# Best Practices for Corporate Libraries

Sigrid E. Kelsey and Marjorie J. Porter, Editors

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# INTRODUCTION

*Marjorie J. Porter and Sigrid E. Kelsey*

This book seeks to provide an overview of corporate librarianship, and to provide best practices regarding a variety of issues facing corporate information professionals, including services, facilities, communication, networking, management, marketing, demonstrating value, and change management. The chapter authors represent four continents and a variety of industries. Authors from the United States, Barbados, Nigeria, India, and the Netherlands contribute chapters advising readers about their best practices in their fields.

Regardless of how they are distributed, assigned, or met, the information needs of businesses remain constant. Information services, a vital component of business success, are examined in the first section of this book in terms of relevance, methods, and the history of corporate librarians who provide these services. Black demonstrates how libraries have always been service-centered entities within corporations, thereby establishing the precedent for the work of modern librarians. Information professionals mediate services using a variety of tools for communication, as outlined by Pachat and Manjula, and Felix and Dugdale explore the significance of physical and virtual spaces, along with recommending best practices for using library space. No space or tool can replace the value of knowledge and expertise that librarians can bring to the corporate environment. Miller demonstrates this indispensable expertise by outlining the function and restrictions of intellectual property as it pertains to library services in a corporate library.

The sustainability and advancement of the library profession relies heavily on the ability of information professionals to communicate and share

information with other information professionals, the clients they serve, and the resource providers with whom they deal. Kluiters and Hires explore some of the ways corporate librarians and STM publishers communicate, and what types of information are produced when these groups meet. Nandeesha describes the institution and success of the "unconference" in India, which demonstrates the benefits of participant-generated informal communication across businesses and industries. Both of these chapters describe innovative ways in which corporate librarians can increase communication with professionals outside of their corporations to improve library services.

Whether part of a division or a department on its own, a corporate library must function within the mission and culture of the organization it serves. Librarians must explore how best to manage their services and processes to meet the information needs of their respective businesses, and to establish themselves as competent and valuable employees. Fedeczko and Schwarz answer some of the concerns that information professionals may have about outsourcing, and they outline purposes for choosing outsourcing as a business option. Tompson and Zipperer demonstrate how principles of systems thinking management as suggested by Peter Senge and others can be applied effectively to evaluate and improve existing information services.

Corporate libraries must be able to demonstrate their contributions to the businesses in which they operate, using explicit terms. Many librarians have found that usage statistics and a list of available resources are insufficient to accurately demonstrate the real value libraries contribute. Affelt suggests ways in which librarians can demonstrate their alignment with corporate values and market what they provide to the entire organization. He, Chaudhuri, and Juterbock provide a method for practicing librarians to demonstrate a library's return on investment (ROI) for its corporation, in quantifiable and graphic terms. Ryder offers additional qualitative ways in which to demonstrate value to stakeholders.

All librarians, whether corporate, academic, public, or other, are tasked with the responsibility of helping their libraries survive changes. In business, these changes may stem from corporate reorganization, downsizing and budget cuts, or simply a lack of appreciation by management for the information services function. Brewsaugh and Valleroy outline the change management process and new competencies for staff in an organization which switched from multiple site libraries to a centralized electronic based system. Ryder has collected the experiences and suggestions of several information professionals who have undergone drastic changes and makes recommendations for others facing corporate repositioning.

Modern librarianship for corporations is diverse and complicated, and corporate library services must function in a variety of business and social environments. This book provides insights from a number of contemporary libraries across the globe. Toppin and Hinds examine the presence of library services in Barbados, while Utulu and Sote show effective communication practices in corporate libraries in Nigeria. Lastly, Rosenthal and Harvey provide a snapshot of the types of practices and services used in an established U.S. organization working with an academic library.

Together, the chapters in this book explain practices for new and established corporate librarians, and students of library science interested in working in any industry in the information science field.

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# I
# SERVICES AND FACILITIES

# 1 FROM REFERENCE DESK TO *DESK SET*: THE HISTORY OF THE CORPORATE LIBRARY IN THE UNITED STATES AND THE UK BEFORE THE ADOPTION OF THE COMPUTER

*Alistair Black*

## THE HISTORY OF THE CORPORATE LIBRARY AS THE "NEW LIBRARY"

In virtually all types of library, including the corporate library, the day of the "new library" has dawned (La Guardia 1996). The "new library" is either fully digital (the library "without walls") or, more commonly, hybrid in complexion. The hybrid library provides access via both electronic and print media. As such, it is seen to have, reductively, an information *and* library function. The fact that today, for most people, "information" in this context operates as a synonym for the computer should not obscure the fact that long before the advent of digital technology, corporate libraries of all kinds were providing not just traditional materials like books and periodicals, but also information—in a variety of formats. Sometimes this information is ephemeral in nature, stored and accessed in different and innovative ways, and the result of the winnowing or abstraction of whole items.

Operating behind closed doors, the corporate library might, on first inspection, be viewed as "elusive" (Jackson 1986), a backwater in the history of libraries, much less prominent than the stories of the great national, university, or public libraries of the world. Certainly, only a handful of historical studies of the corporate library, in both the United States and the UK, have been published (e.g., Black 2004a; Jackson 1986; Kruzas 1965; Marshall 1968; Moore 1988), alongside a small number of unpublished dissertations (e.g., Varner 1950; Boateng 1990). But to take this relative lack of scholarship as an indication of the corporate library's low importance historically would be a mistake. Early corporate libraries were not only places of considerable innovation in library and information provision but also arenas where, like in no other, the

professional identities of library and information professionals were tested and formed. Corporate libraries were *new libraries* long before the term gained currency in the late twentieth century. As such, the call by Davenport and Prusak in 1993 to "Blow Up the Corporate Library" because it was based on a historic and outmoded "warehousing model" of information provision misinterprets the history and foundations of the corporate library. The mission of early corporate libraries, Davenport and Prusak (406) claimed, was book-focused both in terms of materials acquired and the overprotective attitude towards them. Books were distributed merely "on request" and potential users were given little idea what was in the "information warehouse." As this chapter argues, however, corporate libraries were places where, from early in their history, a sophisticated pro-active information function was purposefully developed.

## THE COMPUTING REVOLUTION AND THE "NEW LIBRARY"

A major branch of the evolution of the "new library" can be traced back to the appearance in the 1960s of groundbreaking machine readable catalogues and electronic and (subsequently) online databases.[1] The computer technology that prompted these electronic developments in library and information provision was first made commercially available in 1951. In that year, Remington Rand's UNIVAC (*Univ*ersal *A*utomatic *C*omputer) machine was sold to the U.S. Census Bureau. In 1952, a machine sold to CBS was used to predict the outcome of that year's presidential election. By the end of 1954, some of America's largest corporations had taken delivery of the machine, among them General Electric, Westinghouse, Metropolitan Life, and Remington Rand itself. That same year, IBM introduced its first commercial computer. In the UK, as in the United States, the first commercially marketed computers appeared in 1951. Ferranti delivered the country's first to the University of Manchester. Meanwhile, also in 1951, having developed computer technology internally for several years, the catering and confectionary company J. Lyons became the first commercial enterprise in the world to employ a computer for business applications, including payroll administration and just-in-time ordering (Campbell-Kelly & Aspray 1996, 121–30; UNIVAC I 2010; Let's look at LEO 1954; Bird 1994).

Technologically, these were exciting times and, given the colossal impact the computer has had on all aspects of life, it is tempting to assume that at its inception it was viewed—as it has largely come to be viewed—as a heroic technology. The truth is, however, that the innovation of the computer attracted considerable hesitancy, if not suspicion. Negative attitudes towards the computer were in the tradition of an enduring public unease—irrespective of any perceived benefits—with science and technology generally, as reflected in the enduring popularity of the science fiction disaster movie (Evans 1980, 65). In corporate circles too, the computer did not enjoy unqualified support. It was an expensive technology, and the changeover from the punched-card machine was problematic. Indeed, the punched-card machine had established itself as a powerful

information management tool in large organizations, and it had been just a few years since the "rapid selector," combining punched-card and microfilm technologies, had been hailed as the information retrieval solution to bibliographic chaos. In 1945, Vannevar Bush, in his famous essay "As We May Think," envisioned a hypertext-capable rapid selector, the Memex, which Ralph Shaw, librarian at the U.S. Department of Agriculture, constructed in 1949 but which proved mechanically disappointing (Nyce & Kahn 1991; Varlejs 1999). Six years after the commercial deployment of the computer, Eugene Garfield, founder of the Institute for Scientific Information and the *Science Citation Index*, was explaining the merits of the AMFIS machine for quick retrieval of microfilmed documents (though without the subject access of the rapid selector or Memex) (Avakian & Garfield 1957). As late as 1959, by which time only around 5,000 computers had been sold worldwide, punched-card machines accounted for 65 percent of IBM's profits (Campbell-Kelly & Aspray 1996, 130). In the library world it was predicted that: "machines will continue to be built, but the widespread application of Univacs . . . to the average special library is far in the future, unless technological change simplifies and cheapens them" (Gunning 1957, 334).

## THE CORPORATE LIBRARY MAKES THE MOVIES: "TRADITIONAL LIBRARY" VERSUS "NEW LIBRARY"

It was against this backdrop of uncertainty regarding the efficacy and future of the computer that the movie *Desk Set*—an adaptation of William Marchant's 1955 Broadway play of the same name—appeared in 1957 (Malone 2002; Hahn 1997, 116–17). The movie starred Katharine Hepburn and Spencer Tracy. The setting was a corporate library—to be precise, the library of a corporation's research department (a place where a great many early corporate libraries were born). At the primary level, the plot revolves around the stuttering romance between Hepburn and Tracy's on-screen personas. However, it is the context in which the romantic comedy is played out that concerns us here. Hepburn plays a librarian who runs a traditional and efficient in-house reference service. Tracy's character, an engineer, is given the task of installing a computer for the purpose of revolutionising the provision of information in the corporation. Audiences of the time—even those of today—would have been largely unaware of the meaning that this "confrontation" might have had in the world of library and information services. In fact, the tension between Hepburn and Tracy's characters was not simply the result of the inevitable quarrelling that accompanies most relationships from time to time, but was reflective of the long-standing conflict between professional librarians and information scientists (otherwise termed documentalists, information officers, or intelligence officers)—a conflict that was aggravated by the arrival of the computer (Williams 1996; Bowles 1999).

The computer installed in Hepburn's corporate library eventually fails, and at the moment of its failure it is portrayed as an object of ridicule rather than respect. However, despite the machine's demise, the audience is left with the message,

expressed by Tracy earlier in the movie, that although computers cannot replace humans, they can help them carrying out time-consuming, routine, and less intellectual tasks. The movie conveyed to people the idea that, despite having witnessed a computing catastrophe on this occasion, they had somehow glimpsed a future in which the computer could become a powerful social and economic tool. It was certainly a tool that corporate information scientists and librarians were soon to embrace. The library in IBM's electronics laboratory received an experimental computer in the mid-1950s. It was said to have added new dimensions to the library and "tantalized its users"; and subsequently—in 1964, 1965, and 1969, respectively—the card catalogue was abandoned in favour of a computer-generated printed catalogue, cataloguing was undertaken through online processing, and ordering, accessioning, and circulation went online too (Griffin 1980).

## NAMING THE UNIT

The definition of "corporate library" employed in the context of this chapter is based on hard economic criteria. Historically, the corporate library is a private library that forms "an integral part of the particular enterprise which establishes it and maintains it" (Jelin 1970, 26). But it has been more than this. The main purpose of the corporate library is the formal and systematic exploitation of recorded knowledge for the benefit—essentially meaning efficiency and profits—of the corporate body to which it belongs. It is primarily a repository of practical rather than humanistic knowledge. Corporate librarians have always been keen to stress that their habitat is "no ivory tower" (This is no ivory tower 1963). As John Cotton Dana, first President of the Special Libraries Association (SLA), put it in 1910, books were not just for scholarly and cultural pursuits but could be of "the greatest possible help in promoting business efficiency" (5). The same message was still being repeated half a century later: "Success in industry depends as much on having the latest and best possible facts and figures as on having the right tools to do the job . . . Information can be classed as a type of tool," wrote the information scientist Wilfred Ashworth (1962, 1).

This chapter does not address recreational corporate libraries, public library deposit stations, or employee club libraries, each of which, although no doubt of some indirect, long-term benefit to the factories or commercial enterprises in which they were located, were not established to add immediate and significant value to corporate activities.[2] Nor do the business branches of public libraries—occasionally used by corporations and their employees especially early in the period being studied—fall within the remit of the discussion. Histories and evidence of these types of library are available elsewhere (General circulating library in a factory 1911; Jelin 1970; Black 2004b; Dredge 2008; Phail 1917; Kruzas 1965, 31–32; Timmons 1931, 95–100).

The corporate library varied in nature as widely as the corporations that housed them. It is not surprising, therefore, that the corporate library operated under many different guises and labels. The problem of nomenclature is

illustrated by the structure of the information service established by the UK (though U.S. owned) electrical engineering company Metropolitan-Vickers, as part of its research department, in 1916. The blueprint for an Information and Intelligence Section identified four functions: Economic Survey (the production of market reports for other departments in the company and for some outside bodies); Westinghouse Liaison (the exchange of technical information with the firm's American parent company, Westinghouse); Pure Scientific Liaison (the exchange of information with individual experts and scientific bodies); Intelligence and Library Service (including a reference library, an abstracting service, a periodical circulation service, and a service for translating foreign-language technical literature).[3] The library was named here as a separate function. However, in reality all four functions of the section were interwoven.

Early company libraries were labeled in a variety of ways. The works library, reference library or technical library; the information unit, information service, information branch, information centre, or information bureau; the research department; the intelligence service, intelligence section or intelligence department; the documentation centre or service—this is just a selection of the different ways the corporate library was termed. In Newcastle-upon-Tyne in the late 1940s the libraries of British Paints, the soap manufacturer Thomas Headley, and the heavy engineering firm Vickers-Armstrong were referred to, respectively, as the Central Technical File; the Manufacturing, Development and Research Library; and the Technical Information Bureau and Central Technical Library (Wallace 1950, 25). The library of the Stone and Webster Company, an engineering firm in Boston, was consistently referred to by its librarian as a "business and information bureau" (Kruzas 1965, 4). For the sake of simplicity, this chapter uses the term "corporate library."

## THE GROWTH OF THE CORPORATE LIBRARY

Before World War I, UK businesses were relatively slow to develop in-house information resources and services. Libraries were seen as expensive and the sharing of information in the form of a central library resource was seen as a potential danger to company secrecy. Generally, the importance of research and knowledge was not yet sufficiently recognized. However, some pre-1914 activity did occur. In the UK, Levinstein Ltd., which eventually became part of Imperial Chemical Industry's (ICI's) Dyestuff Division, opened a library in the 1870s. Other progenitors of ICI also developed libraries. Brunner Mond had a library by the 1890s, and in 1909 the Nobel Explosives Company organized a collection at its factory in Ardeer, Scotland. In 1899, the Birmingham chemical firm of Albright and Wilson assembled a library of 5,000 volumes attached to the research department. The Halifax carpet manufacturer John Crossley and Son had a design library from the 1880s (Marshall 1968, 93–98, 129).

Naturally, libraries were more likely to be found in larger firms. Industrial libraries varied greatly in size. By the 1960s, the largest in Britain could have up

to 40 staff (Harrison 1966, 127). At the United Aircraft Company, East Hartford, Connecticut, a library was inaugurated in the 1920s comprising just four book stacks; by the late 1950s there was a complex of nine libraries with 64 employees (Kruzas 1964, 65–66). In the 1910s and 1920s, International Harvester's Extension Department ran a library (perhaps several indeed), pictured below.[4] The Extension Department produced literature on crop diversification, home canning, disease prevention, and other subjects. At the giant Ford Motor Company in Detroit, an Engineering Department Library was established fairly soon after the company's founding in 1903 (it was certainly in existence by 1920).[5] Much of its content was made up of a vertical file on a wide variety of subjects that were of interest to Henry Ford himself.[6] A survey commissioned in 1916 by the UK confectionery firm Rowntree and Co. (which was investigating the possibility of establishing its own library) revealed the existence of around 100 company libraries in American manufacturing concerns, a figure confirmed the following year by the *American Library Annual* (27). The report contained evidence of in-house library provision submitted by 25 companies—including the Harley-Davidson Motor Company (Milwaukee), the National Cash Register Company

**The "Library of Fragments"**
**Agricultural Extension Department Library, International Harvester (Chicago), 1915. (Wiseonsin Historical Society)**

(Dayton), the Goodyear Tire and Rubber Company (Akron, Ohio), and the People's Gas Light and Coke Company (Chicago).[7] Corporate libraries were most commonly found in banking and investment, insurance, public utilities (including telephone and telegraph), chemicals, metallurgy, electrical engineering, agriculture, and food, and, as the decades progressed, in developing industries like petroleum, automobile, and aircraft production.

In the UK, World War I gave a large boost to corporate library foundations, the number of which mushroomed in the interwar years. It is difficult to ascertain precise figures regarding the establishment of corporate libraries. However, certain data is available to the historian. In the UK, in 1927, of the 343 members of the Association of Special Libraries and Information Bureaux (ASLIB, established in 1924 and the sister organization of the SLA, established in 1909), some 95 were industrial or commercial concerns. This total increased to 202 (around 20%) in 1948.[8] A survey of 122 firms by the Department of Scientific and Industrial Research (DSIR) in 1952 revealed that whereas two-thirds had a collection of technical literature, only 20 percent of these had over 50 books (Marshall 1968, 26). Another survey, by the Manchester Joint Research Council in 1954, found that out of the 225 local firms investigated, 96 (or 43%) reported the existence of a library of one kind or another. As late as 1952, ASLIB was lamenting the fact that "Few small industrial undertakings are as yet prepared to establish information departments."[9] In 1954, the information scientist Jason Farradane (299) estimated that just 2 percent of industrial firms maintained an information service. This said, by the early 1950s, it was reckoned that between 1,200 and 1,500 British firms had established libraries or information departments, facilitating the observation that "industrial libraries now exist in sufficient numbers to be accepted as integral parts of a *large* [my emphasis] concern" (Piggot 1958, 75).

The interwar years saw a boom in corporate library foundations in the United States. Within the SLA, from 1921 onwards commercial and industrial firms consistently formed the largest "special library" group—307 (23% of the membership) in 1921; 1,023 (41% of the membership) by 1957. Between 1921 and 1940, just over 600 corporate libraries were brought into being, compared to around 360 in the preceding 20-year period. Geographically, the major clusters of corporate libraries were to be found in New York (by far the largest), Chicago, Philadelphia, Boston, and Detroit (Kruzas 1965, 12–15, 80, 83). Between the wars Ford developed a large Public Relations Research Library. The library contained clippings on the history of various Ford plants around the country. By the late 1940s, if not earlier, there was a large collection of brochures, photographs, and publicity issued by Ford's competitors.[10] More extensive data files on the cars of rival companies were housed in the firm's Engineering Library[11] (a vivid example of corporate intelligence). The library was also home to report on surveys of public opinion regarding attitudes to not only Ford but also other large corporations, such as General Electric, General Motors, and U.S. Steel.[12] Such was the energy of corporation library activity in the United States that by 1965 General Motors could boast 22 library facilities staffed by 78 people. The "capstone" of this system was

the library at the corporation's research laboratories at Warren, Michigan, which was inaugurated in 1917, commenced an inter-library loan system for all General Motors' libraries in 1927 and began preparing a current awareness bulletin in 1933 (Jackson 1966, 353).

## INFLUENCING FACTORS

Moore (1988, 51) outlined three major factors influencing the early development of corporate libraries: the emergent library profession; the growth of research and development; and, linked to the second factor, the expansion of scholarly publishing. A number of other factors can be added to this list: poor public provision; the emergence of new industries; the rationalization movement; scientific management; vocational education; information management; and, finally, in the case of the UK, the influence and examples of corporate library activity flowing from the United States.

Beginning with the last factor of these factors, many UK companies opted to commence a library service having become aware of developments in the United States. The report commissioned by Rowntree and Co., noted above, is a vivid example of this.[13] Librarians and information professionals traveled to the United States to research the library activities of leading companies. In 1923, J.G. Pearce (former librarian of Metropolitan-Vickers) attended the Special Libraries Association Conference in Atlanta (Pearce 1925, 14). Between the wars, R.S. Hutton (a leading figure in ASLIB) studied technical libraries during several visits to the United States (Hutton 1945, 6).

The beginnings of professional training for librarians in the late nineteenth century (in the early twentieth century in the UK) provided the necessary labor in many corporate libraries. However, not all corporate librarians were by any means trained librarians. In the United States, some corporate librarians were library school trained; but others came from a variety of non-library backgrounds. In 1916, there were trained librarians in the libraries of B.F. Goodrich (Akron, Ohio, rubber manufacturer), the People's Gas, Light and Coke Company, and the National Cash Register Company; but the librarians at Harley-Davidson, International Harvester (Chicago), the United Gas Improvement Company (Philadelphia), and the National Carbon Company (Cleveland) were, respectively, an ex-newspaper man previously attached to the publicity department, a woman with some non-professional experience in the local public library, a trained engineer, and a chemical engineer.[14] However, as will be discussed below, training in traditional librarianship was deemed by some not to be the ideal preparation for many aspects of corporate library work, and so alternative training emerged, though very slowly. In the United States, courses in special librarianship were first offered in the 1930s at Columbia University's School of Library Service and at Western Reserve (Shera 1958, 389). In the UK, a course in information science was not launched until 1961 at what is now City University in London. It was not the role of either the SLA or

ASLIB to provide training in industrial and commercial librarianship or information work.

Public provision of business information was not good enough to dissuade corporations from establishing their own facilities in this regard. Corporations did liaise with public business libraries,[15] and the business branches of big city libraries certainly offered some kind of service to industry and commerce. A public Industrial Library was established in Providence in 1900, and this was quickly followed by the emergence of Useful Arts departments in public libraries in Cincinnati, Detroit, and Cleveland (Mutchler 1969, 5). By the 1930s, there were a number of outstanding business departments operating in American public libraries, including: the Business Branch, Carnegie Library, Pittsburg; the Business Branch, Newark Public Library; the Business Information Bureau, Cleveland Public Library; the Business and Municipal Branch, Minneapolis Public Library; and the Kirstein Business Branch, Boston Public Library.[16] In Britain, public technical and/or commercial libraries began to appear in World War I and in its immediate aftermath: in Birmingham (1915); Glasgow (1916); Liverpool (1917); Leeds (1918); Manchester (1919); and Newcastle (1920). But despite the impressiveness of such collections and services, they were nowhere near large enough or responsive enough to meet fully the knowledge needs of large corporations, which duly inaugurated and expanded their own libraries.

There was a high correlation between corporate library activity and the development of new sectors in the economies of both the United States and the UK. In the twentieth century, dependency on the "old staple" industries of coal, shipbuilding, textiles, mechanical engineering, iron and steel gave way to new opportunities in a range of science-based, high-yield industries such as chemicals, synthetic dyestuffs, artificial silk (rayon), precision instruments, oil, aluminum, rubber, plastics, aircraft, motor vehicles, canned foodstuffs, electrical engineering (generation and supply), electrical and radio equipment, and a wide variety of household, confectionery, and consumer goods. It was in these growth industries where scientific knowledge and research and development were at a premium that technical libraries took root.

The growth of company libraries paralleled the rise of organized science and research, and the associated realization that improvements in management and production were increasingly dependent on the retrieval and assimilation of recorded knowledge. Research into industrial processes and marketing were part and parcel of the onset of monopoly capitalism. Corporations that were among the first to establish laboratories included Eastman Kodak (1893), General Electric (1900), Bell Telephone (1904), and Westinghouse (1917). By 1920, there were around 300 corporate laboratories in the United States, rising to over 2,200 in 1940 (Braverman 1974, 163–64). In the UK, by 1927 the General Electric Company (GEC) was employing over 200 research staff; while ICI was spending £1 million a year on research and development by 1930. The research department was often the home a corporation's first library (although libraries were also established in many other kinds of department—in personnel management, marketing and sales, accounting, statistics, and filing).

Du Pont, at its Gibbstown (New Jersey) plant, began a research library in 1910 (Kruzas 1965, 65). The pharmaceutical manufacturer (and forerunner of Pfizer) Upjohn Company of Kalamazoo, Michigan, a company dependent on ongoing scientific research, described the library it attached to this particular aspect of its operations as "the fountainhead of Upjohn research" (Brown 1958, 113). But research department libraries were not isolationist. Other departments benefited from their existence. The research library in the Harley-Davidson Motor Company served not only the research department but also departments of sales, accounting, advertising, publicity, production, and factory organization.[17]

Increasing research and development was partly fuelled by an increase in publications and the libraries that carried them. This in turn led to further activity in libraries and the publishing trade. In response to this bibliographic overload, the corporate librarian was "called to the rescue to bring order out of chaos" (Lefebvre 1958, 54). This cycle intensified, so that by the late 1960s, the amount spent annually on research and development in the United States reached US$3 billion, and 60 million pages of scientific and technical literature were being published each year worldwide (Lefebvre 1958, 53).

As competition and trade became more international, early-twentieth-century corporations increasingly came to realize the importance of commercial and technical intelligence. "Gone are the old rule-of-thumb systems with their risky characteristics," asserted the *Manchester Guardian* in 1920 in relation to business information.[18] This sentiment was echoed in 1925 by Vincent Garrett, technical librarian of Rowntree and Co., who confidently declared in justifying his role that "the rule-of-thumb era has run its course ... The effective operation of business undertakings is becoming increasingly dependent upon organised science" (40). It was realized that business had "increased wonderfully in size and complexity and in the severity of its requirements" and that competition demanded "that they [business executives] be familiar with the best knowledge and thought of the day in order to keep up with the procession" (*What to read on business* 1912, 8). Researchers and executives were not best placed to undertake the library and information investigations they needed. In fact, a common theme in the professional literature was the image of the bibliographically challenged executive or scientist too busy to undertake bibliographic and informational research or to improve such research skills, thus becoming ever more dependent on the expertise of the library staff.

Corporate library activity was boosted by changes that occurred in the scale and ownership of enterprises. In response to intensifying competition, businesses developed a philosophy of rationalization, which in practice meant increased concentration of ownership—the essential ingredient of what Hannah (1976), in a UK context, called the "rise of the corporate economy," and Braverman (1974), in relation to U.S. firms, referred to as the emergence of monopoly capitalism. The early twentieth century witnessed considerable merger activity. The new growth industries in particular displayed a marked shift towards oligopoly.

For example, in the UK, the number of motor vehicle manufactures fell from 96 in 1922 to 20 in 1939 (Glynn and Oxborrow 1976, 106). At times of economic doubt, as in the 1930s, amalgamation was seen to offer security. It was argued that larger enterprises with accompanying economies of scale might be better equipped to ride out economic storms.

Rationalization was crucial to the growth of company libraries. Increasing size meant technical library provision could be afforded. In 1918, the British librarian Ernest Savage argued that large companies clearly enjoyed "advantages over isolated firms and small industries in being able lavishly, yet at a trivial cost compared with their immense business, to equip and maintain research laboratories and bureaux of information" (151). Rationalization was also seen in the process of "knowledge material" centralization that led to the birth of many a corporate library. Libraries often began as "deposit" units, acting as a magnet for small (and sometimes not so small), pre-existing, dispersed collections of scientific and technical literature. There is some evidence that these embryonic, dispersed collections were partly formed as a result of individual employees subscribing to journals and buying books out of their own pockets (Kruzas 1965, 67). A good example of scattered collections being brought together is the formation of the library in the Western Union Telegraph Company (Library of the Western Union Telegraph Company 1930). In 1916, the Norton Company of Worcester, Massachusetts (manufacturer of grinding wheels) reported that scattered collections in the offices of the research department had been centralized in a library, but other departments retained their collections "under the same sort of arrangement as the departmental libraries at universities."[19] Thus, whereas there was a definite move towards centralization of resources, in some cases multiple library facilities operated. In 1913, for example, American Telephone and Telegraph had six libraries—in departments of accounting, foreign statistics, public ownership, engineering, law, and research (Kruzas 1965, 97).

Frequently, corporate libraries supported the technical and vocational education of employees. Despite a deepening division—and increasing de-skilling—of labor in some sectors, in other areas during the early twentieth century, there was a growing appreciation of the importance of technical and vocational education, not least in respect of white-collar occupations. Technical education via the company library reflected changing attitudes to human capital formation. Libraries were sometimes an integral part of in-house education and training programs (Kruzas 1965, 78–80). The rubber manufacturer B.F. Goodrich maintained a sales training school and relied on the library for supporting materials; while the library of the National Cash Register Company provided support for the company's Education Department, the training of apprentices and the classes it ran in advertising, salesmanship, machinery, and scientific management.[20] Information services were urged in engineering companies to "improve the minds" of the engineers they employed (Simons 1933, 130). Douglas Foskett, librarian and information officer at the UK's Metal Box Company from 1948 to 1957, was

convinced that his library played "an important part in improving the general educational level of the workers at all levels" (Foskett 1956, 4). To encourage widespread educational use, some company libraries opened before work began and remained open after the end of the working day.[21] Many book and periodical collections had a breadth that went well beyond the immediate knowledge requirements of the corporation. The UK's Post Office's central reference library was designed not only "to assist in the solution of the many problems that arise in the course of official work" but also "to aid the staff in the special study of subjects of Post Office interest" (Post Office Library 1938, 20). The committee planning the new library believed it important that "the Library should not be confined to such works as interest only the specialist and [the] investigators . . . it should contain works of the widest possible appeal within its range of subjects, and . . . assist those officers who . . . are desirous of access to the best means of fitting themselves for their official careers."[22] It was said that one of the functions of the library at British Petroleum's Headquarters in London was simply to broaden workers' minds in an age when organizations were becoming ever larger and more complex and when tasks were becoming more defined: "In these days of high specialization, one should sometimes catch a glimpse of what the other man knows and does on the other side of the partitioning wall" (Britannic House Library 1931, 24).

Company libraries helped to underwrite the development of scientific management in corporations. In accordance with new scientific management techniques, the librarian of the Retail Credit Company in Atlanta worked with company supervisors to study reports on individual workers and then selected books and other materials "to correct any faults or to help him in further self-development."[23] Many library holdings reflected the new science of management. Literature on management and supervision of operations often featured (Pearce 1921, 366). Rowntree's librarian believed it was important to make available books on administration and [industrial] psychology.[24] "The secret of high wages and high profits is *Management*," he advised.[25] In 1918, Ernest Savage advised that in motor manufacturing, any decent library should have books on what he called "collateral subjects"—like industrial organization, advertising, wage systems, the labor question, and scientific management. John Cotton Dana termed such subjects—in which he included social justice, poverty, and industrial relations—"other-worldly information."[26] Savage (1918) advised that libraries be used to study the ideas and aspirations of the labor movement so that companies would not be taken by surprise by workers' demands (151). The Norton Company had a clippings file on general economics and industrial movements.[27] Such collections may have reflected the desire of management to contain labor through new management philosophy and practices. Company libraries invariably held useful and, in some cases, extensive collections of *commercial* material. Commercial information was continually required in respect of foreign legislation, tariffs, transport systems, market conditions, and imports and exports (Pearce 1921, 367). Rowntree's librarian announced in 1951 that "we are 35% scientific and 65% commercial and economic."[28]

## THE DISPLACEMENT OF THE REFERENCE ROLE AND THE EMERGENCE OF INFORMATION WORK

The final factor that influenced corporate library development was the emergence of information management, defined as the management of information in organizations (that is, information internally generated as well as external in its origin). Historians have documented in detail an information management revolution—equal in magnitude to that facilitated by digital information technology—roughly in the two decades either side of 1900 (Yates 1989; Beniger 1986; Campbell-Kelly 1998; Black, Muddiman, and Plant 2007). The revolution comprised innovation in both the techniques and technologies of information—from minuted meetings, the official office memo, new forms of graphic presentation of data, and subject access to documents; to telephones, punched-card tabulators, duplicating machines, and the vertical file. The corporate library, certainly after 1900, was an integral part of the revolution, both drawing energy from it and contributing to it. As such, the notion that corporate libraries barely developed a role beyond a traditional, book-based, reference-style service is thrown into sharp relief; for not only did they invest heavily in non-book/periodical documents, they also pro-actively distributed the information they gathered as opposed to remaining simply in responsive reference mode. This is not to say that the reference function disappeared. Rather, as the first half of the twentieth century progressed, it was gradually displaced (as opposed to being replaced) by a powerful information identity.

In the earliest corporate libraries, a reference identity was highly visible. The *New York Times* established an Editorial Reference Library in 1851 (Kruzas 1965, 8). Jackson (1986) viewed "active reference service as the prime function" of the corporate library in the period to around 1925 (587). In 1911, the fundamental purpose of the corporate library was said to be: "Practical reference work with all the members and employees of the establishment" (Wheeler 1911, 12). The library of the automobile and die casting manufacturer H.H. Franklin of Syracuse, New York was designated a "technical reference library." The reference queries it fielded were, to say the least, varied: "Side by side with requests for material on the length of bore and stroke for foreign cars, dimensions of torque or rear axle, [and the] theory and design of centrifugal pumps and fans . . . appear questions relating to employers' liability, production cost, shop management, . . . and the height of Mt. Wilson, Arizona" (Babcock 1911, 14). In 1933, the British librarian W.E. Doubleday remarked that the corporate library represented a "refinement of reference work" (181). The reference role endured into the 1950s, and to this day indeed. In 1958, the pharmaceutical corporation Upjohn Company of Kalamazoo, Michigan opened a new library with a traditional and large reading room with a traditional reference service (it didn't even circulate current journals) (Brown 1958). In 1959, even in the hard-nosed world of engineering, the corporate library retained an important reference dimension: "A reference service . . . plays the role of a detective" (Evans 1959, 94), it was observed.

