches adopted?
5. What organisational structures have been introduced to enhance the delivery of quality services?
6. What are the attitudes of staff to 'quality management'? Porter (1992) emphasises the importance



Figure 1



of ascertaining the attitudes of middle management and 'front-line' staff.

7. What organisational commitment is evident with regard to staff development for quality management?
8. How does the library organisation 'get close to the customer'?
9. What is the role of elected members in the quality management of the service and how is this developed?
10. How has QM been evaluated and how does it relate to the library's stated objectives/mission statement/charter?
11. What has been the impact of 'quality management' on the delivery of the library service?
12. In the opinion of elected members and officers does 'quality management' work?

Our draft report is currently with the British Library but I am able to share with you some of the results of our survey of public library authorities and discussions with senior managers. We sent a questionnaire to every public library authority in the UK. This had a 81% response rate and the data therefore

provide a fairly accurate picture of what is the state of play with regard to quality in the public library sector.

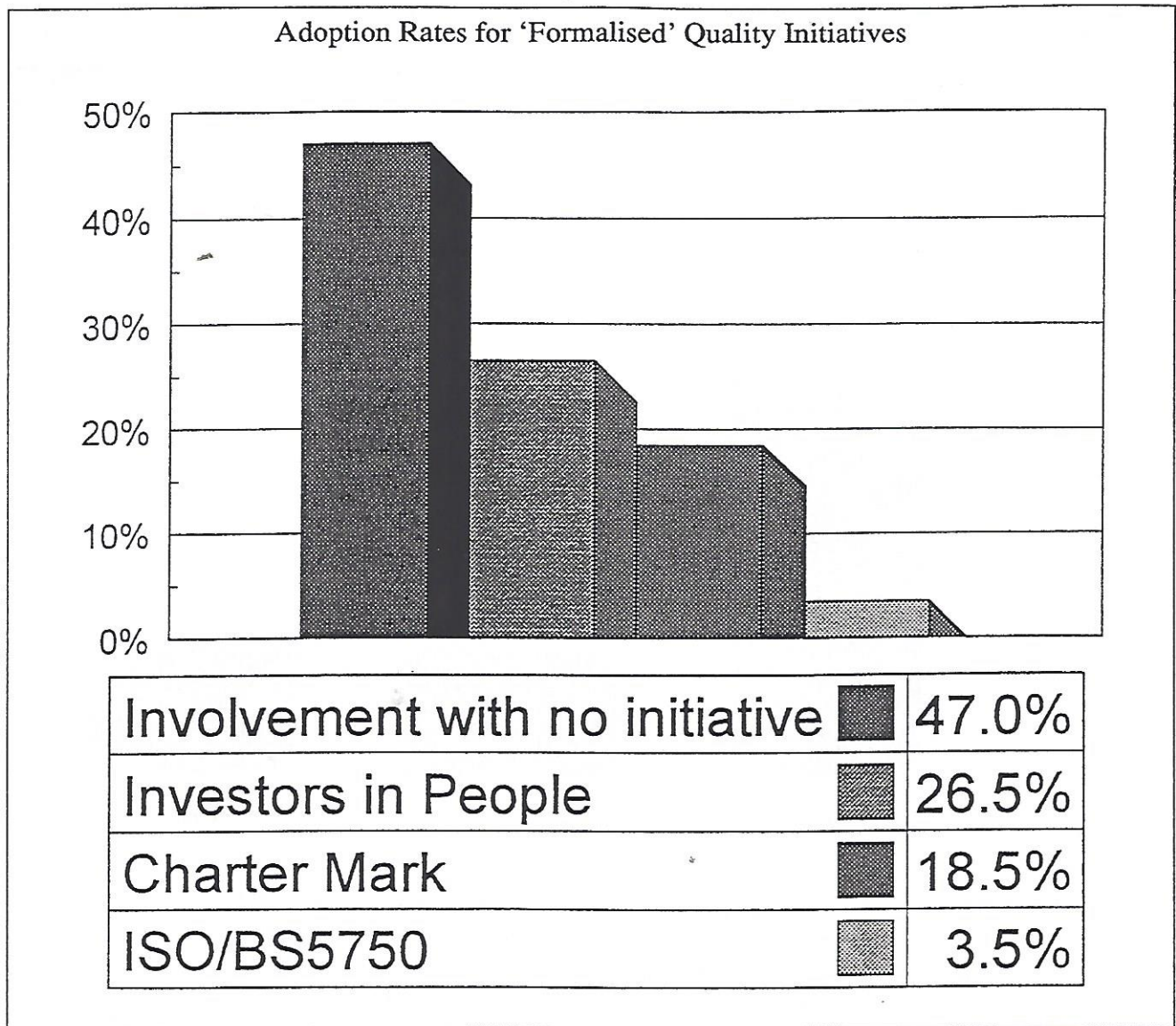
One of the more interesting findings is that, despite the amount of literature about the subject, 62% of authorities say that they do not have a quality programme in place, 19% do claim to have such a programme and the remaining 19% are in process of establishing one (see *Figure 1*). This may suggest that those who argue that more rhetoric than reality is associated with the concept of quality management may have a valid point.

Moreover when we asked if they had any specific quality initiative, 47% of respondents indicated that their service did not have any. Amongst the rest the greatest interest is in Investors for People (26.5%) and the Charter mark (18.5%). There is a 13.5% adoption rate for Customer contracts, 10% for TQM and 10% for Quality Circles. Only 3.5% claimed to have adopted BS 5750/ISO 900 (see *Figure 2*).

When we asked about the criteria used to measure the quality of the services delivered respondents indicated that they used the following measures:



Figure 2



- 89% used existing Performance Indicators
- 65% indicated that they used complaints
- 49% measured success against predetermined targets
- 49% used compliments
- 35% took account of Greater Value for money
- 25% used Customer satisfaction surveys

Other measures mentioned included comparisons with other library services, the number of books issued and the perceptions of elected members (see Figure 3).

### What Defines the Quality of the Service?

We also asked librarians completing the questionnaire to share with us their views on what

they thought were the three most important quality features of a public library service. Although a great many features were cited there was some degree of consensus in the response.

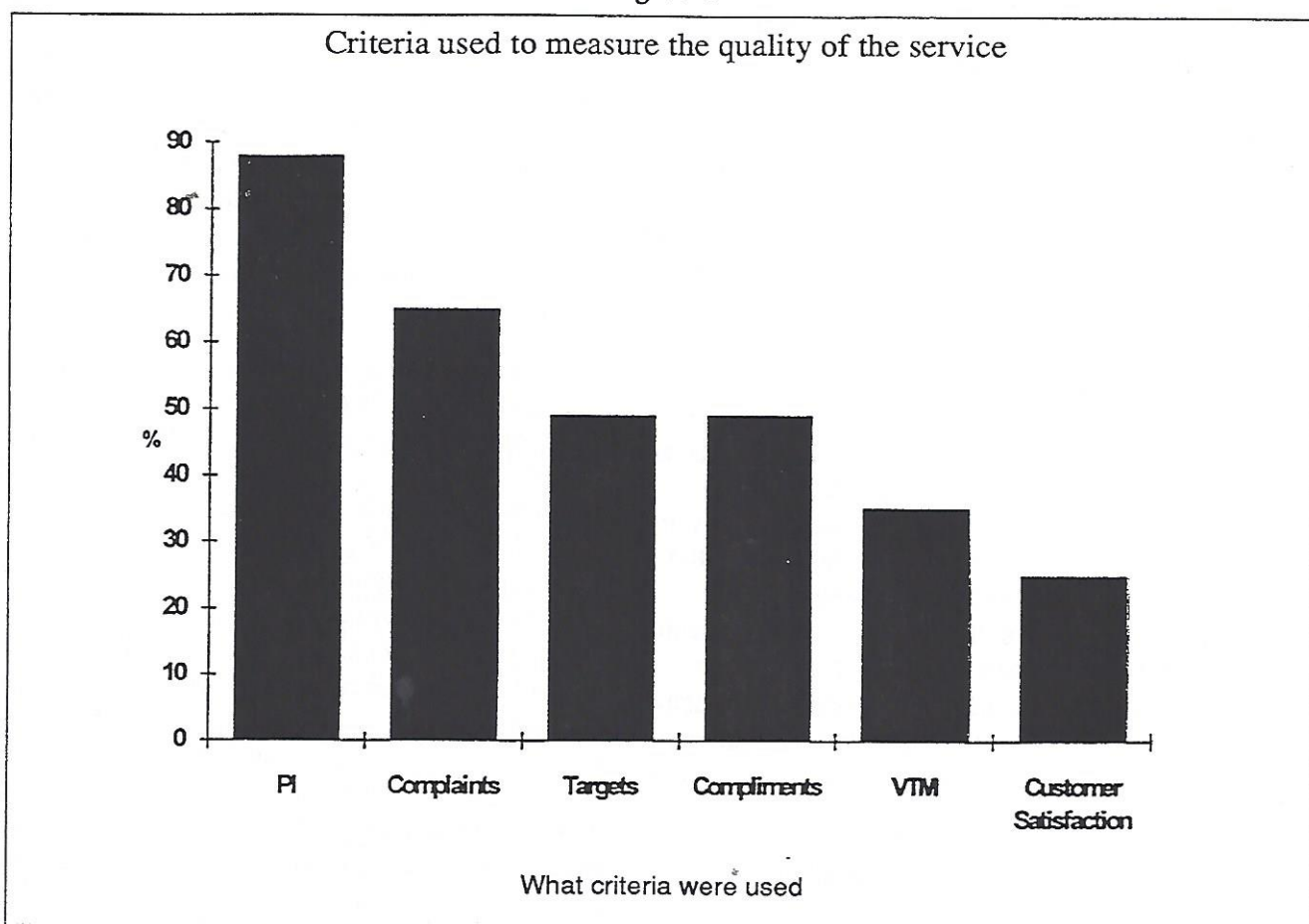
- 62% highlighted the importance of having skilled, courteous employees
- 57% stressed the importance of an appropriate range and quality of resources
- 32% stated that a welcoming environment was important.

We also asked respondents to indicate those areas that they felt needed greatest improvement in their service. Apart from one authority that felt it did not need to improve anything the priorities for improvement were:

1. Employees involved in contact with clients should have the knowledge to answer questions or make appropriate referrals



Figure 3



2. Opening hours to be convenient to the majority of clients
3. Clear guiding to enable clients to find their way around the library
4. A good book stock
5. Libraries to make clients aware of the standards of service they can expect

### Differences of Approach

Differences of approach to the issue of quality are reflected in the way the way people respond to the question: what defines the quality of the service? Walsh (1992), as we have seen, argued that public service managers need to be able to differentiate between 'quality that derives from systems [and] quality that derives from people and their commitment.' From a different perspective the Audit Commission (1993) proposes that quality management should focus on four key areas:

Quality of communication. Does the council (in this case the library service) communicate with, and listen to and understand, users?

Quality of specification. Is this understanding converted into clear standards for service delivery?

Quality of Delivery. Are the standards actually delivered, and is remedial action taken when failure occurs?

Quality of people. Are staff motivated, trained, well managed and supported by quality systems ?

In our own we were interested to ascertain what systems are in place and the use that is made of them. For instance, should complainers be treated as a valuable asset? How should a library service deal with complaints? To what level should authority to deal with them be delegated?

Our findings also show that public librarians' concerns reflect many of the fashionable ideas to be found in the management text books. Some of these were discussed with senior practitioners who attended a workshop arranged as an integral part of the research.

Thus 'empowerment' is talked about a great deal but appears to be practised rather less. Our discussions considered how managers can develop a culture that 'empowers'. This raises other questions. For instance: does everybody necessarily want to be empowered? What benefits can be gained and what are the dangers of empowerment?

Several of the drawbacks associated with the implementation of QM highlighted in questionnaire



responses, referred to the need to input even greater time and effort into managing a service. Skills seemed to be lacking in managing meetings, team working and communication with employees. Particularly important was the lack of adequate opportunity for successful and meaningful upward communication. This caused our workshop participants to consider what leadership skills and personal attributes are vital for success? What are the barriers to success and what, if anything distinguishes the leader from the manager?

The question of training was also raised. In particular: what training is necessary for employees working with QM? Do they need to understand the 'tools' of the system? Does everyone need to know and understand these, or only a select few.

Finally there is the issue of customers, clients or members. That is, what do we call the people who use our public library services. In a sense, the answer to that question defines how we serve them. However, I have written about this elsewhere (Usherwood, 1992) so rather than ride that particular hobby horse again let me turn to the all important and related question: who defines service quality?

## Who Defines Service Quality?

There are three possibilities:

### a) A DEPARTMENT, ORGANISATION, OR AGENCY EXTERNAL TO THE ORGANISATION

Since a library or information unit is likely to be part of a larger organisation, it is common for the quality agenda to be set by someone outside the unit. This may, of course, be the parent organisation to which the library or information service belongs. A commercial company might seek BS 5750 / ISO 9000 accreditation, to secure wider markets. The information unit serving the company would, in that instance, have no choice but to adopt the approach, irrespective of its own specific needs.

For public services, there are also political considerations. In the UK the Audit Commission has established comparative performance indicators for local authorities and the Prime Minister's Office has launched the Citizen's Charter (1991) initiative. The Prime Minister has stressed the need for independent inspection of public services 'to reassure the public and encourage the best performance' (quoted in Bone, 1993). It is therefore a little surprising that the Minister responsible for public libraries saw fit to reject the suggestion for OFLIB made in the DNH Public Library Review (Aslib, 1995).

