

When Numbers Alone Are Not Enough: Applications of Qualitative Methodologies

Bertrum H. MacDonald

“Our new city councillor says he wants proof that the south branch library is providing value in the community. ‘Give me evidence – I want facts,’ he said to me last night.”

“More and more seniors are moving into our town to take advantage of new retirement facilities. We see them in our library and notice many seem to shy away from using computers in the information research area. We offer assistance in using computers, yet these folks rarely attend our training sessions. Even though our budget is tight, we need to make a decision quickly about whether we should reassign resources to new training programs for these seniors.”

Are these scenarios novel? Probably not, because every day librarians are asked to account for resource expenditures. When public funds are in question, well-informed decisions are called for, especially in today’s environment of accountability. Evidence is needed to support plans of action. But what is the evidence when questions defy measurement? What, in fact, are the facts to present to that city councillor?

Whether that city councillor would only be satisfied by numeric indicators of value could determine

how a library manager might respond. However, in social sectors where most libraries function, quantitative gauges of performance are not enough. It is relatively easy to supply transaction data, like circulation records and webpage hits and downloads. But, as well-known Canadian management expert Henry Mintzberg emphasizes, “Hard information is often limited in scope, lacking in richness and often failing to encompass important non-economic and non-quantitative factors” (Mintzberg, Ahlstrand and Lampel 1998, p. 69). More pointedly, Usherwood has declared that “to expect to understand the complex outcomes of public service organizations such as libraries through numbers alone is an exercise that is doomed to failure” (2002, p. 120). When quantitative data are inadequate measurements of the impact and worth of an organization, incorporating qualitative techniques in an assessment can appreciably enrich understanding. Using qualitative methodology doesn’t mean that assessment will be easier than applying quantitative methods, however. “It doesn’t really matter whether you can quantify your results. What matters is that you rigorously assemble *evidence* –

quantitative or qualitative – to track your progress” (Collins 2005, p. 11).

Complementary merits

Qualitative research methodologies have been employed for several decades. Still, numerous myths remain regarding both the ease by which the methods can be applied and the conclusions that can be drawn from qualitative data (Shenton and Dixon 2003). Because librarians often come from humanities backgrounds, qualitative research methodologies may seem easier to apply than quantitative measurements and statistical analyses. A higher comfort level with qualitative methodologies may suggest that research will be straightforward. Frequently, however, the situations encountered in public sector organizations are quite complex, requiring more than simple assessments. Moreover, while qualitative methods may be more easily grasped by individuals whose education and worldview have been shaped by learning within particular fields, this condition does not mean that rigorous application of qualitative methods can be bypassed. Failure to be clear in investigative questions, and thorough in data collection and

analysis, will assuredly lead to fuzzy or inappropriate conclusions. And when management decisions are based on the latter, resources can be squandered and credibility lost in the eyes of elected officials.

Even when qualitative methodologies have been well applied, the conclusions may be dismissed because the “facts” are not believed to have been established. Individuals expecting numerical analyses can also be blinded by their worldview regarding research approaches. Admittedly, applications of quantitative and qualitative methodologies can produce different results. A quantitative questionnaire survey to determine the relationship between seniors and computer use is likely to yield quite a different kind of result from that obtained by a longitudinal ethnography, even if exactly the same population of seniors is considered. The difference will persist even if each study is a model of methodological virtue. Nevertheless, it is time to step aside from debates about differences, as Given (2006) and Usherwood (2002) recommend, to accept the merits of difference that quantitative and qualitative methods offer. Furthermore, complementarity of both perspectives can warrant application of “mixed methods” to achieve both richness of detail and generalizability of findings (Johnson and Onwuegbuzie 2004).