The reference role was complemented by a strong information function. Corporate libraries became conduits of information rather than emporia of knowledge. An early example of this change of gear is the library started in the pharmaceutical manufacturers Abbott Laboratories (originally Abbott Alkaloidal Company) in the 1880s. In its early decades it was in essence a "safety-deposit" type of library, "guarded by an associate physician who seldom lent the books for fear of losing them" (Joannes 1939, 254). But in 1910, books began to circulate. In 1918, a librarian was appointed to prepare a catalogue, and by the 1920s, indexes to periodicals were being prepared and readers' bulletins issued to create demand for the journals (Joannes 1939, 254–56). As corporate libraries developed, they came to stand for a range of functions much wider in scope than the mere provision of a collection of books and periodicals. They were transformed into "information centers," their staff engaged in abstracting work, in the extraction of information from whole documents and its subsequent indexing.

The information dimension of the corporate library was explained in 1925 by Rowntree's librarian, Vincent Garrett: "ninety-five percent of the inquiries handled in my library are not for specific books, but for *information* . . . this type of library is not a Book Department but an Information or Intelligence Department" (39). This message was echoed three decades later by one of Garrett's successors as Rowntree librarian: "As a matter of fact I sometimes wonder whether the name 'Library' as far as we are concerned is not a misnomer, for I should like to say that we are 40% Library and 60% Information Service."[29] Corporate libraries were as much home to the vertical file as the book. It is no coincidence, indeed, that many corporate libraries began their existence in filing departments. In the Federal Reserve Banking System, 10 libraries were established between 1918 and 1922, and most were inaugurated with a handful of books, housed with the general files and supervised by filing clerks (Boateng 1990, 15).

A growing information function did not mean that the reference function was marginalized. If anything, reference services were all the better for the growth of miscellaneous materials and new ways of disseminating knowledge. Moreover, even in libraries where book service remained dominant the "warehousing" stereotype doesn't match reality. Corporate librarians were keen to weed collections frequently; and as a result of the desire to keep collections relevant, donations were often made to local colleges and scientific societies (Kruzas 1965, 98). However, the complexion of corporate library work and services undoubtedly changed in the first half of the twentieth century. Sometimes the information function was separated from the traditional approach. In 1916, the B.F. Goodrich Company had a chemical library attached to the chemical laboratory as well as a general reference library housed in the main office building.[30] But more often than not, the traditional and new approaches existed side by side. Thus, also in 1916, the library of the National Cash Register Company was described at once as an "information bureau" and a "general reference library."[31]

One of the characteristics of the emergent information-rich corporate library was that staff did not wait to be asked for information; rather, when material came in it was processed and routed through to individuals and areas whom it

was thought would benefit.[32] The corporate library acted as "a reference service, to provide the answers to enquiries which may be received at any time," and record those answers for future reference; but increasingly its job was "to bring to the readers' notice the new literature in his field of work, without waiting for him to ask for it" (Foskett 1951, 163). Corporate libraries were especially service minded and user focused; they had to anticipate demand and package information accordingly. The *American Library Annual* of 1917 noted that: "The business man prefers a librarian who gives him the facts he wants, not the books from which to extract them" (28). There is evidence of democratic indexing and archiving in the form of readers indicating which articles from periodicals circulated to them they wished to see indexed or clipped (Babcock 1911, 14). Helpfully, the library in the Burroughs Adding Machine Company provided a vest-pocket copy of its classified index (*American Library Annual* 1917, 28).

Subject access, deep indexing, and detailed cross-referencing were critical to corporate libraries' information operations. Thus, the classified catalogue had special value. The Universal Decimal Classification scheme was a popular tool, although many libraries found the Dewey Decimal Classification scheme to be perfectly adequate. There was a good amount of experimentation by librarians seeking to construct tailored access—that is, schemes adapted from standard classification tools to satisfy local needs (Foskett 1951, 163). In addition to standard library techniques, recourse was made to new office filing practices and schemes. At the Ford Motor Company, the information files assembled initially for Henry Ford were arranged according to four different filing systems—allowing varying degrees of subject access—before the file was disbanded in 1952.[33]

Good subject access allowed for the efficient exploitation of information in the large variety of materials and formats that characterized holdings. Commonly, business libraries contained relatively few books but many periodicals, magazines, pamphlets, reprints, clippings, charts, drawings, catalogues, trade literature, maps, lantern slides, organizational reports, correspondence, and photographs (and, as the century progressed, other photo-reproductions like photostats, microfilms, and microcards) (Jackson 1951, 93). Such miscellaneous materials—and one can add internal research reports to this list—were the "bread and butter" resources of the corporate library. Attention to subject access was also a reflection of the fact that corporate library was to a large extent a "library of fragments" (Jast 1917, 122). Although in the corporate library context there was overlap between the two, as an ideal type the "information center" differed from the "library" in the sense that its output was not the same as the input they received. When whole items were received many were stripped down by means of indexing, classification, abstraction and physical guillotining, or clipping, by staff who might be described as "knowledgeable scientific middlemen," the resulting output possibly consisting of "a selected and evaluated bibliography, a critical data compilation, [or] an expert opinion on a specific technical question" (Kertesz 1980, 719–20). In the UK, the library of the research laboratories of the GEC was strongly informational in its work, the major part of staff time being taken up by circulating, retrieving, abstracting, and indexing periodicals and reports, and information

received in letters and through other means (GEC Research Laboratories 1957, 12). The dynamism of the corporate library's information function was nowhere more visible than in the responsibility it had, in some places, for correspondence. The Kaiser system of indexing that many corporate libraries adopted in the twentieth century was designed to deal with correspondence (Kaiser 1911, 663).

The corporate library even went so far as to supply information that was obtained by word of mouth in advance of its appearance in the printed page (Krause 1919, 307). This underlines the role of the early corporate library as a "switching centre" for the communication of information in the organization. The corporate librarian was a conduit of information in the organization, a crucial node in its system of knowledge, a person who over time gained knowledge of the organization by fielding enquires from across it and who, by passing that knowledge on, helped build what in modern parlance is termed the "learning organization." The increasing internationalization of capital and the emergence of transnational corporate ownership placed a premium on the company library as an acknowledged and strategic intersection for the flow of information between the various arms of the corporation. At the Manchester electrical engineering firm Metropolitan-Vickers, the Intelligence Section, established during World War I, served as an important junction in the exchange of information between the various companies in the global corporation of which the company was a part; a role reflected by the fact that the department started life as the Intelligence and *Interchange* [my emphasis] Section.[34]

## CONCLUSION

By the late 1950s, the corporate library was on the brink of major change. Services mediated by the computer lay just around the corner. Despite its apparently Luddite tone, the movie *Desk Set* symbolized and anticipated the beginnings of the "new library." However, in many respects the arrival of the "new library" (and the popularization of the word "information" that came with it) was simply a further chapter in the eventful story of the corporate library as "information service."[35] In the late 1950s, the reference desk remained an important ingredient in corporate library work, but activities behind the desk focused much less on whole items (the books and periodicals that had characterized the earliest corporate libraries) and much more on the processing of these items into fragments of information made visible by efficient techniques of subject access. The corporate library as a "library of fragments" had been evolving for decades. As early as 1919, indeed, Rowntree's first technical librarian wrote that: "for business purposes we tend to disassociate information from literature; we do not want books, we want information."[36] Early company library activity, as Kruzas (1965, 112) has noted, was marked by "efforts to adapt, modify, extend, and occasionally discard"—one might add "displace"—the conventional approaches to organizing knowledge favoured by librarians. However, it would be fair to say that as these innovations were being ushered in, the larger library profession was failing "to welcome non-traditional

materials, new technologies, and subject-based personnel and approaches to the field" (Williams 1996, 173).

If the "library of fragments" had been evolving for decades, so too had a tension between it and the traditional library. It was a tension reflected in the appearance of organizations—the SLA and ASLIB—in competition with the American Library Association and the Library Association (UK). The existence of a further layer of tension—between special librarian and documentalist—is also evident in the establishment of the American Documentation Institution (1937; the forerunner of the American Society for Information Science) and, in the UK, the Institute of Information Scientists (1958).[37] Although hidden from public gaze behind the factory wall or deep within the edifices of corporate offices, the fact that the corporate library was one of the main arenas where these professional disputes were fought out demonstrates that it was at the forefront of changes in librarianship in the first half of the twentieth century. Moreover, the early history of the corporate library provides much more than a lens through which to spy the history of librarianship and information work; for corporate libraries were key components of the increasingly science-based, scientifically managed, and multinational large-scale enterprises that emerged in the late nineteenth and early twentieth centuries. Corporate libraries contributed significantly to the strengthening of the information infrastructure of the enterprises in which they were situated—an information infrastructure that pre-dates by nearly a century the supposedly novel concepts of the learning organization and knowledge management.

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## NOTES

1.  In 1964, MEDLARS was developed at the National Library of Medicine and went online in 1968 (Stevens 1994, 363; Poland 1990, 72). As the 1960s progressed, the production of all indexes produced by the monumental and historic Chemical Abstracts Service, whether on paper or magnetic tape, was gradually switched to computer generation (Powell 2000, 98). In 1969 the Lockheed Missiles and Space Company produced an online search system for the National Aeronautic Administration, which was soon to become commercially available as DIALOGUE. The 1960s saw many other online commercial database developments (Hahn 1998); as well as pioneering automation initiatives in the library, such as the development of MARC records by the Library of Congress and experimentation with computers, often undertaken in university libraries, for other library operations, from circulation to acquisition (Woods 2007; Naylor 2007; McCallum 2002; Bregzis, Gotlieb, and Moore 2002).

2.  It is to be noted, however, that some corporate libraries did grow out of in-house recreational libraries and public deposit-station libraries, and/or had links to them, perhaps in terms of shared administration and resources. Also, a few libraries offered a small amount of fiction reading alongside their technical materials, as in the library of the Retail Credit Company, Atlanta: J.B. Morrell, Business libraries (26 July 1916), Internal Report, Rowntree-Mackintosh Archives, Borthwick Institute, University of York. Hereafter cited as Morrell Report.

3.  Report of the Research Department (8 October 1924), Metropolitan-Vickers Archives, Manchester Museum of Science and Technology, File 0531/1.

4.  Correspondence from Lee Grady, McCormick-International Harvester Collection Archivist, Wisconsin Historical Society (16 November 2009).

5.  Benson Ford Research Center, Accession 1618. Communication from Marguerite Moran, Ford Motor Company Archives (16 March 2010).

6.  Benson Ford Research Center, Accession 13. Topics ranged from Gardening and Gasoline to Georgia (USA) and Ghandi. In 1958 the library moved into thoroughly modern premises in the Engineering Centre's new Scientific Laboratory and Research Building (Gorman 1958).

7.  Morrell Report.

8.  In the late 1950s, an ASLIB survey of information and library units found there to be 486 of them, although it must be stressed that the list was confined to those units led by someone described as a "librarian" or "information officer": ASLIB (1960, 3–4).

9.  ASLIB Executive and Finance Service, Consultant Service (12 December 1952), ASLIB Archives.

10.  Benson Ford Research Center, Accession 378, Boxes 39 and 46.

11.  Benson Ford Research Center, Accession 1618.

12.  Benson Ford Research Center, Accession 465, Box 1. The surveys showed an improving attitude to large corporations in the period from the late 1930s to the early 1950s.

13.  Morrell Report.

14.  Morrell Report.

15.  The library at Harley-Davidson drew heavily on the commercial division of the Milwaukee Public Library: Morrell Report.

16.  Public Business Librarians Group (March 1938), SLA Archives, Washington, D.C.

17.  Morrell Report.

18. *Manchester Guardian* (18 November 1920). No title.

19. Morrell Report.

20. Morrell Report.

21. As in the case of the National Cash Register Company: Morrell Report.

22. [Post Office] Headquarters Library, Report of the Committee (August 1935), Royal Mail Archives, File POST 72.

23. Morrell Report

24. Rowntree Central Works Council Minutes (11 May 1925), Rowntree-Mackintosh Archives, Borthwick Institute, University of York.

25. [Rowntree] Technical Library, First Half-Yearly Report (10 September 1917), Appendix Three, Rowntree-Mackintosh Archives, Borthwick Institute, University of York.

26. *Special Libraries*, 5 (1914), 72. No title.

27. Morrell Report

28. Talk given at York Public Library on 20 September 1951 to the Reference and Special Libraries Section (Yorkshire Group) of the Library Association, Rowntree-Mackintosh Archives, Borthwick Institute, University of York, File R/DH/TL/9

29. Talk given at York Public Library on 20 September 1951.

30. Morrell Report.

31. Morrell Report.

32. As reported by the librarian of the Harley-Davidson Motor Company: Morrell Report.

33. These were an in-house subject and name file (1914–21); a Library Bureau system (1921–29); the Amberg file and Indexing Company system (1930–39); and another in-house name and subject file (1950–52): Filing systems of the Henry Ford Records and the Edsel B. Ford Office Records, Finding Aid, Benson Ford Research Center.

34. Research Department report (1929), 32. Metropolitan-Vickers Archives, Manchester Museum of Science and Technology, File 0531/19–24.

35. It is interesting that in 1945 one commentary on the corporate library posited that "a library should form part of an information service" (Information Service in Industry 1945, 232), and not *vice versa*.

36. Library bulletins and card index (16 May 1919), Rowntree-Mackintosh Archives, Borthwick Institute, University of York, File R/D/TL/9.

37. In 1952 Jesse Shera wrote that: "For half a century special librarianship and documentation have co-existed as separate, even disparate, manifestations of general library practice" (189).

# 2 LIBRARIES AS HUBS IN THE NEW WORKPLACE

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## SUMMARY

Work is changing—it is becoming more mobile and collaborative, driven by technological change, ubiquitous access to information, and global organizations. So the workplace must change, requiring support for mobile workers who are empowered to choose where, how, and with whom they work rather than be assigned a single workspace unlikely to meet all their needs. This implies a new balance of individual and collaborative space, with blended settings that combine physical and virtual interaction. Simultaneously, corporate library user needs are changing, driven by many of these same factors along with the proliferation of different information formats, new research methods, staffing roles, and space needs.

At a crossroads in their evolution, corporate libraries and knowledge centers have been regarded as places centered on information storage and retrieval within environments of quiet, individual contemplation. However, these libraries have the opportunity to become true "hubs" within the workplace—fostering collaboration, facilitating discovery, fueling innovation, and expressing the organization's culture and brand.

To capitalize on this opportunity, these hubs must be planned using a research-based process to forecast user needs and develop innovative, adaptable solutions that can change over time. This chapter is drawn from the work of DEGW, a strategic consultancy that helps government agencies, leading corporations, and top-tier academic institutions use *place* to better the *performance* of their *people*. It will describe the planning context, issues, process, solutions, and benefits to provide a roadmap for planning corporate libraries and knowledge centers that function as indispensable hubs as part of the corporate workplace—places that are inseparable from who the organizations are, what they do, and how they do it.

## SECTION 1: INTRODUCTION AND CONTEXT

### *Work as What You Do, Not Where You Go*

Some time ago the "workplace" was synonymous with either (a) one's desk or (b) one's office, but today a broader definition is required, brought about by changes in the way we work and the spaces and technologies used to support that work—changes that are affecting corporate libraries as well. Before discussing what those trends are and some successful responses to them, defining the workplace is required.

Simply put, work is no longer somewhere one goes; it's something one does. The workplace is made up of all the places, tools, process, and relationships that support that work. This includes physical places like desks, offices, meeting rooms, lobbies, cafés, corridors, home offices, airport lounges, planes, trains, and of course, libraries. It also includes virtual places like online meeting spaces, intranets, and virtual worlds such as Second Life, as well as the communication tools that used to connect and move between them, like mobile phones, video-conferencing, and social media.

The complexity of the modern workplace and navigating what former Microsoft Chairman Bill Gates has called the "new world of work" (Bill Gates. Microsoft Executive Email Archive, posted May 19, 2005) can be daunting. What's needed is a workplace that not only has all these different spaces and tools and people, but a way of putting these ingredients together in a way that creates dynamic, inspiring places that enables the professionals to connect, collaborate, concentrate, and build community.

### *Planning the Workplace*

Since its founding in 1974, DEGW has created a novel approach to thinking about the workplace, one that views space as a means to improve organizational performance. Using an engaging, research-based process to understand and forecast user needs, DEGW creates the design brief or design guidelines that define the workplace design problem to be solved and enables designs to be driven by evidence and organizational needs in a focused way. This produces measurable benefits such as increased satisfaction, productivity, attraction/retention, and both cost and carbon reduction. DEGW enables the workplace to help people and organizations better perform.

DEGW research has proven that a successful workplace meets three interdependent planning criteria: it must be *efficient* in its use of resources like space and services, it must be *effective* in order to enable people to perform at their best, and it must be *expressive* in communicating the organizational culture and brand, since all space communicates messages about what its occupants and owners value. These must also be met in an environmentally sustainable way. None can be met to the detriment of the others; for instance, there is little sense in pursuing space efficiencies if this hampers staff effectiveness in the long term, given the latter costs up to ten times the former.

When a workplace can optimize these three "Es," it enables people to perform at their best, to be inspired, engaged, connected, and effective (Blythe and Worthington 2010, 84). This kind of optimization is not easy. It requires accepting that the activities happening in a space are more important than the space itself (Duffy 2007). Another way to think about this is the simple equation of supply and demand. Each organization and its people have certain needs or demands based on their work process. This "demand" is met by the "supply" of space, technology, and services or support.

### *Moving from Supply to Demand*

For decades, conventional workplaces have "supplied" space, assuming organizations and their employees would adapt and make do with whatever the market offers. Successful, supportive workplaces turn this around and configure supply based on demand, understanding and anticipating user needs (Duffy 2008, 26). Often this means enabling individuals to choose to work in a variety of different settings, depending on their tasks and their preferences—what is commonly referred to as "activity-based working." This represents a fundamental shift in how space is planned: from assigning space to individuals based on their hierarchy within an organization to allocating space based on different styles of work within an organization in providing a variety of settings in terms of scale, enclosure, location, atmosphere, and versatility.

A good example of this shift can be seen in the transformation of the financial services company, Capital One, through its Future of Work (FOW) program initiated with DEGW in 2004. Capital One's case for change was a state in which every employee's day was dominated by formal meetings which slowed decision making, left space sitting empty, and inhibited ad hoc collaboration. To break this cycle and enable employees to better connect, collaborate, and communicate, they moved from assigning workstations and offices to a model in which employees chose where and with whom to work based on what they have to do. The results, documented in DEGW post-occupancy evaluations that compared metrics before and after the change, were increased productivity and satisfaction while also reducing the amount of space and energy needed (DEGW Web site, Projects, CapitalOne).

### *The Role of Libraries in the Workplace*

As the nature of work and the workplace has changed, so too have the requirements for corporate libraries. In the traditional workplace, particularly for scientific organizations, the corporate library has played a role similar to the research library in a university setting. This role had several principal components: collections development to select what resources are needed, information organization, storage, and retrieval, and research assistance and searches (such as patent searches). To fulfill these functions, the library has existed as a specialized

resource within the workplace, often tucked in the corner—someplace one went to when one had to.

As corporate librarians moved into knowledge management functions and converted to predominantly electronic resources, they became less tied to physical library space—one no longer had to go anywhere to get this information and the assistance with it could be provided remotely. With foot traffic down, the perceived value physical facilities has eroded even more as aging stacks areas are seen as areas for repurposing to other functions in need of expansion.

The corporate library can play a new role in response to forces changing the workplace and libraries alike. The case studies shared later in this chapter, some realized, demonstrate how corporate libraries might be repositioned and their value reasserted. For instance, the Innovation Hubs at GlaxoSmithKline have enabled previously disparate teams, skills, and knowledge to coalesce in a more expressive and productive workplace. BOX at the London School of Economics enabled academics and corporate employees to mix, sharing resources and ideas. By focusing on a unique combination of space, services, and collections, these and other examples point the way forward, but first understanding how work is changing is a pre-requisite.

## SECTION 2: CHANGES IN THE WORKPLACE

Work is becoming more mobile and collaborative, driven by technological change, ubiquitous access to information, and global organizations. This has brought about new conventions in time and space—an "always on" culture, a blending of work and life, and new work patterns and work processes. So the workplace must change. Today's new workplace supports mobile workers who are empowered to choose where, how, and with whom they work, by selecting from a series of interdependent work settings rather than being assigned a single workspace unlikely to meet all their needs. It requires a new balance of individual and collaborative space, and it is more often a mix of spaces for both physical and virtual interaction. While the last two decades of workplace planning has focused on creating the "office as a city" by including a rich mix of amenities and space organized in "neighborhoods" along a "main street," we are quickly moving to a new more distributed model with the "city as office" (Duffy 2008, 50). To be a vital part of the workplace, corporate libraries must also respond to these changes, and so in what follows, key issues for the workplace are outlined.

### New Tools and Processes

The tools used affect how one works: knowledge workers are now continuously connected to each other and to their information. New tools like mobile devices, social media, and videoconferencing create new conventions in the use of time and space and different expectations about how we will work. For instance, connecting with colleagues across the world often means we are working extended hours, and mobile communication devices mean we are potentially

always at work. Such devices have also transformed text-based communication from an asynchronous form to a fluid, synchronous one, shrinking expected e-mail response times from days to minutes, and they have also turned phone calls into more a scheduled activity as it is can be seen as a bother or intrusion and people are less likely to be at their desks. Cloud computing is changing our notions of what is portable, what is private, and what the personal computer is. We can access our data and applications anytime and anywhere so *storage* of information is replaced by *access*; exchanging files gives way to real-time co-creation; rather than the desktop and its software as the prevailing metaphor for computing, it is fast becoming that of the portal—to information and to other people as part of the network.

Beyond new work processes, many of our new tools also share a common thread in that they generate—and therefore create a demand to store, organize, and analyze—large amounts of data. Indeed today, data is available on almost all aspects of business, from usage data on products to satisfaction data on services. As a result, our expectation is that systems for data capture must always be put in place, along with metrics and dashboards to visualize the analysis. As well, a greater percentage of the workforce is involved in working with data, and fluency in this activity will become an essential skill. This proliferation of data has large implications for library space and staffing relative to issues of storage, access, analysis, visualization, and organization—what might be called the "curation" of data in order to preserve it and put it in context to make it useful.

The last trend brought about by new tools concerns design or more generally, "making." New software packages and robust computing power, as well as more widespread interest in design, have enabled more and more of us to be designers—to make physical and digital things. More of the workforce is involved in creating visual and physical artifacts, including slide presentations, diagrams, or even physical mock-ups and prototypes. This means that spaces for making, reviewing/critiquing what is made, and storing/displaying it are on the rise, as are the demands for the skills to do so and the tools to do it with.

### Mobility

The workforce now is more mobile than ever as information technology has enabled people to work anytime, anywhere including client or partner offices, home, cafés and coffee shops, airport lounges, co-working sites, and just about any place with power, wireless, and a seat. This "breaking out" of the office is even being celebrated in conferences, events, and festivals (Breakout! Escape from the Office). Since this happens externally to the office, this is called "external mobility," and evidence of this is all around us. For instance, a recent DEGW survey of employees for a leading technology company indicated that the 15,000 employees who responded—representing more than 25 countries—spent twice as much time working outside the office than they did four years ago in our previous survey.

Through surveys we have done like this one with hundreds of organizations around the world and across industries, our research shows that knowledge

workers increasingly rely on a series of different settings in which to work. Many people admit to getting more work done in transit than in the office and airplanes or trains have become contemporary reading rooms (Felix 2006, 81), and upcoming long flights have become opportunities to complete a lot of work.

This same mobility applies inside the office as well, where we are often as likely to be found in a room meeting with colleagues or working elsewhere in the office than concentrating at our desks. Freed from the limitation of working solely at a desk, people then need a variety of different settings for work and the ability to choose to work in whichever ones best suit the activities they are engaged in and their own work style. This variety includes open and enclosed spaces, soft space and hard space, lively collaborative space and quiet concentrative space, and space "owned" by those groups it's assigned to as well as space shared across groups.

### *Collaboration*

One of the key drivers for mobility is that work is increasingly collaborative. As we work on more complex problems, generate and analyze more data to solve them, and work in distributed teams across town and around the world, the way we spend our time shifts. We use space differently, and it therefore needs to be allocated, configured, and managed differently.

Since people can work anywhere, they increasingly come into the office to collaborate and be a part of a community rather than to find a space in which to concentrate. This requires new notions of privacy and ownership—for instance, viewing all the spaces within the office as shared amenities like an urban park rather than an individual backyard. Collaboration increasingly blends physical and virtual interaction as people talk through a problem with colleagues in the same room and elsewhere, connected by voice and video and often while looking at the same information—charts, graphs, diagrams, and images. Along the way, there is more of a need to capture these interactions—the discussion, the notes and mark-ups, and the video but as a way of sharing with others and recording as a reference.

These differences in the use of space for collaboration trigger changes in the configuration and management of space in three principal ways. First, it is not uncommon to see highly collaborative organizations such as Google devote as much or more space to social and collaborative spaces than individual workspace. DEGW analyzed the Google workplace and work patterns while developing global guidelines and design implementations for them, capturing the essence the attributes that make their workplace environment stimulate creativity. Second, technology, whether a low-tech projector or a high-tech videoconferencing system, must be integrated within a space to blend these physical and virtual interactions and to enable capture and sharing. Third, rather than separated from individual workspace, collaborative spaces must be part of "neighborhoods" within the workplace to facilitate gathering, chance encounters, and the development and expression of ideas wherever they may form—for instance, treating hallways and circulation routes as more than paths from A to B but more

like linear meeting spaces, with places to talk, sketch on a whiteboard, or be inspired along the way.

## SECTION 3: CHANGES IN LIBRARIES

Three decades ago, Theodore Levitt from the Harvard Business School recommended that organizations in different industries ask themselves the fundamental question "What business are we in?" (Levitt 1960, 45). He showed how a narrow, product-oriented definition would lead to obsolescence while a broader, more consumer-focused definition would help ensure survival. He illustrated this using the example of the railroad companies which declined because they thought they were in the "railroad business" when really they were in the "transportation business." Libraries are in the midst of a paradigm shift from a product orientation of being in the "book and journal" business to a service orientation of being in the "information business," providing access to and expertise in understanding information, regardless of media or format. In response to forces for change, libraries are providing the services, spaces, and technologies to enable their users to not only to store and retrieve information but to create it, share it, combine it, and refine it.

### Driving Forces

The same forces that are affecting the workplace are affecting libraries. People are more mobile and work is both more distributed and collaborative. New tools and processes are at play. In addition, users come to libraries with their own devices—laptops, smartphones, or other instruments—that need to work with the library infrastructure and that of other users. The proliferation of data requires support in storing, organizing, accessing, analyzing, and visualizing it. There are a variety of new media, formats, and devices all with increasingly demanding user expectations for compatibility across devices and time—users all expect to be able to access information from anywhere, from any device, at any time, even what was created a long time ago using a different hardware, software, or language. Democratized design tools, the Internet's ability to provide input on a mass scale, and automation have also created expectations for mass customization, and so every library user expects to be able to do things in his or her own way. Users also expect library services around the clock, and meeting reference needs is often done asynchronously now.

### Spaces

These forces have changed the needs for library space. As libraries embrace their role in the information business, the value proposition of the library shifts from resting solely on the information they contain toward their unique combination of information resources, space, technology, and the expertise offered by the library to help users navigate the world of information. The space within

libraries then becomes crucial toward addressing the twofold paradox of mobility and virtualization: the more choice people have in where and how they work, the more each place matters in bringing people together. The more virtual things become, the more place matters (Harrison et al. 2003, 27).

A shift in the allocation, configuration, and management of library space is required to support this shift in the role and value of libraries. More space must be devoted to users rather than physical collections and the space must be organized around the users' needs—ease of circulation and wayfinding, proximity of related activities, and fostering interaction—rather than for the convenience of staff or storage of physical materials. Of the user space, more space must be devoted to collaborative activities than before. To address the diversity of user preference and work styles, and position libraries as microcosms of the workplace, a diversity of different kinds of space must be provided, including spaces that are small or large, secluded or public, open or enclosed, generic or specialized for a certain activity, and quiet or lively. With mobile network access and users ability to choose where they want to work, the quality of space design becomes more important than ever to create compelling destinations.

### Services

In response to changes in the kinds of information we use, the ways we use it, and the spaces we work with it in, library services are also changing. Services are becoming more integrated, with more librarians cross-trained to provide different kinds of support, from information services to technology support and advising on publication, copyright issues, and data curation. Just as their user base is become more mobile, so are librarians, roving with library spaces to engage with users directly engaging beyond the confines of the library by being engaged in teams and by providing support electronically through other communication means such as email, IM, SMS, and Videochat. Lastly, with the proliferation of different sources and formats, libraries must provide knowledge navigation services (Dugdale et al. 2008), providing expertise not only on different potential sources but also establishing their credibility.

As libraries embrace their role in the information business, they can anticipate and cope with changes in the way people use information, the spaces in which they work with it, and the services required along the way. This shift will enable libraries to capitalize on the opportunity to play a vital role in the workplace of the future.

## SECTION 4: THE OPPORTUNITY FOR CORPORATE LIBRARIES

As work becomes increasingly mobile and collaborative; as new technologies, tools and work processes are introduced; and as organizations take on new and complex challenges, corporate libraries have an opportunity to play vital roles in the workplace and for the workforce. They can act as hubs within the workplace with a consumer-focused, service-oriented mindset that focuses not solely on their information products but rather on their unique value

proposition: the confluence of knowledge, space, and services. In doing so, libraries will be compelling places and organizations, vital parts of the workplace that support a variety of uses and users, foster interaction, and provide the services and support across a whole spectrum of engagement.

### *Positioning the Corporate Library as a Hub*

For libraries to become hubs within the workplace, they need first to understand and anticipate the needs of their user base—the multi-generational, mobile knowledge workforce—and provide a variety of services and spaces to accommodate its diverse and changing needs. Within this range of spaces—different scales, open or enclosed, specialized and multi-purpose—the overall atmosphere within the hub should be lively, with vibrant spaces that have buzz and a sense of energy sufficient to draw others there to connect, collaborate, and be a part of a community. DEGW's work with leading organizations across industries tells us that fostering a sense of community within the workplace is often an unmet need and is growing in importance as people become more mobile and look to their work to provide more than a paycheck but also meaning, fulfillment, identity, and expression of values. At the same time, the Hub also needs to provide quiet workspace for those who wish to escape the distractions of busy offices to do concentrated work.

Hubs must also be located strategically, such as near entries and at crossroads within a building or campus, to draw people from across the facility to ensure the broadest applicability. Libraries may also be located to enable visitor access, such as Microsoft's new library, which is located adjacent to its visitor center. Lastly, spaces and services are not enough. Their use has to be carefully choreographed in two ways: first, the etiquette and usage protocols for spaces must be established so it is clear which settings are for quiet contemplation and which are for spirited conversation, and second, the programming and events like lectures, seminars, afternoon teas, and the like can contribute to making the library a magnetic place, the kind of place people want to go to and be in to work, to access the library resources, and get the support they need.

### *Supporting Diverse Work Styles*

Library users are changing and so is their use of libraries and knowledge centers. A multi-generational workforce means that there are often a wide variety of styles in which users conduct research and learn, and libraries must support the next generation of the workforce. Some of their changing expectations include: technology-rich spaces that blend physical and virtual interaction, indexing tools which favor searching for information rather than organizing and sorting it oneself (Sterling 2005, 92), and accessing a wider range of sources, which require validation as to their relevance and the reliability of their data and conclusions. Overall, users are becoming more mobile, with changing needs for space, services, and collections.

## *Providing Variety and Choice*

Due to new work patterns, libraries must provide a landscape of settings to truly support users and empower users to choose among different places to work and information to work with, depending on their projects. This requires striking a balance between formal and informal lounge/café spaces, individual or collaborative spaces, open or enclosed space, and defined or undefined spaces. Creating the right combination of space also requires rebalancing the amount of user space and physical collection space and finding the right mix of specialized and multipurpose space. Libraries can become places to use special shared facilities; such as high-end visualization and computation facilities, as staff services can be close by. Throughout, clear circulation and orientation is critical so that users, increasingly mobile and empowered, can find their way around space and collections—physically and virtually.

## *Changing Staffing and Services Needs*

New user needs and space models create new demands for library services and staffing. These occur across a spectrum of engagement with users, from light-touch assistance when in either the library and virtually, to being engaged or embedded within teams. For instance, in medicine, delivering the most reliable research information to teams can mean the difference between life and death. So in this arena, librarians must be engaged with an active role on clinical teams to provide information, services, and support in real time. Library staff members also tend to be more mobile and proactive within both the physical and virtual confines of the library, offering consultative services through different means and engaging with users and where and when they need assistance.

In addition to providing established services in new ways—with more outreach, roving, and electronic support—libraries are providing entirely new services. Consulting on intellectual property issues in-depth and advising on or performing patent searches are an ever increasing service, as is supporting the grant writing process from the perspective of content, standards compliance, and competitive positioning. Another area is around the curation of the growing preponderance of data to be generated, analyzed, and stored. As organizations become more distributed and agile, library staff need also provide best-practices drawn from beyond the organization, through their own professional organizations and networks. Lastly, staff must play more active roles in facilitating learning and discovery, as well as supporting not only information storage and retrieval, but its creation and display. For instance, they may play roles in facilitating, capturing, and sharing outcomes from brainstorming sessions or other workshop activities. As work becomes increasingly digital and the interdisciplinary work becomes the norm, showcasing work through exhibits and displays becomes increasingly important.