Tensions can arise when the outside body has priorities which conflict with those of the organisation. The British Government's main emphasis for example, has been on 'value for money'. Although there may be some agreement that this is important, it may not be the most appropriate approach for a service that wishes, for instance, to prioritise services to the most needy in the community.

### b) THE 'PROFESSIONALS' WHO WORK FOR AND WITHIN THE ORGANISATION, AND DELIVER THE SERVICE

'Professionals', here, may include anyone whose organisational role is to make decisions about the nature of the service delivered. The professionals' assessment of quality may be based on an approach which includes the development of service standards. These may be produced by a national or international professional association. The Government's Charter Initiative has seen the proliferation of Customer Charters and Contracts in public libraries. The Library Association (1994) issued a *Charter for public libraries* last year and a *Model statement of standards* supporting this was published earlier this year (Library Association, 1995). In addition codes of good practice and policy documents containing local service standards have been produced by individual authorities.

Internally, service specifications may be produced. These have become common in the UK because government legislation requires public bodies to open up certain services to competition from the private sector (compulsory competitive tendering). The London Borough of Brent voluntarily contracted out the running of two of its most successful branch libraries last year (1994) and Westminster is currently advertising for a company to manage its libraries and archives services. Whatever one feels about such developments, a detailed and comprehensive service specification defining the quality of the service to be delivered is an essential prerequisite of contracting out.

### c) THE USERS AND CUSTOMERS OF THE SERVICE

Most of the quality gurus stress the importance of taking a customer-focused approach to quality. This is because, in private industry, profits rely upon sales which, in turn, rely upon retaining satisfied customers. The 'excellence' approach advocated by Peters and Waterman (1982) particularly emphasises this aspect of a quality system.

In the non-profit making service sector, the situation is more complex. Although it can be said that the primary purpose of any public body is to meet



the needs of citizens, there is seldom a direct relationship between an expressed need or demand for a service and the organisation's ability to satisfy it. This can lead to tensions if the users of a service have been involved in setting service standards. As Bone (1993) picturesquely puts it, 'You cannot specify the sausage unless you know what the sausage machine can make'.

On the other hand, users' perceptions of quality may be at odds with the standards of the professionals. Taylor (1993) in his regular 'Quality Street' column, in the *New Statesman* makes the point that customers have been found to want a social relationship rather than a perfect service. There may therefore be inconsistencies between customer perceptions of service quality and what they see as important in a service package. Similarly different perceptions have been revealed by the DNH Public Library Review where the data show that most users thought the services had improved over the past few years and most of the professionals thought it had deteriorated.

Stewart and Walsh (1989) have also pointed out that it not always clear who the customer is. In the case of a centrally maintained school library service, for instance, is the 'customer' the child, the school, individual teachers or the Local Education Authority which funds it? The perception of quality held by these diverse groups is likely to vary considerably.

No matter what quality system is adopted, the outcome of the service has to be user satisfaction, however that is defined and assessed. It may not mean always giving him or her what they want. To paraphrase the dramatist, Arnold Wesker, you should not give people what they want because they deserve better than that. Indeed even the leading TQM guru Deming has warned against over reliance on the perceptions of what he calls customers. Also there is the very real danger that in giving people what we think they want we will patronise our users. Earlier this year there were some very interesting pieces on this theme in the British press. In one the sociologist, Richard Hoggart (1995) asked, Why treat us like dimwits? He went on to talk about the 'shifting about with the meaning of quality' saying that it led to: 'nervous and excessive praise for the taste of the people out there'.

A very helpful analysis of what 'dimensions' of quality may be based on user needs and requirements, is contained in Stewart and Walsh's (1989) pamphlet for the Local Government Training Board (LGTB). They write:

'patients in a hospital may be able to judge how they feel after an operation but do not have the knowledge or ability to judge how effectively the surgeon has performed. Only the surgeon or a colleague may have that knowledge.'

Similarly a library user may be satisfied with the stock in her or his library but only a librarian may have the knowledge to judge the breadth, depth and accuracy of the range of material on offer. On the other hand if we consider the experience of the user, for example in terms of his or her across-the-counter encounters, then clearly he or she has the knowledge to be involved in an assessment of the quality of the interaction. Thus rather than expecting every stakeholder to be able to judge the whole service we perhaps need to distinguish between the ability to judge, the quality of the services offered, the quality of the environment in which the service is offered, the quality of the service relationships and so on. In asking who judges quality we should consider, in the public library context:

1. The extent to which the user can assess the service
2. The extent to which professional librarians can assess the service
3. The extent to which other stakeholders can assess the service. In the public library this could include local politicians or library suppliers.

This of course may vary with the different aspects of the service to be evaluated and the different attitudes of those approaching the task. Including perhaps the attitudes of library researchers.

## References

- Aslib (1995) *Review of the public library service in England and Wales for the Department of National Heritage. Final Report*. London: Aslib
- Audit Commission (1992) *The Citizen's Charter Performance Indicators*. London: HMSO
- Audit Commission (1993) *Putting quality on the map*. London: HMSO
- Bone, C. (1993) *Modern quality management manual*. London: Longman
- British Standards Institution (1987-91) *BS 4778 Quality vocabulary*. 3 parts. Hemel Hempstead: BSI
- British Standards Institution (1991) *BS 5750 Part 8 Quality management and quality system elements - part 2: Guidelines for services*. Hemel Hempstead: BSI



- British Standards Institution (1992) *BS 7850 Total quality management. Part 1: Guide to management principles. Part 2: Guide to quality improvement methods*. Hemel Hempstead: BSI
- The Citizen's Charter - raising the standard* (1991) (Cmnd 1599) London: HMSO
- Foster, M. and Whittle, S. (1989) 'The quality management maze'. *Total quality management* 1(3) 143-8
- Hoggart, R. (1995) 'Why treat us like dimwits?' *Independent on Sunday*. 19 Feb. p.21
- Juran, J. M. (1979) *Quality control handbook*. 3rd ed. New York: McGraw Hill
- Keiser, B. E. (1993) 'Quality management for libraries: A North American perspective'. in: *Aslib information* 21(6) 252-255
- Kinnell, M. and MacDougall, J. (1993) *Meeting the marketing challenge: strategies for public libraries and leisure services*. Taylor Graham
- Labour Party (1991) *Opportunity, quality, accountability - the better way for local government*. London: Labour Party
- Levy, P. and Usherwood, B. (1992) *People skills: Interpersonal skills training for library and information work*. (Library & Information Research Report 88) London: British Library
- Library Association (1994) *A Charter for public libraries*. London: LA
- Library Association (1995) *Model statement of standards*. London: LA
- Milner, E., Evans, M. and Usherwood, B. (1994) 'Quality management. The public library debate'. *Public library journal* 9(6) 151-157
- Office of Arts and Libraries (1990) *Keys to success: Performance indicators for public libraries*. London: HMSO
- Peters, T. J. and Waterman, R. H. (1982) *In search of excellence: lessons from America's best run companies*. New York: Harper and Row
- Pfeffer, N. and Coote, A. (1991) *Is quality good for you?* Bristol: Institute for Public Policy Research
- Porter, L. (1992) *Quality initiatives in British library and information services* (BLR&D Report 6105) London: British Library
- Sanderson, I. ed. (1992) *Management of quality in local government*. London: Longman
- Stewart, J. and Walsh, K. (1989) *The search for quality*. Luton: Local Government Training Board
- Sumsion, J. (1993) *Practical performance indicators- 1992: Documenting the Citizen's Charter consultation for UK public libraries with examples of PIs and surveys in use*. Library and Information Statistics Unit, Dept. of Information and Library Studies, Loughborough University of Technology
- Taylor, L. (1993) 'Quality Street' column. *New statesman* October 22. 6(275) p.25
- Usherwood, Bob (1992) 'Managing public libraries as a public service'. *Public library journal* 7(6) Nov/Dec. 141-145
- Walsh, K. (1992) 'Quality contracts and care' *Contracting in or out?* Spring. 4



# The Role of Focus Groups with other Performance Measurement Methods

Elizabeth Hart

Assistant Director of Library Services, University of Huddersfield

In Huddersfield University Library we commenced a new programme of performance measurement and service evaluation three years ago. In a continuing climate of constant and unremitting change in UK higher education over the past four years, data collection was urgently required but we had few resources or staff to address the issues. Nonetheless there was a growing need to both interpret what was happening in the library and to anticipate future trends and directions, in addition to meeting external demand for information both from university management and government bodies. What struck me most forcefully was how little we knew about how the library worked and equally how little was generally known about this complex issue. The two main aims of the new programme related to:

<u>Interpretation:</u>	effectiveness:	library objectives progress towards goals staff motivation and involvement internal efficiency of operations costs
	impact:	evaluation via users perceptions of services / environment identification of problem areas
<u>Anticipation:</u>	planning decision-making possible effects of changes	

Other major aims behind initial development of a 'programme' were:

- to satisfy internal and external needs
- to be cost effective
- to have promotional value if possible

The point about cost-effectiveness relates mainly to the stresses and strains on UK academic libraries and the issues of what else might have been achieved with the staff, resources and time involved

in comprehensive performance measurement. The promotional issue is a problematic and a risky strategy as there are penalties to be paid in revealing results and performance measures. However it is a strategy which has brought enormous value, not least in that the library is perceived as actively demonstrating its concern and commitment to attaining quality of service and to listening to its users. All the above could be summarised as attempting to achieve maximum benefit from any performance measurement methods used. Although this may sound obvious, it has been quite difficult to achieve. This is because performance measurement does seem to be perceived as separate from other aspects of library work. At worst it is something which *has* to be done for external reasons or something which is attempted when an answer to a particular problem is required. Richard (1992) noted in his article on performance indicators that the most widely quoted reason for interest in this topic was outside pressure and there was almost no internal (library or institutional) pressure independent of government. In quality terms it is clear that it should be seen as an overall philosophy where information from performance measurement or evaluation is routinely integrated into all aspects of library work.

Over the last three years the library has deliberately undertaken a wide range of evaluative studies of its services and systems, combining a whole range of data and information collection methods. These are briefly outlined below:

User surveys: these were carried out every year initially to produce some series data for comparative purposes but are now carried out every two years. The surveys have typically produced 1,000 to 1,200 responses from a survey of 4,000 to 5,000. They concentrate on issues such as frequency of visit; why visits occur, for example, study, loan etc.; evaluation of services, for example the availability of materials.

Exit interviews: these were carried out at the same time as the user surveys to produce comparative data. They attempted to establish why users had visited the library and whether they had been successful in getting whatever they had required. We made



a fairly obvious mistake with the initial exit interviews in that Library Assistants were employed as interviewers (significantly they were extremely keen to participate) which produced 'false' results - users interviewed by them were notably less critical in their comments!

Online and CD-ROM analysis: detailed studies of the use of these systems are undertaken and have produced interesting and sometimes surprising patterns of use which continue to be studied. The evaluations reveal which students are using the various systems and for how long.

Benchmarking: due to personal professional contacts between the two institutions, Huddersfield recently took part in the benchmarking exercise carried out by the Royal Military College, Shrivenham.

User groups / Course and Pathways Boards: feedback from these groups was systematically noted.

Staffing and staff development evaluation: issues such as leave, ill-health, break-times, training and staff development commitments were evaluated and assessed.

Suggestion sheets: these were designed as a generic tool, mainly to field complaints effectively. Individual responses are provided within two working days and in addition questions and answers are displayed on public noticeboards. The displays are often a focus of interest from users. The information collated can range from environmental problems (no toilet paper for example!) to lack of relevant resources in literature collections.

Focus Groups: (this will be covered later in this paper)

Student Project Work: this is encouraged though very carefully vetted and examined before agreement is reached. When we do commit to a project the student treats the library as a client and we provide a small support group of (usually three) staff to oversee progress and ensure objectives are reviewed and met. One example is of a CD-ROM evaluation which examined by questionnaire and observation how students use the various systems and also the perceived benefits they gain from such access. A presentation of the results is due in September to all library staff.

Group review: a recent example focused upon the work of the Information/Enquiry Desk staff Group who were reviewing the use and work of the information desk at the University Library. This generated useful data concerning how the information desk was being used in practice. Previously some infor-

mation on this topic had been produced via the Exit Interviews though it had not provided sufficient detail for the purposes of the group.

Services statistics: these are retained on a systematic basis mainly via the library's automation system and include numbers of books issued; number of reservations; number of interlibrary loans; number of visits to the library and many others.

Every available piece of information relating to library performance continues to be collated and library staff are given every opportunity to comment and contribute to the whole. This is achieved by encouraging active participation (particularly during the period of surveys and exit interviews) and regular information appearing in the weekly staff news sheet. In addition a small staff group has been established to consider issues relating to methods of data collection. These actions helped all staff at every level to understand and appreciate why such information was important and how it might be used and shows a genuine respect for the large body of staff experience and knowledge.

Analysis, collation and presentation was undertaken and made available to all library staff via linked Excel spreadsheets (and in paper form to anyone else who was interested). Data was displayed at faculty/department/course level and, in a separate set of spreadsheets, at overall library level. Excel is not entirely ideal for the purpose but has the major advantage of being available on the campus network and of most library staff having some expertise in its use. The link facility offered by EXCEL has proved particularly useful. What we have available is a rich collection of data about the library which has been collated over a period of time and, most importantly, is accessible by all library staff in a format they can manipulate themselves.