As numerous texts outline, a suite of methodologies, covered by the qualitative rubric, are available, including intensive interviews, observations (obtrusive and unobtrusive), focus groups, content analyses

of documents, ethnography, etc. (e.g., Gorman and Clayton 2005). With a “human-centred approach” (Palys 1997, p. 22), qualitative methods focus attention on the importance of people within organizational and community settings. Especially applicable in exploratory investigations where little is known about a situation, qualitative techniques facilitate rapid gain of insights to inform decisions when time constraints prevent more comprehensive study. Interviewing several seniors and observing their activities in a public library could, for example, provide sufficient data for a library manager to make a decision about developing a computer literacy program for retired members in a community.

Conclusions from exploratory analyses can also provide direction for further study. By way of illustration, Duggan’s interviews of doctors showed that because assurance and comfort in the credibility and applicability of an information source are important to particular cases, doctors frequently consult their colleagues or other medical experts more often than they consult published literature (Duggan 2000). Qualitative interviews were more informative than quantitative surveys could have been in this study. Duggan’s findings suggest that librarians need to investigate how the factor of trust can be integrated more effectively in information systems, in addition to timeliness of delivery and appropriateness of the information format to particular questions.

Rigorous methods

Two current research projects – one historical and the other contemporary – will further illustrate applications of qualitative methods. Attention is focused in both cases on how information diffusion networks (including libraries) contribute to knowledge creation; and in the contemporary project, further steps are taken to gain an appreciation of the impact of organizations. Edwin Gilpin, a Nova Scotia mining engineer of the late Victorian period, left behind a sizeable private library. That private collection has prompted an intensive investigation of Gilpin’s career. As Lawrence Duggan and I recently reported (Duggan and MacDonald 2006), we have employed several qualitative methods to uncover how scientific and technical information flowed into Gilpin’s hands to support his geological research and development of safe mining techniques. Evidence has been rigorously assembled through an analysis of characteristics of Gilpin’s private library; close examination of marginalia found in some of the publications in the collection; citation analysis to track what he cited; content analysis of his publications to determine his patterns of information seeking and use (oral communication, for example, was ascertained from this content analysis); examination of correspondence to establish information flow patterns locally, nationally and internationally; and tracking of his work and professional habits through content analysis of related documentation. Through this

combination of evidence we have been able to recreate conceptually the information networks that Gilpin worked within, and have ascertained the importance of libraries for knowledge creation in his case.

Determining the impact of an organization when its objectives are intangible is much more complex than a question about the value of a library to a single individual. Such was the case in a study of the impact of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), an international marine scientific advisory body sponsored by several United Nations agencies, including the UN itself (Cordes 2004; MacDonald, Cordes and Wells 2004). In 2000, GESAMP's sponsoring agencies agreed to undertake an evaluation of the advisory body in a lead-up to a decision about continuation of its funding. Since use of the published reports of GESAMP is one indicator of its impact, we undertook to track use through citation analysis, a not insignificant task given the complexity of GESAMP's publication history. Citation patterns told us that the reports published by GESAMP were receiving worldwide attention in both research and public policy communities. But our study also drew attention to noteworthy problems regarding publication practices that limited diffusion of the GESAMP reports to libraries.

While our analysis contributed to the decision of the UN to support GESAMP's continued mandate, and our recommendations regarding

improved publishing practices were beneficial to GESAMP, we realized that further research is needed to more fully understand how outputs (e.g., publications) can illustrate the impact and value of GESAMP and similar organizations. Through the application of additional qualitative research methods (e.g., interviews of key informants and content analyses of a wider selection of public policy documentation), our research has been extended to include more governmental organizations (MacDonald, Cordes and Wells 2006). In-depth interviews, for example, will turn up evidence not revealed by citations, such as perceptions of the value of publications of the governmental organizations and instances of impact not recorded by citations. This mixed-method qualitative study will eventually provide clearer understanding of the value and impact of governmental advisory bodies as well as answer questions regarding the merits of allocating often sizeable public funds to such agencies.

Clearly, numeric data will not address every question that arises in the management of complex organizations like libraries, even if some numeric data relating to a question are available. But neither is loose application of qualitative methods appropriate. Although different forms of rigour apply to both types of methods, the best management decisions rely on evidence that is accurately obtained. Whether a decision relates to an information literacy program for a small number of senior citizens

or to an assessment of the value of a library in general, going beyond numbers to investigate qualitative factors is likely warranted (Boyle 2000; Greenhalgh and Taylor 1997). 