Delivering established services in new ways and providing new services both require new skills for library staff. It requires advanced verbal, visual, and written

communications skills along with a sense of empathy (Leonard and Rayport 1997, 92) to really understand their user base. Working in a distributed way, either as part of a larger team or in terms of providing electronic support services, requires new ways of organizing one's time and fluency with new collaboration tools and process. Above all, library staff must provide integrated support either through cross-trained staffed or co-located experts, because users are averse to distinguishing what kind of help they should get where, thus erasing distinctions between reference, circulation, and technology service points

### *Meeting Changing Collections Needs*

Collections must balance between digital and physical resources and relate them—it can also be the case that new technologies and formats generally do not fully replace existing ones instantly, if at all, but rather co-exist, adding increased functionality in some areas while not in others. For instance, a searchable text might be used alongside a more browsable physical copy. Different formats, media types, device types, and sources are all proliferating, creating new collections management issues as well as new storage and display demands, such as storing and working on large, complex data sets or gaming software and devices. Whatever the format or media type, libraries are increasingly focused on delivering access to materials more so than delivering the materials themselves. In addition, new kinds of information services, such as those noted above or those which grow out of new disciplines like information science and informatics, can each bring with them new collection needs. By meeting and anticipating collections needs and integrating information, spaces, and services, library can serve as vital hubs within the workplace.

## SECTION 5: THE PLANNING PROCESS

To best capitalize on the opportunities for corporate libraries to become magnetic hubs within the workplace, a new kind of planning process is required, because how one arrives at a solution is just as important as the solution itself. Such a process skillfully works with a range of stakeholders to define the problem to be solved and co-creates actionable solutions that are more likely to meet user needs, even as they change, and more likely to be adopted since users and leadership are already invested in their development.

### *Designing Experiences*

A successful planning process should be guided by design strategy, a way of focusing the design process on user needs and business objectives (Felix 2010, 76). Design strategy has three interdependent characteristics. First, it is *participatory* by engaging a wide variety of stakeholders to provide ample opportunity for input and build consensus. Second, it is *iterative* by the building-up the concepts

and solutions over time through feedback from participants, developing mock-ups or prototypes of spaces and services, and by piloting aspects of the final design and then evaluating and refining the solution. Third, it is *integrative* by synthesizing conflicting inputs and interests to create an integrated, implement-able solution that uses the vision developed with users and leadership as a tool for making decisions, which ensure goals are met rather than priorities muddled. Combining these three aspects makes for a robust planning process, enabling the planning team to *design the experience* of library users and staff and understand that envisioned experience as the end—with the space, technology, and services as the means.

As user-centered design approaches have gained currency and focused on the user experience—for instance, by imagining the different "touchpoints" at which they will interact with a device, a service, or space, and then designing these interactions and relationships—the field of interaction design has come into existence (Saffer 2009, 3). Interaction designers focus specifically on these inter-actions and "strive to create meaningful relationships between people and the products and services that they use," according to the Web site of the Interaction Design Association (IxDA Web site). This perspective and the related skills are becoming embedded within design and planning practices to better understand and meet user needs.

### User Research and Engagement

The planning process must thus engage users, staff, and organizational leader-ship to co-define the problem and co-develop solutions to it. A research-based approach is critical to uncovering and forecasting user needs rather than apply-ing standards—planning for the future rather than looking to the past or only benchmarking present facilities which were designed years ago. This user research and engagement can take many forms: focus groups and workshops, interviews, observational studies, surveys, "shadowing" of different types of users, and trips to other similar or dissimilar but inspirational places.

This research can be synthesized a number of ways but must be distilled into actionable findings and a concrete vision statement. These distillations may be in the form of user "personas" or work styles so you know who you are planning for, guiding principles to provide overall direction, or even narrative descriptions of how different spaces and services should work. The result of an engaging pro-cess is a set of shared experiences among participants, the data to enable informed decision making, and a sense of the desired user experiences that can guide the planning.

### Planning Tools

Throughout the process, it is critical to get the right people to the table with the right tools to facilitate and stimulate conversation. Some of the critical tools and skills required among the planning team include empathy and observation,

to understand the users and issues; tolerance for ambiguity, so as not decide on a solution prematurely; the ability to develop and consider multiple options simultaneously, so that ideas can compete; and to empower library stakeholders in the decision-making process, rather than leaving them with only their choice as to whether or not to proceed with a designer's single idea.

The information and insight gathered through the user engagement process is often effectively distilled through a scenario planning process, in which different drivers impacting the future are identified, and by combining different takes on these driving forces; for instance, whether research will be discipline-specific versus interdisciplinary, which enables library staff and the planning team to understand different contexts or "futures" for which that the library might plan.

### Service Design

Services must be designed along with spaces in a reciprocal process so that the desired user experience is what drives the planning process. Service design is a relatively new design methodology that deals with designing the interactions between people and information, services, and spaces. Service design is practiced by leading consultancies like Live | Work, and taught in top design programs including Carnegie Melon University's School of Design and the School of Visual Arts program in interaction design. From this perspective, people are active members or subscribers of dynamic services rather than passive consumers of products and products are gateways to information and other users rather than ends in themselves.

Building upon the discipline of interaction design in the digital world for software, Web browsing, and the like, service design seeks to understand and shape each of the "touchpoints" or interactions between users and the world around them. For example, a service design approach to air travel would aim to optimize all the touchpoints and their relationships—buying a ticket, storing and sharing an itinerary, traveling to the airport, checking in, passing through security, waiting to board, boarding, the flight itself, disembarking, and leaving the airport. Applying this to libraries means understanding all the different ways in which users can interact with the space, furniture, technology, information resources, staff, and other users within the library and then designing those interactions to create the best user experience.

### Pilots and Prototyping

There is a tendency when planning for anything, especially when the financial or operational stakes are high, to defer decision making and action until everyone is sure that they have arrived at the right solution and can therefore avoid failure. This can be paralyzing and lead to ineffective spaces and services. The solution, perhaps paradoxically, is to fail early and often in order to succeed in the end by prototyping or piloting an idea in a low-risk way and getting feedback on it when then stakes are low. This could mean that during the design

process for new space, a section of existing space could be identified to test new furniture or technology configurations or a potential new service is made available to a small number of patrons who understand they are trying something new and agree to provide feedback.

Adopting this way of thinking mitigates the risk of arriving at a final solution that fails because it has not been tested. It also makes design concepts, which are often abstract, into concrete realities, enabling better feedback on them, and this process can help build a consensus and increase adoption. When combined, these aspects enable a research-based planning process that engages users and staff, anticipates user needs, and develops innovative, adaptable solutions that can change over time.

### *Assessment*

The same philosophy of evaluation, feedback, and assessment that enables prototyping and pilots to discover and refine solutions should be continued throughout a library's lifespan to renew the library's spaces, services, and collection. This depends on a mindset in which a design is not as complete when people move in, but rather is part of a process of continuously evaluating and improving it. So, library staff members should continue to assess the performance of their space and services in an ongoing way through interviews, surveys, and focus groups as well as by capturing and analyzing data on usage to spot trends, see patterns, and detect gaps. The assessment process can start with a POE, or post-occupancy evaluation, about six months after move-in and prior to any significant space change, a pre-move evaluation can also be conducted to enable a before and after comparison of factors such as user satisfaction. Given the rapid changes that corporate libraries are undergoing, it is crucial to assess space and services in an ongoing way and respond to what works well and what does not, to ensure a lasting solution.

## SECTION 6: CASE STUDIES

The value of this kind of planning process is that entirely new visions can be developed to meet new needs and address diverse issues, and DEGW has certainly seen this in its work. However, despite differences across organization type, size, and location, a common theme and goal for corporate libraries and knowledge centers is emerging: that of a library that serves as a collaborative hub within the workplace, particularly when supporting mobile knowledge workers. Positioning the library as a hub within the workplace is a proven strategy for ensuring its vitality. In what follows, we have listed some examples to illustrate the evolution of the library as hub, these include:

- Information Center at the Centers for Disease Control and Prevention
- BOX Innovation Space at the London School of Economics

- IKI (Information & Knowledge Integration) Facilities Master Plan for Bristol-Myers Squibb
- Innovation Hub for GlaxoSmithKline
- Library Research Center at the Darden School of Business
- Johns Hopkins University Welch Medical Library Master plan

### Centers for Disease Control and Prevention

### Information Center

The Centers for Disease Control and Prevention initiated planning for a new Global Communications Center (GCC) building in 1999, intended to become the secure gateway to the CDC Roybal campus in Atlanta. The GCC's program provided a visitors' center and public health museum for the public, and a conference center for CDC sponsored public health functions. The building was also programmed to house a new Information Center and the CDC's Communications functions, including its film/video archives and studio; collectively, and in concert with one another, these functions foster, support, and enhance public health communications.

The previous library had not been renovated in many years, so this was an opportunity to envision a future model for a knowledge center that was responsible for managing electronic resources for a distributed organization as well as publicly accessible information for a global audience. DEGW's role was to facilitate the visioning process, seek benchmarking models, and develop a space plan that would anticipate future needs.

The Information Center was conceived as a center for knowledge management and a place for scientists to come together and collaborate using information resources aided by the expertise of the Information Center staff. The traditional library staff organization was radically changed and each of these restructured work groups were to collaborate with others in pairs to provide new types of services. The workspace for the staff was conceived as an open flexible workspace clustered by "neighborhoods," with movable furniture components, a range of shared spaces, and small group tables along a balcony edge.

The building was occupied in September 2005. For users coming to the Information Center, there is a welcoming lounge area one level down from the conference center that overlooks it, with views out to the landscaped campus. An adjacent case study room and a training room with computers are used for training CDC staff in the use of information systems. A major part of the Information Center's mission is outreach to spread information to partners and public agencies, so a "Collaboratory" space was envisioned. It is a conference room equipped with movable tables, whiteboard walls, high-resolution displays and videoconferencing capability to promote dialog with remote collaborators, whether local or in other parts of the globe.

In the main space, an open Visualization Forum was envisioned to allow groups to display, analyze, and interpret complex data together. As research data

accumulates at an increasingly rapid rate and global partners provide more sources for field information, the nature of the CDC mission dealing with the spread of disease will benefit from displays to interpret data linked to geospatial systems and computer simulations. This space was also conceived to be an informal presentation space, where information center staff could give briefings to invited or visiting groups.

The Information Center envisioned a Digital Research Lab as a facility where new digital products could be developed by librarians collaborating with research teams, providing staff work areas with equipment for media editing and usability testing. Outside this room was an open media lab area with workstations where users could come to create and edit multimedia presentations and products using Information Center resources.

CDC researchers need to be able to access resources at any time day or night, as they may get called to travel at short notice to deal with public health emergencies. The facility was designed to allow individuals 24/7 card access, but also to monitor what material was taken out by tracking RFID tags on the books. During the design phase, the anthrax scare lead the Information Center staff to go back to old records they had not needed to access for years, validating the Information Center's retrospective responsibility to maintain print collections despite recent growth in electronic resources. This was also a validation of the decision to provide stack areas to consolidate collections that had been distributed over time in multiple locations, and to design certain areas of the floor structure to accommodate compact shelving in the future if needed. Consolidation of the CDC collections continued in 2008 with planning for a much smaller secondary information center at the Chamblee campus, serving only that campus.

### EDS "BOX" Innovation Lab at the London School of Economics and Political Science

In 2005, DEGW worked with the London School of Economics (LSE) and Political Science and Electronic Data Systems (EDS) to research, design, and implement a collaborative innovation lab called BOX. The LSE and EDS sought to bring academia and industry together in order to forge new relationships and foster interdisciplinary interaction and innovative thinking. They knew that this would take a new kind of space, located in the right place, and with new kinds of personnel to provide service for and support to the facility.

Through close collaboration, a solution emerged for a new kind of "club" working environment, a concept that grew out of DEGW's thinking about how the places distributed throughout cities were increasingly functioning as key components of the workplace as people worked in more distributed ways. Like airport lounges, these "club" spaces provide a distributed workplace model in which membership grants access. In this case, BOX was to function as a club space that offered a variety of different places to work in a comfortable and stimulating place.

However, BOX was primarily conceived to stimulate and support innovative thinking. The facility did so in three main ways. First, it offered flexible lab spaces

for brainstorming "out of the box" with Lego Serious Play and other gaming and facilitation techniques. Second, it was staffed with trained facilitators and included workspace to support them, and third, it had as its central design feature a "cabinet of curiosities" with unique found art objects of many kinds to interest and inspire visitors. This unique confluence of people, space, and services enabled BOX to be a rich environment to connect, collaborate, and create—a magnetic place for new ideas.

### Bristol-Myers Squibb

### IKI (Information & Knowledge Integration) Facilities Master Plan

In 2003, the Information & Knowledge Integration (IKI) Services group at Bristol-Myers Squibb wished to analyze their system of regional facilities in light of changing services, information resource use and organizational change. Distributed over several campuses on the east coast, IKI wanted to develop a strategic plan to use their space more effectively for their knowledge center operations and to serve their users better.

DEGW researched user needs and IKI workstyles through a series of workshops and surveys. Input from over 1000 scientists was collected by a survey that investigated how they used the existing library facilities and resources, both print and electronic. Observation studies were done at the different locations to determine how existing space was used over time. Staff were interviewed to understand their current operations, functional relationships and adjacency needs. Then workshops explored how work patterns were expected to change in the future and analyzed alternative scenarios for distribution of functions.

A strategy was developed to consolidate print resources in two locations and free up space in the existing library spaces to provide more of the collaborative workspace wanted by both users and staff. It was anticipated that the physical library would remain for at least the near future. A range of spaces were envisioned, equipped with collaborative tools and data displays to enable IKI staff to assist users more effectively as they work with IKI resources to develop new knowledge. Issues of distributed work patterns were considered, such as the need for centralization versus convenient proximity to units served, and changing relationships between operations and collections on various campuses. Related staff groups that interact with IKI operations were also engaged, such as the Informatics group, Content Architecture & Systems Support, and the Records Management group.

Ultimately, the strategy for conversion of the libraries was not implemented that way, but the process of the conducting the study proved useful for IKI to articulate the changing nature of its services and users' needs. The study was done during a transition period, and since then chemists and other users of IKI services have become more comfortable with electronic resources, more key reference resources have become available electronically, and collaboration in support of innovation is supported more robustly across the organization.

Demands on the physical library spaces from other parts of the organization have continued to grow, but this has created opportunities for IKI to reduce the print collection footprints for more effective space use and to develop new electronic resources and virtual collaborative places.

### GlaxoSmithKline

#### Innovation Hubs

Over the past several, years DEGW has supported GlaxoSmithKline (GSK) broadly on a global basis with workplace and R&D space guidelines, as well as deeply on specific workplace and research projects. In each case, a process of engaging workshops and data-driven approaches has enabled creative solutions and informed decision-making. Recently, DEGW created a series of Innovation Hubs for GSK that bring different groups together in flexible shared workspaces that enable more effective communication and collaboration.

Like many organizations, GSK has multi-disciplinary project teams composed of project and program managers, marketing specialists, engineers, designers, and financial analysts. And like many organizations, these individuals tend to be located within space dedicated to their specific department; for instance, with all the project engineers sitting together. Everyone on the brand team, those focused on the delivery of a suite of related consumer products within a given brand, like cosmetics, was separated from the people they worked with most closely. They discovered that this arrangement was hindering their ability to deliver products as effectively as they wanted, and they searched for a solution.

The team came up with a way to break this cycle: bring everyone on a "brand team" together in a space that could act as a hub. Rather than assign each person a space, they knew that with this variety of job descriptions there would be a variety of different styles of working, and treated the space as a completely mobile or "free-address" environment in which people could choose where, how, when, and with whom they wanted to work. So a diverse set of spaces—small and large, open and enclosed, lively and quiet—were provided to meet these different needs. Storage needs are now accommodated through storage carts on wheels and a focus on digitization of files. Throughout, the spaces seek to make the work visible and tangible so that team members can see what others are working on, and they also have greater access to each other (Murdock 2009).

This solution has proven to be enormously successful as demonstrated by our research, which compared different performance indicators, chosen by the business, between their previous work space and their new arrangement. Some of the findings included faster decision making, faster product speed to market, greater access to colleagues, more ideas generated from across departments, and more effective communication. One telling finding about communication was the participants received 40 percent less email than they did previously (DEGW Pre- and Post-Occupancy Assessment Research). Based on the success of the

initial Hub and pre- and post-occupancy research, additional Hubs were created in other locations.

### Darden School of Business at the University of Virginia

#### Library Research Center

In 2008–2009, DEGW led a strategic space planning study to evaluate Darden's facilities and then craft a vision and plan for the future, a plan to get groups and functions in the right place, to address facilities that were underperforming, and to both grow and better support Darden's people and programs without adding new space. One of the principal recommendations from this plan was to move to a more mobile and flexible workplace concept for staff and selected faculty, and to pilot this concept as part of opportunity to renew the library.

The existing library space offered a unique opportunity to co-locate the different research centers within the school inside the library where they could build on close relationships with the library and be close to its information resources and staff within an inspiring, lively space. DEGW worked with students, faculty, and library staff to conceive a Library Research Center, positioning it as a hub for research within the school and beyond.

The goals for the Center were to:

- make a visible commitment to research
- provide space for growth in research staff
- creating synergies across Centers and Institutes by co-locating them
- capitalize on under-utilized space within the library as physical collections diminish, and
- further the mission of library to support the creation, storage, and retrieval of knowledge

The process of generating a design concept built upon this previous study, using a highly participatory process, and gathering insights and input from the Darden community. This included programming conversations with future occupants to understand needs, an online work pattern survey to discern profiles of how people use space, interactive design workshops, and hands-on design reviews.

The outcome of the study is a concept design for a Library Research Center that houses Darden's Centers and Institutes—and their associated staff and faculty—in an innovative, versatile facility that brings together a variety of settings for individual and collaborative work in an atmosphere that inspires the creation, development and, sharing of ideas. The Center is to include different kinds of work atmospheres, expanded library staff space and roles in research support, and "programming" of the space through events like teas, seminars, and lectures to promote the use of the space while fostering collaboration and new relationships among researchers and library staff. The school is currently evaluating

the cost and feasibility of the Library Research Center as they contemplate implementing the overall master plan.

### Johns Hopkins University

#### Welch Medical Library Master Plan

By 2001, the Johns Hopkins Welch Library had already committed to an aggressive policy of conversion from print to electronic resources. Nancy Roderer, Library Director, decided that a master plan for the health sciences libraries was needed to respond to the challenges of this transition and the institution's commitment to evidence based medicine and public health. The plan had to determine the nature of future facilities needed to support new roles and the emerging interface between physical and virtual services.

To address the need for new types of services and information resources, DEGW facilitated workshops to explore how user and staff needs were changing, and analyzed the space implications. The process identified the growing future role of the "informationist"—a librarian who is mobile and becoming a more active participant on clinical and research teams—to provide timely expertise at point of need. DEGW developed a space strategy to support this distributed work approach, which proposed a hierarchy of settings that could be applied opportunistically as spaces became available. Creating these space and service concepts included active engagement with users and staff to define the future vision and then develop a "kit-of-parts" of different work settings that could be combined to create the network as it evolved. One of these was the concept of distributed informationist "touchdown" suites—envisioned as collaborative work areas embedded within departmental suites where librarians could work with their client teams and provide customized services.

Over the previous decade, the Library had started to evolve into a knowledge management center, but the master plan anticipated the fulfillment of this process and assumed the future relocation of all the digital library operations into one more centrally located hub, with flexible space and infrastructure more supportive of a highly networked organization than the historic library building. This primary hub is to be a knowledge center of offices for staff and will provide the home bases for mobile informationists when they need to meet together physically. They will vacate the existing Welch building, leaving the remaining print collections under the Curator of Historical Collections.

With library resources accessible anywhere via the network, visitation to the Welch building had been dropping radically so space for users needed to be rethought. Although the new knowledge center hub will not provide reader space for users, the master plan proposed to restore one of the two existing historic reading rooms in Welch as a sanctuary for quiet work for anyone in the medical center. The other classic reading room and adjacent space will be renovated into a "Center for Facilitated Discovery," which will incorporate new technology-enhanced collaborative spaces in which information services

professionals can play a role in capturing and making discourse retrievable. The Institute for the History of Medicine will remain at the top of the building, where it has been located since the building was constructed in 1928, with continued access to core collection stacks.

The touchdown suite concept has since been implemented in several locations and is being evaluated. What has been discovered so far is that distributed space needs are quite modest, because teaching faculty members prefer to meet in their offices or other work areas, and librarians are becoming more comfortable with the mobile work style, connecting primarily virtually or by appointment with their clients, supported by ever-improving mobile technology.

In 2009, the School of Medicine asked DEGW to update the master plan for renovating Welch by incorporating it into plans to create a new center for graduate students. DEGW has proposed that Welch be transformed into a hub to serve the entire research precinct—providing advanced facilities for collaborative learning, visualization of complex research data and the sharing of knowledge in new ways in the twenty-first century, in the spirit of the original founder's vision. The West Reading Room will be converted into a symposium center, similar to its original use as a faculty club, to encourage collegial interaction among research professionals.

## SECTION 7: CONCLUSION

With work becoming more mobile, collaborative, complex, distributed, and information-rich, corporate libraries have a unique opportunity to deliver lasting value to their organizations and to the world at large through the contributions of these companies. To capitalize on this opportunity, corporate libraries and knowledge centers must transition from quiet, contemplative places for information storage and retrieval to become "hubs" within the workplace. Their value will then be in their unique combination of space, services, and information resources, a combination that can foster collaboration, facilitate discovery, fuel innovation, and express their organization's culture and brand. This transition will require a research-based planning process that to anticipate user needs, engage with users and staff, build consensus, and develop innovative, adaptable solutions that can change over time.

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# 3 INTELLECTUAL PROPERTY AND THE CORPORATE LIBRARY: UNDERSTANDING BEST PRACTICES IN INFORMATION SHARING IN U.S. ORGANIZATIONS

*Rebecca K. Miller*

## INTRODUCTION

According to the American Library Association's (ALA) Core Values State-ment, libraries in the United States are an "essential public good, and are funda-mental institutions in democratic societies" (American Library Association Council 2004). Similarly, the ALA Code of Ethics emphasizes that librarians are expected to support intellectual freedom and work to ensure that the com-munities they serve have access to "untainted and free flowing information, so patrons can make choices based on the information given" (American Library Association Council 2008; Rimland and Masuchika 2008, 321). These philoso-phies often result in librarians, their institutions, and library associations taking stands in legal cases concerning intellectual property laws' restriction of patrons' access to information. A clear example of this appears in the work of Laura N. Gasaway, a recognized voice in the library world that emphasizes the balancing role that librarians should play in the copyright conflicts between creators and publishers of works, and their users. Gasaway notes that librarians are particu-larly positioned to take on this balancing role, since "librarians focus on the social good of promoting learning among the public"; however, she goes on to write that "not all librarians have adopted the values" described within her work (Gasaway 2000, 115). While Gasaway does not specifically refer to librarians in the for-profit environment with this statement, the unique role of these librari-ans undoubtedly does affect their perspective on intellectual property concerns. As Emily Rimland and Glenn Masuchika posit, "a corporate librarian's scope is narrower and does not focus on wide-reaching societal goals" (Rimland and Masuchika 2008, 330). Indeed, the Special Library Association's Vision, Mission and Core Value Statements speak of "responding to our clients' needs, adding

qualitative and quantitative value to information services . . . [and] delivering measurable results in the information economy and our organizations" (Special Library Association 2003). Whether or not corporate librarians personally share the values described in Gasaway's article and in the ALA's Core Values Statement and Code of Ethics, it remains undeniably accurate that corporate librarians must prioritize and enact a different set of values related to intellectual property in their day-to-day roles as information leaders and policy shapers within their organizations.

Rimland and Masuchika argue that the corporate librarian's focus should be business, which includes contributing to the overall company goal of keeping the company profitable and being involved with the overall success of the corporation or organization (Rimland and Masuchika 2008). This means that, although corporate librarians do not share the values-driven concerns over intellectual property issues that public and academic librarians might, they do have a vested interest in understanding how intellectual property issues might impact their work and the community served by the corporate library. While intellectual property issues have always been somewhat of a concern for information professionals and others managing information resources, these issues have recently evolved into issues of national importance, gaining new attention from national and international leaders. As recently as February 2010, the U.S. Justice Department announced "the formation of a new . . . Task Force on Intellectual Property as part of a Department-wide initiative" (U.S. Department of Justice 2010). Prior to this announcement, in Fall 2009, President Obama appointed Victoria Espinel to a newly created administrative post: U.S. Intellectual Property Enforcement Coordinator, an appointment that initially highlighted the nation's increasing awareness of intellectual property and how it affects the global marketplace (White House Office of the Press Secretary 2009). This magnification of intellectual property concerns in the government and throughout the business world serves to further emphasize the reasons that corporate librarians need to be especially confident with and informed about intellectual property issues.

Broadly defined, intellectual property includes the three legal categories of patents, trademarks, and copyright—three subjects that are often discussed collectively because they each represent a certain, conceptual type of property (Miller and Davis 2000, 1). Patent laws deal with the development and ownership of a "new, useful, and non-obvious process or product," while trademark laws revolve around the ownership of "devices to identify in the marketplace the craftspeople responsible for producing goods," which also give producers "the opportunity to gain a competitive edge over others" through use of a registered trademark (Miller and Davis 2000, 10, 155). Copyright considerations, as the Gasaway example suggests, remain foremost in the minds and work of most librarians; this makes sense, because librarians are most often working with various types of works of expression, all of which are included in the area of intellectual property covered by copyright (Miller and Davis 2000, 288). This emphasis on copyright remains true for librarians in the corporate setting. However, these librarians, unlike their public or academic counterparts, need to turn their

attention to complying with the laws that exist rather than trying to interpret, change, or alter them for the good of the public. The bulk of the information in this chapter will relate to corporate libraries and copyright issues; patents and trademarks will be discussed when it is appropriate.

A broad conversation about intellectual property and corporate libraries is difficult because of the wide range of disciplines, businesses, and missions found within the blanket term of "corporate library." The varied environments that corporate librarians may work in affect the way that they function within their respective environments. For example, law office librarians may perform legal research for clients, while pharmaceutical or engineering company librarians may be in charge of not only providing resources for research but also managing the company's patents, media, and flow of internal information. Regardless of the specific environment, however, nearly all corporate libraries have been undergoing an astonishing evolution that renders the simple term "corporate librarian" even more ambiguous. The image of a lone librarian working in a room of journals and reports has disappeared; in its place, a vision of the librarian, integrated within the rest of the organization and building new skill sets, has emerged. As Ken Wheaton suggests, the conventional corporate library has become irrelevant and inappropriate for many organizations, and this significantly impacts the role that the librarian plays within the overall function of the staff, if he wishes to become valuable enough to remain employed (Wheaton 2009, 21). Indeed, in a separate article, Wheaton and his co-author mention that "even more important is the librarian's skill as a knowledge broker"; by this, he means that corporate librarians are uniquely positioned to improve the stream of information and knowledge throughout an entire organization (Wheaton and Murray 2009, 18). James Matarazzo and Toby Pearlstein agree with this description, noting that corporate librarians need to think about developing and maintaining information services that will help enhance their organization's productivity and bottom line (Matarazzo and Pearlstein 2007, 42). This change in the role of the corporate librarian has major implications, since this means that many librarians are controlling not only resources for research, but also for the entire gamut of "intellectual assets across the enterprise" (Wheaton and Murray 2009, 18). Because of this dynamic role of the contemporary corporate librarian within organizations, and the range of environments in which these organizations might operate, this chapter's functional definition for the term "corporate librarian" will synthesize the traditional and emerging roles of corporate librarians, and refer to all information professionals that are responsible for managing all types of resources—journal subscriptions, database licenses, digital media, and internally created information—and other knowledge in the setting of a for-profit organization.

Clearly, the special relationship between corporate libraries and intellectual property is a complex and extremely significant one. This chapter will attempt to deal with these complexities and explain the best practices in information sharing as it relates to the principles of intellectual property for corporate librarians. By focusing on four general areas that may assist the contemporary corporate

librarian in understanding intellectual property issues and incorporating the associated responsibilities into their everyday functions, this chapter will enable corporate librarians to enhance their organization's value skillfully, legally, and ethically. These four general areas include: reviewing the basics of copyright law and the history of copyright concerns in the corporate environment, and then discussing information security, future directions of the relationship between corporate libraries and intellectual property, and various intellectual property resources that may assist the corporate librarian in navigating each of these areas.

## FUNDAMENTALS OF COPYRIGHT LAW

For corporate librarians, understanding the basics of copyright law is a fundamental piece of performing in the role of librarian or knowledge manager. Again, while patents and trademarks, both large segments within the overall category of intellectual property, do play a role in the responsibilities of some corporate librarians, every corporate librarian needs to recognize their abilities and restrictions when it comes to the accessibility and availability of information resources to their clients and colleagues within the organization. K. Matthew Dames writes that "no one in the information field can call himself or herself a professional without a fundamental understanding of copyright and licensing . . . having this fundamental gap in someone's knowledge base . . . is inexcusable" (Dames 2009, 17). Furthermore, as examples within this section will demonstrate, ignorance of copyright laws and failure to respect others' intellectual property rights can result in lawsuits and the loss of reputation and profit for a corporate librarian's employers and stakeholders. Generally, the basics of copyright law cover a discussion of criteria required for copyright, the exclusive rights of the copyright holder, and limitations to the copyright holder's exclusive rights; these basic tenets support the librarian's ability to fully comply with legal and ethical regulations.

The Copyright Act of 1976 forms the basis of the current American copyright system. Under the Act, eight types of works are protected (*Copyrights: Subject Matter and Scope of Copyright* 2000):

- Literary works
- Musical works
- Dramatic works
- Pantomimes and choreographic works
- Pictorial, graphic, and sculptural works
- Motion pictures and other AV works
- Sound recordings
- Architectural works

All types of these works must represent two characteristics to qualify for copyright protection: they must be original and they must be fixed in some sort

of tangible medium of expression (*Copyrights* 2000). It is important to note that copyright attaches automatically as soon as a new work is created; a notice of copyright is no longer required for a copyright owner to benefit from the exclusive rights that come with copyright (Heller 2004, 8). Furthermore, for a work to be protected by copyright, it must meet one other criterion: that work must not be in the public domain.

Works in the public domain may be used freely, and are not subject to any of the restrictions that are placed on copyrighted works. The public domain contains works that are created by the U.S. government, works that were never copyrighted, or works for which copyright has expired (Heller 2004, 11). Information managers should be aware that calculating whether or not a work's copyright has expired can be a complicated process. The public domain exists in order to form a creative foundation upon which future creators can base new works; however, depending on when a work was published, their copyrights may have varying expiration dates. The most basic reading of current copyright laws dictates that most works corporate librarians will be dealing with are protected under copyright for the life of the author plus seventy years; this length of copyright applies to most works created on or after January 1, 1978 (Miller and Davis 2000, 291). Unfortunately, determining whether or not a work's copyright has expired is not as simple as applying this rule. Multiple changes in copyright laws have resulted in works created at different times to have different expiration dates. Resources for understanding these mitigating factors will be discussed in the section on *IP Resources for Corporate Librarians*.

Copyright is not a single right. Rather, copyright is often described as a bundle of rights that protect a copyright owner's interests. For works that are protected by copyright, six exclusive rights belong to the copyright owner (Miller and Davis 2000, 323):

- Reproduction right
- Derivative work right
- Distribution right
- Performance right
- Display right
- Digital transmission performance right

Since these rights are given exclusively to a copyright holder, others' ability to use copyrighted works is severely restricted. For corporate librarians whose organizations are not the copyright owners of particular resources that may be in the print or electronic collections, the most severe restrictions fall under the reproduction right and the distribution right.

Although it does significantly impact the work of corporate librarians, the distribution right of copyright owners is not completely absolute. Section 109 of the Copyright Act grants several specific rights to "the owner of a lawfully made copy of a copyrighted work to lease, rent, sell, or otherwise dispose of possession of the copy without permission" (Heller 2004, 21). This section is called

the "first sale doctrine," and it is the right that allows libraries, whether they are corporate, public, academic, or otherwise, to function as they do. Libraries, of course, may lend out the copies of works that they legally purchased, and even re-sell them at the book sales that are often seen at public libraries.

Interestingly, there are other limits to copyright owners' exclusive rights that impact the function of corporate libraries. Within copyright law, libraries and their services are awarded the benefit of several of the limits found in Section 108 of the Copyright Act. The "library exemption," as it is called, stipulates that library employees may make one copy of copyrighted works without needing to ask for permission from the owner or pay royalty fees (Heller 2004, 59). In this exemption, however, it is stated that a library must yield no commercial benefit or advantage from its use of the library exemption (Heller 2004, 60). Although this may sound like corporate libraries are automatically disqualified for this exemption, the case for for-profit libraries' use of the library exemption has been debated in both the Senate and the House, with the eventual conclusion that for-profit libraries can, indeed, utilize the library exemption. The premise behind this decision incorporates the House Judiciary Committee's opinion that "isolated, spontaneous making of single photocopies by a library in a for-profit organization, without any systematic effort to substitute photocopying for subscriptions or purchases" is an acceptable use of the library exemption (U.S. House of Representatives 1976, 75).

The last limit to a copyright owner's exclusive rights that may impact a corporate library is that of fair use. Like the public domain, fair use exists to ensure that the nation's creative works are, on some level, available for use by the public. Fair use is, essentially, a functional defense that information users may claim when using copyrighted works in certain contexts. Contexts that traditionally see the employment of fair use of copyrighted works include "educational activities, literary and social criticism, parody, and . . . First Amendment activities such as news reporting" (Miller and Davis 2000, 354). Unfortunately, there is no specific formula for determining whether or not the use of a work is truly "fair." When someone who has used a copyrighted work and claimed that it was a fair use, the courts use four considerations to determine whether or not their use was a legitimately fair use of the material (Miller and Davis 2000, 356):

- Purpose and character of use
- Nature of the copyrighted work
- Proportion of the work used
- Economic impact (on the work's worth) of the use

Much like with the library exemption that applies to reproducing copyrighted work, corporate libraries are not excluded from claiming fair use just because the work of a corporate library is commercial. Although commercial purpose has often provided a foundation for deciding against a ruling of fair use in the courts, fair use decisions are always made on a case-by-case basis (Miller and Davis 2000, 359). More information about resources for understanding and

determining fair use will be found in the *IP Resources for Corporate Librarians* section of this chapter.