The methods of data collection listed above have all proved useful in varying ways and have presented broadly similar results which helped considerably in verifying the validity of the information produced. However some issues remain: there was no 'quick response' method which allowed a view on a specific topic to be obtained; some of the 'comment' data was often very useful but extremely difficult to collate and use and, finally, there was a distinct gap between the long-held perceptions of library staff and those coming from the users themselves. The 'comment' information has successfully been collated via a 'conceptual mapping' method which is efficient and deceptively simple but still takes some time to complete. This uses the familiar



six box grid to group comments into broad categories which can then be broken down into subsets using further six box grids - in essence quite similar to the classification process. The issue of differing perceptions is not a new phenomenon and has been reported many times. For example, data from a study at Louisiana State University, reported by Hamaker (1993), 'explodes the myth that we buy books for particular departments'. This study used circulation data and the LC classification and broadly showed only 28% of circulation in a specific subject area was directly from particular departments. (There was one notable exception, Electrical Engineering, which reached 50% of 'their' books). Similar arguments about users' perceptions usually relate to what they want rather than what they need. My personal view is to concentrate upon what they need and manage their expectation to achieve a match between perceptions of need and want. An interesting article in *Fortune magazine* (Martin, 1995), with the eye-catching title 'Ignore your customer' was largely concerned with the marketing of new ideas and concepts but one or two useful points in relation to qualitative user information were made:

- customers can be wildly unimaginative  
An amusing example provided in the article was Clarence 'Bob' Birdseye, father of frozen food, who began to put forward his ideas on the benefits of frozen food in 1922 to universal distrust. At one point he apparently had 1.6 million pounds of unsold frozen fish on his hands. By the 1940s frozen food had become a staple product. Similarly a Motorola executive is also quoted as saying, 'Our biggest competitor, by the way, is not IBM or Sony, but the way people currently do things'.
- ignore what your customers say and concentrate on what they do  
To quote another industrial executive from the article: 'We are not after people's statements, we are after their actions!'

One of the other methods we should be attempting to use when examining performance measurement and use of libraries is observation and the video camera. This is certainly something which should be considered for the future and, through my own work as an NVQ Assessor, a method I have been using experimentally recently.

The use of focus groups within our library has gone some way towards answering the difficulties of 'instant response' and also to partially addressing the issue of how users really act and what their

perceptions and attitudes are. Focus groups were used in a rather opportunistic fashion as they originated from a decision of the Students Union to create 150 'course representatives'. Exploiting this opportunity to examine specific issues via focus group sessions was relatively straightforward, due to the good liaison between the library and the Students Union.

Our use of focus groups has been influenced by a number of key writers notably Krueger, Morgan and Greenbaum, though the literature itself spans over 40 years. A brief review of two new titles which includes a useful summary of the major literature to date was produced by McQuarrie (1994). A review of the literature shows that much of the research into use of focus groups has been for marketing purposes and only relatively recently has it been taken seriously in social research. It is a particularly appropriate method to use when the goal is to explain how people (or customers or users) regard an experience, idea or event. Focus groups work quite well because they tap into human tendencies. Attitudes and perception of concepts, products or services are developed in part by interaction with other people which is one of the issues *missed* by other performance measurement methods. We assume via questionnaire surveys and face-to-face interviews that individuals really do know how they feel and that they form opinions in isolation. This is rarely true and opinion and view can be altered or amended by argument and discussion - at a conference or within a management team perhaps. This point should also be seen in the context of earlier comments concerning the management of expectation as libraries can have a direct and dramatic influence upon perceptions of users in very simple ways (a library might be light, airy and spacious for example but not necessarily contain particularly good literature collections). Focus groups can only be used effectively to tackle specific issues because the aim is to conduct a focused discussion. The role of the moderator or interviewer is crucial to the whole as is an awareness of group size and dynamics.

'The focus group is a special type of group in terms of purpose, size, composition and procedures. A focus group is typically composed of seven to ten participants who are selected because they have certain characteristics in common that relate to the purpose of the focus group . . . typically a focus group study will consist of a minimum of three focus groups but could involve as many as several dozen groups.' (Krueger, 1994)



Focus groups are usually used:

- to gain relatively fast reaction to subjects perceived as needing improvement or change
- to improve communication or an understanding gap between groups (such as students / staff; staff / library staff etc.)
- to generate ideas
- to provide additional information to combine with other measurement methods.

Focus groups usually display the following characteristics:

- they involve people (users, customers)
- who possess similar characteristics (environment, knowledge, background)
- they provide data (of a qualitative nature)
- they use focused discussions.

During last session seven focus groups met, with seven to twelve attendees on each occasion. Each lasted approximately half-an-hour to an hour (usually over a lunch period) and were audio-recorded (with the advance permission of the group attendees). The value of a ready made group of potential participants who had been gathered together by a 'neutral' body should not be underestimated when assessing the workload involved. The use of this method was based on the opportunity offered by the creation of 'course representatives' by the Students Union.

The procedures used at Huddersfield for organising focus groups over the past academic year (six months in actual time) are as follows:

1. Prepare the environment and the procedures to be used in advance.
  - 'neutral' environment which is comfortable and preferably informal
  - not more than one focus group per day
  - provide sandwiches and drinks (an inducement!)
  - clear objectives (to receive opinion and views on specific topics)
2. Meet all the potential focus group participants together to propose the idea, outline the process involved and gain acceptance and approval.
  - emphasise the validity of the technique
  - explain audio-taping
  - guarantee anonymity
  - offer alternative venues for other issues which attendees might wish to raise (in fact there are a

number already in existence, such as user groups, and as a result no alternative venues were requested by attendees)

3. Find a moderator or interviewer (ideally not from amongst the library staff, though in practice this did happen).
4. Produce guidelines for the moderator or interviewer. The moderator should:
  - be familiar with the participants and their environment
  - keep to the topic
  - cover all questions or aspects of a single question (though not necessarily in sequence)
  - have a sense of humour
  - not talk too much!
  - involve all participants and try not to allow single individuals to dominate
  - play devil's advocate if necessary
  - be uncritical (and correct misconceptions only after the session is ended)
  - feel able to pursue worthwhile ideas which arise
  - be aware of limitations (time, environment etc.)
  - use only open questions (this requires careful planning in advance).
5. Provide the topic in advance to the group (usually one or two weeks in advance).
6. Ensure all library staff are informed of what is happening and have the opportunity to comment and review. Library staff ought to be excluded from the group sessions because they tend (not intentionally!) to intimidate participants and dominate the proceedings. Also if library staff are present, a great deal of time may be wasted as they correct the misconceptions of the participants during the session.
7. Ensure the evaluation of the data is very methodical and disciplined. Audio-recordings can be deceptively easy to use but require time for reflection and review.

An example of one of the questions put to the focus groups related to the library 'silent' areas introduced two years previously. In effect all the library is 'silent' except for two areas designated for group study and discussion. This was a difficult issue. Students protested about undue noise but were largely unprepared to take any action themselves; library staff objected to becoming 'police'; silent areas were broadly seen as beneficial and *needed*



and the environment was not perceived as appropriate by academic staff etc. What follows is a summary of the major comments received after focus group discussion: (Note: there was a general lack of awareness amongst any of the groups that all the library was designated silent except for the two areas previously mentioned.)

- 'We need strict silent / discussion areas, clearly delineated'
- 'When library staff are present users tend to be quieter'
- 'I find it difficult to work in silence - it's distracting'
- 'Mobile phones are a nuisance and should be banned'
- 'The signing is unclear and you are not sure which areas are quiet and which not'
- 'There is no need to have all areas silent, why not have small silent areas and the rest for discussion and group work?'
- 'We could access the silent areas with swipe-cards and then everyone would feel confident that you could not wander in by mistake. I would feel more confident in demanding everyone be silent then'

The overall results of the sessions indicated that students were not as dedicated to the silent study areas as expected but wanted to retain some smaller areas for silent study. There was a strong demand for more discussion and group study areas (not surprising, though we had provided substantially larger areas the year previously). All groups exhibited a notable lack of awareness of exactly where the group study and discussion areas were located. This perception that students wanted silent areas as they were organised in the library was based upon survey and exit interview feedback on this issue obtained in previous years, where students had been asked specific questions concerning silence policy. The focus group discussions had revealed a previously hidden dimension to the issue which came to light during the participative discussion namely: that the library should review the ratio of silent and group study areas and library signing of those areas. As library staff had already spent a considerable amount of time considering how to maintain the silent areas, these results were interesting and useful. This issue is currently under review in the light of these findings.

From all the focus groups conducted to date, one of the most interesting consequences (which was

not entirely unexpected) was the effect upon library staff during the audio playback sessions which were open to any library staff wishing to attend. The prominent feature of many of the focus group sessions were the large misconceptions relating to almost all aspects of library organisation: rules and regulations; loan periods; opening hours etc. As a general rule the library staff reaction could be described as 'surprised', and their perceptions of users were dramatically altered in some instances.

Focus groups have produced some interesting information and responses and they have unexpectedly provided a good method of gaining unsolicited information. We regularly receive comments and views from focus group participants who feel new confidence that their views are being considered. Focus groups do seem to be good at identifying problems (particularly of perception), opportunities and ideas that might not otherwise have been considered. As expected they do not provide 'answers' but are valid in providing new and unexpected insights into user perceptions, behaviour and attitudes which are vital if libraries are to successfully manage their resources and environment. When used in the context of other performance evaluation and measurement methods, focus groups can provide a much more detailed insight into how libraries are viewed and used.

Finally, a cautionary note. Focus groups have not proved particularly cheap. The actual monetary outlay was small (sandwiches, drinks, room, audio-tapes) but the time conducting and evaluating the sessions was greater than expected, on average three to four hours per session. However this should be compared with large user and exit surveys which have a far greater staff time burden.

We propose to continue the use of focus groups next session with a fresh set of 'course representatives' and to introduce a further method of evaluation by using conceptual mapping techniques, referred to earlier, with the groups to evaluate services. Our hope is that what emerges will be library services evaluated by the group attendees in terms of various criteria of which the most likely will be cost, convenience and availability.

## References

- Greenbaum, Thomas L. (1993) *The handbook for focus group research*. Revised and expanded edition. Lexington Books



- Hamaker, Charles. (1993) 'Some measures of cost effectiveness in library collections'. *Journal of library administration*. 16 Part 3, 57-69
- Krueger, Richard A. (1994) *Focus groups: a practical guide for applied research*. 2nd edition. Sage publications
- McQuarrie, Edward F. (1994) Book reviews in: *Journal of marketing research* 31(3) August. 434-437
- Martin, Justin (1995) 'Ignore your customer'. *Fortune magazine*. May 1st. 83-86
- Morgan, David L. ed. (1993) *Successful focus groups: advancing the state of the art*. Sage publications
- Richard, Stephen (1992) 'Library use of performance indicators'. *Library review* 41(6) 22-36



# DECIDE: Decision Support Models and a DSS for European Academic and Public Libraries

**Geoffrey Ford**

University Librarian, University of Bristol, on behalf of the DECIDE Project

## 1. Background

This project has been funded by the CEC Libraries Programme (Framework 3, Action line IV, Theme 18 bis). It started on the 1st January 1995 and is due to finish on the 30th April 1997 - ie. it is intended to run for 28 months. There are six partners:

- 2 university libraries:
  - Alcalá (Universidad de Alcalá de Henares, Spain)
  - Bristol (University of Bristol, UK)
- 1 public library:
  - 's-Hertogenbosch (Stichting Stadsbibliotheek 's-Hertogenbosch, Netherlands)
- 2 library systems suppliers:
  - Datapoint (Datapoint Nederland B.V., Netherlands)
  - SLS (SLS (Information Systems) Ltd, UK)
- 1 consultancy:
  - CDA (Carpenter Davies Associates, UK) who act as the project co-ordinators.

The personnel involved in the project are Pilar Alcalá (Alcalá), Robert Davies (CDA), Gerrit de Rooy ('s-Hertogenbosch), Bob Kemp (SLS), Gerard Murphy (SLS), Michael Paget (Bristol), Ben Schollmeijer (Datapoint) and myself. I should also mention our project officer at DG XIII of the CEC, Pat Manson, who has been extremely supportive.

The CEC is funding three other projects under the general theme of 'research in, and development of, models and tools to support decision-making in libraries': these other projects are known as DECIMAL, EQLIPSE and MINSTREL, and there are presentations on two of these projects during the Conference. We shall be keeping in close touch with each other. A concertation meeting was held in Luxembourg in April 1995 and there will be further meetings over the next two years.

## 2. Goals

There are two main goals:

- through research and field trials, to define a comprehensive set of decision-making support requirements, approaches and methodologies which could be adapted to match a wide range of current and future needs in academic and public libraries throughout the European Union;
- to develop and trial a new decision support system (DSS) prototype, for use with automated library management systems from different manufacturers, based on this set of requirements and methodologies.

## 3. Project Definition

There are four stages to the project.

### 3.1 STAGE 1

Detailed research on current practice in academic and public libraries on the use of DSS and management information systems.

### 3.2 STAGE 2

The library systems suppliers co-operate in specifying and designing a PC-based prototype which meets the requirements identified in stage 1, and which integrates flexible access to, and interpretation and presentation of, data generated by different automated library management systems with the facility to process and manipulate information and data obtained from external sources.