References

- Boyle, D. 2000. *The Tyranny of Numbers: Why Counting Can't Make Us Happy*. London: Harper Collins.
- Collins, J. 2005. *Why Business Thinking Is Not the Answer. Good to Great and the Social Sectors. A Monograph to Accompany Good to Great. Why Some Companies Make the Leap... and Others Don't*. Collins.
- Cordes, R. 2004. "Is Grey Literature Ever Used? Using citation analysis to measure the impact of GESAMP, an international marine advisory body." *Canadian Journal of Information and Library Science* 27, 109-127.
- Duggan, L.J. 2000. "An examination of the characteristics of information resources preferred by physicians." Halifax: Dalhousie University. MLIS thesis.
- Duggan, L.J. and B.H. MacDonald. 2006. "International communication of scientific and technical information: The case of the mining engineer, Edwin Gilpin, in late Victorian Nova Scotia." Paper presented to the Royal Nova Scotia Historical Society, 18 September.
- Given, Lisa. 2006. "Qualitative research in evidence-based practice: A valuable partnership." *Library Hi Tech* 24, 376-386.

- Gorman, G.E. and P.R. Clayton. 2005. *Qualitative Research for the Information Professional: A Practical Handbook*. 2nd ed. London: Facet Publishing.
- Greenhalgh, T. and R. Taylor. 1997. "How to read a paper: Papers that go beyond numbers (qualitative research)." *British Medical Journal* 315, 740-743.
- Johnson, R.B. and A.J. Onwuegbuzie. 2004. "Mixed methods research: A research paradigm whose time has come." *Educational Researcher* 33:7, 14-26.
- MacDonald, B.H., R.E. Cordes and P.G. Wells. 2006. "Assessing the diffusion and impact of grey literature published by international, intergovernmental scientific groups: The case of the Gulf of Maine Council on the Marine Environment." Paper presented to the 8th international GreyNet Conference, New Orleans, December.
- MacDonald, B.H., R.E. Cordes and P.G. Wells. 2004. "Grey literature in the life of GESAMP, an international marine scientific advisory body." *Publishing Research Quarterly* 20, 25-41.
- Mintzberg, H., B. Ahlstrand and J. Lampel. 1998. *Strategy Safari. A Guided Tour Through the Wilds of Strategic Management*. Englewood Cliffs: Prentice-Hall.
- Palys, T.S. (1997). *Research decisions: Quantitative and qualitative perspectives*. (2nd ed.). Toronto: Harcourt Brace & Company Canada.
- Shenton, A.K. and P. Dixon. 2003. "Debates and paradoxes surrounding the use of qualitative methods." *Education for Information* 22, 1-12.
- Usherwood, Bob. 2002. "Demonstrating impact through qualitative research." *Performance Measurement and Metrics* 3, 117-122.

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Notice of Annual General Meeting

The 62nd Annual General Meeting of the Canadian Library Association will be held Saturday, May 26, 2007, commencing at 2:30 p.m. local time, at the Delta St. John's Hotel, 120 New Gower St., St. John's, Newfoundland and Labrador.

Agenda

- Approval of the minutes of the 61st Annual General Meeting
- Receipt of the Audited Financial Statements for 2006
- Appointment of Auditors for 2007
- Receipt of the Report of the Elections Committee
- Amendments to the Constitution (if any) and to the Bylaws

And any other business as may properly come before the meeting.

Those wishing to vote at the Annual General Meeting must be a member in good standing as of May 25, 2007.

Members who have special accessibility needs (for example, mobility, hearing or sight impairments) are asked to contact the CLA office at their earliest convenience so that any possible arrangements can be made to ensure their complete participation in the Annual General Meeting.

Don Butcher
Executive Director & Secretary

Ottawa, Ontario
February 1, 2007



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