If a claim of "library exemption" or "fair use" cannot be used or is rejected as a defense when a person or group has used copyrighted material, the situation is then termed "infringement." Copyright infringement occurs, basically, when any of the six exclusive rights of the copyright holder have been exercised by another person or group. Again, corporate librarians are most at risk for committing copyright infringement by either reproducing or distributing copyrighted work. When found guilty of copyright infringement, persons and organizations may be charged hefty statutory fines. According to the Copyright Act, plaintiffs may have the right to anywhere between $750 and $30,000 per work, depending on what the court decides. For mitigating factors, such as completely innocent infringement or completely malicious infringement, the court can decide to drop the charge down to as low as $200 or go as high as $150,000, per work (*Copyrights: Copyright Infringement and Remedies* 2000). When these types of damages are possible, it becomes obvious why a corporate library's compliance with copyright law is so important.

## COPYRIGHT COMPLIANCE IN CORPORATE LIBRARIES

Corporate libraries have had a colorful relationship with copyright laws in the past. The previous discussion of copyright basics makes it clear that copyright law is anything but basic; for this reason, many organizations find it difficult to successfully comply with copyright laws. Whether or not this major responsibility is specifically outlined within the librarian's job description, it is common sense that it should fall upon the librarian to act as the organizational enforcer for copyright compliance. Again, the consequences for organizational non-compliance with copyright laws are significant, as Merilyn Burke and Susan Heron emphasize in their summary of the legal history of copyright issues in for-profit libraries (Burke and Heron 2004).

Focusing on the library exemption in Section 108 and the fair use provision in Section 107 of the Copyright Act, Burke and Heron examine the complicated way that these two regulations have been applied within the corporate, for-profit organization. Several well-known cases provide working examples of companies exercising two exclusive rights of a copyright holder—copying and distributing—and making a profit from it (*Basic Books, Inc. v. Gnomon Corp.* 1980; *Basic Books, Inc. v. Kinko's Graphics Corporation* 1991; *Princeton University Press v. Michigan Document Services* 1996). In these three cases, the Gnomon Corp., Kinko's Graphics Corporation, and Michigan Document Services were making copies of book chapters and journal articles, and selling these compilations—all without receiving permission from the works' copyright owners (Burke and Heron 2004, 6). Although Kinko's Graphics Corporation and Michigan Document Services claimed that the copying was educational, and therefore covered under fair use, courts disagreed with them since they were directly profiting from the resale of property that did not belong to them.

Burke and Heron also mention several other cases that deserve attention from corporate librarians; these cases deal with less obvious, but still serious, infringing acts committed by for-profit organizations. In 1981, the publisher Harper and Row sued two pharmaceutical companies for making copies of copyrighted journal articles (*Harper & Row Publishers, Inc. v. Tyco Copy Serv., Inc.* 1981). Although the courts decided in favor of Harper & Row, they did agree that the pharmaceutical companies could "exclude from reporting and paying royalties for up to six percent of their copying which the court considered fair use" (Burke and Heron 2004, 7). Finally, Burke and Heron mention the case that is probably the most well known by corporate librarians: *American Geophysical Union v. Texaco, Inc.* In this particular case, corporate librarians working for Texaco made journal articles available to Texaco researchers and staff members, who in turn filed away the numerous copies that they made of these articles (*American Geophysical Union v. Texaco, Inc.* 1995). Texaco and its researchers attempted to use a fair use defense, but the courts sided with American Geophysical Union, and the entire Association of American Publishers, who also joined the suit. Although Texaco did not directly profit from this system, as the copy centers that were making compilations did, the courts felt that Texaco was sanctioning "a systematic process of encouraging employees to copy articles so as to multiply available copies while avoiding payments," since Texaco only had a single subscription to the journal titles named in the suit (Burke and Heron 2004, 10). The four elements of fair use played a large role in this case, and this is described with more detail in Burke and Heron's article.

The Texaco case highlights the heavy responsibility that falls on the shoulders of corporate librarians; although we know that the library exemption in Section 108 sanctions some photocopying in for-profit organizations and that the fair use provision in Section 107 can apply some of the time, the corporate librarian must have a firm grasp of copyright regulations in order to protect the assets, and employees, of the company. As the information managers within the organizations, corporate librarians should develop strategies to ensure that they, and their organizations, do not follow the Texaco path. Several years prior to the final decision in the Texaco case but right in the middle of its legal drama, two AT&T Bell Laboratories staff members wrote an article detailing what may be "the first attempt to describe a real compliance effort within a U.S. corporation" (Schaper and Kawecki 1991, 15). In this article, Schaper and Kawecki write that "it is essential that library organizations begin to move from their position of denial and fear to one of acceptance of compliance responsibilities and openness" (Schaper and Kawecki 1991, 15–16).

At the forefront of AT&T's compliance strategy was the mention of copyright issues in the AT&T Code of Conduct. Schaper and Kawecki, however, are quick to underscore AT&T's strategy of action, as opposed to the view that many organizations seemed to be taking in the early nineties: that copyright was something to be "swept under the rug once a position on compliance is taken" (Schaper and Kawecki 1991, 15). The plan of action espoused by AT&T included extensive tracking of copying, using the Copyright Clearance

Center to quickly and easily make royalty payments, and providing information and awareness programs for all employees (Schaper and Kawecki 1991, 17). The authors go on to mention subscription databases, and how understanding licensing restrictions is just as significant a consideration as the copying issue (Schaper and Kawecki 1991, 19). As Schaper and Kawecki describe AT&T's success with their copyright compliance strategy, it becomes clear that the success is due in large part to the employee awareness program. Clearly it is essential for corporate librarians themselves to be well versed in copyright law since they manage an organization's information and often deal with media for Web sites or other resources; the Schaper and Kawecki article pushes that idea a bit further and underscores the implications of employee awareness for the overall success of the organization's strategy. Although the responsibility of instruction, or employee education, is not a responsibility traditionally held by corporate librarians, the AT&T example describes exactly how important this element can be in the successful implementation of a copyright compliance program.

A much more recent article about corporate copyright compliance was published in 2006; this article details the copyright strategy used by librarians at AstraZeneca (Knowledge sharing and copyright at AstraZeneca 2006). Interestingly, this article, anonymously authored, provides a thoughtful comparison to the AT&T article. AstraZeneca's plan to purchase all information and content in a digital format brings the copyright compliance conversation into the digital arena. Detailing AstraZeneca's specific issues with understanding complicated licensing agreements and trying to manage the copyright questions of a large number of researchers and employees, this article highlights AstraZeneca's position as a charter user of the Copyright Clearance Center's (CCC) Rightsphere (Knowledge sharing and copyright at AstraZeneca 2006, 33). As a global company dealing with many different types of employees, AstraZeneca chose to use this commercial product as a way to cover the different rights of all employees across the company, regardless of their departmental or even geographical affiliations (Knowledge sharing and copyright at AstraZeneca 2006, 33). Rightsphere allows organizations to manage large amounts of content and their associated permissions, along with providing Rightsphere users with instant access to information to answers to copyright questions (Copyright Clearance Center 2010). As the *Library Journal* review for this product summarizes, this "rights advisory and management tool for corporations . . . takes the guesswork out of what they can and cannot do with the published information they license" (Rogers 2006, 25). Since its launch in 2006, Rightsphere has flourished, winning awards like the 2007 "Best Solution Integrating Content into Workflow" by the Software & Information Industry Association (Copyright Clearance Center 2010). Although the AstraZeneca example proves that this product does succeed in letting companies buy and share information legally and ethically, neither this, nor any other commercial product, should completely replace solid employee awareness programs. CCC's Rightsphere, as a tool, seems to be a helpful solution in assisting companies with managing digital rights and allowing employees to use information ethically. However, it should be noted that no tool, however

helpful, can act as a substitute for a foundational understanding of intellectual property and copyright laws that employees should be gaining through awareness training.

This section has offered both negative and positive examples of how various organizations and corporations choose to deal with copyright and the associated intellectual property issues. All of these examples serve to underscore the significance of copyright compliance, and how successful copyright compliance can lend to an organization's overall achievement. By readily accepting the responsibility of understanding, enforcing, and promoting awareness about copyright laws, the corporate librarian essentially increases the value of the librarian role while simultaneously contributing to the value of the entire company (Rimland and Masuchika 2008, 329).

## INFORMATION SECURITY

Corporate libraries have a very unique perspective on intellectual property, in general, simply because the communities that they serve often maintain intellectual property of their own that they need to protect. The 2006 AstraZeneca article quotes Mick Archer, a virtual library portfolio manager for AstraZeneca, in a clear example of how this philosophy affects the mission of corporate libraries:

> We believe strongly in instilling respect for intellectual property (IP) because IP is what our business is based on. AstraZeneca relies on our patents and copyright to protect our intellectual assets and we defend our IP aggressively. So we feel we must respect the intellectual property and copyrights of others, including authors and publishers. (Knowledge sharing and copyright at AstraZeneca 2006, 32)

Besides providing an excellent example of corporate library compliance with copyright, the AstraZeneca article touches on one of the added responsibilities of the corporate librarian: ensuring that an organization's proprietary information—patents, trademarks, or copyrighted works—is kept secure in every meaning of the word. In the introduction to this chapter, the philosophical difference between public and academic, and corporate librarians is described; information security is the area where this difference may be the most evident. While remaining cognizant of their responsibilities to respect and uphold the legal aspects of copyright, public and academic librarians work hard to locate and disseminate information to anyone who asks for it: they believe that an informed democracy depends on this mechanism. However, corporate librarians must adopt a very different attitude toward the content with which they are entrusted to manage and organize. In addition to complying with intellectual property laws as a user of information, media, and other published material, corporate librarians are often expected to demonstrate a deep understanding of intellectual property laws from

the owners' perspective so that they can protect their employers' confidential and proprietary information.

In addition to the aspect of managing intellectual property, corporate librarians have the added responsibility of understanding confidentiality issues that may surpass or exceed basic intellectual property concerns. The corporate environment can breed situations where the librarian needs to be aware which members of the community can, legally and ethically, have access to which pieces of information. Robyn Stockand, Coordinator for National Bank Financial Corporate Library in Toronto, addresses this issue of internal confidentiality in a 2009 interview for the Canadian Library Association's *Feliciter* when she says that "many special libraries function in regulated environments, including financial services . . . sometimes, the right hand *cannot* know what the left hand is doing" (Robertson 2009, 56). Stockand further develops this idea as she summarizes that "we in the library need to exercise caution when working on highly confidential matters" (Robertson 2009, 57).

The issue of confidentiality actually does dovetail with the ALA statement of Core Values and the ALA Code of Ethics; academic, public, and corporate librarians alike recognize the significance of protecting users and their private information. However, for corporate librarians, the issue of confidentiality goes even further, illuminating an entirely different facet of the intellectual property discussion. Corporate librarians must respect not only the confidentiality of their users' information, but also the expectations of confidentiality that come along with specific corporate environments such as finance and pharmaceuticals. When corporate librarians are also knowledge or content managers within an organization, they are trusted with proprietary information whose security they must protect through appropriate management and safety measures. Specific, technical guidelines for the safekeeping of confidential information are beyond the scope of this chapter; however, it would be remiss not to mention this side of the intellectual property equation.

Finally, one last issue worth touching on in this conversation over information security falls within another aspect of copyright law. Copyrights are not always owned by the creator of a work; copyrights can be transferred, given away, or sold; in some cases, when a person creates a work as part of part of his or her job responsibilities, then the employer automatically gains the copyright to the created work (Miller and Davis 2000, 392). This concept fundamentally plays into the issue of information security because it underscores an organization's— the employer's—ultimate grasp on the information that is managed, and even created, under its aegis. Corporate librarians are agents of the organization and thus tasked with ensuring that even internally created information is represented appropriately. As content and media managers, corporate librarians may receive permissions requests or other questions about internal information housed in the corporate library that is owned by the organization and corporation. It is in the best interest of all for-profit organizations to decide which staff members can make permissions, and other decisions about company-owned information. For some organizations, corporate lawyers may oversee this process. Regardless

of the system worked out by each, individual organization, corporate librarians need to be cognizant of the origin and ownership of all types of materials housed within the corporate library framework and be willing to ensure that there are real, enforceable guidelines directing this flow of information.

## OPEN ACCESS: THE FUTURE DIRECTION OF INFORMATION SHARING

Even as corporate librarians ponder the complexities of ensuring security and protection for the body of information for which they are responsible, many information professionals are considering an information sharing model that represents the very opposite of information restriction. This new model of information sharing, of course, relates more to the research publications and databases purchased by corporations for conducting research rather than the intellectual property created in-house. Open access (OA), a publishing model that provides digital literature, accessible online, that is free of charge and free of traditional copyright and licensing restrictions, seems to be emerging in the for-profit environment because of the freedoms associated with it (Suber 2007).

In 1991, when Schaper and Kawecki put together that first description of a copyright compliance effort, the authors envisioned growing use of "electrocopying" and how this will further threaten publishers' control over their property (Schaper and Kawecki 1991, 15, 19). The authors, of course, were completely right, and had a relatively good idea about how much this "electrocopying" would change the publishing industry, and subsequently, the realm of intellectual property. Schaper and Kawecki's article, along with the article detailing AstraZeneca's copyright compliance strategy, both mention the problems associated with organizing and managing various licenses and database subscriptions managed by the corporate librarian(s). Rather than dealing with the photocopying dilemma that plagued Texaco and the copy centers in the eighties and early nineties, modern corporations are dealing more and more with the issues wrapped up in electronic subscriptions, databases, and digital collaboration. The two exclusive rights of reproduction and distribution, however, certainly are not limited to any type of information format. In fact, the rising cost of electronic subscriptions coupled with the relative ease of distributing digital copies of material makes the terrain of understanding copyright in the digital age even more slippery. There are, however, creative strategies for dealing with this new, complicated situation, and the open access publishing model represents one major coping strategy that frees quality information from the traditional barriers of price and permissions.

Research conducted by Jose-Marie Griffiths and Donald King indicate that as journal subscriptions grow more expensive, professionals rely more on library resources (Griffiths and King 1993, 34). While Griffiths and King conducted and published this research prior to 1993, there is no doubt that, in today's economic climate of frugality, this is still the case. Corporate librarians are most likely

familiar with the collection development principles that include the librarian's responsibility to select and provide access to appropriate content, regardless of format; however, resources selected for corporate libraries—the resources relied upon over personal subscriptions or resources—are nearly all digital at this point in time (Fenner 2006, 3). Audrey Fenner writes that this move to digital resources correlates with the "big deal," an approach that incorporates consortial purchasing of large quantities of electronic materials (Fenner 2006, 3). While this sort of purchasing and selecting may seem like a good idea, Fenner writes that this arrangement can distort the "long-standing patterns of information creation and provision among libraries, vendors, and publishers" and "be detrimental to the interests of libraries and information seekers" (Fenner 2006, 3).

As libraries, publishers, and vendors are working out the economic value of information and scholarship, many libraries in small organizations and business professionals working alone are suffering for it. Unable to afford the expense of costly journal subscriptions and database licenses, many of these information users have begun to use open access databases and journals as an alternative to the more expensive forms of publication and information dissemination. Katharine Ball writes that, in North America, open access databases are "often the only databases available to business professionals working alone or for smaller organizations, and even for many policy makers in the government" (Ball 2009). In many developing countries, Ball writes, "OA journals and OA indexes may be all that universities can afford." Because of this fact, OA journals and databases tend to offer a more "diverse, global perspective than previously afforded by the established North American and European commercial business information providers" (Ball 2009).

With OA journals, as preeminent OA policy strategist Peter Suber describes, the copyright holder must consent to let users exercise any of the exclusive rights that come along with copyright; additionally, Suber opines that true OA literature "should be immediate, rather than delayed, and should apply to full-text" (Suber 2007). Suber also suggests that the openness of OA literature does not negatively affect the literature's quality, since the OA model is entirely compatible with the peer review process (Suber 2007). Indeed, because OA indexing "opens up a wide range of research to a much broader audience and facilitates equality of access to scholarly knowledge," work that is published in OA journals can have a much greater research impact than work that is published through a traditional publishing model with the traditional barriers to access, for example, expensive licenses and costly subscription fees (Ball 2009).

Corporate librarians need to be aware of open access databases as freely available scholarship and research that can supplement and enhance the corporate library. OA journal repositories and databases that may interest corporate librarians include Directory of Open Access Journals (DOAJ), MEDLINE/PubMed, Science.gov, Google Scholar, National Technical Information Service (NTIS), and AgEcon. Within these databases, librarians and library users can pull out business-related titles and browse through the information. OA databases function similarly to traditional databases, and many offer similar quantities of literature.

A quick search, for instance, reveals that DOAJ (http://www.doaj.org/), currently indexes 111 "Business and Management" journals and 100 "Economics" journals (Directory of Open Access Journals 2010). Besides these business-oriented publications, more and more information in general is becoming available to the public via the open access publishing model. The NIH (National Institutes of Health) Public Access Policy, for example, ensures that the public can access federally funded research, since all scientists and researchers who use NIH funds must submit their manuscripts accepted for publication to a digital archive (U.S. Department of Health and Human Services 2010). With the U.S. government backing the OA movement, this publishing model is gaining trust, and even prestige, among prominent researchers, scientists, and scholars.

For corporate librarians, there are several considerations to undertake in the open access discussion. First and foremost, corporate librarians need to be aware of the existence of OA journals and databases, and view them as valuable resources for the library collection that do not require fees or the application of complex copyright principles. Next, while many researchers and employees who use corporate libraries may not be able to submit their own work to OA journals or repositories because of the reasons discussed earlier in this chapter, it is possible that individual organizations or a group of related organizations could springboard off this idea of open information sharing. Indeed, some corporate organizations actually may be required to submit published research to open access repositories, according to the NIH Access Policy, if they received federal funding to conduct the research (U.S. Department of Health and Human Services 2010). Corporate librarians may want to start discussing ways that internal information can be organized in a way that, like open access directories, makes it easily available to those who need it. For corporations that do not need to use strict confidentiality guidelines, it may be possible to work with other, related organizations to create an even larger collaboration of research and reports. Wheaton and Murray touch on this principle of information sharing when they argue that "the librarian of the future is uniquely positioned to be at the center of the creation and alignment of intellectual assets across the enterprise" (Wheaton and Murray 2009, 18). The OA discussion is perfectly representative of this description; as such, it is the responsibility of corporate librarians to investigate the principles behind the OA model and consider how they may fit into an organization's particular mission or workflow.

## IP RESOURCES FOR CORPORATE LIBRARIANS

Many of the ideas, issues, and concerns discussed in this chapter are addressed by authoritative resources freely available on the web for the corporate librarian to view and disseminate among an entire organization or business. The U.S. Copyright Office's Web site (http://www.copyright.gov/) offers extensive information regarding copyright basics, frequently asked questions, and the finer points of copyright law. Additionally, this Web site includes a database that

allows users to search copyright records from January 1, 1978 through the present. This may be helpful for corporate librarians who may need to track down the copyright owner of a particular document or resource. If a document in question was created prior to January 1, 1978, the U.S. Copyright Office's records must be searched in person; if a librarian cannot visit the U.S. Copyright Office in person, he or she can pay a Copyright Office staff member an hourly rate to search the records. The U.S. Copyright Office's Web site also offers detailed information on fair use and the public domain; librarians interested in reading more about either of these provisions can rely on this site for comprehensible information about some of the more confusing aspects of copyright law. One of these confusing aspects, the timeline for works passing into the public domain, is addressed by one particular web resource that puts the factors associated with the public domain into a helpful chart. Laura Gasaway, the lawyer/librarian copyright expert identified in this chapter's Introduction, maintains this chart on her Web site that lists the possible copyright expirations of various categories of works. This chart can be found at: http://www.unc.edu/~unclng/public-d.htm (Gasaway 2003).

Fair use is another tenet of copyright law with which this chapter did not deal in nearly enough detail, simply because a comprehensive conversation about fair use would exceed the chapter's maximum word limit! For corporate librarians interested in supplemental information about fair use and the four elements that comprise this provision, several informative tutorials exist. The University of Texas System (http://www.utsystem.edu/ogc/intellectualproperty/cprtindx.htm), for example, offers an informative, easy to follow copyright tutorial (Harper 2001). Tutorials like this one give a broad overview of copyright issues, but also offer understandable descriptions of when, and how, the fair use provision may be legally and ethically applied. Finally, for businesses, the U.S. Small Business Administration's site "Business.Gov" (http://www.business.gov/business-law/intellectual-property/) offers basic, business-oriented information relating to patents, trademarks, and, of course, copyright (U.S. Small Business Administration 2010).

For librarians who deal with media, managing Web sites, and related responsibilities, it is important to be able to determine ownership for permissions purposes; however, knowing where to look for images and other media that are already in the public domain can also be helpful. The Creative Commons (http://creativecommons.org), a Web site that allows copyright owners to make their material available for use via a wide range of less-restrictive licenses, has made all types of resources, but especially images and other artistic endeavors, accessible on a whole new level. Flickr, Google, and Whitehouse.gov have all used Creative Commons licenses to make their material available to the public with fewer, or no, restrictions. Essentially, Creative Commons allows groups to grant copyright permissions to their works in an easy to understand way; the Creative Commons Web site also allows users to search specifically for resources that have been placed in the public domain, or made otherwise accessible, by their copyright owners. When faced with the complexities of licensing agreements and

royalties, corporate librarians will find the Creative Commons an extremely valuable, free tool when trying to find various types of creative works. Similarly, when looking for open access resources, corporate librarians need look no further than Google. Google directory has a comprehensive list of open access databases, repositories, and other resources in a single page: http://www.google.com/Top/Reference/Open_Access_Resources/ (Google 2009). Again, the Directory of Open Access Journals (http://www.doaj.org/) makes accessible nearly 5,000 open access journals (Directory of Open Access Journals 2010).

These resources are all recommended as follow-up readings for any readers interested in the relationship between intellectual property and corporate libraries. Responsible information sharing, arguably the main way that corporate librarians prove their value to their employers and shareholders, is built upon a strong foundation of intellectual property principles. It is undeniably a best practice, and indeed, responsibility of all corporate librarians to ensure that this foundation is strong in their home organizations and to maintain its strength through research and awareness.

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# 4 COLLABORATION IN CORPORATE LIBRARIES

*Jobish Pachat and M. Manjula*

## INTRODUCTION

The business value of a corporate firm is measured in terms of the revenue it generates. Demonstrating the value of a corporate library is challenging because the business impact of libraries towards furthering corporate goals is not measurable in tangible terms, although organizations demand the quantification of contributions from different stakeholders. In these increasingly tough and competitive scenarios, corporate libraries have to create value for their services by aligning business-research activities such that they closely support the revenue-generating projects and by extending the librarians' presence beyond the walls of the library.

Corporate libraries demonstrate how collaboration can be elaborated further from Interlibrary Loan (ILL) among libraries to intra-project interactions among project teams. These libraries network with different revenue-generating projects and support functions such as research and development, learning and development, knowledge management, market research, project collaborations, quality assessment, resource management, corporate governance, and corporate social responsibility to name a few. Librarians perform multiple roles as information professionals and project-domain specialists. In many firms, selected librarians work with different project teams at predefined time slots on a daily basis. Apart from their personal presence, librarians in many firms have set up an online virtual reference desk service, where employees can login and ask domain-related or general-information queries.

Corporate library activities are aligned with the vision, mission, and goals of the parent organization and their services are focused towards promoting knowledge sharing within the organization. In corporate libraries, "information dissemination" more important than "information storage" and hence, corporate libraries are better known as information-resource centers or knowledge centers. One of the reasons that corporate libraries have gained greater momentum is the

competitive culture prevailing in the industry where services are measured in terms of the return on investment (ROI) and profit and loss to the organization. In this context, it is vital for libraries to design and develop innovative services that have tangible values to effectively serve the organization. Corporate libraries must collaborate with various departments and business units and leverage the results of mutual efforts for the benefit of the organization, especially in large corporate firms where the operations and business clients are geographically dispersed around the globe. Effective external and internal collaboration is important to design value-added information services and to reach a wide audience. This chapter explains some of the various means of collaboration that generate value out of corporate libraries for the success of business firms.

## COLLABORATION—THEORY AND PRACTICE

Collaboration can be defined as a joint effort among different stakeholders to fulfill a specific task or job and where goals and duties to perform are mutually agreed upon. Collaboration is usually characterized by well-defined relationships, long-term goals, comprehensive planning and joint strategies, shared resources and efforts, mutual risks, and distributed benefits for all stakeholders. In the context of corporate libraries, collaboration happens between libraries and user communities, project teams, external clients and third parties, and partners. In the context of this article, the collaborative efforts specific to libraries in business firms can be divided into two categories, internal collaboration and external collaboration.

### *Internal Collaboration*

Internal collaboration consists of the cooperation and coordination between different branches of libraries and the communication and mutual help among the library staff to meet the information requests of users. The terms "cooperation" and "coordination" referred to here become part of the goal-oriented collaboration, as these were driven by the collaborative strategies of corporate libraries. Internal collaboration is the group efforts within a team to achieve the stipulated targets and goals of the parent organization. This has great importance in the context of the geographical and cultural diversity prevailing in multi-national firms. Internal collaboration is fairly less complex when compared to the skills, resources, and efforts required for external collaboration. Good knowledge about various library offerings, resources, and services across the board helps different library teams to leverage the advantage of mutual efforts, cooperation, and coordination within the team during the process of internal collaboration. Internal collaboration extends from conventional InterLibrary Loan (ILL) among libraries to joint and collaborative query handling in virtual space. Internal collaboration helps librarians to overcome the difficulties of time and space raised by 24/7 functioning of geographically diversified corporate firms.

### External Collaboration

External collaboration includes everything that goes beyond the scope of internal collaboration. For example, engagement with different project teams, departments, clients, institutions, associations, clubs, suppliers, and vendors fall under the purview of external collaboration. External collaboration is more challenging because it requires a clear understanding of business, technology, and market needs of the collaborating project or vertical. A vertical is a group of similar businesses and customers that engage in services based on specific needs. It is observed that the efforts on intra-vertical collaboration among corporate librarians are increasing with the diversity and complexity of information requirements from the clientele. Collaboration with different departments and business units brings in more value addition to the corporate library offerings. The collaborative efforts that corporate libraries contribute are effective when they become recognized as a team of vibrant, multitasking information and business analysts. In corporate libraries, internal and external collaboration are an important means to offer efficient and effective information services. This chapter proposes various strategies and methods that corporate libraries can adopt to leverage the advantages of collaboration within and outside the team.

### Collaboration in Corporate Library Offerings

Most of the services of corporate libraries are based on collaboration. The platform and tools used for various information services must be streamlined to facilitate a faster solution for information and research queries. A system that enables collaboration and a set of guidelines and procedures that bonds the team together to adapt to collaborative work are important for the success of corporate libraries. Some of the services that help to achieve collaboration are described in the following sections.

### Query-Based Service

One of the vital resources that corporate professionals always try to optimize is time. Based on the project requirements, there may be an urgent need for information, statistics, company profiles, analyst reports, client information, or other data. Collection and storage of these information requirements in a common pool with easy access and retrieval facilities is important:

- to enable collaborative work and thereby use the collective intellectual wisdom of the team
- to facilitate easy and accurate provision of solutions
- to archive the questions and solutions for future reference and re-use, and to avoid duplication of efforts

For this purpose, a mechanized system is required that categorizes and groups information requirements under different headings based on the subject and

domain that the queries are related to, and assigns the queries to specific library teams that are grouped according to their specialization and area of expertise. Mapping of information queries to the respective library teams happens through auto or manual assignment. A group can escalate queries to more specialized groups within the team based on the difficulty level of queries. Collaboration within the team can happen over instant messaging (IM), wikis, internal forums, telephone, e-mail messages, or through personal interaction and discussions.

The time required for the provision of information can be tracked by a Service Level Agreement (SLA) period constituted for different types of queries. SLA is a contract or understanding between the provider of a service and the user of that service, where the measures of service such as the response times and hours of availability are defined. This highlights and benchmarks the efficiency and effectiveness of the service. The value of a knowledge solution in time of need is significant when negotiating and pursuing proposals and projects. Collaborative query handling thus serves as an enabler for business teams and business units. Often the collaborations happening are internal in nature and are limited to the sources, databases, and resources of a corporate library. However, for complex queries, the services tend to be external through the support, participation, and collaboration of external organizations and agencies.

Apart from the provision of collaborative services, this system offers the following additional benefits to users:

- The ability to raise queries at any point of time on a 24/7 basis
- A provision to track the status of their information requests, such as which team is working on it, whether the work is in progress, pending, and so on
- An option to go back to their work space and re-use the query and solutions later at any point of time

Another mode of interaction with users happens through IM services. This provides answers to user queries through one-to-one interactions in real time.

### Current Awareness Service and Selective Dissemination of Information

Current Awareness Service (CAS) and Selective Dissemination of Information (SDI) represent proactive modes of information services. Topics covered under CAS and SDI in large firms vary a great deal in terms of their coverage and depth, and may include client information, technology trends, or competitor information. The topics covered under CAS and SDI tend to change before the termination of the project or client engagement. In this scenario, specialized teams of information professionals are required to cater to the varying information needs from time to time.

Corporate libraries train and develop teams according to the information needs and requirements from different verticals, domains, and business units of corporate firms. These teams collaborate in terms of their skills, resources, and

expertise, and collect information vital to the project and business needs of the firm. After matching this information with individual and group profiles of requesters and project teams, specific information dossiers are collated from the re-packaged information pool and disseminated to users throughout the world by library teams in the respective geographies.

Thus, the dissemination of special information bulletins to identified project groups and leads happens through a chain of collaborative strategies, including collective information gathering, sharing, and joint authoring, and the distributed delivery of information services.

### Collaboration Across Borders

In addition to the services described, corporate libraries are engaged and aligned with the specific information needs of project units and business domains. Unlike CAS and SDI, collaborative services ensure the availability of specialized library team members to perform research-based works pertaining to specific teams in predefined time slots. This calls for collaboration with the leads and key members of different teams. Some of the services that manifest collaboration beyond the walls of the library are briefly explained in the following sections.

### Research-Based Service

In research-based services, corporate libraries collaborate with business units to collect and distribute re-packaged information according to the needs of aligned domains. Collaboration may extend to various departments, such as Chief Executive Officer's (CEO) office or sales and marketing. Areas covered under such services include competitor tracking, client information dossiers, content creation, and virtual library creation for domain, scanning of tenders, contribution to business proposals, preparation of domain-specific presentations and reports, and domain-specific resource exhibitions.

### Competitor/Client Tracking

Corporate libraries can track important news, articles, analyses, and reports about different clients and competitors of the parent organization. These are published and disseminated in different formats at different time schedules, such as daily alerts, weekly bulletins, monthly compilations, and quarterly digests. This provides useful information to corporate firms about their clients and competitors.

## KNOWLEDGE MANAGEMENT/CONTENT MANAGEMENT

Knowledge Management (KM) is gaining increased importance as a practice and application among library practitioners across all types of libraries. Librarians are one among the various professional groups to stake their claims in KM. The increased attention to KM among librarians has its roots in the emergence of a

knowledge-based economy. Knowledge has become the foundation on which the economy thrives, and it has been marketed as a vital ingredient in the progress and development of society. Libraries preserve and disseminate books and documents to serve users, and users always seek knowledge. Thus the capacity of libraries to provide knowledge services links users with libraries. The effective provision of knowledge becomes very important for the existence of libraries. And now, the libraries are on the threshold of a change of their identities from "knowledge repositories" to "knowledge generators."

### Information Management to Knowledge Management

Information management (IM) is the collection and management of information from one or more source and the distribution of that information to one or more audience. IM involves the process of identifying, collecting, processing, storing, retrieving, and disseminating information. IM usually encompasses innumerable technological utilities such as Web Content Management, Document Management, Learning Management Systems, and Enterprise Search, among others.

### Corporate Libraries and KM

To promote the existence of libraries as KM service providers is a challenging task in a highly dynamic corporate scenario. Many corporate libraries are re-inventing themselves by changing their information service strategies and identifying themselves as "knowledge centers." However, the success of these efforts depends on the librarians' ability to analyze and interpret data and to bring an additional value to the information products and services.

KM deployment through libraries can be further extended and will fall in to the following categories.

### Business and Competitive Intelligence (Explicit Knowledge)

Corporate libraries are increasingly involved in tapping and disseminating the latest trends and technologies in the areas of specialization of the parent organization. This includes acquiring, analyzing, compiling, and disseminating information from different industry and service practices. These types of services are usually highly personalized and limited to a particular project or practice group.

### Knowledge Maps and Directories (Tacit and Explicit Knowledge)

This is a diagrammatic, graphic, or textual representation of the knowledge and intellectual assets of an organization. This may point to intellectual (tacit) assets, such as people, or explicit document collections and databases that can be consulted. For example, "Expert Locators" containing competency profiles, skill sets, and area of expertise for various available experts.

### Communities of Practices (CoPs) and Knowledge Networking (Tacit Knowledge)

The role of libraries as the facilitators of knowledge transfer is highlighted here. Libraries can be the promoters of a collaborating and sharing culture by providing opportunities for face-to-face group interactions through different CoPs. Also, libraries can facilitate knowledge sharing by arranging "best practices" and "lessons learned" sessions. In addition, libraries can channel knowledge networking through social and Web 2.0 tools such as blogs and chat rooms.

### Institutional Repositories and Knowledge Databases (Explicit Knowledge)

Institutional Repositories store the intellectual assets of the organization in recorded form. Knowledge portals and knowledge databases aim to facilitate the sharing and re-use of the documents and assets of an organization, for example, best practices, lessons learned, client presentations, templates, customer data, marketing materials, meeting minutes, policy documents, product specifications, project proposals, research reports, and training materials.

## WHAT IS THE LIBRARY'S ROLE?

Previously in libraries, the flow of information was limited from books to minds, and the creation of knowledge happened within the mind. This sort of knowledge, that is, knowledge being created inconspicuously, is termed as tacit or implicit knowledge until it is communicated to the world outside through some medium of expression.