### 3.3 STAGE 3

The prototype system is field tested in three libraries. In the field trials the performance and use of the prototype DSS will be evaluated to determine its technical feasibility, patterns of staff use, the impact of system use on staff working methods and workloads, and the success of the user interface.

### 3.4 STAGE 4

The prototype is developed as an end-product, capable of adaptation for use with different library systems, and intended to run in any EU language.



## 4. The Project in Progress

### 4.1 STAGE 1

The first stage has been concerned with research and feasibility, so we have completed a literature based report on the theory and practice of decisions support systems as applied to libraries. We have also synthesised recommended performance measures and indicators emerging from a number of recent major studies. These include:

- the draft International Standard for library performance indicators (ISO . . . , ?1996)
- work by the University Libraries Section of IFLA on performance measures for academic libraries (IFLA, 1995)
- the work of the United Kingdom Higher Education Funding Councils' ad hoc Working Group on Performance Indicators for University Libraries (Joint . . . , 1995)
- and a project funded by the CEC which was intended to be a ground-clearing exercise for a number of projects on decision support systems (Sumsion and Ward, 1995).

It is worth pointing out that, at the time of writing, the first two of these exist only in draft, the third is a consultative document, and the fourth is yet to be published. This perhaps shows that the world of library performance measurement is in a state of uncertainty, and that a DSS is badly needed.

In addition to the three library partners which will act as test sites in field trials, we have identified three other libraries whom we call the prototype test group, who will participate in the second field trial, and we have also established a research group which consists mainly of representatives of libraries which are not users of either Datapoint or SLS systems. We intend to use the research group to validate the research findings.

A series of workshops has been held in the UK, the Netherlands and Spain to explore the issues affecting decision-making in libraries, and we included our test group libraries and some of our research group members in these.

The user workshops have been extremely helpful to the project designers, as they have highlighted the needs of managers for a decision support system: not so much the technical side but those important factors such as usability, cost, etc.

The workshops identified the following main issues to be faced in setting up and operating a DSS (*Figures 1 and 2*):

*Figure 1*

#### High priority issues for DSSs

Cost of system
Functionality
Objectives and performance
Credibility of outputs (nb data quality)
Usability of system
Type of decision supported
Data availability/ease of collection

*Figure 2*

#### Other key issues in DSSs

'Selling' the system to library staff
System support and development
How long is data held/archiving

In the workshops we also identified some specific examples of problem areas where decision support is required. A few of these (one from each workshop) will illustrate the diversity.

- Space planning: optimum disposition of seating space, routes through the library, etc., using data from surveys and observation
- Resource allocation: how best to decentralise selection, acquisitions and budgetary control
- Defining levels of support and modes of provision in support of teaching and learning activities.

Finally, in this first stage, we have also undertaken a survey of 100 academic and public libraries across the European Union to validate the preliminary conclusions on decision support requirements. Some preliminary results are available (*Figure 3*).

### 4.2 STAGE 2

We are now in the second stage of the project. The approach we have adopted for the design of the DSS is straightforward:

- DSS needs to be specified on basis of actual decision support, data and analysis needs on each test site
- Identified 'generic' issues and applicability across Europe need to be considered and incorporated as we proceed



Figure 3

## Desirable Features in DSSs

<u>Feature</u>	<u>% of Respondents</u>
Allows access to wide range of management information, and to define new performance indicators	52
Draws data from library management system	92
Draws data from institutional sources	76
Draws data from library surveys	68
Draws data from national sources	60
Provides graphical output	90
Provides statistical distributions	75
Has 'what if' capability	70
Provides advanced forecasting techniques	100
Provides supply & demand analyses	84
Gives the user a menu of choices	60
Allows the users to design their own analyses	40
Runs on a PC-based network	91

- Routines for user-led development of the prototype post-project need to be identified

It is worth noting, that since we are in a continually changing environment, one of the actual, current needs is for the DSS to be adaptive.

This second stage involves all the partners. The libraries are responsible for specifying some real decision requirements. These may be regular, intermittent, or one-off. A good example of a one-off decision is one that I had to make recently concerning resource allocation for interlending: whether to introduce a rationing system and if so what that rationing system should be. This required a number of items of data from varying sources. Some of the data came from our automated management system, such as the use made of the interlending system by various categories of user in various parts of the university. Other data related to information on current numbers of academic, teaching and research staff at the university, which came from the Personnel Office and data on student numbers, particularly graduate research students, which came from our Planning Office. I also needed data on what other libraries were doing and I acquired this by an e-mail survey. Although there is nothing particularly startling about this particular decision requirement or about the data sources, it illustrates the need to be able to integrate information from various sources. With a DSS, I would hope to be able to store the data in a form which makes it easy to update if necessary, and to enable

someone else to manipulate the data to test alternatives.

The specification of the decision requirements helps to define the database, which is an essential part of the DSS, the models for analysis, and the end users - ie. the decision-makers themselves.

In the second stage the two systems suppliers also play a large part. Datapoint will be responsible for designing the user interface while SLS will be concerned with the inner workings of the DSS. This work is currently under way.

At the end of stage 2 we have a short period during which the user interface is translated into different languages, and the documentation and training for the prototype are prepared. We shall also have a workshop at this stage to disseminate our results and we shall be involving our research group in this. I would guess that we would also be inviting along representatives of the other decision support projects.

#### 4.3 STAGE 3

The third stage is the one to which we are looking forward with both trepidation and excitement. This is the field trial of the prototype: and I am sure that the suppliers are as excited and as worried about this as we are in the libraries. They want something that works, we want something that is acceptable. As a model system it has to have not only a technical capability but a usability capability. As a librarian I want my staff to be able to use it with confi-



dence. We expect people like myself who have been using computers for 30 years and modelling and evaluating libraries for almost as long to be familiar with the concepts of both evaluation and computing. Our systems librarians will also be able to use the system, but I want some others of my team to use it: people who may not be so familiar with the concepts of measurement, however good they may be at using computers for surfing the Internet and word processing their annual reports, may have different perspectives. So these first field trials which are due to last something like three months are going to be very important.

Obviously development will carry on during the field testing of the prototype, and this process will be continuous through the second field trials when we shall involve three other libraries: one in Sweden, one in Portugal and one yet to be decided. It is of course much too soon to forecast what we shall be doing in this second trial stage which will run through almost to the end of 1996.

#### 4.4 STAGE 4

The final stage covers a lot of ground. We have to develop the decision support system into a 'product'. We shall have to define standard DSS methods and models, develop a business plan, and produce a final project report. This is a research and development project: some of the things which are theoretically desirable will prove of course in development to be infeasible in practice and the desired outcome is to produce a practical system. At the very least I want a user-friendly decision support system which can be networked to the PCs of my managers and which will enable us to bring together data from a variety of sources to inform decision-making on resource allocation in its broadest sense throughout our library system. By the time we get there there will have been some other interesting developments. For example, university libraries in the United Kingdom will be required to produce data for a variety of performance indicators endorsed by the Funding Councils. Also in the United Kingdom we shall be a much more informed about the kinds of data, if any, which will be taken into account by the assessors of teaching quality in universities. Thirdly we hope we shall have a model which will inform decision-making about the costs and benefits of electronic information services and document delivery systems as compared with their printed equivalents or near equivalents. This last model should be capable of being bolted directly into our decision support system, but the other developments will inform and influence the design of the system.

To end on a personal note: for me, as a university librarian, the decision support system will be only a tool, but a vital tool to help inform decisions about the impact of alternative policies on the support the library provides for teaching, learning and research activities of my university.

## References

- IFLA, Section of University Libraries and other General Research Libraries. (1995, in press) *Measuring quality: International guidelines for performance measurement in academic libraries*. München: Saur
- ISO 11620: Library Performance Indicators [currently in draft form; likely to be available for consultation in 1996]
- Joint Funding Councils' Ad-hoc Group on Performance Indicators for Libraries (1995) *The effective academic library*. Bristol: HEFCE
- Sumsion, J. and Ward, S. (1995, in press) *Library performance indicators and management models*. Brussels: Office of the European Communities. EUR 16448EN



# Library Use and Academic Achievement

**Dr. Karin de Jager**

Lecturer, School of Librarianship, University of Cape Town

## An investigation to establish whether correlation existed between library borrowing and academic achievement

### ASSUMPTIONS

- Students with best academic scores borrow most library materials
- Students with low or falling grades borrow significantly fewer library materials
- As all students have to use prescribed materials from the Short Loan Collection, differences in borrowing should be more evident in the case of open-shelf material rather than in material from the Short Loan Collection
- First-year students borrow fewer open shelf materials than third-year students

### SAMPLING

The sample consisted of the 20 highest scores, the 20 lowest scores and a cluster of 20 scores around the mid-point between the highest and lowest scores in each of the subjects History 1 (total 228 students), History 3 (total 115 students), Economics 3 (total 298 students) and Sociology 3 (total 167 students).

Student numbers from the sample were matched with the records reflecting these students' library borrowing activity during the preceding academic year.

### FINDINGS

Mean scores in each subject suggested a positive relationship between the use of open shelf books and academic achievement in the subjects of history, both at first-year and third-year levels, and sociology. In the case of economics, the situation was not clear. It was confirmed that History 1 students had borrowed fewer materials than students in History 3.

As far as the use of Short Loan books was concerned, the picture was more confused and positive correlation between borrowing and academic achievement did not seem evident.

The statistical significance of the apparent correlation between open shelf borrowing and achievement had to be investigated. The following could be proved:

- Significant correlation between academic achievement and borrowing open shelf material in history and sociology.
- Equally significant difference between top and lowest scores for first- and third-year history students in borrowing open shelf material.
- No difference in the extent to which top and low scorers in economics borrowed material from the library.

Further investigation into library borrowing of economics students showed that economics students had borrowed the fewest library materials, even though their class was the largest.

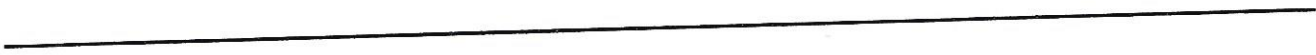
### CONCLUSION

- Variations in correlation between library borrowing and academic achievement depending on subject.

### INFERENCE

- Correlation and causation are not the same - increasing borrowing will not necessarily produce better academic scores, but might motivate students to borrow and read more library materials.







# MINSTREL: A Management Information Tool

**Stewart McKee**

Research Officer, MINSTREL Project, Main Library, University College, Dublin

## The MINSTREL Project

(Management Information Software Tool - Research in Libraries)

### PROJECT SUMMARY

The project involves the development of software which will make management information more accessible and easy-to-use to support decision-making in libraries. The prototype software will provide an environment within which data can be manipulated according to defined requirements of the library and the individual librarian.

The software will be independent of any library system or decision support tool. From a single point of entry users will access functions that include data collection, generation of statistical ratios and performance measures, data integration and export to other decision support tools.

Two of the largest European-based library system and service suppliers are working with libraries interested and skilled in the area of management information to define and develop the software. It is envisaged that the software will simplify the way in which data can be transformed into manageable information and will encourage librarians to develop their own decision support techniques.

The project has a time span of 24 months and commenced in February 1995.

## MINSTREL - EU Funded Library Research Project

- Third Research & Technological Development Framework Programme:  
Telematic Systems in Areas of General Interest
- Libraries Programme
- Action Line IV:  
Simulation of a European Market in Telematic Products and Services Specific for Libraries
- Theme 18, bis:  
Models and Tools to Support Decision-Making in Libraries

The Research is being undertaken by five partners from three EU countries.

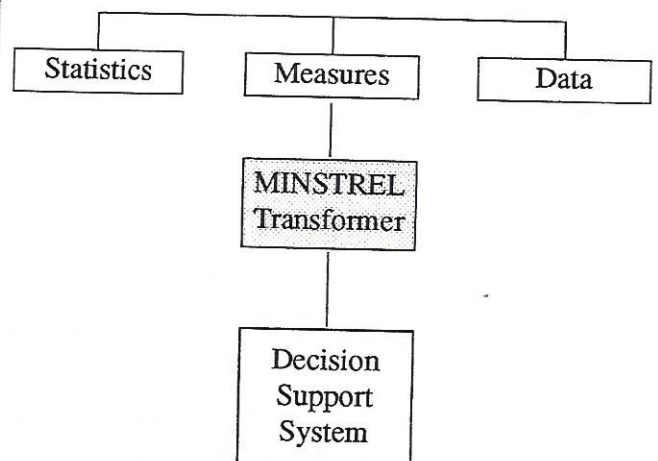
- University College Dublin, Ireland
- De Montfort University, UK
- Technische Universiteit Twente, The Netherlands
- BLCMP, UK
- Pica, The Netherlands

## MINSTREL Objectives

To create and test a software 'Transformer' which will allow for the development of simple ratios suitable for producing performance indicators, and the bridging between datasets collected for library management information purposes and tools used by libraries for decision support and library operation modelling.

To analyse performance data must be brought in from a number of sources. These data are often stored in a variety of different formats and structures. This can present a barrier to library managers who may wish to use the data but lack the facility to integrate and extract the information they require to assist decision-making. No special technical knowledge will be needed to use the 'Transformer'.

### MINSTREL's place in decision-making





## MINSTREL . . .

The 'Transformer' will be capable of:

- Collecting data
- Integrating management information datasets
- Generating performance measure ratios
- Transferring data for further analysis
- Presenting data in appropriate formats for decision support software

The prototype will define standard models and statistical reports relevant to all types of libraries. Library managers will be able to choose from these or develop their own models and reports.