Quite often, the means of expression and interaction in libraries are silent one-to-one modes of communication. This can be illustrated by linking an object (books and other documents) with a subject (an individual reader). Networking between the readers or between a reader and a librarian happens less frequently. In fact, the term networking, in a library sense, was limited to the resource-sharing practice among libraries.

Libraries perform the function of "nerve center" by facilitating reading and reference services to the users. The services and the studious ambience are also good. However, in a time where books and information resources accompany users on their mobile devices and innumerable e-discussion forums enable users to answer their queries at home 24/7, the time has come for libraries to re-examine their image and re-adjust their capabilities to serve users more effectively and efficiently.

Now libraries are in a transition and have become more social. They are opening avenues for personal bonding, networking, and sharing of ideas, thoughts and knowledge resources. Content Management (CM) is one of the areas where most organizations make use of the services of librarians. Corral rightly points out the importance of librarians in CM because they are required for different CM activities. The need to structure and codify information, to

have a common language, and to manage selective dissemination of information has highlighted information specialists' skills in indexing systems, thesaurus construction, and user profiling for customized alerting (Corral 1998).

## IS THERE ANY DIFFERENCE IN OFFERINGS?

KM has made an impact on libraries in the corporate sector because there are significant opportunities to apply KM practices to support their mission and values. Strategic efforts and greater involvement in the deployment of KM is evident in corporate libraries.

Libraries can perform a multifaceted role starting with reading and reference services and extending to knowledge sharing, networking, innovation, and the publication and marketing of research output. Corporate libraries are making the transition from traditional ways of functioning to the KM ways of sharing and collaborating. Corporate libraries are aggressively collaborating with different teams, providing effective support, and creating services to meet the information requirements of their clients.

CM and KM are vital areas where librarians can be critical contributors at corporate firms. Organizations are facing great challenges in the archival, storage, tagging, and retrieval of large pools of information generated in their operational units. The role of content managers is significant as providers of content creation, workflow authentication, and metadata development of knowledge portals. Given the nature of the work and the professional expertise required for this role, librarians are the most suitable professionals for the role of content and knowledge managers in organizations. The knowledge portals of many firms are managed by librarians administering tasks such as creating content templates, managing the workflow for content creation and content uploading, and assigning metadata and keywords.

### Web 2.0 and Library 2.0 Offerings

The term "Web 2.0" conceptualizes a generation of the Web that is more active and interactive with user-friendly applications and collaborative tools. The concept of Web 2.0 was a result of a brainstorming session that was arranged between O'Reilly and MediaLive International to analyze the causes of the dot-com bubble in 2001 and to examine the characteristics featured by the survivors of that collapse (O'Reilly 2005). It was observed that the services, technologies, and companies that survived the crash had similarities in the service models under which they operated. This model was user-centered, interactive, and dynamic and came to characterize the most prominent features of the Web 2.0 applications.

Web 2.0 elevated web-users from mere spectators to active participants who had the freedom to express, discuss, debate, collaborate, and contribute information and ideas. Shifting the Web from a limited number of publishers to an unlimited number of participators promotes total participation and aims to

leverage the collective wisdom of people by providing them with the freedom, tools, and avenues to express, collaborate, and contribute to the wisdom.

Web 2.0 is an umbrella of tools and practices facilitating and enabling efficient communication among different communities. Web 2.0 integrates the collective common sense of people with the capacity of digital tools. This leads to the accumulation of social knowledge through pluralistic viewpoints and discussion loops of different CoPs, and this in turn adds value to the existing information and presents it in a rich knowledge context.

### *Library 2.0*

Library 2.0 aims to bridge the gap between library users and the library. In Library 2.0, the focus is on user-centered services and the creation of user-centered contents and communities. Library 2.0 offers users the freedom to participate and collaborate and thereby harness their skills in the design and implementation of library services.

Library 2.0 follows the principles of Web 2.0 by promoting users as contributors of library content and services to create a more dynamic and interactive user experience. In this sense, libraries become facilitators of collaboration. Maness (2006), in his article about Library 2.0, points out how libraries can promote useful Web 2.0 services offered by external agencies and service providers. For example, Amazon and Google offer many value-added services that Library 2.0 can freely make use of. Social network sites such as Myspace, Facebook, Del.icio.us, and Flickr can be promoted to enable users to share information about themselves with one another.

Corporate libraries can be the sponsors and co-creators of project or domain-based blogs and can provide technological and human capabilities to foster collaboration. Utilities such as "wikis" are ideal as a collaboration platform, and the facilitation of such services helps to identify the libraries' role as providers of innovation and improvement.

Recent writings attribute the use of Library 2.0 tools as the basis for a scenario where a library facilitates user and community collaboration through social and technological means. In his paper "Coming Together around Library 2.0," Miller conceives a vision of Library 2.0 in which libraries become more relevant as visible and accessible providers of valuable content and context (Miller 2006). Literature on the theoretical conception of Library 2.0 and the practical experiences that have been witnessed in libraries over the past few years suggest that the following changes can be considered as a visible manifestation of Web 2.0 and Library 2.0 impacts in libraries.

### *Vanishing Boundaries*

The demarcation of physical boundaries in libraries is increasingly fading, due to electronic media and Web 2.0 technologies. To many users, remote access is the most convenient means of contacting libraries, and using new technologies

for remote access is a growing trend in libraries. The treatment of "Information as Conversation" as mentioned by Nelson in his article "The Future of Library Service" (Nelson 2005) points to the decentralized representation of information through different viewpoints. Tremendous growth in the use of blogs and wikis is part of this trend. Many libraries have started "blogs" on a variety of new technology and Web 2.0 topics. The concept of Library 2.0 can further be extended to the personal collections of networked library users who are willing to share and collaborate with other users. This results in a meaningful exchange of ideas among the whole user community irrespective of their physical accessibility to libraries.

### Socialization and Open Content

The vast avenues of socialization available on the Web through numerous sharing and collaboration platforms have led to a fantastic revolution in the knowledge culture. The concept of open source and open content is of growing importance to knowledge-based organizations. In the paper "A Synopsis of Trends in Knowledge Management," Heather Creech has identified this important trend that is influencing organizations. "This has evolved in to an ideology of collaboration that grants broader rights for sharing and using new ideas and practices. By adopting principles of open content, knowledge sharing becomes more likely, and the protection of what may be desired to be public goods more feasible" (Creech 2005). In his book *The Wisdom of the Crowds*, Suroweiki signifies the importance of social capital, because it is gaining recognition on par with intellectual capital. Social capital is built through interaction and leads to improved knowledge sharing (Suroweiki 2005).

Library 2.0 enables users to communicate, express, and share what they know or what they want to know from others. Facilitation of wikis and blogs, open knowledge and discussion forums, and folksonomy-based Online Public Access Catalogs (OPACs) motivate users to identify themselves as knowledge and service contributors in 2.0-equipped libraries.

### Facilitators of Collaboration

The paper titled "Understanding Cybersocial Network Trends for Innovation in Libraries" (Ferreiro 2007) examines the ways libraries can participate as facilitators in the world of increasing networks and cybercitizenship. The cybersocial services suggested in the paper can be summarized in a wider context as follows:

- As sponsors and co-creators of a blog, the library provides technological platforms and human capabilities to train users and organizations on how to participate in cybernets.
- As a user trend-watcher, libraries can identify user and community conversations and inputs.

• The library can be a promoter of emerging collectives that shape up the process and provide improvements and innovations.

### E-Knowledge Hubs

Libraries are striving to identify themselves as knowledge hubs, especially in the academic and corporate scenario. Library Web sites have moved from black and white OPACs to multi-sensory multimedia experiences. Many corporate library portals have been transformed into learning hubs, linking users to innumerable learning and knowledge resources. These portals have started to serve as collaborative platforms for content-based tutorials and facilitating personal interaction between library users. E-database resources and Web 2.0 tools like instant messaging (IM), Really Simple Syndication (RSS), and 24/7 monitoring of user queries through collaborative workplaces are increasingly becoming common in corporate libraries. Identifying the space for blogs and forums is another item that is receiving increased attention.

### Community and People-Centered Approach

A BBC news article titled "Is This the Library of the Future?" cites examples of upcoming libraries in the U.K. The word "library" is set to fade from the vocabulary, but not because people have fallen out of love with books. Today's libraries are being made over as "idea stores," complete with cafés and multimedia offerings (Lane 2003). In one of her posts about Library 2.0 discussions in the *Librarian in Black* blog, Sarah Houghton states that "Library 2.0 simply means making your library's space (virtual and physical) more interactive, collaborative, and driven by community needs. The basic drive is to get people back into the library by making the library relevant to what they want and need in their daily lives . . . to make the library a destination and not an afterthought" (Houghton 2005). This is essentially true in the case of public libraries, where parks and cafés are used to attract children and families. An extension of this community gathering is visible in corporate libraries through events such as book talks and CoP sessions.

### Web 2.0 in Corporate Libraries

The mix and match of Web 2.0 and library services have brought libraries on the verge of another transition. Perhaps this will be revolutionary, with its focus on customizable user experiences and collaborative knowledge environment. Library 2.0 promotes users as formulators of library content and services. With the growing willingness to share data and the opening up of individual knowledge in a collaborative environment, the walls of libraries will vanish or expand to include the knowledge base of the innumerable users in the Library 2.0 network.

### Building of Virtual Applications

Libraries can create virtual libraries or knowledge repositories for the effective dissemination of both internal and external knowledge. This includes setting up user-oriented digitalized knowledge services and personalized information search, retrieval, and subscription services.

### Blogs, RSS, Forums, Chat Rooms, and Podcasting Services

These services open new ways for libraries to reach users. The time and boundary limits of libraries have no significance here. Users can browse information around the clock. Discussion boards and blogs facilitate better interaction and communication among the users. Also, quick feedback from users can be obtained through discussion boards and blogs. This creates a social knowledge loop that benefits all the stakeholders by linking them to newer information resources.

### Application of Folksonomy

Increased participation from users can be achieved by offering them space to define their own keywords and incorporating them in the library catalogues and digital libraries. Also, a mechanism should be built up to link each user to the resources and choices of other users with similar interests through social networking. Apart from user benefits, this will broaden the cognitive understanding of the search and retrieve system as a whole.

### Communities of (Reading) Practices

Libraries can be providers and facilitators of different CoPs. CoPs are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly. Libraries are the best identifiers of the subject, reading, research, and knowledge interests of users. It is an immense help to form different CoPs based on the users' subjects of interest. By facilitating formal and informal meetings of these groups and by podcasting and reporting such events through library channels, libraries can really excel in their role as KM enablers.

### IM Service

Corporate libraries can facilitate the IM service for their users. The IM service offers fast solutions for user queries. Users can interact with the librarian in real time and usually get quick solutions for their information requirements. Through this service, information is disseminated swiftly to users with a minimal response time and a high responsiveness to customers. Libraries often make use of the enterprise wide chat services for enabling IM-based information solutions.

In addition, some of the libraries have dedicated chat rooms/services specially designed to cater to the quick information needs of the users. Some of the advantages of the usage of IM for library services are that it:

- Enables faster provision of information
- Shows the presence/absence of the librarian
- Facilitates real-time interaction and better communication
- Reduces e-mail traffic

## TECH FORUMS/KNOWLEDGE-SHARING SESSIONS

Corporate libraries can be the hub of knowledge-sharing activities in an organization. Their roles can be varied from the collaboration facilitator in cyberspace to the organizer of real-time knowledge-sharing sessions. Given their knowledge of projects, domains, and clients that the organization is engaged with, libraries can organize technical talks and knowledge-sharing sessions with experts from a given field of choice. A series of lectures on interesting technology applications, awareness sessions about the latest products and processes, and knowledge-sharing sessions are very helpful for employees. These can be recorded, stored, and retrieved for future use, and reference as well. Efforts in this direction showcase the importance of libraries collaborating with external partners and third parties.

## TRAINING AND DEVELOPMENT

In addition, the library can work closely with the training department of the organization to capture some of the best training or teaching sessions on audio or video, making them available across various locations through the library Web site or through broadcasting services. This helps to overcome the apparent shortage of good trainers or teachers in various subjects. Therefore, some good, recorded presentations help users to access these and gain knowledge at their own convenience.

## COPYRIGHT CLEARANCE SERVICES

Copyright compliance is becoming increasingly difficult for organizations, owing to digital reproduction and network connectivity. In most organizations, users not sufficiently aware of the copyright violations involved in indiscriminate sharing of information and resources. Corporate librarians can provide education and necessary guidelines for procuring licenses and appropriate permissions, and enable sharing and collaboration by ensuring intellectual property rights. Many corporate librarians make use of the services of international licensing bodies such as Copyright Clearance Centre (CCC) to ensure the copyright compliance

of their respective organizations. In addition to this, corporate librarians can collaborate with members of the legal department of the firm offering support in copyright and patent-related activities, such as drafting patents, proofreading, and filing of patent applications and publications.

## COLLABORATION WITH INSTITUTIONS

Corporate libraries can collaborate extensively with external institutions, professional associations, and organizations, thus channeling the benefits of such a collaboration to meet the needs and requirements of the parent organization. Often, the membership of research and development institutes and educational bodies share their knowledge resources and services with the institutional members. Libraries meet various information requirements of their users through collaboration with external institutions by arranging services such as ILL and Document Delivery Service (DDS). In addition, knowledge sharing with organizations in related fields of work brings new insights and ideas to the employees and expands their capacity for collaboration and innovation. Membership in national and international bodies offers an opportunity to network and collaborate with professionals from different geographies and educational and cultural backgrounds.

## OUTREACH/CORPORATE SOCIAL RESPONSIBILITY ACTIVITIES

This can be the collaboration with departments responsible for Corporate Social Responsibility (CSR) activities or outreach initiatives directly undertaken by libraries. Some of the outreach activities that libraries can participate in are setting up school libraries in rural areas, content-based tutorials for prison inmates, adult literacy drives, and so on. Through collaboration with third parties and vendors, libraries can extend their reach by provided services such as book exhibitions, subscription/membership drives, video screening, and family library facilities.

## CONCLUSION

Collaborative efforts help corporate libraries reach a wide audience and market library offerings effectively. A clear understanding of the domain and the needs of collaborators are important to achieve this. The nature and characteristics of partners are important in the success of a collaborative effort. There are good and bad collaborations. If the partners identified for collaboration and the services chosen to offer are not matching and flexible, it may result in a bad collaboration. Hence, due consideration should be given before choosing the channels and resources for collaboration. In addition, it is crucial for librarians to re-identify themselves as information specialists, research specialists, and

knowledge specialists of organizations for the purpose of providing quality collaborative offerings.

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# II

# COMMUNICATION AND NETWORKING

# 5   USER FEEDBACK FROM CORPORATE LIBRARY ADVISORY BOARDS OF STM PUBLISHERS: USEFUL INPUT FOR NEW PRODUCT DEVELOPMENT, PRICING & LICENSING AND RELATIONSHIP BUILDING: A SUMMARY OF EXPERIENCES OF SPRINGER'S GLOBAL CORPORATE ADVISORY BOARDS AND A SUMMARY OF A ROI STUDY AT FOUR LARGE R&D COMPANIES

*Chris C.P. Kluiters and Will Hires*

## HISTORIC PERSPECTIVE AND INTRODUCTION

During the 1990s, the scientific publishing world started to roll out their electronic journal programs on a larger scale than in previous years. In some cases, these programs were intended as technological improvements to some of the traditional programs; in other cases, they were entirely new ways of doing business. This large-scale transformation implied a huge change for these organizations. In the previous decades, development of new products, such as new academic journals or new book series, was largely a result of close collaboration between publishing staff (acquisition editors) and scientific researchers. The establishment of many new scientific societies was a good indicator of emerging (niche) scientific areas, and very quickly new journal titles in print were launched. However, very few electronic journals were on the market, and those that were had, in many cases, the problem of being too advanced for many readers and the library markets. Feedback from librarians was hardly ever requested and, when it was solicited, it was, in most cases, limited to service levels of print deliveries, duplicate publishing practices, or special issues published as books. Most dominantly, the rising pricing levels of journals became a subject of alarm, first, because it was relatively drastic

and, second, because it was seen to be unrelated to actual value determinations. Librarians were seen and perceived by publisher's representatives as the necessary budget holders of university and corporate libraries, in other words, gatekeepers. However, the representatives did not provide the in-depth feedback on new scientific developments. Although subject librarians did have more scientific knowledge compared to more general librarians in certain domains (e.g., medical or legal), they still lacked the knowledge of emerging scientific niche areas. In other words, there was no existing feedback culture or feedback loop between publishers and libraries. But in the case of the Internet and other electronic developments, more experience was present within library organizations, because abstracting and indexing services were electronically available much earlier both via dedicated Internet networks and in CD-ROM format. As a result, specific organizational knowledge and skills about these electronic products, such as user training, was already available from librarians and could be used as feedback and input for the scientific publishing world.

The required organizational changes implied that these Science, Technology, and Medical (STM) publishers needed to evolve more in the direction of software-producing organizations. The staff of the organizations (content-production, platform development, sales, and legal) as well as their internal processes started to change. Software producers (including library automation vendors) were already quite familiar with user group meetings during which new software releases were announced and software development priorities discussed. But these types of feedback-generating groups/meetings were hardly known to any of the major publishers; perhaps the only exception being in the corporate library segment: the Pharmaceutical Documentation Ring (PDR) in Europe, where information managers active in the pharmaceutical industry held regular meetings with publishers as early as the 1980s. (The PDR has been in existence since 1958, its number of members growing from just a few, mostly German, pharmaceutical companies, to a current international membership of more than 24.)

In the 1990s, the responsibilities of co-author and corporate vice president Chris Kluiters included the roll-out of Elsevier Electronic Subscriptions in Europe. This was the first electronic journal solution of Elsevier Science and became later known as Science Direct On Site. Confronted with the lack of feedback possibilities, Elsevier organized and established the first user meeting. This meeting could be characterized as one of the very first advisory board meeting of any scientific publisher in those days. An advisory board is a group of customers, in this case librarians, who are asked to join a meeting of one or more days, during which they meet with key decision makers from the publisher to freely discuss issues that are of importance to both publishers and librarians. The meetings are established and organized as ad hoc events that are scheduled at a frequency of once a year, in most cases. Discussions tend to focus on relevant issues or topics such as those related to technology, pricing, and future strategies and developments. The librarians that are asked to join come, in many cases, from a diverse range of customer organizations. Publishers particularly try to invite librarians that represent customers from either very large (it is always

important to hear what your most important customers have to say about you) or very innovative (it is instructive to learn from your customers and benefit from their technologies), the so-called early adopters.

The first conference on Elsevier Electronic Subscriptions (EES) was held October 17 and 18, 1996, at the Chateau Marquette in Heemskerk, The Netherlands. Organized and hosted by Elsevier staff, the conference included the contributions of information managers about their first experiences in building digital journal collections in a commercial environment in the libraries at their respective organizations. These libraries, and, by extension, the organizations, were the first ones in the world actually paying for electronic journal collections, as opposed to earlier pilot program where libraries experimented with electronic journals, but received the collections at no additional direct costs. The experiences of the librarians were on several levels, including organizational (staff, skills, and knowledge), operational (processes, pricing, and licensing), and technological (storage, retrieval, and interfacing). This meeting also constituted a tremendous opportunity for Elsevier to gain important insights and knowledge with respect to the structure of electronic journal collections through the real experiences of active and prominent librarians.

This first meeting in Europe, with some 45 European and Japanese library representatives, was groundbreaking and memorable, since it represented the true state-of-the-art in operational experiences with respect to electronic primary journal information available to end users via their own digital libraries. Papers of this meeting were published in 1997 in *Library Acquisitions: Theory & Practice*. The meeting included presentations from representatives from corporations such as British Telecom, ICI Chemicals, and the European Patent Office. For many, including the information managers/librarians themselves, the idea that everyone should share data and there should be no secrets between those in the meeting was very meaningful and well received. Useful feedback was given throughout the discussion on the main topics, and it tended to concentrate on developments associated with the introduction of new electronic journals: technology, organization, processes, pricing and licensing, and end-user feedback/statistics.

The usefulness of this type of feedback became clear after the very first ScienceDirect user meeting in Hong Kong in 1998. In 1997, Elsevier had begun to roll out ScienceDirect on a global scale. Not surprisingly, the first commercial successes for ScienceDirect were in Asia-Pacific, as print subscription levels in this region were less dominant as a basis on which the e-business models were derived. Electronic presentation, or e-delivery, meant huge improvements in speed of access in comparison to print deliveries, and very large student user groups, involving the requirement for simultaneous access, was much easier and quicker. All of this, speed, ease of access, and the ability to offer simultaneous usage, was provided through the processes spawned by electronic journals. Representatives of the first ten to fifteen libraries using ScienceDirect were invited to a one-day meeting in Hong Kong. Many comments and questions were received from the attendees. They particularly wanted to know whether

the journal articles of years prior to the 1997 launch date of ScienceDirect would be made available. At the time, that option was a possibility that was still very much under discussion within Elsevier, as it required some substantial additional investment in both financial and other organizational resources. Although there were already ideas on this topic within the organization to start with, this potential consideration lacked the important market feedback that was provided through discussion with these librarians. Partly based upon this feedback, the internal corporate consideration could now move forward in a way that improved the chance that it would have a practical and useful effect. Subsequently, the development requirements for the archival collections were put into a business proposal and development started. The outcome of this meeting became one of the huge successes in terms of uptake of product development and, subsequently, in terms of practical usage and financial return. Today, with almost every primary and secondary publisher offering archival collections, it is hard to believe that the beginning of this development may have come from the outcome of a relatively small advisory board.

In the years following 1997, other information providers started their own library advisory boards. These boards can serve as important avenues for the exchange of information between vendors and libraries. They can also help both sides better understand the marketplace and anticipate the change that will inevitably come. As a conduit for promoting the library's services and programs, library advisory boards can serve to involve the public in the planning and development of library policies to great effectiveness and benefit. This effort to garner support from the community that the library serves can be especially worthwhile when controversial or unpopular choices become necessary. An active and continuously involved advisory board has an important opportunity to exert influence and make a critical impact on library development without having to bear the responsibility for library operational specifics. The Centre for Agricultural Bioscience International (CABI) is one such organization that established and employed a library advisory board to great effectiveness. Starting an e-mail list, an online forum, usually based on a specific general area of interest that allows subscribers to communicate information, share and discuss ideas, and distribute news to each other, is a good way to initiate the necessary interaction. LIBLICENSE-L is an e-mail list that was established in 1996 to promote discussion and interaction among librarians and related vendor organizations regarding electronic content licensing for libraries.

The archived records of the Yale LIBLICENSE-L Listserv for the year 2003 include a substantial discussion about the start of a library advisory board for CABI (Listserv, LIBLICENSE-L). CABI is a not-for-profit organization, based in the UK, that publishes abstract and indexing information in the area of agriculture and food sciences. Wanting to work closely with its customers in the United States, CABI desired to establish a consultative forum to help promote their strategy, interests, and concerns and to help foster a better communicative relationship with their library customers. According to David Nicholson, Publishing Director of CABI Publishing, providing informative and useful content to the audiences they

serve is the objective of libraries and publishers alike. Publishers and libraries share a mutual goal, and when they interact to share accurate, useful, and up-to-date information, they are ideally positioned to best achieve that goal. Through cooperative collaboration, publishers can better assist their ongoing business planning and libraries can, in turn, better move forward with program development. "We need to work in collaboration with librarians to understand both their requirements and the requirements of their patrons—faculty, staff and students. We have formed a group of strong and dynamic individuals from leading institutions to help shape our future development and we look forward to working with them, said Mr. Nicholson (Listserv, LIBLICENSE-L). For the publisher, this collective support enhances the understanding of the needs and requirements of the customers ultimately served by the company. The library advisory board is an appropriate and effective way to advise CABI on the development of new products and initiatives. At the same time, CABI is able to keep abreast of the contemporary issues and concerns facing libraries and library patrons. The library advisory board meets annually and typically in conjunction with a conference or other important meeting at a local institution. The makeup of the board includes representatives from several institutions and one corporation. Board members include representatives from the following organizations:

- University of Minnesota
- Yale School of Epidemiology & Public Health
- University of Missouri
- University of Arizona
- Southern University and A & M College
- Virginia Tech
- Montana State University
- Penn State University
- Cornell University
- University of Arkansas
- Michigan State University Libraries
- Monsanto Company
- University of Guelph
- McGill University

Initially, it was intended that the board would advise CABI Publishing on the development of a number of new products and initiatives due to launch in the 2003/2004 timeframe and help provide guidance on industry issues affecting librarians today. The board held its first meeting at the University of Illinois at Urbana-Champaign ahead of the 2003 United States Agriculture Information Network (USAIN) Conference (April 23–28) and, as expected, established a tradition of annual meetings to be held in conjunction with regularly-scheduled important library meetings and with the participation of a local institution. There was strong reason to speculate that the membership of the board would grow to about 20 members by the end of 2003.

In this case, the only corporate member, the Monsanto Company, is a very large organization that has a corporate library of its own and has established a strong commitment to support the work of libraries. There is one university department library and a dozen libraries from research universities that span significant areas of the United States and Canada. This North American Library Board (NALB) has proved to be an important way for CABI to showcase its products, highlight and demonstrate new features for existing products, and announce new initiatives and ventures. There also exists an European Library Advisory Board (EuroLAB) and a Chinese Library Advisory Board (CLAB) which, together with NALB, help form a global network of advisory boards representing a widespread and diverse set of customers and clients around the world. In addition to having actual physical meetings, there have been many virtual meetings established through telephone conference calls and web seminars. CABI obtains important feedback through the work of its library advisory boards and is therefore better able to understand and respond to the needs and requirements of its customers. Customers, in turn, remain closely attuned to the plans and are able to appreciate the strategies of CABI as it positions itself competitively in business and environmental responsibility.

IEEE started a library advisory board in 1999, and there are a few corporate representatives in their board such as British Telecom, AMD (Advanced Micro Devices), and QualComm. The IEEE Library Advisory Board is made up of a group of 15 corporate, academic, and governmental librarians, and they provide important feedback to IEEE that helps to influence product development and policy planning (IEEE Xplore). Blackwell started its advisory board in 2003 and has worldwide representation among all of its members. The approach of Blackwell's advisory board includes a willingness to be out front with changes as necessary to address the needs of the library clients that demand licensing that is realistic, a responsiveness that is focused on addressing immediate concerns, and follow-up to ensure that support is appropriate. Blackwell encourages and welcomes feedback on product development plans, publishing policies, and marketing strategies (Blackwell Publishing). At Elsevier, there now is a specific Life Science Corporate Advisory Board with representatives from Biogen Idec, BASF, NovoNordisk, Pfizer, BoehringerIngelheim, SienaBiotech, AstraZeneca, Sanofi, GSK, Roche, and Bristol-Myers Squibb. This board helps to coordinate and match corporate expertise with customer needs. Additionally, the board advises Elsevier's senior management on strategic direction (Elsevier).

Today, almost all larger scientific publishers have established advisory boards in order to formalize and organize their customer participation and to provide a mechanism for structured feedback. Fries and James (2006) concluded that library advisory boards have taken on a new significance in the information industry by providing valuable market feedback about products and services to publishers and vendors. Library advisory boards deliver benefits in both directions: for librarians, the boards represent an opportunity to participate in product development and better understand how the information marketplace works; for publishers, the boards provide opportune insight into how their products are used

and implemented, as well as how specific products and services impact the marketplace. Indeed, there may be no better alternative to gaining first-hand knowledge about effects and impacts than the collaborative interaction between and among producers and users.

Springer is no exception in terms of library boards. Advisory boards exist for the benefit of academic librarians and for corporate librarians alike. More recently, specific and more narrowly-defined regional boards have been introduced as well to be able to assess if specific regions require different approaches in terms of product development (language), pricing/licensing, and customer service.

Corporate libraries differ from academic libraries in their resource requirements mainly because of the need to be responsive to changing developments in product research and development that necessitate flexibility. Additionally, academic libraries operate their acquisition processes differently in comparison to corporate purchasing departments. Not to be overlooked or discounted, academic and corporate libraries are very different in the way they are organized: corporations typically organize for global access and operational impact, whereas the academic library is structured to support the relatively local needs and requirements of the institution at which it is located. There are enough differentiators to warrant separate feedback mechanisms such as a corporate advisory board.

Within a corporate organization, there is higher degree of changing information needs because of changing R&D due to new product development, investment in new companies, or divestment of certain parts or divisions of the company requiring cancellations or additions of new journals. In an academic organization, there is more focus on continuity in their serials acquisition behavior. However, this has changed somewhat in recent years because of the relatively ubiquitous access to journal articles in a digital world. Corporate organizations make use of professional buyers in purchasing departments, whereas in the academic environment, mostly professional buyers are at consortia levels and less so at individual universities.

Traditionally, academic organizations have been the most important source for authors and editors of scientific papers. Academic participation in library advisory boards is therefore very important, as it represents not just the side of revenue and technology but academic institutions also form the "input" side (they represent the scientific communities that produce the articles for the journals). Corporate organizations were more often seen as subscribers only to these publications (rather than technical contributors). Perhaps with the exception of the medical/pharmaceutical domain where medical communication and advertising plays an important role, there is a clear distinction between the way academic institutions and corporate organizations perceive of and use library advisory boards.

To provide insight into the actual practice of a corporate advisory board, this article will detail the topics and results of Springer's more recent corporate library advisory boards, discussing one of the topics in detail: the

Return-On-Investment (ROI) study executed by the Outsell group. This study has been finalized at the end of 2009 and contains some interesting topics for corporate librarians.

## SPRINGER GLOBAL CORPORATE LIBRARY ADVISORY BOARD, APRIL 30–MAY 3, 2009, ORLANDO, FLORIDA, USA

Springer is one of the world's largest STM/Academic publishers in scholarly journals and is the largest e-book publisher with over 6,000 new e-book titles published every year. For the corporate segment, three global corporate advisory boards have been organized: in 2006, 2008, and 2009. In 2010, there will be one specifically for the United States, as well as one for the rest of the world. Overall, members of the board highly value their membership and the opportunity it affords them for interaction and participation. Based on earlier experiences and using selection criteria as discussed above (size and innovation), Springer looked at their established customer base and seized the opportunity to approach a group of information professionals about membership on the board. To facilitate communication and collegial interaction, a group size between 15 and 20 is ideal for comfort, plurality, and collegiality. In this size of group, every participant has the opportunity to share his ideas and be heard by everyone. In addition, there is ample and rich discussion of varied viewpoints based on the extensive and diverse experiences of the participants. From the publisher's side, there are hardly any participants present from the sales organization, and this allows for the avoidance of sales pitches of products recently launched or in the production pipeline. The topics for discussion at the board meeting are decided upon both as a result of internal meetings and separate discussions between the various editorial, publishing, and marketing segments, as well as from a list of suggestions sometimes offered or solicited from the participants of previous board meetings. The topics can cover a wide range of subjects and typically pertain to interest in new business developments, economic and strategic planning considerations, and regulatory compliance and risk management issues. Board meetings typically review the actions of previous meetings with added commentary on actions that may have resulted from a previous board recommendation or mandate.

Fifteen representatives of corporations from the United States and Europe attended and participated in the Springer Global Corporate Library Advisory Board in 2009. A diverse mix of industry segments were represented, including pharmaceutical, chemical, oil and gas, and information and communications technologies (ICT). This was a logical mix, given the relatively high research and development spending by many corporations within these segments. The customers were all users of SpringerLink, Springer's journal and e-book platform, and most of the participants had attended earlier events sponsored by the advisory board. One of the positive effects of the Orlando meeting was the creation of a very informal and open atmosphere during which ideas and opinions could be freely shared. Springer supplied seven representatives from the product, sales, and market research organizations. The meeting was professionally managed by

an outside company, The Geehan Group, to make sure participants could fully contribute and provide feedback. The topics of the meeting were:

- Springer Strategy Update/Impact on the future of the current economic climate
- Springer's innovative product portfolio (update on new product development)
- The corporate information manager's Organization & Influence Model
- Linking content value to an effective ROI
- Advanced usage statistics
- Exploring customer relationships

Within the context of this book on corporate libraries, two of the above six sessions will be discussed, namely the section on the corporate information manager's Organization & Influence Model, as well as the section on linking content value to an effective return on investment (ROI). Although all of the topics touch on issues that would be relevant to corporate program organization and strategy, the selected topics also provide useful insights for other corporate librarians.

A survey was sent to the board members in an attempt to determine their perceived effectiveness of the library advisory board and the associated meetings. The intent was also to assess the extent to which the board met its objectives and expectations. Some of the general comments captured in the written surveys from the 15 board members were: "excellent because it integrates strategic issues with product development and market trends" and "it's great to be able to ask Springer for more things that can help me do my job better and to 'look good.'" The survey questions were: (1) How valuable to you were the discussions at this meeting? (2) How well did Springer prepare you for the meeting (How well did Springer provide the appropriate materials)? and (3) How well do you feel Springer listened to your perspectives and took your ideas seriously?

Overall, the Springer library advisory board meetings scored increasingly high with respect to content, and there was general appreciation for the opportunity for interaction and sharing that was presented by the meetings. It was clear that the advisory board was considered to be a valuable asset and represented a unique opportunity for customers to provide feedback and opinions to corporate management.

## THE CORPORATE INFORMATION MANAGER'S ORGANIZATION & INFLUENCE MODEL

Springer seeks to understand the world of the corporate librarian and the ways in which each librarian/information manager is affected in the areas of budget, research, access, usage, and other issues. These and other areas receive varying degrees of influence and consideration form the corporate librarian in the typical routine performance of daily duties. Understanding these elements

would be a useful way to anticipate needs, promote suggested actions, or offer constructive criticisms. The method used to gain this information involved a very interactive process during which the members were asked to draw their influence model on white sheets of paper placed on the wall. They were to attempt to diagram their world as they perceived it, with them as the center. Participants were free to depict their respective models as they perceived their function in existence, cooperation, and competition with other functions associated with the work environment. Some of the drawings achieved a very good capture of what would be expected of a corporate librarian in an unforgiving environment of fast-moving developments replete with competitiveness and strategic maneuvers. Two of the diagrams were selected as reflective of the majority and the respective librarians were asked to explain their depictions.