The transformer is a way of increasing the range of information available to decision-makers and assisting in the development of a common approach and/or standards in defining the data which library managers require.

### MINSTREL Goals

- Develop a prototype operational product
- Identify the type of information required for enlightened decision-making and the sources of such data
- Define the form and functions of the transformer, stressing the need for easy to use software and flexible output
- Define the import formats and structures for data from various sources
- Define the most appropriate formats for output to modelling system software
- Develop the transformer software. The system will accommodate an administrator and a library manager environment
- Develop a user environment
- Test the developed software

These goals will be achieved in three phases over the project duration of 24 months

### MINSTREL Benefits

- Simplify the transformation of data into information
- Integrate data, which will encourage the analysis and comparison of information from traditional and new forms of document and information delivery

- Allow for more effective, efficient, and appropriate decision-making for resource winning, distribution, planning and monitoring activities
- Stimulate interest and encourage librarians to focus on the impact of their total service provision to users
- Enable librarians to develop 'toolboxes' of management information for their own use, for use with other libraries, and for feeding back to document and information tool suppliers such as publishers, booksellers, etc.
- Have a friendly user interface that will make the software tool accessible by any librarian that requires information to support decision-making
- Contribute to the establishment and use of standard performance indicators

### MINSTREL Key Features

- Centralised collection of Management Information from many sources. 'One stop shop'
- Handling of datasets in different formats
- Integration of datasets
- Compilation of performance ratios
- Designed for librarians. No specialist technical knowledge required
- User customised output
- Generate standard reporting datasets for national and local requirements
- Exports to decision support and modelling software
- Independent of any library system or support tool

### MINSTREL Timetable

PHASE 1 DURATION: MONTHS 0-9

#### Definition and specification

- Defining information requirements
- Defining the transformer
- Relevant standards and tools
- Hardware/Software procurement and installation
- Defining data import formats
- Defining data export formats



## PHASE 2

DURATION: MONTHS 10-18

Development

- Development plan
- Transformer workbench development
- User interface optimisation

## PHASE 3

DURATION: MONTHS 19-24

Evaluation and documentation

- Transformer/GUI integration, testing and evaluation
- Production of documentation
- Project management
- Information dissemination

- Consultation with libraries on user needs initiated
- Transformer functions specified
- Libraries for future involvement with project identified
- Relevant technical standards and tools analysed
- Hardware and software for transformer development identified
- Definition of data import formats underway
- Data export formats being investigated

**MINSTREL From the user perspective**

The transformer will have two main operational environments

1. Library administrator environment

- Setup system for library
- Define files, their uses, locations and communication connections
- Provide for the joining of files to produce ratios for performance indicators
- Create predefined performance and statistical sets required for local and national performance analysis requirements

2. Librarian user environment

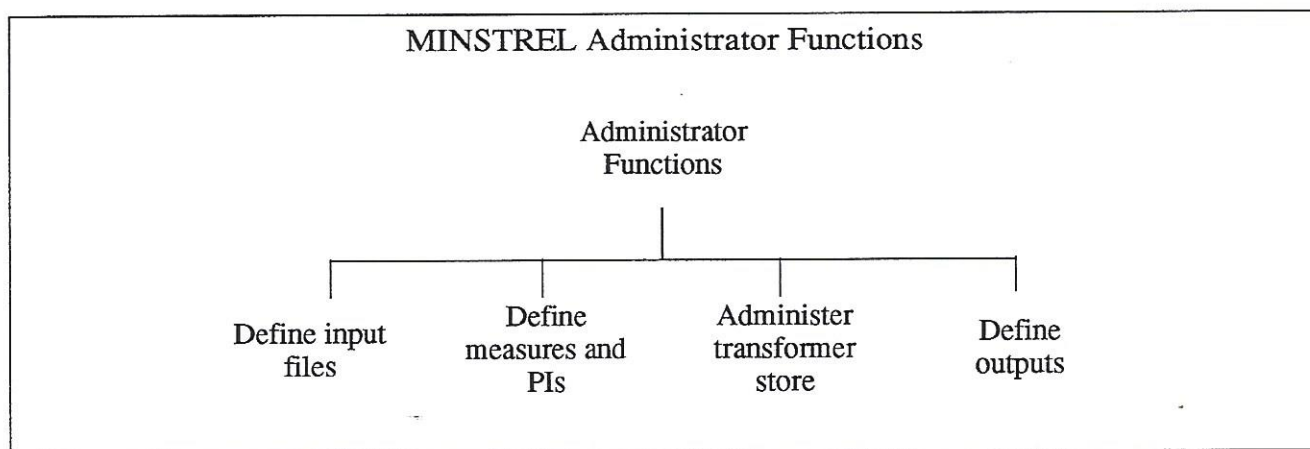
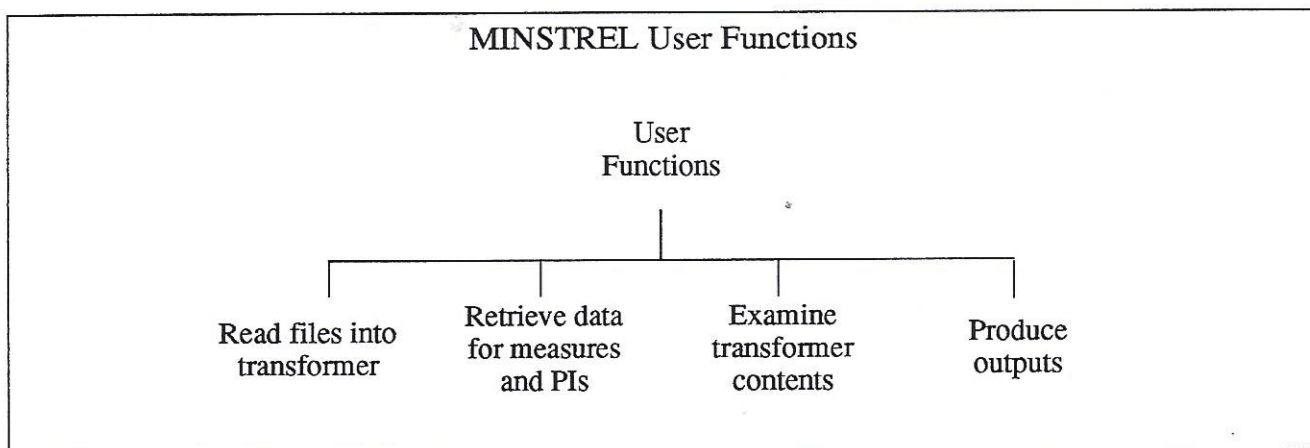
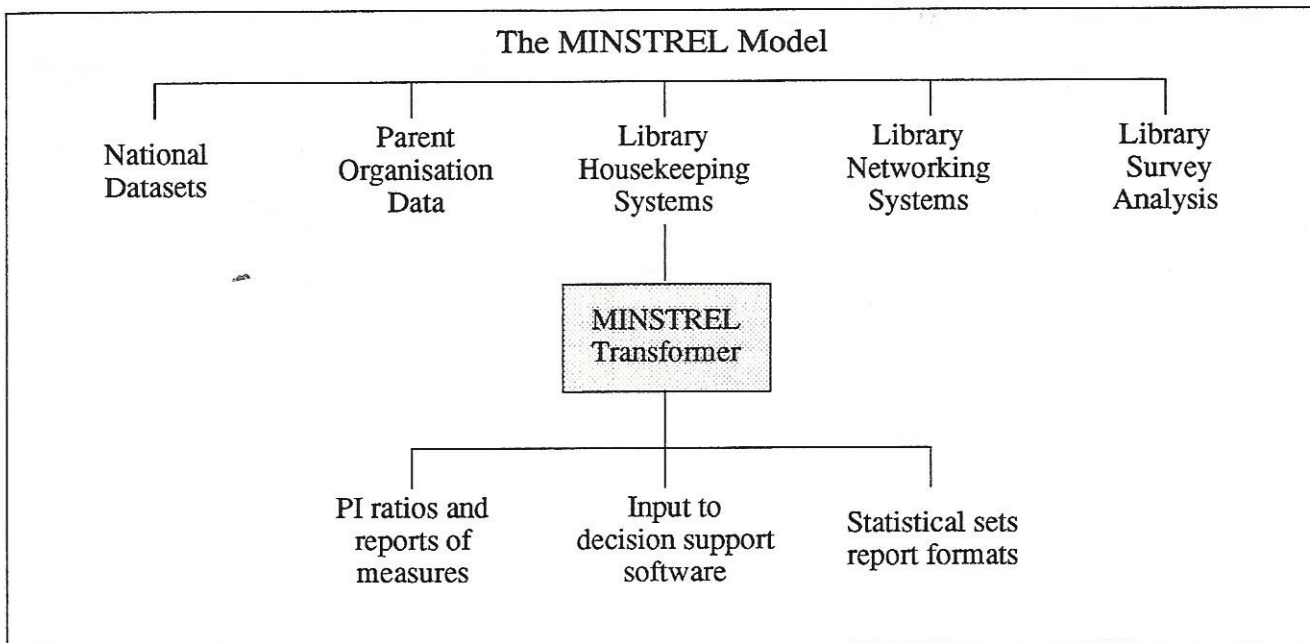
- Retrieve sets of data on demand
- Retrieve sets of templated data
- Retrieve simple ratios for decision-making
- Retrieve datasets for modelling software

**MINSTREL****Progress**

Progress of Phase 1 as we come to the close of Month 7

- Information requirements defined
- Report on data protection implications prepared







# A Comparative Approach to Assessing the Efficiency of the Performance of Finnish Academic Libraries 1989-1993

Jorma Niemitalo

Researcher, Department of Information Studies and Sociology, University of Oulu, Finland

**K**ey words: Finnish academic libraries, efficiency, data envelopment analysis.

Two comparative methods are used to explore the efficiency of libraries. Special attention is given to the problem of a centralised/decentralised library organisation.

## 1. Introduction

The purpose of this study is to investigate the productivity and efficiency of Finnish academic libraries in the years 1989-1993. The emphasis of the research is experimental. There are mainly two reasons why it has been more essential to evaluate the academic libraries: (1) At the beginning of the 1990s the publicly-funded institutions in Finland were required to change over from the traditional line budgeting to the result-based, or performance budgeting. (2) Finnish academic organisation (including libraries) is very decentralised. The Finnish Ministry of Education has supported the projects in which the performance and structural development of academic libraries have been examined. In recent years in Finland books and articles concerning performance indicators for public and academic libraries have been published. There has been less attention devoted to empirical research of the performance measures.

The research problems in this study are:

- (i) what are the connections between output measures and the number of library units of the library organisation
- (ii) comparing two different quantitative methods to assess efficiency of Finnish academic libraries.

The research hypothesis is to test whether centralised libraries are more efficient than decentralised libraries.

In this research efficiency is defined as the relation between resources input and resulting outputs (*Measuring quality*, 1993).

## 2. Data and Methods

Data was collected from the national annual Finnish library and university statistics concerning the years 1989-1993. The statistics cover

the performance of all 20 Finnish university libraries.

### 2.1 METHOD AND VARIABLES OF THE FIRST PART OF THE RESEARCH, THE YEARS 1989-1991

(This part of the research was undertaken with the professor of the Department of Information Studies Vesa Kautto.) In the first part of the research ratio analysis was used to study the efficiency of Finnish academic libraries.

- Input variables: total expenditure  
full-time staff
- Output variables: Volumes added, loans, interlibrary loans (supply+ borrowed), number of reference and online searches performed, journal routing and user education (hours)
- Other variables: Number of students and teachers of the university  
Number of library units of each library organisation

In this part of the research several ratios were computed, eg. sum of output measures/expenditures, sum of output measures/full-time staff and users/library units.

It's quite difficult to define which library is centralised and which is decentralised. In this study the ground for definition is the number of the library units and the structure of the organisation.

According to this definition decentralised libraries are the libraries 1, 2, 3, 4, 7 and 11 (see Appendix 1). Other libraries are considered as centralised. All decentralised libraries are multidisciplinary libraries except for library number 11 (Helsinki University of Technology Library).

### 2.2 METHOD AND VARIABLES OF THE SECOND PART OF THE RESEARCH, THE YEARS 1992-1993

In the second part of the study, data envelopment analysis (DEA) was used to investigate the efficiency of libraries. DEA is a mathematical programming approach to assess the relative efficiency of production systems (in this case libraries) with multiple



inputs and outputs. DEA uses observed or reported values of multiple outputs and inputs for each library and mathematically selects a peer group of efficient libraries which resemble most the library being evaluated (in terms of input and output mixes) to effect its performance evaluations. The efficiency scores vary between zero and unity. The efficient library or libraries obtain the efficiency score unity and inefficient libraries obtain a score below unity. Each library is evaluated individually and the amounts and sources of its inefficiencies are estimated and identified. DEA is especially valuable in the public sector which typically produces many outputs. An excellent guide to the applications of DEA for the public sector is provided by Ganley and Cubbin (1992).

The DEA model provides three important pieces of information:

1. a series of efficiency scores and peer group
2. identification of any perceived slack or waste in the amount of input used to output produced
3. a set of weight of each input and output.

The advantage of using DEA is that it is easier to interpret one efficiency score than many performance indicators. This paper concentrates only on the analysis of the efficiency scores (passage 1) at this stage of the study.