The influence models drawn can be characterized as brain or mind maps, where the central theme revolves around the influences the librarian experiences in his or her daily work. Through clouds or "bubbles," and the use of associated relational lines between the bubbles, the drawing depicts what matters in terms of influence according to the person's perception. The details of the information that is shared or discussed between participants are confidential; consequently, an example of an influence model can only be described in a non-specific way.

Not surprisingly, there are many factors influencing the decisions of corporate information managers. Additionally, the manager's influence can reverberate or extend far beyond the boundaries of their specific action or decision. Nevertheless, the advisory board is there to realize action points to allow the publisher to improve existing practices or have the opportunity to introduce new products and services. For this session, the more important action points were: (1) help to build the business case that will make it easier for the information manager to get funding for new information sources or new database solutions; (2) help establish a practical model for a workable budget solution to support anticipated resource needs; and (3) formulate a plan that, when instituted, will provide an effective way to manage and protect the resources necessary for optimal productiveness.

Both the publisher and the information department have a similar interest: the publisher endeavors to sell its product and/or service, and the information department is obliged to convince other parties within the company that the product or service should be acquired. One of the requisite "tools" is to provide for clear ROI studies on content solutions. Related to the business case is the wish to establish partnerships between the research departments and the researchers in order to build credibility of both the information manager and the publisher. It is important for the information department to establish for and show to its patrons that the acquisition of a certain product is practical and well worth the associated investment. On the face of it, sales calls to researchers are not necessarily seen as a problem; however, in general, it is felt that information managers should be informed about such calls to avoid awkward and potentially embarrassing situations. Information managers want to (and need to) be kept in the loop about the activities of the sales and marketing people, especially when it is directed at their research colleagues. They want

to be able to intercept and answer any questions that might emerge about the products so that they can alert the affected parties as soon as practical. Another important issue that came out of the meeting was that the publisher should do its very best to try to simplify licensing, as this takes up (too much) valuable time that is already a scarce commodity with respect to library staff resources. Not only should licensing be simplified, it should be couched in plain, understandable language so that it is clear with respect to allowances, limitations, and restrictions. Providing training tools, comparable user statistics (preferably in one annual report to the patrons of the librarians), and benchmarking statistics were also seen as key elements that should not be overlooked by the publisher. In short, anything to help the corporate librarian succeed in securing an acceptable and reasonable budget and in reaching researchers will immeasurably advance the influence and effectiveness of the information managers.

## LINKING CONTENT VALUE TO AN EFFECTIVE ROI

The objective of this session was to gather feedback on how Springer could help support the efforts of the information manager to improve the effectiveness of ROI for the library. Return on investment for libraries is an important topic, and one which is well covered in library literature. Literature on academic libraries can already be found from a very early date, since librarians needed to defend their choices to their patrons and illustrate which user groups in their universities were served by which collections, especially considering rising prices for books and journals and the economic condition of stagnating budgets. With the emergence of e-journals, more studies have been completed and new metrics have been proposed, which mostly focus on the download statistics of journal articles and the related online database investment through subscriptions. Libraries generally find themselves having few choices among possibilities that offer no good option and, in some cases, they are resigned to base their considerations on cost rather than the needs of their patrons.

For corporate libraries, however, it is harder to find relevant studies in the literature. Perhaps it has always been more common to have this type of study in the workflow/software domain, since there is a direct relation between the investment made and the saving of time required for the activity involved, making this easier to highlight. Still, corporate libraries have to deal with cost-benefit analyses that force a consideration between the effective use of capital resources and the (actual or apparent) value that may be imparted to the collection.

After a presentation of background information capturing key priorities and challenges, the advisory board members broke into three groups to answer the following four questions:

1. What elements are important for measuring the value of content?
2. Are you currently able to measure them? If not, what are the challenges?

3. What would an ideal ROI dashboard look like?
4. What do you need from Springer to support these efforts?

The following list of elements was presented as being part of a possible ROI approach to content acquisition:

### *Elements to Measure ROI/Value*

The elements to measure ROI / Value are as follows:

- Cost-per-download (articles downloaded/total cost) versus if received all (or 85%) of these in document delivery: the total cost of acquiring the information in relation to the actual number of full-text downloads is represented by a dollar amount, which can then be compared to the dollar amount if the same article is purchased at one of the document delivery organizations or companies.
- Value of having information available (efficiency)
- Turn-aways (online requests for information that is not accessible because of license restrictions): these denial reports show how often researchers have tried to access documents available on the publisher's platform but could not be opened because there was no paid license for these documents.
- Anecdotal info: Survey/template (stories): What would you have done without material?
- Patents issued: Do we know what information was used to generate this?
- Springer content and processes integrate into our workflows (e.g., Ariba) this can help show use (value)
- Measuring marketing time saved to end users and vendor to librarian
- Understanding user behavior ROI picture compared to fragile internet (quality vs. quantity)
- Value scorecard: Cost per download metrics can be compared between other publications and between other publishers
- Just-in-time delivery for specific groups
- Availability outside of license (e.g., PPV): When is it more cost efficient to buy a license to a journal versus buying the articles via the document delivery option?
- Time saved: key stakeholders' input or stories: Are there any examples known within the organization where time was saved because of an article, or in the case of healthcare; are there any stories of where doctors improved the treatment or healed patients, because of break-through articles?
- Qualitative ROI
- Surveys/redirects on portal to understand penetration; pop-up survey
- Publishers data in ATL services

- Number of years to recoup investment (e.g., archive citation analysis/impact factor)
- Number of articles published by own institute—for author and journal

A discussion among the groups considered the four questions along with the list of elements to measure ROI/value. When the discussions were completed, all relevant points were summarized and the participants agreed on the following key topics from the discussions:

- Measurements don't always measure ROI
- ROI analysis is particularly significant and important to corporate librarians; however, it still remains an abstract and difficult concept, since no standard formula seems to exist
- Qualitative or anecdotal data may be most useful

As is apparent from the key topics produced from the discussions, the participants gave serious consideration to the questions and to the task of measuring ROI. The straightforward assumption about measurement can, apparently, lead to the conclusion that measurement can involve some complicated variables. Moreover, the task itself can be defined by the standard to which the measured quantity is compared. The expectation that measurement will produce quantitative data must now be revised in view of the conclusion regarding the significance and usefulness of qualitative or anecdotal data. More in-depth analysis was required and therefore an outside company, Outsell, was asked to perform an explorative study into ROI.

## OUTSELL ROI STUDY

To enable better communication and to create more awareness for effective ROI information for corporations, Springer commissioned the market research company Outsell to conduct a study. Outsell was chosen because of their expertise in the information industry in general, and for their expertise in STM in particular. Additionally, Outsell was a logical choice because of their earlier work on ROI for information resources. The study was executed among a representative group of end users in four companies, two in the United States and two in Europe. Although all four companies are global, each in their own industry segment, they were considered to be likely sources of informative and interesting data based on their positions and statuses. As this information was generated from the researchers from these companies, and in consideration for security and the protection of confidential and/or proprietary information, these companies cannot be specifically identified. A survey questionnaire was used to pose a number of questions to the researchers. The information managers of these companies played an active role in finding these researchers. What follows is a summary of the main conclusions of this study. Many topics of general and

specific interest to corporate librarians are discussed. For those interested in more detailed information, a white paper has been published as well and is available from Springer (Outsell/Springer Whitepaper).

The four companies are active in the areas of ICT, Pharmaceuticals, Food/FMCG, and Engineering. Science, Technology, and Medical information is the most frequently relied upon information type across all respondent organizations, with 78 percent of respondents saying that they frequently rely on it. (A good second is Education & Training Information.) News came in third.

When asked what two places these users go to when seeking information for their job, not surprisingly more than three out of four turn to Google. Subscriptions to content from their organization's corporate library was the second most popular place (37%), and colleagues or experts within the organization was the third most popular place, followed by Internet Web sites and personal collections of information resources.

Another topic of the research focused on was the actual time spent using information. Almost 30 percent of all respondents said that they spent 8–10 hours per week obtaining, reviewing, and analyzing information from all sources that assist them in their jobs. Fifty percent of all respondents are spent more than 2–4 hours on this.

When looking at the STM resources, specific questions were asked about the "formats" used. In total, the Internet is the most frequently used format across these four organizations, with 86 percent of all respondents saying they are using this frequently. In total, e-journals were the second most frequently used format (56%). The intranet is in third place with 45 percent, person-to-person scored 44 percent, and e-books scored 39 percent.

For an STM publisher like Springer, the question "When selecting STM content, what are the three most important characteristics for e-journals, e-books, and databases to offer?" is key. For the group of librarians, the clear number one criterion is availability of full text (62%), second is ease of access and use (45%), and third is quality and relevance (43%).

Usage of information resources is very important, because it reflects to a certain degree the value of the investment. How frequently the information resources provided by the organization's library (or information center) were used was answered as follows: more than 50 percent of the respondents used them every week, of which 25 percent used them daily/several times daily. When asked how many STM e-journal articles have been used in the last month, more than 50 percent of the respondents said that they used 10 or more articles (with 19% of them using more than 25 articles). A crucial question, although very hard to "monetize," was how the STM e-journals impacted the work of the respondents. More than 80 percent indicated that by using STM information, they had saved time because it was easily accessible through their library or information center. Fifty-nine percent said that their library or information center allowed them to avoid duplication of research, while 71 percent said that the information provided supported them in a decision (patent or new technology). Forty-three percent said they had saved money.

The support of a business decision was further researched. The outcome showed an interesting variety of ROI reasons: pursue a new technology (72%), make project or candidate selections (50%), change operational processes (33%), better go/no go decisions on a product (33%). For decision makers, it was crucial to demonstrate value in addressing the perception of library services and it was seen as important in both corporate and academic settings. It was concluded that significant efforts should be made to make sure that information managers do not undervalue libraries and their important contributions. Indeed, libraries provide a breadth as well as quality of services and support that is not always appreciated. In addition, libraries have staff with important and useful skill sets, and their integration within the workflows of corporations is not just desirable, but crucial.

Other research went into e-books and into Springer's publications in particular. The results are, however, beyond the scope of this chapter/contribution.

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# 6 THE RISE OF UNCONFERENCES FOR PROFESSIONAL NETWORKING AND KNOWLEDGE SHARING: A CASE STUDY OF "LIBCAMPBANGALORE"

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## INTRODUCTION

Conferences are common platforms that bring people together from a variety of fields, with different purposes, to have discussions on various topics. However, conventional conferences, featuring lectures, panel discussions, and social events like award ceremonies, are more focused on presentations rather than discussions, often preventing the participants from having detailed discussions about the content. Sometimes, even the presenters do not have enough time to be questioned, debated with, and receive feedback on the topic of their presentations, leaving little room for knowledge improvement for any of the participants. This shortcoming may well have led to the birth of a new concept called the "unconference" in recent years.

Unconferences are participant-driven events. Unlike the conferences, where the organizers decide the speakers, topics, fees, and related events and schedules, unconferences are completely different. There are no invited speakers, topics are decided by the participants, and the majority of unconferences do not charge a registration fee. The assumption is that the participants' collective body of knowledge is greater than the presenters' knowledge alone. So, unconferences are an effective alternative for knowledge sharing. In an unconference, a participant initiates a discussion on a topic by sharing an experience. Other participants question, debate, and add their varied experiences on the same topic. When the majority of all of the participants are able to contribute to a topic, the greater number of contributions helps toward learning.

## HISTORY OF UNCONFERENCE

Open Space Technology is one way to enable all kinds of people, in any kind of organization, to create inspired meetings and events. Over the last 20 years, it has also become clear that opening space, as an intentional leadership practice, can create inspired organizations where ordinary people work together to create extraordinary results with regularity (Herman).

Open Space Technology was created in the mid-1980s by Harrison Owen (Stewart). He noticed that people attending his conferences enjoyed the coffee breaks more than the formal presentations and plenary sessions. Combining that insight with his experience, Owen created a totally new form of conferencing. Open Space conferences have no keynote speakers, no pre-announced schedules of workshops, no panel discussions, and no organizational booths. Anyone who wants to initiate a discussion or activity shares the topics on a wiki. The most basic principle is that everyone who attends an Open Space conference must be passionate about the topic and willing to take some responsibility for creating things out of that passion.

Harrison Owen's book, *Open Space Technology: A User's Guide* (1993), discusses many of the techniques now associated with unconferences, although his book does not use the term "unconference." Consultants Camp, started by Jerry Weinberg has been using the Open Space Technology method for their week-long conference since 1988 (Consultants Camp). The term "Unconference" first appeared in an announcement for the annual XML Developers' Conference in 1998 (Bosak 1998). The term was also used by Lenn Pryor when discussing BloggerCon, an annual conference for the blogger community that ran from 2003 to 2006 (Winer). The term was further popularized by Dave Winer, the organizer of BloggerCon, in an April 2004 write-up. The first BloggerCon charged participants to attend, but by its second annual conference did not charge for registration and had moved more toward an unconference format.

## UNCONFERENCES FOR LIBRARY AND INFORMATION SCIENCE (LIS) PROFESSIONALS

Not long after unconference concept took root, library and information science professionals began to adopt the practice. The first library unconference was hosted by The Ann Arbor District Library in Michigan, USA, on April 14, 2006. On its Web site, wcrawford notes that the 2006 Ann Arbor District Library unconference had "eleven sessions, all designed as discussions (not presentation). In some sessions, the moderator/discussion leader had to take a more active role than others but everyone was given an opportunity to speak, and everyone's thoughts and ideas were discussed respectfully" (wcrawford). LibCampBangalore, in Bangalore on March 7, 2009, was India's first unconference for library and information science professionals and was organized by Information Resource Centre of Tata Consultancy Services.

## DEFINITION

An unconference, therefore, may be defined as a facilitated forum centered on a theme and driven by the participants. The moderator takes active role to ensure the discussions are moving in the right direction and also to ensure all participants are given an opportunity to share their experience, ideas, and difference of opinions. The basic principle is that all participants are passionate about the theme and they also contribute, thereby learning from each other.

## CONFERENCES VERSUS UNCONFERENCES

Unconferences differ from conferences in the way they are organized and the way in which participation takes place. In a traditional conference, there are typically hundreds of attendees. Unconferences, however, have participants who also contribute to the unconference by initiating a discussion, sharing their own experiences, debating, and so on. Conferences are usually organized on a regular schedule, whereas an unconference is hosted as often as needed. Organizers of conferences receive a major monetary benefit, whereas participants benefit most in an unconference. Unconferences can be organized with a small budget, whereas traditional conferences usually require a huge budget. Similar to the open source philosophy of software development, which has demonstrated that a large number of developers contributing what they know about can develop a better product than a proprietary company that does not share its programming, a conference works on the principle of "wisdom of experts," where a small number of presenters have the stage. Unconferences, on the other hand, promote the principle of "wisdom of crowds," where the participants share their knowledge and gain more wisdom from a group of people with an earnest interest in the topic. As this chapter will demonstrate, unconferences provide an ideal platform for corporate librarians to share knowledge and network.

## PLANNING AN UNCONFERENCE

Before introducing something new, one must conduct a lot of background work and preparation. So is the case with an unconference for a corporate library. The following pieces of advice are drawn from the author's experiences as a participant in a knowledge management unconference, and from conceptualizing and successfully organizing two corporate library unconferences.

### *People*

Because unconferences are driven by the participants' enthusiasm for professional networking and knowledge sharing, the human factor tops the list of planning strategies. To steer people together, a core team of like-minded planners is needed, a team that believes in the movement and is dedicated to its success.

This core team will plan the entire event, steer people together, and ensure the event progresses in the intended direction. The core team should also set up the ground rules. For example, establishing time limits for people who wish to participate. Participants may also volunteer to be associated with unconference organizational and administrative activities. The core team needs to involve volunteers wherever help is needed in organizing the event. Participants are the heart of the entire event and are vital to its success. Enthusiastic participants will learn and contribute to the success of the event. Unlike a traditional conference, the speakers and participants' material is not vetted before the event. The speakers are trusted to do their best to contribute to the event, and trust other participants.

### Resources

While some corporate libraries have facilities and budgets for events, other will need to find appropriate facilities to host an unconference. For those, one of the primary resources needed to run an unconference successfully is a sponsor who can provide a comfortable and suitable venue, food, coffee and tea, projectors, whiteboards, and other necessities. Without a sponsor to take care of the facilities, running an unconference can become difficult, especially if there are no participation fees. However, the sponsor may be one of the participants' organizations or even a small place at a participant's home, depending on the size of the unconference. Ideally, the venue should be conveniently accessible to majority of the participants. Since the usage of Web technologies will be high, the venue should have Internet connectivity, laptop connectors, and other needed access to technology.

### Technology

Web 2.0 tools are important for networking and collaboration purposes. A wiki page can be ideal to list event information, such as the date, venue, participants list, to-do list, topics, and other needed information for participants. Further, a wiki can be created by a number of participants, with the same philosophy as the unconference. Planners and participants may also use other tools like Twitter, Blogs, and Podcasts to share information about the event.

### Marketing

Marketing is a vital ingredient for the success of any event. Effective marketing of a corporate library unconference is fundamental for attracting participants and creating excitement about the event. Some of the best cost-saving methods for marketing a corporate library unconference include one-to-one communication, posting information on relevant Web forums, sending e-mail messages to people in your network, posting on blogs, and other related no-cost advertising.

Lastly, if possible, organizers should attend an unconference before attempting to organize one. With a firsthand experience, an organizer will learn how an unconference is hosted along with other aspects of the event.

## ABOUT LIBCAMPBANGALORE

The author conceptualized "LibCampBangalore," the unconference, as a forum for corporate library and information science professionals in and around Bangalore, India, to share and learn in an open, nonconference environment. This platform helped corporate LIS professionals in and around Bangalore, India, to meet face-to-face and network for knowledge sharing.

LibCampBangalore has a lot to offer participants, including advice about technology and best practices in the field, the unconference has often exceeded the participants' expectations. LibCampBangalore hosts a wide spectrum of topics, providing a platform for everyone to share and learn. It is an intense event with presentations, discussions, and interaction from participants. Anyone from the corporate sector with something to contribute or with the desire to learn was invited to join. The participants were requested to learn from others and be prepared to share with others.

### *The First LibCampBangalore*

### *Planning*

At the time of the unconference, the author worked as a Knowledge Officer and Information Analyst at Information Resource Centre of Tata Consultancy Services, Bangalore, India. After discussing the concept of "LibCampBangalore" with other Tata Consultancy Services Information Resource Centre (IRC) senior members in detail and working out the finer details of the unconference, the author shared the idea with some of the active corporate library and information science professionals in Bangalore. Other professionals who appreciated the idea got involved in developing the idea further. After much deliberation, the planners scheduled Saturday the March 7, 2009 as the event date. The IRC team of Tata Consultancy Services, Bangalore was generous to host this unconference at one of its offices located at the heart of the city in Bangalore.

### *Execution*

The author created an event wiki on PB Wiki platform for collaboration (LibCampBangalore). Details, such as the definition of an unconference, information about LibCampBangalore, and other event details, were updated regularly on the event wiki. A list of corporate library and information science professionals based out of Bangalore was also compiled, based on the professional connections of the author and three people involved in the planning, through various Web sites, and professional organizations.

The planners registered themselves on the event wiki and started working on the event details step-by-step. After finalizing the venue and other infrastructure, they uploaded the information to the wiki. Because this was the first unconference, the planners kept the theme of the unconference open and took on the responsibility to initiate few topics themselves.

An invitation pamphlet with the details about LibCampBangalore was created and circulated to all the professionals on the list. The invitees were also requested to suggest networks of professionals for the organizers to invite. Gradually, people started registering for the event.

On the event date, 19 library and information science professionals from 14 organizations and 14 professionals from Tata Consultancy Services Information Resource Centre team participated in this first unconference. TCS Bangalore IRC head welcomed the delegates with an overview of the Tata group, TCS, and its library setup. Following the participants' introduction, the author briefed the participants regarding the concept of an unconference. The participants decided on eight topics, including librarianship in the modern era, marketing, federated searching, open access in the corporate sector, and Web 2.0 applications.

The discussion initiator of the first topic, librarianship in the modern era, suggested that library skills will never become irrelevant, and urged participants to be proactive, dynamic, and respond to those who would say otherwise. This was agreed by all. One of the other participants said that the profession makes him feel immensely powerful, because librarians provides access to the most invaluable information that others may not have. One of the participants was of the opinion that the profession helped to serve the whole organization rather than a single department or group of people. The discussion on the marketing aspects generated lot of interest among the participants. Participants were of the opinion that effective marketing will create awareness about library and information services in the corporate environment.

The day-long event contained intense discussions and active interactions, facilitated by various members, in the true spirit of an unconference. The corporate librarians exchanged ideas about innovations and best practices, questioned, discussed, debated, and shared their varied experiences, inspired by the unrestricted ambience of LibCampBangalore.

### Feedback Analysis

The feedback received by participants is analyzed in the following section. (See Appendix A for the questionnaire.) Since this is the first ever unconference organized in India for library and information science professionals, the core team was mainly interested to know participants' reaction to the idea. If the idea is accepted and the unconference is successful then this platform will continue to benefit all the participants.

- **Rating**: LibCampBangalore was rated 4.3235 (on a scale of 1–5; with 5 being the highest) by the participants. The average rating suggests that this unconference has served its objectives.
  - **Select Feedback**
    - A rich experience, the first of its kind
    - It was a good open forum. I gained some points from this forum. We all need these kinds of events.

- Increased networking among the professionals
- Plenty of points of view and plenty of contacts
- Got to know different services provided by corporate librarians. This strong network of people shall be growing. Let's keep it alive.
- Knowledge sharing
- Got ingredients for future work
- Congratulations to TCS, particularly the TCS IRC team for hosting this first ever unconference event. Excellent work. Keep it up!
- Thanks for hosting such a nice event

The selected feedback suggests that the purpose of professional networking and knowledge sharing was also met.

- **Suggestions**
  Following are some of the suggestions received from the participants:

  - Need more efforts to diversify to different industries
  - Need to focus on single theme
  - Need to have fewer topics with more time
  - Please schedule a specific time for each session

### Challenges

Some of the future challenges will be to sustain the platform, involve more participants with a diverse industry background, and to find sponsors to host the unconference with other necessary resources.

### Lessons Learned

The LibCampBangalore unconference provided an opportunity for the participants to learn best practices and various services offered by other organizations. It was also realized that the professionals actually participated in the discussion by sharing their experience and initiated discussions, rather than participating as mere spectators. As the feedback indicated, the learning from these discussions was valuable. This unconference also provided all the participants with a chance to network with other professionals.

### Decisions Made

Some decisions were made at the end of the unconference to ensure that this platform is sustainable in the long term. TCS Information Resource Centre committed to host the second unconference, if the core team is unable to find another sponsor. The discussion around the frequency of the LibCampBangalore generated mixed responses, including quarterly, twice a year, and annually. Finally it was decided to meet once a year, considering the logistics. Some action

plans that came out of the discussions were also recorded and assigned to respective participants.

### LibCampBangalore2

The second LibCampBangalore, LibCampBangalore2, was organized 11 months after its inception. The success of the first LibCampBangalore brought more enthusiasm and additional responsibilities to the core team of LibCampBangalore2. Lessons learned and feedback from the first unconference were considered while planning LibCampBangalore2.

#### Planning

As they committed to do during the first LibCampBangalore, TCS agreed to host it. A separate workspace on the PB Works wiki was created with link to the inaugural unconference, and a separate page for "LibCampBangalore2" (LibCampBangalore2).

A core team consisting of same people from the first LibCampBangalore met a couple of times to discuss the issues raised during the first unconference and to decide on plans. After much deliberation, the core team decided to have the theme "Value Added Information Services" for LibCampBangalore2. The topic is very important for the library and information centers, because it highlights the value they can bring in to an organization, beyond basic operations. Value added information services provided by library and information centers play an important role in terms of librarians being able to strategically position themselves in an organization.

#### Execution

An e-mail message was sent regarding LibCampBangalore2 to all the participants of the first LibCampBangalore as well as those on the list prepared at the first unconference. In addition to the list, various social networking sites and conference Web sites were browsed to find contact information for people working in the corporate sector in and around Bangalore. Since the topics listed on the event wiki were limited, the core team decided to allow all the participants to share the top three value-added information services being rendered by the information resource centers at their respective organizations.

On the day of the event, 26 library and information science professionals from 11 organizations participated. Professionals from 6 organizations who did not participate in the first LibCampBangalore participated in LibCampBangalore2. Some of the participants of first LibCampBangalore were unable to attend LibCampBangalore2 because of personal and professional commitments. The Branch Head—Information Resource Centre (IRC), Tata Consultancy Services, Bangalore welcomed participants to the LibCampBangalore2 unconference with an overview of the unconference and the genesis of LibCampBangalore. The

branch head also briefed participants on the role of IRC in TCS, and how the IRC is adding value to the business through various information services.

The participants shared the top three value added information services rendered at their respective organizations. Other participants questioned, debated, and shared their experiences on value added information services. This helped all the participants enrich their knowledge about various services, different aspects of them, new services, and so on.

Participants from two organizations shared their experiences through presentations, one about various alert services and the other about Web 2.0 applications. This was followed by discussion on the same topics. Few participants shared their experience and others had a chance to learn about various modalities of implementing a process of alert services through Web 2.0 applications and their benefits. Before concluding the session, there was also a discussion on "How to measure value added information services."

### Feedback Analysis

During LibCampBangalore2, detailed feedback was sought to understand participants' perception of this unconference. (See Appendix B for the questionnaire.)

The topics covered and knowledge shared are as follows:

- 96.15 percent of the participants agreed that the topics covered were relevant to them.
- 96.15 percent of the participants agreed that the information shared was useful to them.
- 84.61 percent of the participants agree that they gained new knowledge that they can apply in their work life.

Opportunity to learn was ranked as follows:

- **Best Practices**: 46.15 percent of the participants agreed that the session offered them an opportunity to learn "Best Practices," whereas 26.92 percent of the participants responded "Neutral" and another 26.92 percent of the participants did not indicate a response.
- **New Approaches**: 65.38 percent of the participants agreed that the session offered them an opportunity to learn "New Approaches," whereas 11.53 percent of the participants responded "Neutral" and another 19.23 percent of the participants did not indicate a response. Only 3.84 percent of the participants disagreed.
- **New Concepts**: 61.53 percent of the participants agreed that the session offered them an opportunity to learn "New Concepts," whereas 15.38 percent of the participants responded "Neutral" and another 23.07 percent of the participants did not indicate a response.

- **Peer Experiences**: 73.07 percent of the participants agreed that the session offered them an opportunity to learn from "Peer Experiences," whereas 7.69 percent of the participants responded "Neutral" and another 19.23 percent of the participants did not indicate a response.
- **Case Studies**: 34.61 percent of the participants agreed that the session offered them an opportunity to learn from different "Case Studies," whereas 23.07 percent of the participants responded "Neutral" and another 38.46 percent of the participants did not indicate a response. Only 3.84 percent of the participants disagreed.

By looking at the responses from the participants, it is evident that this unconference has indeed given corporate librarians and information professionals an opportunity to learn new things. Peer experiences regarding various topics discussed is on top of the list of learning in this unconference, followed by new approaches and new concepts.

When asked whether the stated objectives of LibCampBangalore2 were met, participants responded as follows:

- 88.46 percent of the participants rated "Good" regarding the achievement of the stated objectives of the unconference
- 7.69 percent of the participants responded "Average"
- 3.84 percent of the participants did not indicate a response

With regard to time allowed for LibCampBangalore2, 53.84 percent of the participants rated "Good", whereas 34.61 percent of the participants responded "Average" and another 3.84 percent of the participants responded "Poor" and 7.69 percent of the participants did not respond.

Of the unconference participants, 96.15 percent rated "Good" regarding the opportunity to meet people, make contacts, and exchange information.

The usefulness of knowledge shared by participants in LibCampBangalore2 was rated and described as follows:

- 57.69 percent of the participants rated "Slight Improvement" and 38.46 percent rated "Substantial Improvement" regarding the understanding the concept of Value Added Information Services. This shows that there was some improvement in 96.15 percent of the participants' knowledge in understanding the concept of Value Added Information Services after attending this unconference.
- 50 percent of the participants rated "Slight Improvement" and 38.46 percent rated "Substantial Improvement" regarding the understanding various facets of Value Added Information Services. This shows that there was some improvement in 88.46 percent of the participants' knowledge in understanding various facets of Value Added Information Services after attending this unconference.

- 46.15 percent of the participants rated "Slight Improvement" and 50 percent rated "Substantial Improvement" regarding the knowledge shared by other participants, which will help to improve services within their organization. This shows that there was some improvement in 96.15 percent of the participants' knowledge after other participants shared value added services rendered at their organizations.

It is evident from the feedback of the participants that after the unconference their understanding of the concept of Value Added Information Services and their understanding of various facets of Value Added Information Services has improved. The majority of the participants indicated that the knowledge shared by other participants would help them to improve the services within their organization.

Of the unconference participants, 96.15 percent rated "Satisfied" overall with the quality of unconference. This shows that majority of the participants were satisfied with the overall quality of this unconference.

Participants liked LibCampBangalore2 for the following reasons (participants feedback was categorized by the author). The platform gave participants an environment conducive to sharing ideas, a chance to learn new concepts, to become current in the industry, participate in quality discussions, learn about various services provided by different corporate libraries and best practices followed and their varied experiences. Personal interaction with other participants helped foster better networking among the corporate libraries. Participants also appreciated having a single theme, which helped in having a better focus for learning and knowledge sharing.

The following are ways to improve LibCampBangalore (participants' feedback was categorized by the author):

- **Time**: One full-day unconference (suggested by many participants)
- **Content**:
  - Narrower topics, In-depth discussion
  - Inviting Subject Experts and Question/Answer Session
  - Case studies
- **Participants**: Try to get more participants
- **Other**: To arrange for sponsorship

The following are themes to be considered for future LibCampBangalore unconferences (participants' feedback was categorized by the author):

- **Technology:** Web 2.0, Web 3.0, Tools aiding services, Open Source
- **Metrics:** Measuring the services of library, Measuring ROI
- **Others:** Best Practices, Customer focus, Corporate consortia, Subscription and licences, Knowledge Management (KM), Marketing of library services, Mentoring young professionals, Copyright issues faced by the

corporate libraries, How to reach/move to the next level (leadership/decision making body/policy designer)

The participant's willingness to attend this unconference if organized outside the city is as follows:

- 69.23 percent of the participants said they will attend even if the unconference is organized outside the city. But, still it is advised to organize it in a convent place easily reachable to all.
- 88.46 percent of the participants valued the unconference enough to both recommend the event to others and to confirm their attendance at the next one.

### *Challenges*

Though the planners were able to recruit a few more participants from diverse industry backgrounds compared to the first unconference, the biggest challenge will be to continue to get the maximum number participants from diverse industries as possible. The other challenge will be to continue to find sponsors to host the unconference and take care of other necessary resources.

### *Lesson Learned*

Some action items were assigned to the participants in the first LibCamp-Bangalore, but it was found that it did not work out the way it was intended. Therefore, the core team has decided not to assign any action items to any participants henceforth. Choosing to have a single theme for the second unconference helped and generated a lot of learning around it. It was suggested by the majority of the participants that the unconference should be for an entire day. This will help leave time to discuss some of the unconference's related topics.

### **Future of LibCampBangalore**

As evident from the two LibCampBangalore events, this forum will continue to be a vital platform for corporate librarians to share knowledge and network professionally in and around Bangalore. The planners will seek ways to recruit more participants from diverse fields and to market this platform suitably within the LIS community in India.

A few ideas under consideration include inviting subject matter experts to become involved in the future LibCampBangalore events, inviting students to learn from the rich experience of professionals, and creating a similar platform open to entire LIS community. The planners are also considering making use of various additional Web 2.0 tools to enhance the learning and professional networking experience.

## CONCLUSION

The unconference movement has the ability to challenge the traditional conference model. The way open source movements have proved their effectiveness in distributed software development, unconferences will also prove their effectiveness in the future. A point of caution for organizers is to focus on knowledge sharing, ideas, innovation, best practices, and related topics in the unconference rather than mere networking.

It should also be noted that finding a sponsor for such an unconference is not always easy. So, participants should ensure that they host the event once in a while in their organizations, or the planners will have to find an external sponsor or a nominal fee may be charged to cover the entire expenses.

LibCampBangalore has proved to be a success in terms of bringing Corporate Library and Information Science Professionals in and around Bangalore to a common platform for knowledge sharing and networking. The planners are hoping to keep this momentum going with new ideas to make this forum better in all aspects.

## APPENDIX A

The following is the questionnaire used during the first LibCampBangalore:

1. Name:
2. Organization:
3. E-Mail:
4. Contact No.:
5. What is your take home from this unconference?
6. How do you rate this unconference on a scale of 1–5? (1 is Minimum and 5 is the Maximum)
7. Is your organization willing to host next unconference?
   Yes/No/Maybe
8. Any suggestions?