This research concentrates on exploring the technical efficiency of the libraries. This means how inputs are used to produce output. The aim is to recognise efficient and inefficient libraries.

In this analysis it was supposed that constant returns of scale frontier are valid. This means that when inputs are added the amount of outputs increases in the same respect. From the results it is evident that efficient libraries can be small or big and this signifies that constant returns of scale frontier are justified (Appendix 4, Table 1; see also Niemi et al, 1994).

In library and information science the DEA method is used in the study of Californian school libraries (Easun, 1992), measuring the research performance of the economics departments in the UK (based on publications) (Johnes and Johnes, 1992 and 1993), and Krupp and Hinze, 1994 (international orientation of publications).

The selection of variables for the DEA analysis can be done in many ways. For model 1 of DEA analysis (see Appendix 4, Table 1) the variables were chosen with the regression analysis (see also Breu and Raab, 1994). Models 2, 3, 4 and 5 are the experimental ones and the variables were chosen intuitively.

The following variables were chosen for the final DEA analysis:

Input variables:	total expenditures number of primary users full-time staff
Output variables:	volumes added, normalised local loans, interlibrary loans, user education

The local loans were normalised according to the loan period of study literature and also renewals were removed because the number of renewals can be considerable in some libraries. This is one factor which is connected with the automatic data processing systems of the library.

DEA analysis is very sensitive to the outliers. Their influence on the results can be dramatic. In this study library no 1 (Helsinki University Library, also the National Library in Finland) is the outlier in many ways (for example total library operating costs are more than six times bigger than the mean operating costs of libraries). The library was included in the analysis because there was no sign that this library could have any considerable influence on the results.

### 3. Results

#### 3.1 MAIN RESULTS OF THE FIRST PART OF THE RESEARCH

- There are significant differences in ratios of output measures/full-time staff between libraries (*Figure 1*). Most efficient libraries are those which have small and centralised organisation.
- In the multidisciplinary universities one library unit serves some hundred users. In the specialised universities one library unit serves even thousands of users (*Figure 1*). The decentralised libraries in group 1 (multidisciplinary libraries) (*Figures 1 and 2*) have mainly the lowest amount in the user/library unit and the output measures/full-time staff. The hypothesis that the most efficient libraries are centralised was verified but there was no direct correlation between the number of library units and efficiency.
- The expenditures/sum of output measures of the libraries varied highly (*Figure 3*).
- The loan variable's effect on the results was too dominating, varying from 51% to 96% (mean 80%) from the sum of output measures.



### 3.2 MAIN RESULTS OF THE SECOND PART OF THE RESEARCH

- Efficiency scores of the libraries by five models are shown in Table 1, Appendix 4. In the different models there are six libraries which achieved an efficiency score of unity twice or more times (lowest eff. score > 0,79). These are libraries 5, 6, 7, 15, 17 and 19. From these libraries only library 7 (Library of Åbo Akademi University) is decentralised. Other libraries are centralised. Libraries number 7 and 15 achieved the efficiency score of unity with all five models. The lowest efficiency scores (eff. score < 0,79) were obtained by five libraries 4, 12, 13, 16 and 20. From these only library number 4 is decentralised. Libraries number 12 and 16 obtained the lowest efficiency scores in all five models. An exception to this picture is library number 7 (Library of Åbo Akademi University, multidisciplinary, decentralised).
- In model 3 (Table 1) there are 10 efficient libraries. This is in consequence of the resolution power of the DEA method. In this model there are too many variables (6) compared to the number of libraries (20).

### 3.3 COMPARISON WITH TWO METHODS

Those libraries which have a low efficiency score in the DEA analysis have a low or moderate efficiency score also in the ratio analysis. Those libraries which have a high efficiency score in DEA analysis have a high or moderate efficiency score in the ratio analysis. The results of the DEA analysis with these variables are parallel with the ratio analysis.

## 4. Concluding Remarks

In this research two quantitative methods were combined to investigate the performance of Finnish academic libraries. The results presented in this paper are preliminary ones (only about 50 DEA runs have done). It seems that both methods, ratio and DEA analysis, give quite parallel results. The decentralised libraries (only one exception) obtained a low or moderate efficiency score with both methods.

What do these results tell? Can you use these results to develop a more efficient library organisation? Hardly! The next step is to study both variables and efficiency scores in detail.

One difficulty of the DEA analysis is the lack of conventional tests for identifying the most satisfactory model. DEA is a tool for assessing the performance of the production system but the results of

DEA should be interpreted with caution.

Actually the efficiency scores give only a rough view. More interesting is what is behind the efficiency scores and variables. The combination of quantitative and qualitative methods proved in this case to be very fruitful. A multiple constituency approach should be very useful and could give interesting points to develop Finnish academic libraries.

The recommendation of this research is that Finnish academic libraries should collect more exact information on their performance, especially concerning expenditures. For instance running expenses of house upkeep are not collected.

The Finnish Education Ministry has also supported another project whose target is to develop measures capable of describing both the range and the quality of library services and also to help compare performance across several libraries (Ikonen, R. and Kokkonen, O., 1994). In this project the most important source was *Measuring academic library performance* (Van House, Weil and McClure, 1990). In this performance measurement project the objective matrix model for reporting the measured outputs of library performance (Nel and le Roux, 1992) was also used.

## References

- Breu, Theodore M. and Raab, Raymond L. (1994) 'Efficiency and perceived quality of the Nation's "Top 25" national universities and national liberal arts colleges, an application of data envelopment analysis to higher education'. *Socio-economic planning sciences* 28(1) 33-45
- Easun, Mary S. (1992) *Identifying inefficiencies in resource management: an application of data envelopment analysis to selected school libraries in California*. UMI: Ann Arbor. h.D. thesis, University of California, Berkeley
- Ganley, J. A. and Cubbin, J. S. (1992) *Public sector efficiency measurement, applications of data envelopment analysis* North-Holland
- Ikonen, R. and Kokkonen, O. (1994) *Measuring the performance of Finnish university libraries* (in Finnish), Jyväskylä
- Johnes, Geraint and Johnes, Jill (1992) 'Apples and oranges: the aggregation problem in publication analysis'. *Scientometrics* 25(2) 353-365



- Johnes, Geraint and Johnes, Jill (1993) 'Measuring the research performance of UK economics departments: an application of data envelopment analysis'. *Oxford economic papers* 45(2) 332-347
- Krupp, H. and Hinze, Sybille (1994) 'International orientation, efficiency of and regard for research in East and West Germany: a bibliometric investigation of aspects of technology genesis in the United Germany'. *Scientometrics* 29(1) 83-113
- Measuring quality: international guidelines for performance measurement in academic libraries: preliminary draft (1993)* (1993) Münster: IFLA
- Niemi et al (1994) *Efficiency of Finnish courts in the year 1991* (In Finnish) Helsinki
- Nel, P. J. and Le Roux, H. S. (1992) 'Productivity measurement in an information service with the aid of the objective matrix'. *FID. News bulletin* 42(1) 14-18
- Van House, Nancy A., Weil, Beth T. and McClure, Charles R. (1990) *Measuring academic library performance*. ALA



## Appendix 1

### FINNISH ACADEMIC LIBRARIES BY FIELDS

<b>Group 1: Multidisciplinary University Libraries</b>	<b>Abbreviation</b>
1. Helsinki University Library	HELUNIV
2. Oulu University Library	OULUNIV
3. Jyväskylä University Library	JYVUNIV
4. Turku University Library	TURUNIV
5. Tampere University Library	TAMUNIV
6. Joensuu University Library	JOEUNIV
7. Library of Åbo Akademi University	ÅBAUNIV
8. Kuopio University Library	KUOUNIV
9. Lapland University Library	LAPUNIV
10. Vaasa University Library	VAAUNIV
<b>Group 2: Technology University Libraries</b>	
11. Helsinki University of Technology Library	HELTECH
12. Tampere University of Technology Library	TAMTECH
13. Lappeenranta University of Technology Library	LAPTECH
<b>Group 3: Economic School Libraries</b>	
14. Helsinki School of Economics Library	HELECON
15. Library of the Turku School of Economics	TURECON
16. Swedish School of Economics and Business Administration Library	SWEECON
<b>Group 4: Other University Libraries</b>	
17. Sibelius Academy Library	SIBAKAD
18. College of Veterinary Medicine Library	VETCOLL
19. The University of Industrial Arts Library	ARTUNIV
20. Central Library of Theatre and Dance	THEDANC



**Appendix 2**

Figure 1

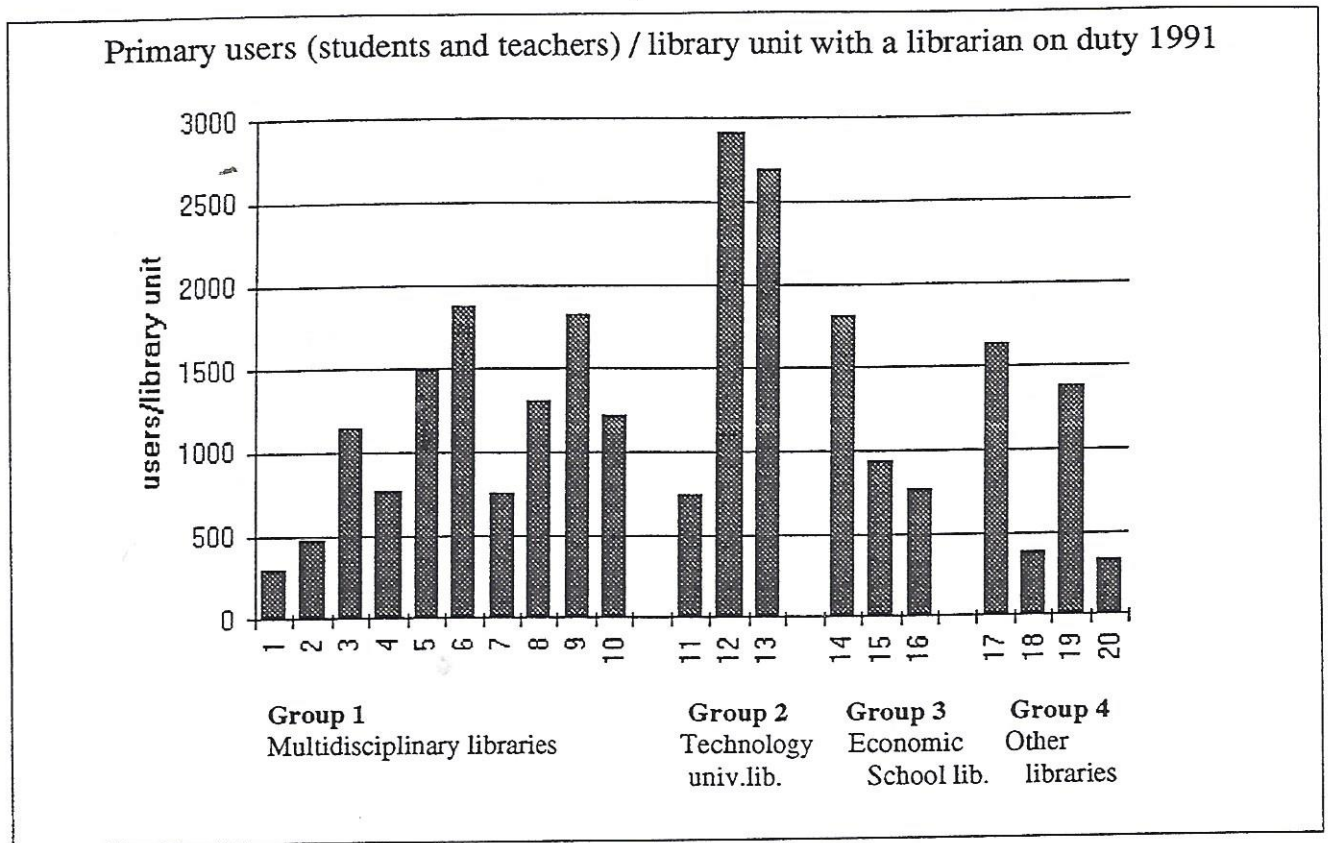
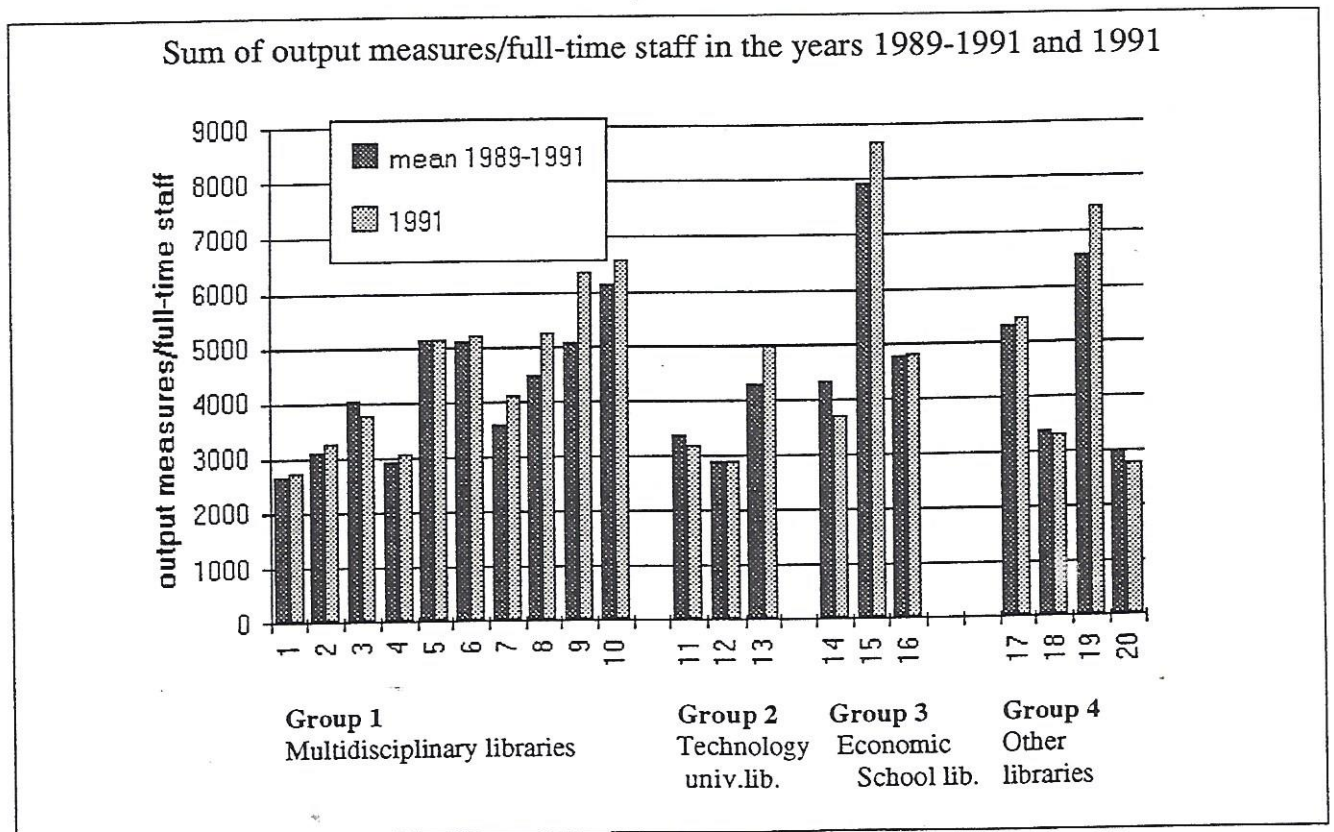


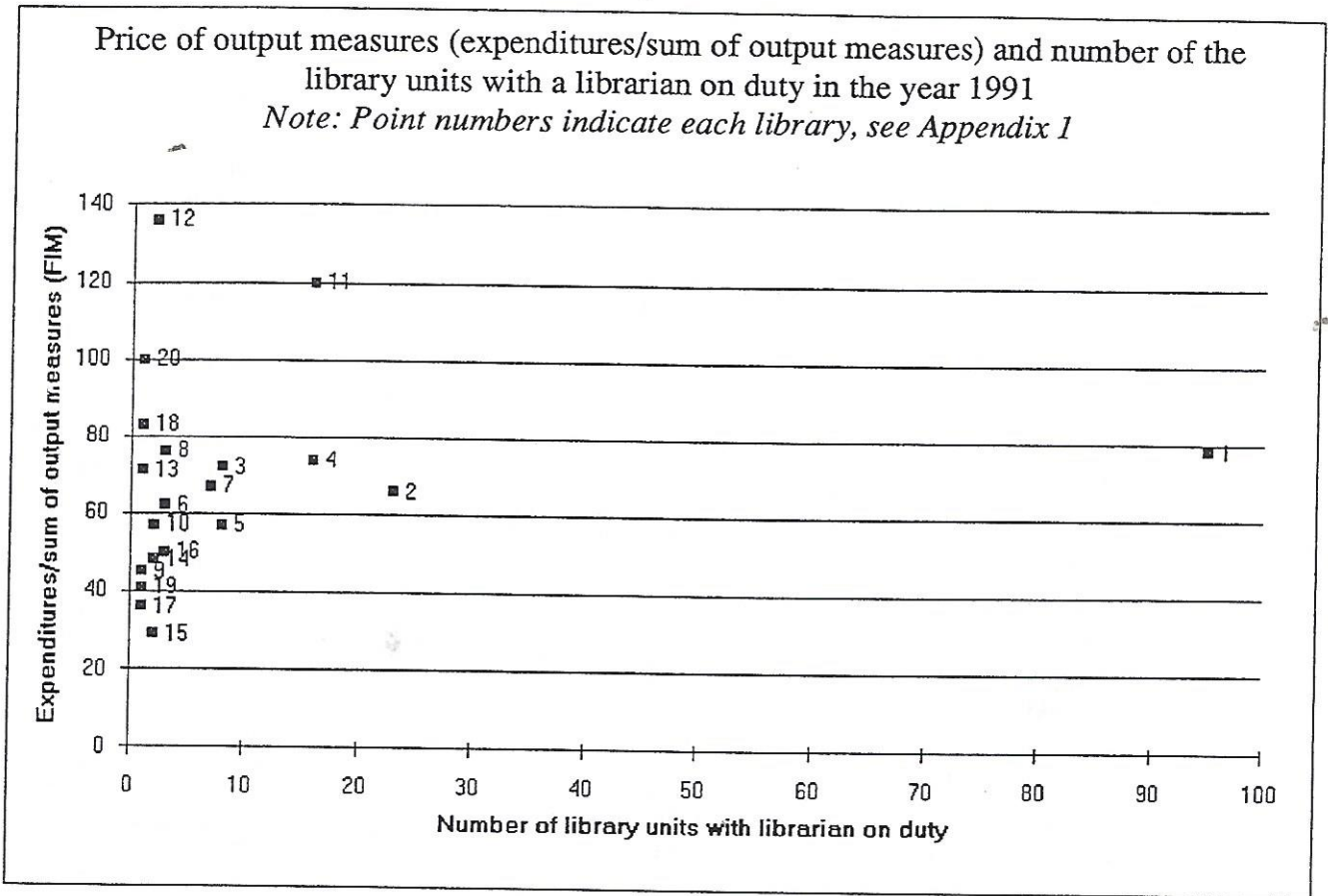
Figure 2





**Appendix 3**

Figure 3





Appendix 4

Table 1

DEA efficiency scores of Finnish academic libraries 1992/93 compared to the output measures/full-time staff 1991

Library	DEA models 1 - 5 1992/1993						sum of output measures/full time staff 1991
	no	model 1	model 2	model 3	model 4	model 5	output measures/full time staff
HELUNIV*	1	0,75	0,72	0,85	0,36	0,72	2736
OULUNIV*	2	0,91	0,87	0,97	0,65	0,87	3254
JYVUNIV*	3	0,79	0,87	0,91	0,63	0,86	3770
TURUNIV*	4	0,78	0,59	0,78	0,49	0,51	3070
TAMUNIV	5	1,00	0,91	1,00	0,79	0,79	5150
JOEUNIV	6	0,91	0,94	1,00	1,00	1,00	5226
ÅBAUNIV*	7	1,00	1,00	1,00	1,00	1,00	4103
KUOUNIV	8	0,72	0,34	1,00	0,37	0,37	5230
LAPUNIV	9	0,78	0,94	1,00	0,68	0,94	6367
VAAUNIV	10	0,79	0,68	1,00	0,78	0,78	6569
HELTECH*	11	0,73	0,30	0,87	0,39	0,39	3175
TAMTECH	12	0,55	0,36	0,65	0,44	0,44	2890
LAPTECH	13	0,76	0,54	0,78	0,60	0,60	4981
HELECON	14	0,81	0,64	0,81	0,39	0,59	3714
TURECON	15	1,00	1,00	1,00	1,00	1,00	8667
SWEECON	16	0,47	0,47	0,47	0,48	0,48	4795
SIBAKAD	17	0,98	1,00	1,00	0,81	0,81	5425
VETCOLL	18	1,00	0,57	1,00	0,33	0,57	3306
ARTUNIV	19	1,00	1,00	1,00	0,84	0,84	7450
THEDANC	20	0,42	0,73	0,73	0,59	0,73	2766
Mean		0,81	0,72	0,89	0,63	0,72	4632
Correlation with output/staff		0,425	0,469	0,436	0,641	0,463	1,000
Input(s)		-costs	-costs	-costs	-full time staff	-full time staff	-full time staff
			-prim.users	-prim.users		-prim.users	
Outputs		+vol.added	+vol.added	+vol.added	+vol.added	+vol.added	+vol.added
		+loans	+loans	+loans	+loans	+loans	+loans
		+int.loans		+int.loans			+int.loans
				+user educ.			+user educ.
							+searches
							+journ. routing

\* decentralised libraries

Note: Libraries are grouped by the following way: no 1 -10 are multidisciplinary libraries; no 11-13 are technology university libraries; no 14-16 are economics school libraries and no 17-20 are other libraries.



# Developing a Quality Instrument

Don H. Revill

Head of Learning Services, Liverpool John Moores University

Our interest in developing a 'quality instrument' began to crystallise at the Council of Polytechnic Librarians' (COPOL's) Annual Conference at Reading, 4th - 5th July 1991, arising from the Council's 'Funding and Performance Indicators Committee' and came to a decision to pursue funding in 1991 (COPOL, 1991).

Funds were made available by the British Library Research & Development Department (BLR&DD) for the development of a 'quality instrument'. The research runs from October 1994 to December 1995 (BLR&DD, RDD/G/265). We thank BLR&DD for their support.

The problem facing the researchers is exemplified in the title of one study in this area:

'The perceptions of Library Service Questionnaire (PLSQ): The development of a reliable instrument to measure student perception of, and satisfaction with, quality of service in an academic library' (our emphases) (Doyle, 1994)

- Reliable - means that results must be replicable (eg. by a test - retest?)
- Students - there are other users as 'stakeholders' besides students
- Perceptions - ) each needs defining, separating
- Satisfaction - ) and relating. They are conceptual
- Quality - ) ally different.

Dictionary definitions do not help very much. Satisfaction does not necessarily equal quality. Quality has a more abstract, impartial, non-specific meaning. Satisfaction probably depends on user expectations which might be low. So high satisfaction may relate to a low quality service (Millson-Martula . . . , 1995).

Satisfaction, as recorded by a user, may also operate on several levels eg.:

- (a) the most recent experience
- (b) the experience of my friends and colleagues
- (c) the reaction to this service on this occasion for this purpose -
  - study
  - information retrieval
  - computer use etc.
- (d) the general 'value' of this library for this discipline.

The notion of 'quality' is distinct from 'satisfaction' with this service and may be rated on the service one knows rather than all services or mean of all services or a reasonable sample.

It is related to users':

- previous awareness of library services (range and depth) in general (as comparisons)
- experience of library services
- expectations of library services
- satisfaction with library services
- and the reliability of the service - ie. it does what it says it does (Zeithaml et al, 1990)

There may be a danger of exaggerating the semantic difficulties associated with a full definition and understanding of the rather abstract concept of 'library quality'. The implicit purpose of this research is to produce an instrument which can/will be used to assist in the process of improving 'library quality' from the users' perspective and therefore it should be capable of identifying objective and (perhaps) achievable measures to achieve this goal.

Other variables which need to be taken into account are:

### Customer groups:

- Status PG  
Researcher  
Undergraduate  
Staff
- Year 1st year ) but 1st year students  
2nd year ) become 2nd year  
3rd year ) students and so on. These  
4th year + ) groups can then reflect on  
the totality of their  
experience of libraries.
- Subject Engineering  
Science  
Social Sciences  
Humanities  
Arts . . .

A three-dimensional matrix of these groups might well find different levels of 'satisfaction' and the presence of differing criteria for identifying 'quality' for each 'cell'.



Figure 1

	<u>Bristol</u>	<u>Liverpool JM</u> <u>University</u> <u>(1993/94)</u>
Library expenditure as a % of total University general expenditure .. .. .	3.5	3.57
Library expenditure per FTE student £s .. .. .	346	170
Expenditure on <u>books</u> per FTE £s .. .. .	32	27
Expenditure on <u>periodicals</u> per FTE £s .. .. .	79	23

On these figures Bristol ought to be 'better'  
(Source: CVCP University Management Statistics and PIs, USR, 1995)

There is also the problem of developing an instrument derived from users' views which is independent of the quality of the library they use. In other words can we develop a general notion of 'quality' and an instrument to test it?

The research is user based (and even non-user based):

'In the context of academic libraries record, categorise and prioritise a set of variables (cales) of library quality from a user's perspective'

and psychologist developed/controlled via LJMU's Centre for Applied Psychology, ie. not dominated by 'professional librarians' concerns (despite the fact that I am Project Head!).

The use of non-librarians has led to some interesting thoughts from users in what they would like: eg.

'Do you agree that the control of number and duration of loans should be set at your discretion?' (this contains two measurable concepts which would need to be separated)

We might not like these ideas arising but we should not dismiss them.

The research uses a complex diagram technique (an affinity diagram) to clarify a multi-faceted problem area.

Factor analysis has found three main areas:

1. Finding, borrowing, staff helpfulness, computing
2. Relevance of items
3. Special needs

An item bank of over 100 items was reduced to 85 items/elements which were tested. Items scoring 4 or more (as representing 'quality') on the 5-point scale (agree/strongly agree) were retained.

A Pilot Survey was conducted between 15th - 21st May 1995 based on quota sampling at Bristol University and LJMU.

Some significant differences which have to be related to the results (and perhaps explained) are shown in Figure 1.

The instrument will be applied in October/ November 1995 in several co-operating institutions. The results should be known by December 1995.