## APPENDIX B

The following is the questionnaire used during the LibCampBangalore2:

| Name | | Mobile | |
|---|---|---|---|
| Organization | | Work Phone | |
| E-Mail (Official) | | E-Mail (Personal) | |

**1. To what extent do you agree or disagree with the following statements?**

| | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| a. The topics covered were relevant to me. | | | | | |
| b. The information shared was useful. | | | | | |
| c. I gained new knowledge that I can apply in my work life. | | | | | |
| d. The session offered you an opportunity to learn: | | | | | |
| — Best Practices | | | | | |
| — New Approaches | | | | | |
| — New Concepts | | | | | |
| — Peer Experiences | | | | | |
| — Case Studies | | | | | |

**2. Please evaluate the following:**

| | Very Poor | Poor | Average | Good | Very Good |
|---|---|---|---|---|---|
| a. Achievement of stated unconference objectives | 1 | 2 | 3 | 4 | 5 |
| b. Time allowed for unconference | 1 | 2 | 3 | 4 | 5 |
| c. Opportunity to meet people, make contacts, and exchange information. | 1 | 2 | 3 | 4 | 5 |

**3. Please tell us how much you feel you have improved in the following areas:**

| | No Improvement | Slight Improvement | Some Improvement | Much Improvement | Substantial Improvement |
|---|---|---|---|---|---|
| a. Understanding the concept of Value Added Information Services | 1 | 2 | 3 | 4 | 5 |
| b. Various facet of Value Added Information Services | 1 | 2 | 3 | 4 | 5 |
| c. To what extent do you feel that the knowledge shared by other participants will help you to improve services at your organization | 1 | 2 | 3 | 4 | 5 |

**4. Overall, how satisfied are you with the quality of unconference?**

| Very Dissatisfied | Dissatisfied | Neutral | Satisfied | Highly Satisfied |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

**5. What did you like most about this unconference?**

**6. How could this unconference have been improved?**

**7. Will you attend if this unconference is organized outside the city (like Electronic City or Whitefield):**

| Yes | Maybe | No |
|---|---|---|

**8. What themes should be considered for future LibCampBangalore unconferences?**

**9. Overall, based on your total experience at the conference, will you attend or recommend someone else attend next year's conference?**

- I will surely attend and recommend others too
- I will only attend
- I may attend
- I won't attend

**10. We would appreciate any additional comments and/or recommendations:**

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## NOTE

Tata Consultancy Services' Library and Information Centre (LIC) has been re-branded as Information Resource Centre (IRC) effective November 2009.

## ACKNOWLEDGMENTS

# III
# MANAGEMENT

# 7 CORPORATE OUTSOURCING

*Joyce Fedeczko and Deborah Schwarz*

## OUTSOURCING FOR LIBRARIES—TRUTHS AND FACTS

Library outsourcing has long had a mixed reputation, with many librarians fearing that outsourcing will end jobs, devalue the role and impact of the professional librarian, and marginalize or worse—the function and worth of the library operation. In the 1990s, outsourcing was much discussed in library literature (Renaud and Dworaczek 2010), but a search of more current literature on outsourcing in libraries shows that articles on the topic have trickled to almost nothing, although there is plenty of discussion about the pros and cons of outsourcing as a viable business process (Pantry and Griffiths 2004; Lesky 2003, 24–30). Perhaps this is because outsourcing is more accepted now as a strategic practice. Certainly other industries and functions, including information technology, facilities management, customer service and call centers, nursing, paralegals and contract attorneys, to name just a few, have embraced outsourcing, as well as temporary and serial assignments to supplement the employers' workforce. Outsourcing seems to offer a solution to companies suffering during the current recession, as budgets remain flat and workloads increase. Several articles in the mainstream business press characterize the "new normal": a work place where the present and future environments of the average worker are freelance or viewed as "permanently temporary"; independent contractors who will never receive benefits, vacation or sick pay (Katzanek 2009). To comply with tax and labor laws, freelance hours that are non-benefited cannot be full time.

Some libraries are long accustomed to outsourcing. For example, contracting and outsourcing is common in the United States federal government, and federal government agency libraries, like much other government work, have been run, in whole or in part, by contractors for many years. In other sectors, such as public libraries and academia, outsourcing contracts have flourished, although with controversy. Library Systems & Services, Inc. (LSSI), for example, has enjoyed, but with criticism, a virtual monopoly on outsourcing entire large public libraries and library systems, with long standing contracts in California and Tennessee as well as a handful of library systems in other states (Associated Press 2007;

Annoyed Librarian 2007). LSSI's outsourcing contracts with public libraries, whether it is a single library or a library system composed of multiple branches, are usually inclusive of staff, management, acquisitions, and the collection, as well as building and facility maintenance.

Academia also has a long history of outsourcing projects, such as library moves, radio frequency identification or RFID and barcoding projects, retrospective conversions and re-classification projects, as well as other technical services, and long- and short-term assignments. Many libraries rely upon vendors such as Baker & Taylor to supplement their technical services departments by supplying "shelf-ready" books that include spine labels, bar codes, and full cataloging.

The purpose of this chapter is to state the facts, alleviate fears, address costs and benefits, and to advise readers on how to proactively manage an outsourcing relationship for the corporate library.

## HISTORY OF OUTSOURCING IN LIBRARIES

Library functions in the corporate and public sectors alike have been outsourced with a mixed degree of success for over 20 years. The corporate library which for our purposes here also includes law firm libraries (Pergament 1999), and the many related functions that a corporate library provides, such as research, document delivery, library portal management, contract negotiation and administration of electronic resources, and knowledge management activities, among other functions, have been in a highly transformative state in the past few years. Corporate libraries have been struggling to survive in this age of digital resources and off-shoring. The demise or radical restructuring of the corporate library can be attributed to a variety of economic factors and upper management decisions that are often not a reflection of inferior performance on the part of the library staff. Libraries or library-related functions that have survived are often de-centralized and become distributed throughout the organization, surfacing as competitive intelligence, information analysts, embedded librarians, web content managers, and other related job titles and departments. Some organizations have chosen outsourcing as a strategic business solution that enables the continued provision of library and information management services through the auspices of an outsourcing firm that specializes in this area. If outsourcing as a strategic solution also achieves cost controls and reductions then it can be an attractive option.

Indeed, most corporations are on a continual quest to control costs. Any area of a company that does not contribute directly to the bottom line through revenue generation is largely considered overhead. Overhead is the first area most companies seek to control or cut regardless of the economic environment. Librarians have long sought to combat the perception that the corporate library is overhead by pointing out that the cost savings they offer the organization they serve is often considerable. Sometimes these savings are measurable, especially when the librarian is able to reduce duplicate resources and e-content licenses

and negotiate highly favorable rates for materials that are essential to the corporation's business. In other cases, librarians seek to show management that their expertise in finding data and information for other professionals in the organization is invaluable, and that the time savings directly translates to cost savings. Regardless of the accuracy of these arguments or the testimonials from satisfied internal customers, management may decide that outsourcing is the best way to go if the library, or some or all of its functions, will continue to survive within the organization.

## CONTRACTOR VERSUS FREELANCER

Due to specialized training and work experience in libraries, some assignments to consider for outsourcing can include the following: inter-library loan services, document delivery, and local library research. Freelancers who provide library services such as these may often combine them with indexing, editorial services, knowledge of digitization, and cataloging, and will find that being represented by a staffing service that specializes in library contracts, such as LAC or AIMUSA [Advanced Information Management], another California-based firm, is an effective way to begin as a contractor. Freelancers work for themselves from home, work for someone else from home (telecommuting), or work on a contract basis for various organizations. The contractor is most commonly described as being outsourced or on assignment within the organization where the individual actually goes to work on a regular basis (Davis 2001).

## MEETING THE DEMANDS OF ORGANIZATIONAL CHANGE

When change is the motivating factor for organizations seeking to outsource, the best scenario is for the legacy staff to negotiate directly with their management and work together to plan and implement change. Very often library management can, and does exactly this. Change can mean many different things: reducing the library's physical real estate; downsizing the print material or eliminating it altogether; planning and administering a digital solution that forces library users to do their own research; decentralizing the library staff so that research librarians are strategically embedded within the organization and many other change scenarios as well.

The reasons behind such changes are usually cost related, but are sometimes more strategic in nature, as the costs may not go away, but may move to different cost centers. It is optimum for library managers to anticipate changes and plan for them before they are asked to implement a change. However, planning is not always possible when requests for change are completely unexpected. Outsourcing is not always the immediate solution to organizational change. In fact, outsourcing may never materialize if a library manager is able to work with management to make the type of change, however painful, that is required to survive. On the other hand, sometimes outsourcing offers the type of solution that allows

for flexibility and innovation. Library directors and managers should consider outsourcing a potential tool, not a weapon used by their executive management.

In some cases, the change that is expected is the closure of the corporate library and the elimination of library personnel and functions. In some cases, the library operation simply closes down and the staff is asked to stay during the wind-down and transition period. Organizational change that involves the downsizing of a physical collection and the reduction in staff may offer an opportunity to reinvent the service levels and roles. Outsourcing staff can offer a lot of flexibility, enabling a library director or project manager to work with management to continue to offer services and to expand or contract staffing levels to meet shifting demands. Established outsourcing companies offer their own staff the opportunity to work on a serial project basis, going from one project to another, with expected end-dates for projects undertaken. Continued employment is dependent upon having the appropriate skill sets for the next project.

## EXPANDED DEFINITIONS OF OUTSOURCING

Outsourcing can take many forms. It may mean, for example, that certain tasks and assignments, as well as the personnel required to complete these tasks, are assigned to an outside company; full-time, part-time, permanently, or temporarily. There are countless scenarios that involve outsourcing, ranging from outsourcing an entire library to a single function, with many variations in between. "The catalyst which creates the desire to outsource varies but generally it is always because of a business issue which needs solving" (Burkholder 2006). The rationale for deciding to outsource library operations and functions may be driven by the desire to reduce costs, so to define outsourcing as the procuring of services from an outside provider to save money is common and prevalent thinking (Niederlander 2003).

So, too, is the idea of contracting for services that are not within the scope of a library's core set of competencies. While outsourcing was once limited to peripheral activities such as cataloging, libraries are expanding the types of functions they outsource. Saving money is always an additional concern to librarians, who rarely are able to work with generous budgets. Instead, fighting for every dollar has been the librarian's reality through the years. The deep global recession that started in late 2007 and hit its full stride in 2009 has accelerated the financial trajectory for libraries. This spiraling down in 2009 followed nearly a decade of level or eroding budgets and rising costs for publications and digital content across library types (Costello 2009). As a result, for virtually every library budget spending level and category, there are major structural changes affecting the provision of library and information services under way that are certain to affect respective companies and their libraries for many years. Beyond the standard cost-based analysis, numerous issues deserve consideration and examination when considering outsourcing for libraries, including innovations in service delivery.

## COSTS OF OUTSOURCING IN LIBRARIES

There is often a perception, not always accurate, that outsourcing costs less than having employees on staff (Rapp 2009, 411–418). In the most basic sense, outsourcing a function or a department, or even a single position, takes the personnel costs off a company's balance sheet, and hands it over to the outsourcing firm. Depending upon the outsourcing firm's billing policies, the new costs will include the basic pay rate, that is the employee's annual salary or hourly rate, plus all associated costs such as payroll taxes, FICA, workers' compensation insurance, and other related costs. In addition, if the outsourcing firm provides benefits such as health insurance, paid legal holidays, sick leave and vacation days, the costs are passed through and become part of the loaded hourly rate or project fee. If the outsourcing firm is also asked to provide supplies or equipment, these costs are also passed along, sometimes with handling or administrative fees. In addition, the outsourcing firm may add an overarching administrative fee, which includes project management, if appropriate. If the client considering outsourcing wants to have the outsourcing firm employ legacy staff, often severance packages are negotiated, which can be significant for staff with lengthy tenures.

## POTENTIAL SAVINGS FROM OUTSOURCING

There are gains for the client to outsource. In purely economic terms, all personnel costs are wiped off the budget, replaced by known costs, often invoiced monthly only. Personnel issues such as attrition, workers' compensation claims, disability leaves, performance improvement plans, personnel counseling and other human resources concerns are managed by the outsourcing firm. Under a new organizational structure through an outsourcing firm, new positions may be available. Changes in the scope of work, tasks or functions that need to be downsized or restructured, and any additional tasks are added to the outsourcing contract through a negotiation with the outsourcing firm. Outsourcing gives the client a lot of flexibility to hold a third party accountable for achieving project or function goals and objectives with a predictable budget. Organizations that choose to outsource often justify their decision by stating that through outsourcing they are leading through innovations using the most efficient and innovative solutions and personnel. The reality may be that outsourcing enables an organization to make wholesale changes that are impossible to do from within, and can be a tool that works well, especially if it is managed correctly.

## FEARS REGARDING OUTSOURCING

In certain cases, outsourcing offers an opportunity for organizational changes, which can result in a reduction of staff. Unsurprisingly, many employees who find out that their positions will be outsourced are fearful of what that change may bring. Some companies that turn to outsourcing are sensitive to employees

who will be affected by the change, encouraging them to apply for the out-sourced positions that will be available, and offering outplacement and counsel-ing for those who choose not to, or who are not qualified for new positions. A successful outsourcing operation requires an effective relationship between the client and the outsourcing firm so that the transition from in-house to out-source, through careful and methodical planning, is handled with precision and empathy for the affected staff (Hadzima 2005).

Anecdotal evidence about the success or failure of outsourcing in corporate libraries is sparse in the literature; with most of the articles published prior to 2002 (Ebbinghouse 2002). Statistics for the number of outsourced libraries or library functions in corporations is equally insubstantial, with the exception of privately commissioned studies from organizations such as Outsell (http://www.outsellinc.com/) or the Primary Research Group (http://www.primaryresearch.com/index.html).

Expectations for the outsourced library often include new positions, which may or may not be similar to the former ones, but most likely affected employees will have to apply just like any other candidate. There is no guarantee that anyone from the previous administration will be offered a position with the "new" organi-zation. While some of the work in the "new job" may be essentially the same job at the same desk, there is a new employer hiring and managing the staff. If outsourc-ing is used as an opportunity to change and upgrade staff roles and competencies some may no longer be eligible, not having the appropriate experience or educa-tion. On the other hand, there are often opportunities for new positions, as well as for promotions with greater responsibilities and higher salaries.

In addition, the clock starts running again for vacation and personal time off, and everyone starts fresh with programs and benefits such as 401K or other retire-ment account programs. Outsourcing firms, depending upon their size, are like most other employers, offering employee handbooks and benefits, the opportu-nity for growth and advancement, and other perks.

Regardless of the outcome, the experience can be emotionally wrenching and unnerving for all concerned. Change is difficult for most people, even when the change is ultimately positive. Successful outsourcing operations should be conducted by professionals who have the appropriate experience, empathy and a well thought out transition plan that accommodates all employees involved.

## PROFESSIONAL OUTSOURCING COMPANIES

One national outsourcing company, LSSI (http://lssi.com/decision.html), states that they offer the chance for more opportunities to create and execute fresh new ideas, to be able to share experiences with a nationwide team of library professionals, and to work in a nurturing and encouraging customer-focused environment. Furthermore, they offer a chance to improve professional skills by accessing the collective experiences of hundreds of colleagues and the oppor-tunity to play a role in creating the next generation of libraries, fully leveraging

information technology and automation. Other full-service outsourcing firms involved specifically in library outsourcing include PTFS, TFPL, Infotrieve, Infocurrent, and the Cadence Group. Each of these firms will assist the corporate librarian with strategic outsourcing initiatives. A good resource for the local market is the Association of Independent Information Professionals' Web site (http://www.aiip.org), which will serve as a means to find individual searchers with strengths in the area of search skills occasionally needed, for example, during high demand times. This chapter co-author, Deb Schwarz, CEO and president of Library Associates Companies, herself a librarian, observed that a job title and a corporation's name, followed by "on assignment," on a librarian's resume is not an impediment to attaining a library job (Goolsby 2007).

## STRATEGIC OUTSOURCING

The cost for libraries using outsourced services and staff will vary depending on the project. For example, information searches done by an outside or outsourced party often times save money compared with having a full-time librarian on staff do the searching. This will vary, depending on whether each search is outsourced or the searcher is outsourced. In some cases, it is more economical for a library to contract with professional and subject specialist searchers utilizing the various databases licensed to the corporation.

Outsourcing research, defined as database searching, analytical research, competitive intelligence, or complex patent or scientific research, is often a viable solution when the level of needed expertise to complete the job is not available internally. Library managers can use outsourced researchers to supplement the demand, and to expand the level and depth of services overall, increasing the library's ability to market new search knowledge and strengths. Of course, it is implicit that the outsourced researchers abide by confidentially agreements and copyright laws. Outside experts can also conduct primary research or due diligence such as interviewing experts without revealing the client, but still being transparent in the interview, when this might be useful to the research situation. Costs for such outsourced services to the corporation will vary. The cost factors for overhead built into the outsourcer's pricing are a market specific cost, but generally, a search price is based on its complexity. Complexity also determines the number of databases that will be tapped to complete the search and which searcher will complete the search request.

## BUSINESS STRATEGIES AND PRACTICES

As with any other vendor relationship, it is best to establish the scope of work and then invite outsourcing firms to prepare a proposal. With complex projects, outsourcing companies expect to receive a Request for Quotation (RFQ) or a Request for Proposal (RFP) in order to prepare a thorough response that should include their approach, capabilities, costs and fees, along with past

performance references and resumes if appropriate. In many cases, depending upon the corporation's internal procurement processes, there must be a true competition requiring multiple vendors to compete. In other cases, assignments can be awarded to a sole source vendor. Other factors, such as the vendor's status as a woman-owned, disadvantaged, or small business may be desirable. It is best to be prepared to evaluate the vendor's proposals by having current knowledge of costs. Having a good grasp of market conditions and prices for outsourcing services, such as staff salaries and overhead, and database costs is important to making the right purchasing decisions.

A library's strategic plan should provide a strategy for streamlining operations and reducing costs, because these are long-term strategies. A librarian with a practical understanding of outsourcing and a firm knowledge of the library's finances and budget can be indispensable. However, even the most perceptive and well-informed librarian will not stay indispensable forever. "The challenge is perpetual re-invention," says Seth Godin in the interview for his book *Linchpin: Are You Indispensable?* (http://personalmba.com/seth-godin-linchpin-indispensable/). Godin says the linchpins are those people who seek to make a difference. With outsourcing, one can re-invent one's library repeatedly to meet business demands and become indispensable to the organization. When the existence of libraries in corporations is threatened, to become indispensable instead, that is the power of financial intelligence and enhanced knowledge. The reputation for being indispensable must precede you (Macleod 2010).

Marilyn Johnson, the author of *This Book Is Overdue*, says that, "Librarians are helping to put this country back to work." This is a quote from her interview by the program "On the Media" at National Public Radio in early 2010, in which she speaks about the idea of an enhanced reputation, and about how indispensable public librarians are in today's economy (Johnson 2010). Today it is important for the corporate librarian as well to build a reputation so that management feels their corporate librarian is indispensable.

These observations from Godin and Johnson suggest that librarians are in the right profession at the right time. Perceptive librarians see the volatility of the market place, the fast changes in technologies and the changes in organizational structures as the perfect time to obtain new relevant abilities to their skill set. A library director or manager may choose this time to explore the outsourcing of services option, business strategies and practices to help the library adapt to a changing world. An adept librarian, however, will be ready for change in advance of a management suggestion to explore outsourcing.

Users are no longer impressed by librarians performing work that the users themselves can do by simply using the Internet (Ptolomey 2010). However, a librarian can augment the easily accessible Internet result by placing the data or document into a convenient format and enabling access, thereby adding value to the library staff. An important business strategy for today's corporate librarian is to ensure quality control. One strategy for this can be to require departmental standards on every output and project result produced by outsourced searchers.

## BEING PREPARED

Working with an outsourcing consultant can be beneficial to a librarian developing innovative services. A consultant can serve as an advisor, analyzing situations, diagnosing problems, and proposing solutions to problems for library staff to implement. Other consultants execute particular tasks, such as recruiting for a key staff position or presenting a workshop on new technology. Before hiring a consultant, a library manager should put goals in writing, using them as a foundation for the search for a consultant, and later, for building a relationship with a qualified, professional outsourcing organization.

It is prudent to choose an appropriate outsourcing firm before the need to hire one becomes critical. If outsourcing is a viable future option for a corporate library, a manager can prepare by finding recommendations for outsourcing firms, and contacting them ahead of the need to hire one. Choosing a firm on a short timeline or during a crisis is not the opportune time to be looking for an outsourcer, but during such times, a consultant, can sometimes offer an awareness of best practices, counsel that can spark fresh thinking, deliver new solutions, and challenge the organizational status quo.

It is not unusual for a library, threatened with closure, to consider outsourcing in advance of such a threat. The library's upper management, the entity with the financial power, may consider a traditional library to be nothing more than a warehouse, taking up space and losing money for the company. However, librarians know that "...in every enterprise, someone still needs to figure out where to put stuff so people can find it" (Murray, Wheaton 2009). Regardless of the projected outcome of a library's future, a succession plan on how to implement outsourcing should be in place.

An outsourcing organization, as well as the library, will benefit from a succession plan outlining the talent necessary to carry on the culture, the mission and the vision of the library. Outlining the skill set and the talents wished for in the new library leader will benefit all parties involved. "The tacit knowledge of a long-term employee, unless it is codified in some way, leaves when that employee retires." Madeline Kriescher, acting circuit librarian for the U.S. Courts 10th Circuit Library (Maser 2009), stated this in her presentation at AALL (American Association of Law Libraries) in 2009. The same is true for any departing employee. The bottom line, in the event of major staffing changes, is that every library should develop a succession plan in preparation for organizational change.

## THE FUTURE OF OUTSOURCING IN LIBRARIES

The future is likely to involve fewer traditional corporate libraries. Corporate librarians may find themselves without a library, embedded within business units or groups, a trend that has already begun. The embedded librarian finds him/herself in a closer relationship with others from the organization by being located within the actual customer group. It is often quickest to secure staff that embodies the qualities required for new projects by using an outsourcing firm.

Whether the librarian is an outsourced staff person or a corporate library employee, developing and sustaining organizational appreciation of the worth of the corporate librarians, and their library staffs, depends upon the emotional investment from both parties—in good times and in bad (Crowley 2010). Emotional intelligence is vital to everyone's success, whether one is working as an employee of the organization or as an employee of an outsourcing firm. Practicing self-awareness and social awareness strategies, along with self-management and relationship management skills in order to improve performance is wise for every manager and individual. In the book *Emotional Intelligence 2.0*, it is stated that emotional intelligence accounts for 58 percent of performance in all types of global jobs. It is the biggest single predictor of performance in the workplace and the strongest driver of leadership and personal excellence (Bradberry, Greaves, Lencioni 2009, 21).

Increasingly, organizations are seeking to improve employee productivity while limiting discretionary spending on workforce investments. To accomplish both, the library manager has several options. One approach is to channel time, energy and resources towards positions that make a clear and positive difference in a company's ability to succeed in the marketplace (Lesser, Brousseau, & Ringo 2009). In this IBM report, the writers indicate that using a different "lens" to examine workforce management may give the librarian manager the opportunity to more successfully use limited funds "to achieve greater organizational effectiveness and strategic alignment," concluding that it is imperative to undergo systematic study in order to uncover the crucial positions that will drive high performance (Lesser, Brousseau, & Ringo 2009). Using an outsourcing company will help to manage talent, as the staffing and outsourcing firm is expert in hiring people and will skillfully assist with this job.

## SUMMARY

Because information users want information supplied quickly and inexpensively, whether they are from a corporate setting or elsewhere, it is imperative for corporate librarians to be innovative in providing what their customers want. Should the order come down from upper management to make the library go bookless or totally virtual, imagining a scenario of a library with no staff or physical resources is a good exercise when preparing for the possibility of outsourcing the corporate library.

There are many compelling reasons to consider strategic outsourcing in advance of needing it. Outsourcing can lower overall costs and improve the quality of services and resources by granting access to professionals who manage projects too difficult or time-consuming to develop in-house. Outsourcing allows organizations to have choices in how they provide access to a wide range of information and research services to their employees and staff, regardless of where they are located. Strategic outsourcing is a very viable option for special libraries. This includes staffing, project management or other leadership roles, and full accountability for performance, budgets, and service levels.

When an entire department or function is outsourced, the contracted outsourcing company might absorb the existing staff as employees, possibly with the same level of benefits and seniority for outsourced staff. For this reason, many library staffers consider outsourcing their career destination. Outsourcers are experienced in managing staff during times of change, reorganizations and restructuring. Outsourced staff might partner with clients to manage their libraries more effectively or to keep the status quo running smoothly under such uncertain circumstances.

Not all outsourcing projects involve an entire department or function. Many strategic outsourcing solutions require the staff to work alongside the clients' employees in a variety of different scenarios. For example, at a global energy company, LAC provides the director, electronic resources and document delivery staff on an outsourced basis to help the company manage the library operation (Library Associates Companies/LAC Group 2010). In other locations, the outsourcing might be to provide employees to supplement client teams or staff.

Because outsourcing has become standard in many industries, the truths and the facts about outsourcing are presented here to alleviate concerns for the corporate librarian learning that his or her library will be outsourced. In the library field, many companies or organizations wish to maintain a library, but turn over the hiring, payroll, and administrative functions to companies with credentials to provide these services. The outsourcing company pays salaries and benefits, and works in tandem with the company in terms of performance reviews or any problems or concerns that arise (The Outsourcing Institute 2010). Today's savvy corporate librarian will acquire the skill set to manage an outsourcing arrangement to her benefit.

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# 8  SYSTEMS THINKING FOR SUCCESS

*Sara R. Tompson and Lorri A. Zipperer*

For every problem there is a solution that is simple, neat—and wrong. This maxim has been attributed at various times to Mark Twain, H.L. Mencken, and Peter Drucker as a wake-up call to managers who mistakenly think that making a change in just one part of a complex problem will cure the ails of an entire system. Everyday management thinking too often looks for straightforward cause-and-effect relationships in problem solving that ignore the effect on, and feedback from, the entire system.

<div align="right">Zemke 2001, 40</div>

## WHAT IS SYSTEMS THINKING?

### Definitions

Librarianship as a profession has yet to become fully engaged in implementing systems thinking. Librarians are missing a unique opportunity to improve their libraries and the organizations in which they work. A systems thinking perspective and some systems thinking tools can enable librarians to lend the value of their information expertise to problem-solving and process-improvement efforts in the corporate environment. This chapter provides an overview of the application of systems thinking approaches to demonstrate the value of librarians and libraries in and for corporate environments.

"Systems thinking" is a way to view the world, including organizations, from a broad perspective that includes structures, patterns, and events, rather than simply the events themselves. Put another way, systems thinking helps one to perceive the whole, the elements of which continually affect each other over time and operate, ideally, toward a common purpose. A holistic view is necessary for an organization to sustain problem solving, and thus learning and positive

change. Systems thinking draws from engineering process analyses to apply a set of principles for understanding complex-interacting wholes, rather than dissecting them and addressing the problems independently of each other (Heft 2006, 2). It is best used to address complex problems where solutions seem elusive as well as problems that recur in an organization, and which past fixes may have exacerbated.

Systems thinking expands practitioners' understanding by making interrelationships explicit and recognizing that interrelationships are a valuable component of decision making (Booth Sweeny 2001, 59). It enables understanding of relationships between elements that effect changes to a system over time. A systems thinking approach respects the reality that humans affect systems, and sees the interaction of the parts of an organization within the context of the whole, and thus can dismantle a "siloed" structure wherein units operate in isolation from each other with little cross functionality or communication. Corporate libraries can threaten their own existence if they become too siloed within the parent organization. On the positive side, corporate librarians often learn a great deal about the organization's different units from various library users; this broader perspective that often naturally comes into a library can be the foundation for introducing a systems thinking approach corporationwide.

### History

Systems thinking is founded on problem-solving principles that were popularized by Massachusetts Institute of Technology (MIT) engineer Peter Senge with the publication of *The 5th Discipline* (Senge et al. 1990). The work of Senge and his colleagues is rooted in several disciplines, most notably systems dynamics, developed by Jay Forrester and others at MIT as a model (with specialized terminology) for looking at organizational changes (see, e.g., Forrester 1961) and process mapping, and explicated by Russell Ackoff and others as a way to analyze workflows in organizations (Ackoff 1978). Chris Argyris contributed the mental models principals of action science (Argyris 1995), a methodology for uncovering the reasons underlying human behaviors, particularly in organizations.

Systems thinkers have been active in both the business and the engineering literatures from the beginning of the philosophy. Just a few examples are cited here. Argyris has been a significant contributor to the business literature, including a number of *Harvard Business Review* (*HBR*) articles. Senge has also written for *HBR*, as well as *Sloan Management Review*, on the topics of organizational development and corporate leadership areas.

Pegasus Communications is taking systems thinking beyond theory to application. The organization sponsors the annual Systems Thinking in Action conference. In addition, Pegasus has reprinted the work of Ackoff, Senge, and others, as well as publishing two newsletters that include both philosophical and case study articles, "The Systems Thinker" and "Leverage Points" (Pegasus Communications 2010).

### Libraries

The library literature is just beginning to recognize systems thinking approaches—the Library Literature and Information Science citation database notes the phrase "systems thinking" in five peer-reviewed documents from 1995 to 2005, which is the most recent date, and one book review. The ProQuest Research Library citation database lists 37 scholarly items from 1996 to 2010 citing these phrases; about one-third are bibliographies or annual reviews. Other than the work of the authors of this chapter and their collaborators, as of May 2010, the most detailed systems thinking article in the library literature is a 2005 article in an Australian journal detailing a systems thinking project at California Polytechnic State University (Sommerville et al. 2005).

The CalPoly two-year project used a systems thinking context to facilitate changing the library's approach from a service focus to a learning and teaching focus, to better serve their users. They grounded much of their work in a United Kingdom variant of systems thinking, Soft Systems Methodology (Checkland 1994), with a special emphasis on dialoging techniques similar to those promulgated by Senge. This study is important because the project participants led from the middle; their teams were not library nor universitywide nor management driven. Most librarians, corporate or otherwise, function in the middle of organizations, where influence is stronger than authority. The CalPoly librarians found that explicit conversations helped make the transition to a new library paradigm a success, as did mindfully operating within a holistic framework. One indication that librarianship's adaptation of systems thinking may be growing is an April 2010 job posting for a library supervisor for a health cooperative in Seattle. The posting lists systems thinking and quality management skills as key required skills (Group Health 2010).

Systems thinking for corporate librarians can be helpful within the library, but successful libraries must be aligned with and serve their parent organizations. Today's competitive information environment requires librarians to understand the complex issues of corporate effectiveness, efficiency, and sustainability. Traditional library methods of problem solving may be out of step with the demands of the marketplace to demonstrate value, drive innovation, and contribute to the bottom line. However, librarians are more poised to address these issues than they may realize. The librarian's toolbox simply needs to grow in new areas, and systems thinking can lead that expansion.

## WHY IS SYSTEMS THINKING IMPORTANT FOR CORPORATE LIBRARIANS?

### Suitability

Systems thinking includes watching for leverage points and recognizing feedback from the system to mitigate failures and build upon successes. Systems thinking enables individuals and corporations to study and understand

interactions between organizational entities such as employees, departments, and processes. These entities produce behaviors that feed back into the overall output and processes of the organization. Systems thinking can be effective in identifying pervasive problems and uncovering sustainable solutions for them. It can also be expanded to leverage changes in a corporate culture. The former will be the main focus of this chapter, but it is important to remember that if a committed group of individuals from across the organization continually learn from and apply systems thinking approaches, sustainable change can occur.

Senge and his collaborators focused on the concepts of continuous learning and learning organizations most intensively in their earliest full-length text, *The Fifth Discipline*. Systems thinking has evolved more toward the application of practical tools for sustainable change, but the learning organization focus can be a useful entrance point to systems thinking for librarians. Effective librarians and information professionals have always promoted learning, serving as teachers and information resources formally and informally in venues across their organizations, from the more obvious reference desk to active participation in task forces and other strategic groups.

### Systems Thinking Developments in Librarianship

As noted in the "What is Systems Thinking" section, systems thinking is making its way into the library literature. So far, there is little empirical evidence to demonstrate the results of the application of systems thinking by librarians. As a step towards gathering that data, Lorri Zipperer and Jan Sykes launched the "Systems Thinking Perspectives: Innovation in Knowledge and Information Delivery" project in 2005 with funding from a Special Libraries Association (SLA) Endowment Fund grant (Zipperer& Sykes 2005–2009). The work built upon several researchers' projects, including efforts to understand the librarian's role in patient safety as well as other broader-based educational programs for librarians.

The assessment conducted as part of this project indicated that librarians harbor systems thinking tendencies, yet may not always recognize them as such or be in a position to apply them in the environments in which they work. 80 percent of librarian respondents ($n = 115$) affirmatively stated that their view of their jobs includes an awareness of the interconnected nature of their roles (Zipperer & Tompson 2006, 18). While this is by no means a fully representative sample, it provides some indication that librarians are situated to adopt systems thinking as a management philosophy, as networking, service, and organizational awareness are built into the fabric of librarians' daily work.

The project Web site, hosted by SLA's Biomedical and Life Sciences Division, provides tools to explore one's acceptance and application of systems thinking behaviors both at a "community of practice" level and within one's own organization (Zipperer & Sykes 2005–2009). The site is active and provides guidelines for applications of the assessment and tools.

### *Systems Thinking for Organizational Alignment*

Results from an alignment initiative spearheaded by SLA and Outsell further indicate a systems thinking trend in librarianship. They reveal that creating a culture of continuous learning was seen by 45 percent of respondents as being an important role for information professionals and that there were strategic implications for their efforts to align with management given this value orientation. Even more encouraging is that survey respondents were from multiple areas of organizations: Corporate Executives, 19 percent; Information Technologists, 13 percent; Human Resources personnel, 12 percent; Marketing professionals, 12 percent; and Librarians, 34 percent (Special Libraries Association 2007–2008).

The days of a library as a given good are tenuous, thus the time is ripe for adoption of a systems thinking perspective. The Internet expansion, the Google revolution, and economic challenges have combined to provide a powerful challenge to librarians' typical domain. It is no longer enough for a librarian to perform core functions of acquisition, indexing, describing, organizing, and making accessible information resources. As SLA's CEO recently noted, employees are no longer valued for the functions they perform, but rather for the contributions they make to the success of their organizations (LaChance 2009/2010, 3).

The adoption of a systems perspective allows the output of the library manager and library staff to be effective and innovative, not isolated. It can situate the library as a proactive, not reactive, unit of the corporation. As one of the regular contributors to the Freepint.com business information Web site noted in 2009, librarians and information professionals who can demonstrate that their work is aligned with corporate outcomes create a situation where the corporation is willing to continue to invest, perhaps even invest further, in the skills and resources of the librarians and the library (Neidorf 2009, 22).