## References

- Council of Polytechnic Librarians (COPOL).  
Committee on Polytechnic Library Funding and Performance Indicators. December 1991
- Doyle, Christine (1994) *The perceptions of library service questionnaire (PLSQ): the development of a reliable instrument to measure student perceptions of, and satisfaction with, quality of service in an academic library.* Trinity & All Saints College. Unpublished draft research report.
- Millson-Martula, C. and Menon, V. (1995) 'Customer Expectations: concepts and reality for academic library services' *College & research libraries* 56(1) January. 33-47
- Zeithaml, V.A., Parasuraman, A.L. and Berry, L. (1990) *Delivering quality service.* Free Press



# Standardised Scoring to Produce Overall Measure

**Don H. Revall**

Head of Learning Services, Liverpool John Moores University

## Which Library is Best?

### SCORES

Library	Performance Measure A	Performance Measure B	Total Score
A	20	54	74
B	25	52	77
C	75	43	118
D	25	47	72
E	35	48	83
F	67	45	112
G	73	46	119
H	45	50	95
I	50	55	105
J	85	40	125
Mean x	50	48	
S.d.	22.5	4.6	

Library J appears 'best'

It is highest on A but lowest on B

Library I is the best. It is at the mean on A and highest on B.

Converting the scores to standard scores gives this result:

### Standard scores

Library	PI1 + PI2	Rank	PI1	PI2	Total	Rank
A	74	9	-1.33	+1.3	-0.03	6
B	77	8	-1.11	+0.87	-0.24	8
C	118	3	+1.11	-1.09	+0.02	5
D	72	10	-1.11	-0.22	-1.33	10
E	83	7	-0.67	0	-0.67	9
F	112	4	+0.76	-0.65	+0.11	4
G	119	2	+1.02	-0.43	+0.59	2
H	95	6	-0.22	+0.43	+0.21	3
I	105	5	0	+1.52	+1.52	1
J	125	1	+1.56	-1.74	-0.18	7

Converting them all to standardised scores with the same mean (50) and standard deviation (Hull's 14) gives this result:

Library	PI1	PI2	Total	Rank
A	31.3	68.3	99.6	6
B	34.4	62.2	96.6	8
C	65.6	34.8	100.4	5
D	34.4	47	81.4	10
E	40.8	50	90.7	9
F	60.6	40.9	101.5	4
G	64.3	43.9	108.2	2
H	46.9	56.1	103	3
I	50	71.3	121.3	1
J	71.8	25.7	97.5	7

NB. Ranks remain the same. The scores now have the same dimensions as the original marks. The use of standard(ised) scores removes the problem of using 'baskets' of measures as a summative measure of inputs, use or whatever. If one adds apples, pears and bananas we can say 'fruit', but adding (say) book issues to interlibrary loans (ILLs) to photocopies divided by 10, can we then say 'documents supplied' or 'usage'?

We might as well delete ILLs from the above as 20,000 hardly moves the other totals eg.:

LJMU	issues .. ..	725,000	1993/94
	ILLs .. ..	20,000	
	photocopies/10 ..	<u>250,000</u>	
		<u>995,000</u>	

But if we use standard scores for each measure/feature we can add them together but this assumes each measure carries equal weight. However we can weight standard scores. The only problem is doing the research to discover what each measure should weigh.

Benchmarking can also be facilitated eg. by deciding that any library achieving a score above 1 standard deviation above the mean (representing c. 16% of cases if data is distributed normally) would be worth investigating to discover whether it had policies, practices or systems which gave rise to high outputs.

### The advantages of standardised scores. Summary

1. Differences are proportional to differences in the raw (original) scores.



2. Scores can be added, multiplied or divided as they are taken from a generated zero point = the mean.
3. They can be used in correlations as they then give the same results as by using the raw scores.

$$\text{'z' score} = \frac{\text{score minus mean}}{\text{s.d.}}$$

### Standard Deviations

The formula can be described as sd = the square root of the sum of the squares of the deviations from the mean, divided by the number of cases (n).

It is written (for ungrouped data - the usual situation where SCONUL is concerned) so:

$$\text{s.d.} = \frac{\sqrt{\sum fd^2}}{n}$$

Where  
 f = frequency  
 d = deviations from the mean  
 n = number of cases

Here is an example of the calculation:

#### s.d. using Performance Indicator 1 scores

Library	Score	Deviation from mean (d)	d <sup>2</sup>
A	20	- 30	900
B	25	- 25	625
C	75	25	625
D	25	- 25	625
E	35	- 15	225
F	67	17	289
G	73	23	529
H	45	- 5	25
I	50	0	0
J	<u>85</u>	<u>35</u>	<u>1,225</u>
<u>10</u>	<u>500</u>	<u>0</u>	<u>5,068</u>

$$\text{Mean} = \frac{\sum \text{scores}}{n} = \frac{500}{10} = 50$$

$$\text{s.d.} = \frac{\sqrt{\sum fd^2}}{n}$$

$$\text{s.d.} = \frac{\sqrt{5,068}}{10}$$

$$\text{s.d.} = \sqrt{506.8}$$

$$\text{s.d.} = 22.5$$



# The Effective Academic Library

**Ian Winkworth**

Director of Information Services, University of Northumbria at Newcastle

*The Effective Academic Library: A Framework for Evaluating the Performance of UK Academic Libraries.*

March 1995

A consultative report to the HEFCE, SHEFC, HEFCW and DENI by the Joint Funding Councils' Ad-hoc Group on Performance Indicators for Libraries.

*(Title and Contents pages were displayed. Copies of the consultative report and the 'Supplement on service standards and development targets' were on sale at the Conference.)*

## History

1989-93	Council of Polytechnic Librarians project to devise and test PIs  Standing Conference of National and University Libraries advisory publication
Dec 1993	Follett Report proposed PI framework based on COPOL/SCONUL work
July 1994	Joint Funding Councils Ad Hoc Group on Performance Measures for Libraries set up
March 1995	'The Effective Academic Library' published by the Funding Councils for consultation
April 1995	'Supplement on Service Standards and Development Targets' published
?	Revised 'Effective Academic Library' published as UK national standard

## Overall Library Effectiveness

= the sum of five sets of measures

- P1 Integration +
- P2 User Satisfaction +
- P3 Delivery +
- P4 Efficiency +
- P5 Economy

## Some Definitions and Notes

Integration: the level of integration between the mission, aims and objectives of the institution and those of the library

User Satisfaction: surveys + other feedback (eg. course review, suggestions)

Delivery: Are stated objectives being met and is the volume of outputs high?

Efficiency: Outputs related to resource input

Economy: Cost per student

## Some Aims of the Approach

- balance simplicity and representativeness
- encourage thinking: why use each measure
- NOT all about hard numbers
- shared framework and measures for comparison but application tailored to local objectives and timescales
- links with quality assessment and audit approaches for university as a whole







## Conference Review

**Ian Winkworth**

Director of Information Services, University of Northumbria at Newcastle

The Conference ended with a brief overview from Ian Winkworth in which he outlined the Conclusions which could be seen to have emerged over the past four days, identified a series of Issues to be addressed, and looked to the future with a number of Proposals. The main points made are listed below.

### Conclusions

#### PERFORMANCE MEASUREMENT IN LIBRARIES 1995

- world-wide climate of accountability
- cumulative conceptual framework
- methodological similarities
- link to strategic goals / decision-making
- contracts / service agreements
- quality management
- benchmarking
- management style
- people
- numbers support 'story-line'

### Issues

- empirical testing
- sharing of outcomes
- spreading the word
- improved resource allocation data
- contextual data
- the promise of IT?
- local trends or external comparison?
- not just numbers

### Proposals

- carry on researching
- 2nd Northumbria International Conference in two or three years time?
- an electronic journal?
- IFLA and ISO publish?

*As the Conference Proceedings went to press, it was announced that the '2nd Northumbria International Conference on Performance Measurement in Libraries and Information Services' would be held in 1997 (7 to 11 September).*







# List of Delegates

\* Denotes Conference Speaker

Christine Abbott Aston University	John Crawford * Glasgow Caledonian University	Anthony S. C. Hooper University of Capetown	N.E.H.C. Nasir University of Malaya Library	Marareta Tomgren University of Stockholm
Roy J. Adams * De Montfort University	Joyce Davidson University of British Columbia	Alun Hughes N. E. Wales Institute of Higher Education	Jonna Niemitalo * University of Oulu	Stephen Town * Royal Military College of Science
Penny Aitken Queen Margaret College Library	Joan Day University of Northumbria at Newcastle	Hilary Johnson * Nene College	John Nockels University of Wolverhampton	Lynn Turpin University of Brighton
Carryl Allardice EBSCO Information Services	Karin De Jager * University of Capetown	Anne Jones University of Teesside	Jack O'Farrell Dublin City University	Christine Urquhart * University of Wales Aberystwyth
Ruth Alston * Essex County Library	John Dean University College, Dublin	Louise Jones North Thames Regional Library & Information Unit	Teodora Oker-Blom Karolinska Institute	Elaine Urquhart University of Ulster
Elizabeth Arkin University of Aalborg	Pat Dixon * University of Northumbria at Newcastle	Margaret Kinnell * Loughborough University of Technology	Tony Oulton * Manchester Metropolitan University	Bob Usherwood * University of Sheffield
Christopher Armstrong * Information Automation Ltd.	Peter Durrant Essex County Library	Oili Kokkonen Jyväskylä University Library	Sandra Parker * University of Northumbria at Newcastle	Rita Van De Wiele Ministry of the Flemish Community
P. Aucamp Rand Afrikaans University	Heather Edwards University of Witwatersrand	Kees Konings * Delft University of Technology	Patricia Pearce University of Middlesex	Nancy Van House * University of California, Berkeley
Zamiyah Baba University of Wales, Aberystwyth	Johan Engelbrecht University of Stellenbosch	Sinikka Koskiala Helsinki University of Technology	Roswitha Poll * Universitäts- und Landesbibliothek Münster	F. M. Walder U. C. of Ripon and York St. John
Lorraine Bate University of Leeds	F. C. Andy Exon * Curtin University of Technology	Inger Larsen Royal School of Librarianship, Denmark	Kay Poustie * City of Stirling Public Libraries	Margaret Wallis University of Brighton
Alessandro Bertoni Universita' Ca' Foscari di Venezia	Leo Favret London Borough of Bromley	Anne Lawes TFPL	Gilda Queiroz * Comissão Nacional Energia Nuclear, Brazil	Keith Webster * University of Newcastle upon Tyne
Eric Bolle Twente University Library, The Netherlands	Geoffrey Ford * University of Bristol	Shelagh Levett Solihull Borough Council	Rubiah A. Rahman PETRONAS, Malaysia	Niels Erik Wille Statens Bibliotekstjeneste
Stuart Brewer Library & Information Commission	Christina Fristrom University of Lund	Susan D. Lithgow * University of Wales Aberystwyth	Torill Redse RBT, Norway	Jef Willekens Ministry of the Flemish Community
Peter Brophy * University of Central Lancashire	David Fuegi Essex County Library	Michael Long Information North	Don Reville * Liverpool John Moores University	John Willemsse * University of South Africa
John Burchell British Library R & DD	Christine Fyfe University of Keele	Charles R. McClure * Syracuse University	Stephen Richard * University of Glasgow	Jean Marie Willers London Guildhall University
John F. Burr * Sanofi Winthrop	Penny Garrod Loughborough University of Technology	Janice McFarlane National Library of Scotland	Hannie Sander Rand Afrikaans University	Ian Winkworth * University of Northumbria at Newcastle
Jillene Bydder University of Waikato	Thierry Giappiconi A.F.N.O.R., Paris	Stewart McKee * MINSTREL Project, Dublin	Hilary Shaw BL Document Supply Centre	Rund van Wissen Twente University Library
Nigel Canaway Durham County Council	Lesley Gilder University of Southampton	Lucy McKeever University of Bradford	Maria Sliwinka Tempus Project	Lawraine Wood Robert Gordon University
Michael Carmel * South West Thames Regional Library Service	Frances Golightly British Gas	Julie Mcleod * University of Northumbria at Newcastle	Kate Sloss Trinity College of Music	Robert Workman British Nuclear Fuels plc
Angela Christie Cleveland Libraries & Leisure	Anne C. Green British Library of Political & Economic Science	Maxine Melling University of Central Lancashire	D. L. Sowerbutts University of Durham	Pat Wressell <i>Rapporteur/Editor</i>
John Clark Rampton Hospital	Kari Gulbraar Oslo College Library	John Mills University of Northumbria at Newcastle	G. Spikman Agricultural University, The Netherlands	Peter M. Wynne University of Central Lancashire
Fiona Clark The British Council	Jakob Harnesk Royal Library, Sweden	Gerardine Moloney University of Limerick	Joan E. Stein * Carnegie Mellon University Libraries, Pittsburgh	
Roz Cooper University of Northumbria at Newcastle	Elizabeth Hart * University of Huddersfield	Gwyneth Morgan University of Huddersfield	Richard Stubbs Open University Library	
Michael Cotta-Schönberg * Copenhagen Business School	Dick Hartley University of Northumbria at Newcastle	Steve Morgan * University of the West of England	John Sumsion * Library & Information Statistics Unit, Loughborough University	
Kate Coulling University of Central Lancashire	Michael Heaney University of Oxford			
	John Hewlett British Postgraduate Medical Federation			