## CHANGING THE PARADIGM: GETTING STARTED WITH SYSTEMS THINKING

There is no checklist to instill systems thinking. It takes effort to encourage individuals to approach problem solving in a systems thinking manner, and it can be a challenge to ensure that they follow through (Reed 2006, 13). Laying the foundation of systems thinking understanding before applying systems thinking tools can help ensure the challenge is met. Corporate librarians and information professionals serious about adopting a systems thinking approach to enhance the relevance, value and visibility of their contributions to the organization would do well to begin by reading the core systems thinking *The Fifth Discipline* and *The Fifth Discipline Fieldbook*. This takes time, but a thorough grounding in the concepts is a key. Senge and his collaborators note in the third core systems thinking text, *Dance of Change*, that systems thinking is not a quick fix approach (Senge et al. 1999, 67).

The following five guideposts, for getting started with systems thinking (after some grounding in the concepts), are drawn from systems thinking and several other disciplines including organizational behavior, change management, and process improvement. These guideposts mark the steps to an effective systems thinking approach within a library or within any organization. A sixth step, F, is critical for sustaining the approach. These are introduced below, and further illustrated by several case studies in the "Seeing Through Scenarios" section.

### Assess the Library Employees' Readiness to Approach Their Work from a Systems Perspective

An important aspect of implementing systems thinking is determining the readiness of a librarian for systems thinking. Assessment questions are posed to help illustrate behaviors aligned with systems thinking. These strategies can ultimately create additional opportunities for impacting organizational goals as well as library goals. The assessment's four areas of exploration align with Senge's learning organization elements from *The Fifth Discipline*. The assessment explains them thusly:

- **Interconnectedness:** how do you view your work and your priorities in relation to those of other departments in your organization?
- **Partnership and Leverage:** do you increase your leverage and effectiveness through partnering with other departments and individuals?
- **Personal Mastery:** how do you encourage learning and knowledge sharing behaviors in your environment?
- **Discussion and Dialogue:** do discussions with colleagues invite alternative ways of viewing problems and suggestions for new ways of working?

These components are focused on personal elements. Systems thinking can be a powerful tool for individual growth, helping one determine negative self-perceptions that can hamper one's goals (Flood 1999, 22). Personal elements of systems thinking are applicable regardless of an individual's location in the organization, and personal change to more of a systems view can have a positive ripple effect in the organization.

After beginning the transition to a systems thinking approach with an analysis of one's own readiness, the staff members' readiness for the transition, a useful next step for a library manager is to assess the readiness of library supporters for systems thinking, by working with the library advisory committee or similar organization. This can lay the foundation for corporate wide systems thinking. Advisors from outside the library can champion that unit's systems thinking as a value add for the corporation.

The members of an organization are ready for systems thinking when they discover that linear thinking will not answer their questions (Ollhoff & Walcheski 2006, 9). An organization itself is ready for systems thinking when key stakeholders, and thus the culture, support discussion and dialogue. Systems thinking

will work when the organizational culture realizes the complexity of human, group, and process interrelationships within it, and how these all can and do affect each other.

### Pull Together a Team

Librarians are frequently good team members, and communication and collegiality are hallmarks of their profession. Leveraging these traits into a shared perspective can create a more solid team. A systems thinking team within an organizational unit (such as a library) can positively impact the whole organization, as noted by British scholar Lyndon Pugh in his frequently cited change management text (Pugh 2000, 92).

A team approach can help ensure successful solutions to systemic challenges. Ideally, a systems thinking team should include representatives from across the organization who are connected to the processes and issues being examined (Bojer 2008, 4). Someone from outside the process may be a useful addition to the team. This person can ask questions to drive outside-the-box thinking. Value is most apparent and change is most likely if buy-in exists at a number of levels.

Many of the articles in the applied systems thinking literature advise starting small with a systems thinking team, and building incrementally upon the successes of the initial team to implement a broader systems thinking approach. The following guidelines agree with this approach:

- The team should be multidisciplinary: involve people who not only create the process/service, but who interact with it as rule makers and clients.
- If weaknesses in skills or aptitude for systems thinking have been identified and are unavoidable due to skill sets or political considerations, be sure to invite people to the team with strengths to help counter the linear behavior, model the appropriate behavior, and bring the team together to think systemically about the work at hand. A library advisory body member or members can serve well in this role.
- Draw people who are curious and willing to work through a problem.
- Craft a vision for improvement that will hold the team together and help engage others in implementing changes.

Building a team to address a sustained information access issue can provide the corporate librarian with a keen awareness of the effect that the proposed process, resources, and personnel changes could have on the system. The work of analyzing the problem and envisioning solutions may well uncover a need for information expertise issues to be considered by groups that may not have an established relationship with the library. These groups may then be made more aware of how information resources and services could improve their output, efficiency and bottom line. A recurring corporate team effort is discussed below, from a systems thinking perspective.

An often-implemented tactic to share information and knowledge across work groups is a shared directory; a group-managed online set of materials. However, a shared directory can lead to an information failure that has roots in both the fixes that fail and the tragedy of the commons archetypes (archetypes are discussed in the "Analyze the problem" section). Too often, for all the effort put into the building of a centralized resource, knowledge is lost and effort is repeated due to inconsistency across the entire group. The lack of systemic cooperation or shared goals almost inevitably leads to post-launch misunderstandings of what is accessible and what is not via the directory. When a centralized directory does not function very well, its ineffectiveness is reinforced by frustrated employees who do not contribute to it and instead build their own archives. A consequence is that the overall directory collection is less and less reliable over time.

When building a shared directory, librarians often want to maintain a great deal of control over the resource, particularly if the library is charged with maintaining it. However, the control can become too restrictive in procedures and taxonomies that are not useful to the users or content providers. Other documented failures with such initiatives is that maintenance of the directory resources is so detailed and time-consuming and requiring of oversight that content updating is bogged down, and the initial enthusiasm of the development team is not sustained (Ryley 2001, 32). This in turn makes the collection out of date, which then results in loss of productivity, lost opportunity for collective sharing, organizational learning and employee satisfaction with the resource.

A cross-functional team working together can combine the individuals' knowledge and perspectives to create a shared directory resource that is useful for all. A library manager trained in systems thinking can help find solutions beyond those that work for an information technology manager. This enables the collective design of a resource that makes sense for users and contributors, including some attention paid to effective information management and technology interface design. The librarian can also consider these issues at the individual user, unit and organizational level. A systems-thinking librarian can help to design effective feedback mechanisms to continue to inform the improvement of not only the centralized tool itself, but to gather information to provide insight into organizational information sharing and knowledge dissemination functions.

An initial systems thinking team can be cast as a pilot group. Senge and his colleagues have uncovered some instructive traits about successful pilot teams and the individuals that comprise them:

> The line leaders who create pilot groups have a certain kind of predisposition. They are typically not "true believers" in systems thinking or "learning organizations." They are usually open-minded pragmatists. . . . Always they are people with deep concerns about practical problems and an openness to experiment. (Senge et al. 1999, 39–40)

These leaders and teams are ready to go beyond linear solutions to problems, particularly problems that have recurred in the organization.

### Pinpoint a Problem to Solve

As noted above, systems thinking tools are particularly useful when contending with complex or recurring problems. Sometimes these problems have been made worse by past attempts to fix them, especially attempts based upon a linear approach. Problems where solutions are not obvious are also good candidates for systems thinking analyses and answers. When solutions are not obvious, the problem often has interrelationships across the organization, interrelationships which can be identified through systems thinking analyses.

The problem a systems thinking team chooses to solve can lay the foundation for a broader systems understanding in the corporation. Senge and his colleagues have noted that a problem ripe for a systems thinking analysis should be: important and familiar to the individuals on the team and to the organization; chronic or recurring; and limited in scope (Senge et al. 1994, 103–4).

### Analyze the Problem

The discipline of systems thinking comes with its own specialized language and processes ranging from the straightforward to the very complex. Senge and his collaborators discuss systems thinking tools in the most detail in *The Fifth Discipline Fieldbook*. Some primary tools include:

- **Storytelling:** Though foundational, storytelling also requires a comprehensive view the elements, which include: different levels operating simultaneously, events, patterns of behavior, and mental models. One can begin a systems thinking approach by simply telling a story or developing a scenario about a problem.
- **The Five Whys:** The Five Whys technique can be seen as a schematic for the story that allows one to hunt backwards for root causes of complex, recurring problems, and which can be reversed for strategizing systemic solutions.
- **Archetypes:** Archetypes draw on common human stories to illustrate the most commonly seen behaviors of individuals and systems. Archetypes include: Fixes that Backfire; Limits to Growth; Shifting the Burden; Tragedy of the Commons; and Accidental Adversaries.
- **Loop Diagrams:** Systems thinking diagrams start from simple linear relationships. Their power becomes apparent when applied to a problem that turns out to be systemic. The causes and effects illustrated quickly become divergent and interrelated, often uncovering more than one related problem and potential solution.

A systemic problem with library components is presented below as a scenario. The systems thinking tools Five Whys and Archetypes are applied to the scenario to uncover the problems. The systems thinking tool of diagramming will be presented in section E, which covers solving systemic problems.

*Scenario I*

An engineer complains to the vice president (VP) that the online journal collection is terrible. The VP has been hearing this complaint, as well complaints about the library's overuse of e-mail, from a variety of people ever since she joined the organization. The VP's husband is a librarian and she has respect for the profession, but is consistently being pressed by her budget office to close down the library and rely on Google and support staff to do the information work. She is dismayed that the complaints have not ceased even after she has fired and hired several library managers, and has been candid with them about these user issues. Maybe she should give into the CFO's wish to save the expense and close the library. However, she hopes her latest hire may bring a different perspective. She asks this new library manager to respond to the key complaints of online journal inadequacies and too much spam from the library. She tells him to look both broad and deep, because she thinks some overall changes could make the library viable for the company, as she knows the value of library resources.

**The Five Whys**

This technique uses iterative queries similar to those used by librarians performing successful reference interviews. In both instances, one must be persistent to get to the root issue. The technique invokes five whys because Senge and his colleagues found that one could usually get to the root cause of one problem by going back five steps (Senge et al. 1994, 110). Note that situations well suited to systems thinking analyses and solutions will often have parallel problems, which the whys process may elucidate, as illustrated in the application to the scenario. Some answers may lie closer than five steps from the question, some further, and at times, more answers can yield more problems. The systems thinking team will need to determine which problem to solve first. The Five Whys technique may seem too basic, but it can be surprisingly illuminating. Below is a Five Whys analysis of Scenario I.

> **Q1: Why** did the patron go to the VP with her frustration instead of to the librarian?
> > A1: The engineer had complained to previous librarians, and while they genuinely aimed to help him, they did not address the issues comprehensively. The problems recurred, and the engineer has gotten frustrated.

A2: The engineer did not realize a new librarian had been hired, having blocked all e-mails from the library. Because he was frustrated enough, he may not have tried again even if he had heard about the new librarian on board.

A3: The past few librarians were not well connected to their users, and directives to the library usually came from the VP to whom the librarian reports, and others in upper management.

**Q2: Why** did past librarians simply put out fires and not analyze overall services?

A4: They were service-oriented individuals, but not proactive and not focused on aligning with the overall corporation, plus they were very busy.

**Q3: Why** did the engineer not realize a new librarian had been hired?

A5: He blocked library-sent e-mails.

A6: The VP, the librarian, and others in the corporation did not use any other means to announce the arrival of the new librarian.

**Q4: Why** was e-mail used as the only vehicle for announcing library news?

A7: E-mail is very quick, and the corporation is very busy and leanly staffed.

**Q5: Why** was the budget office promoting Google as an information and cost solution?

A8: Google is free, and the corporate library is set up to charge back for most services. The engineers see a short-term profit to their units if there are no library charges on the client bills.

A9: The CFO and others in the budget office do not understand the value of vetted information.

**Q6: Why** did this engineer, and others, complain about the inadequacies in the online journal collection?

A10: They could not get particular articles they needed in a hurry.

**Q7: Why** could they not get the articles?

A11: They did not realize they had to enter their project id into the database to access some of the most expensive journals, which have limited simultaneous use licenses.

A12: They did not realize the library could also obtain articles from interlibrary loan and document delivery services.

This series of questions suggests some comprehensive solutions, which the librarian and the VP can work out in detail, and in collaboration with others, and start improving library services. Quite a bit of the responsibility will be on the library manager and his staff to lead the demonstration of their value.

### Archetypes

Certain patterns of structure recur in systems. Called "systems archetypes," these pattern models illustrate the most common dynamics in a system. The broad applicability of the archetypes can be validating, indicating the similarities

between many management problems (Senge et al. 1990, 94). Archetypes are an illustrative tool on a semi-abstract level. Identification of archetypes embodied in systemic challenges can be very empowering, and understanding an archetype allows one to change it or break free of it if necessary. As with any model, a user should take care not to force a situation into the model. Several archetypes are applicable to Scenario I. The archetype descriptions below are drawn from both *The Fifth Discipline* (Senge et al. 1990) and *The Fifth Discipline Fieldbook* (Senge et al. 1994).

### Accidental Adversaries

This archetype illustrates a situation where groups of people who ought to be in partnership with each other, and who want to be in partnership with each other end up being bitterly opposed. It is characterized by communication breakdown, competition over cooperation, and short-term over long-term thinking.

In Scenario I, the engineer and the librarian have become adversaries, when they should be working together to help clients solve problems rather than creating problems within the company. The VP and the librarian are not yet adversaries, but they will both need to work at staying collaborative. The whole corporation is guilty of short-term thinking in various ways; an ideal long-term situation with more emphasis on a systems view could propel the corporation into positive growth. More immediately, the librarian and his staff can start developing their own broader view by getting out amongst the rest of the corporation and working to better align themselves with the mission, vision, and values.

### Fixes That Fail/Backfire

In this archetype, a fix, effective in the short term, has unforeseen long-term consequences which may require even more use of the same fix. The central theme of this archetype is that almost any decision carries long-term and short-term consequences, and the two are often diametrically opposed. It is an example of a reinforcing loop, sometimes called a "vicious circle," where the same solution is applied repeatedly with no improvement. In the scenario, the VP's firing and hiring of librarians is a fix that has failed. That action has also doubtless exacerbated the budget office's frustration with the library operation, because firing and hiring are expensive.

### Shifting the Burden

In this archetype, a short-term fix is used to correct a problem, with seemingly positive immediate results. As this correction is used more often, fundamental long-term corrective measures are used less often. Over time, the capabilities for the fundamental solution may atrophy or become disabled, leading to even greater reliance on the symptomatic solution. One could say that the capacity of the system to right itself declines. A situation where heroic individuals frequently rescue an organization or a person from a problem situation is an example of shifting the burden.

In Scenario I, the librarians have too often assisted individual patrons with problems. This approach satisfies the patrons for a while, but does not stop the problem from recurring with the same or other patrons. Practitioners of a service profession like librarianship are typically good at providing one-on-one service, which can be gratifying to both parties. However, this approach can ultimately take more time than a comprehensive approach, and usually does not get at root problems. To be a truly valuable profession, librarianship must adopt a more systemic view.

### Strategize Effective Solutions

Systemic problems are characteristically messy. If others in the system beyond those most immediately affected understand the messiness of the issue, that knowledge may in turn provide more support for the changes proposed and implemented. Long-time system thinker Russell Ackoff deliberately uses the term "mess" to describe problems that are complex and changing and that interact with each other noting that these are the sort of problems managers encounter more often than not (Ackoff 1979, 99).

Once a systemic problem has been articulated and translated to managers and employees in a way that engenders their involvement in seeking the solution, systems thinking tools can again be used, this time to devise a solution that recognizes the broad nature of the problem. Systems thinking tools enable all those involved in crafting solutions to see the variety of forces that can either support or derail the proposed solution. This greatly increases the likelihood that they can craft a strategy that will work. Recognition of the complexity will help with buy-in throughout the corporation, and, hopefully, provide a long-term commitment to the solution. In addition, system thinking tools help place problem solving in a more neutral context, defusing defensiveness and encouraging collaboration (Goodman 1991, 10).

Arguably the most recognizable systems thinking tool is that of loop diagrams; these are derived in part from the process mapping approach of Ackoff and others. Loop diagrams are complex but extremely useful visual tools for both diagnosing and solving systemic challenges in organizations. Information uncovered by simpler systems thinking tools such as 5-Whys queries and analysis of Systems Archetypes in play can be used to build diagrams of the problems.

Systems thinking loop diagrams contain a standard set of elements. Typically diagrams include the following elements.

- **Actions, in boxes**, articulating what interrelated or impacting activities are being performed.
- **Arrows**, pointing from box to box. This element illustrates flow of the process/problem/service being analyzed.
- **Labels** for what kind of action goes into the boxes.
- **Cut arrows**, to show a delay between actions. Cut arrows add to the complexity, but are very useful, because they indicate how a system

may react to changes over time. The time element is crucial and must be considered when designing solutions to system problems, otherwise the cumulative forces that created the problem could derail the solution.

* **Symbols** are iconic pictures sometimes placed in the middle of each loop of a diagram, describing the type of loop. Two main systems thinking loop types are balancing, shown by a seesaw, and negative reinforcing, shown by a snowball going downhill. Sometimes the letters B and R are substituted for the icons.

Figure 8.1 and the figures in the following section represent basic systems thinking loop diagrams. They were developed by Michael Moore for a systems thinking and risk workshop designed by Zipperer, Moore, and Tompson (Moore 2007).

In practice, the steps of uncovering and analyzing systemic problems and strategizing systemic solutions often happen almost simultaneously. The application of systems thinking tools like archetypes and diagrams to uncover whether or not a problem is systemic, and what entities are involved in the problem, can also often highlight solutions. For example, if a problem turns out to be a

**Figure 8.1 Loop Diagram Basics. By Michael F. Moore.**
**Based on templates in *The Fifth Discipline Fieldbook* (Senge et al. 1994).**
**Used by the authors with permission.**
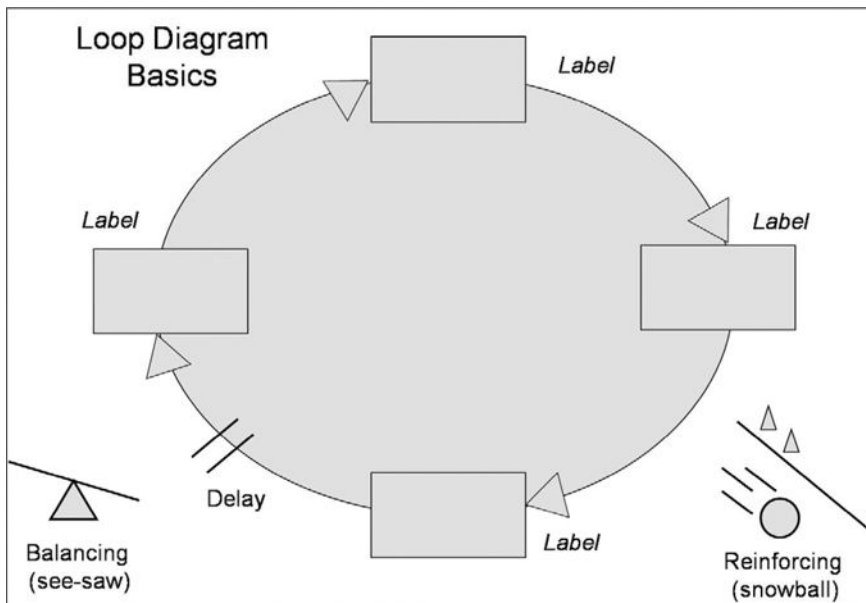
vicious circle of negative impacts, it can be turned inside out and re-diagrammed as a virtuous circle with positive impacts. The new diagram can be the framework for solutions.

### Market Change to Make It Sustainable

Given the types of problems typically addressed by systems thinking approaches, change management efforts often accompany them. Systemic problems are often infused in the culture of the unit or organization. Therefore, any initiative stemming from systems thinking needs to be sensitive to how to sustain the change required to attain success. The following steps for promotion and sustainability are drawn from established change management methodologies, particularly those of Kotter (1995). The interpretations are the authors' own.

- **Leverage: Understanding where to place changes strategically.** An understanding of reinforcing and balancing forces to sustain changes adds value to the initiative and the collaboration required to support it. Loop diagrams can elucidate reinforcing and balancing situations. For example, the ability for the librarian to identify key library champions, visible users and vocal supporters is an important tactic. Given time and resource constraints, focusing the changes on points in the process that can be assisted by these relationships is crucial.
- **Create buy-in for changes: Communicate goals and objectives.** The aligned team element discussed above allows for buy-in. Beyond the development stage, a sincere effort to engage the broader population in implementing the systemic change is required. Only then will the process under review be informed and improved by the dedicated people who use it and care enough to contribute to its evolution over time.
- **Visual elements help communicate strategies.** Pictures help team members and others better understand the issues being examined. The usefulness of loop diagrams and diagramming of systems archetypes should not be under estimated.
- **Plan and create short-term wins.** Implementing systemic changes takes time. Recognizing the short term wins along the change continuum helps raise awareness of the effort, and sustains the momentum.
- **Leverage the short-term wins to gain support for other systems thinking applications.** For example, a library-led team may be able to design a process that reinforces a reduction in some deficiencies identified in the Five Whys exercise. The ability to leverage the Five Whys tool for other problem analysis projects that intersect with the library's efforts will demonstrate value both in the design of the service and in the professionalism and vision the librarian can bring to the process.
- **Work with the team to help institutionalize the new approaches.** Changes of systemic nature need to be acculturated into the daily work of an organization. Starting small, in manageable steps can be the

foundation upon which a broad, sustainable approach can be built. Initial applications can be as simple as this: when sitting in a meeting, one can inform one's understanding of a problem by applying a systems perspective. Looking for key words that suggest linear thinking is occurring, for example statements such as "we need more of the same" or "that solution worked for us the last time this happened," can be indicative of overly linear thinking (Goodman 1991, 11).

### *Seeing Through Scenarios: One More Illustration*

#### *Scenario II*

A new library information center in a growing aerospace company includes a reference desk counter right glass doors on the main floor. The library manager and the administrative VP to whom he reports agree that the desk should be staffed significant hours, primarily for the service point and secondarily to visibly advertise the library. The library staff thus far consists of the library manager and two library technical assistants. There are plans to recruit graduate assistants from a nearby library school.

This initiative proves to be a success early on. The more employees stop at the reference desk for general information, standards, or detailed research requests, the more they tell others about the good service they received. This further increases activity at the desk. There is a point, however, when reference desk traffic becomes so heavy that the librarian and the assistants have to staff it almost continually. They are less able to do research projects, acquisitions, and cataloging, and contribute to the company daily news brief in a timely manner.

This increased turnaround time in services other than immediate answers to queries at the desk changes employees' perception of the reference desk service. They do not recommend it as much, and stop coming themselves. Eventually, some people at a management level complain to the administrative VP that the library service is of no value. She is concerned, and discusses this with the librarian, who readily admits they have been swamped, but does not have an immediate solution.

The see-saw at work is thus: the library workload is decreased when the services slow due to customer dissatisfaction, thus decreasing the turnaround time and increasing the level of timely service, which leads to employees recommending the revitalized reference desk again.

If a sustainable plan is not devised to balance staffing immediate query services with other in-depth library services, the ups and downs described in Scenario II will create a back and forth balance themselves, but that is not a desirable nor

sustainable mode of existence for the library and its services. The loop diagram below illustrates the negative balance that can occur. First, a Five Whys analysis can further explicate the scenario and the components of a loop diagram to be applied to it.

### The Five Whys

Before the library manager can accurately diagram the situation, he needs to thoroughly examine the issues. Perhaps he only knows that they have been swamped, and that now his boss has received complaints from power brokers at the firm. Several sets of Whys could uncover the causes.

**Q1: Why** did the VP get several complaints about the library being of no value?
A: The library did not provide competitive intelligence reports to several executives quickly enough.

**Q2: Why** didn't the library turn these reports around quickly?
A1: The library manager did not ask the requesters for due dates. Previous experience in doing so opened the door up for criticism if the mark were not hit, which came back to haunt them given the increased service demands created by the reference desk initiative.
A2: One of the technical assistants was ill the week the requests came in, and the library manager chose to staff the desk in her place, and put aside the reports.

**Q3: Why** did the library manager make this choice?
A1: The desk service was something he and his boss chose to emphasize, because it created visibility for the library when other marketing efforts had not had resulted in increased demand. This decision was made because the library manager was being subjected to scrutiny due to a budget review and implications that the information center, although new, was already destined for budget cuts or closure as overall start-up costs exceeded projections;
A2. There was no freedom to engage on-call professional or support staff when demand was peaking.

**Q4: Why** did the library get swamped?
A1: The visibility campaign for the desk and the services was successful.
A2: As the library's popularity increased, the complexity of the requests increased; more complex requests took more time and required more professional involvement.
A3: The demand at the desk was greater than anticipated, because the impact of the new service was not fully examined.

**Q5: Why** was the whole picture of library services not fully examined or discussed prior to launch?
A. The manager was given a short turnaround time to jump-start library activity due to annual budget review.

**Figure 8.2 Balancing Loop—Reference Desk Traffic. By Michael F. Moore. Based on templates in *The Fifth Discipline Fieldbook* (Senge et al. 1994). Used by the authors with permission.**
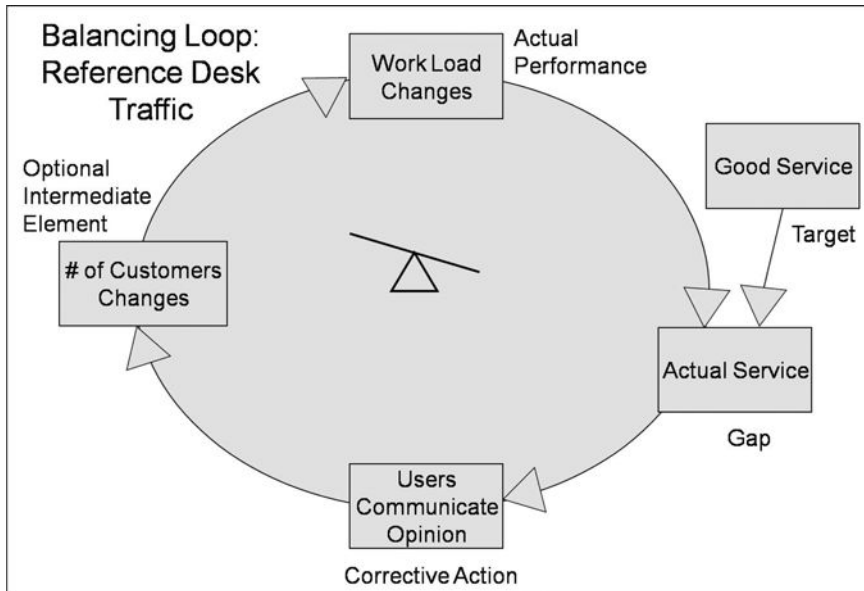


This Five Whys exercise can be used to build a loop diagram to further highlight the issues impacting upon each other in Scenario II.

The scenario is somewhat simplistic. To illustrate a likely further complication: the time crunch in the library and a quick fix for it can involve removing the library manager from most desk hours, to provide in-depth research and acquisitions services. This, in turn, can lead to one or more of the technical assistants, with good intentions to provide service as requested of them, to inadvertently provide incomplete information to a patron. This can happen because the assistant does not understand the question, or does not realize what resources can be used in answering it. This can have negative consequences of heightening risk throughout the corporation. The following section briefly discusses systems thinking and risk.

## CONTINUED IMPACT: BEYOND THE BASICS

A systems-thinking approach is well suited to risk analysis and prevention. A corporate library team, or better yet a cross-departmental team including library employees, can provide value to the corporation by contributing to the understanding of risks the corporation faces before they happen, as well as strategizing ways to prevent them from happening.

A risk is a potential event that, if it occurs, will adversely affect the ability of a system to perform its mission. Risk is a combination of the probability of the event occurring, the visibility of the event, and the impact of the event; for example, the consequences of failure. In every risky situation, there is a time period between the first sign of a potential problem and a major failure. Systems thinking tools can help pinpoint this recovery window when the adverse action is not inevitable, and preventive action is feasible. Systems thinking can help risk-conscious individuals and organizations work towards a wider recovery window, identifying the risk earlier in the recovery window, and preventing the failure.

Time is of the essence in risk identification, mitigation and prevention, as illustrated in Figure 3. The figure includes cut arrows to represent some delays that can be leveraged.

Library managers can counteract potentially damaging information service models in their operations that can create risks for the whole organization. The dialogue that happens during the course of the implementing systems thinking tools, such as the Five Whys, helps enable the open conversation required to ward off risks to the library as well as the corporation.

Librarianship is a profession that excels at sharing information. This is a strength that can be applied to a corporate wide issue caused or exacerbated by unwillingness of individuals in one unit of the organization to accept information or ideas from another unit (Kiechel May 2010). Libraries and librarians

**Figure 8.3 A Risk Loop. By Michael F. Moore.**
**Based on templates in *The Fifth Discipline Fieldbook* (Senge et al. 1994).**
**Used by the authors with permission.**
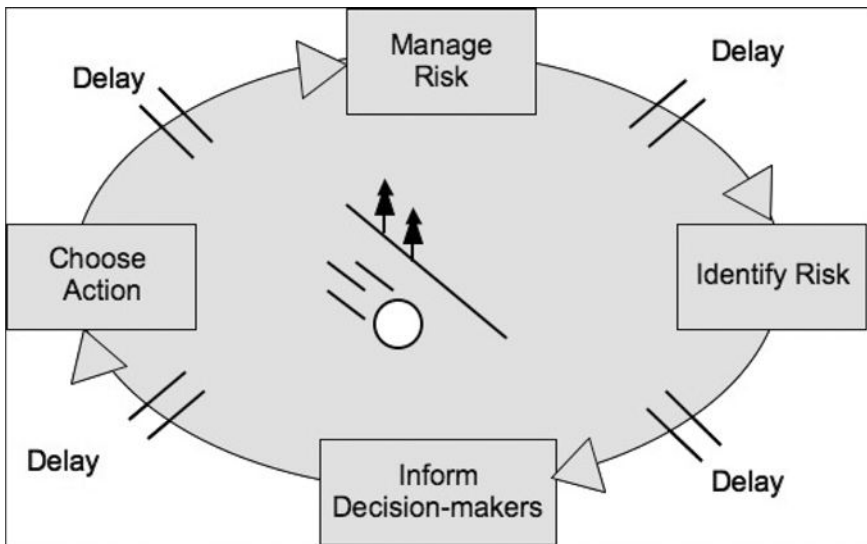
can model and apply systems thinking approaches that bridge the gaps between different areas of the organization.

## CONCLUSION

Corporate librarians exist in busy, high-pressure environments. They at times need to function creatively with minimal staff to demonstrate value and impact on the organization's bottom line. With good intent, they rely on multitasking and shortcuts to devise solutions to the situation. They seek to enable their productivity in this way, under increasing time pressures and resource constraints, without impacting the quality of the work they deliver. This effort should not work against them.

Systems thinking has been presented here as a mindset to help librarians to move beyond a reactive approach and to better understand their value to their parent corporation. By employing systems thinking tools, librarians can use their time and strategic skills effectively, while raising awareness of the importance of their work. They can use the tools of this approach introduced here and covered in depth by Senge and others to enhance their professional interaction throughout the corporation, and to learn more about the environment they wish to affect with enhanced information and knowledge delivery. They can envision with their colleagues lasting solutions to long term, persistent problems. The approach is not a panacea. It is an opportunity for sustainability that corporate librarians should embrace.

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# IV

# MARKETING AND DEMONSTRATING VALUE

# 9 BEST PRACTICES FOR ALIGNING THE MISSION AND MARKETING THE SERVICES OF THE CORPORATE LIBRARY

*Amy Affelt*

**Author's note**: The terms "corporate library" and "information center"; "corporate librarian," "information professional," and "info pro"; and "requestor," "member," and "constituent" are used interchangeably in this chapter.

Many management scientists and theorists have written important works about organizational structure and function that can be referenced by librarians considering best practices for a corporate library. Jim Collins's *Good to Great*, for example, explained how certain companies have transitioned from solid corporations to truly exceptional examples. The Center for Creative Leadership has published works such as *Becoming a Strategic Leader* (Hughes, 2005) and *Leadership for Turbulent Times* (Sayles, 1995), which offer advice to guide organizations during times of transition. *Leadership in the Era of Economic Uncertainty*, by Ram Charan (2008), directly links the leadership role to the era in which we now work; specifically, one in which economic resources are shrinking, budgets are tight, and ambiguity permeates organizations. Research-tested theory and tools can be found in these works, and countless others that have been written for organizations of all types; much of this help and advice can be tailored to apply to the information industry.

Peter Drucker (1909–2005), however, was a management expert whose work stands apart in this vast field, because he created the concept of the "knowledge worker," which so aptly describes today's librarians and information professionals. He believed that people are the most important component of an organization, and that many corporate functions can be decentralized. He wrote a column on leadership for the *Wall Street Journal* for more than 20 years, frequently discussing one of his main ideas, the importance of reviewing work processes and abandoning those that are no longer meeting customer or client needs. Drucker spent his career offering insights into developing mission statements, devising business

plans in order to carry out those mission statements, goal setting, delivering excellent customer service, and strategic planning for the future. In *The Five Most Important Questions You Will Ever Ask Your Organization* (2008), Drucker uses five basic questions in order to formulate classic management theory to guide organizations of all types, including corporate libraries. Although Drucker's first book, *Concept of the Corporation*, was written in 1946, his advice remains applicable and relevant to today's twenty-first-century corporate environment.

In order to align Drucker's research with today's knowledge work, this chapter aims to reframe and answer these five questions in the context of a digitally focused corporate library workplace. Ultimately, Drucker advised that people are an organization's most valuable resource, and that managers should "prepare people and free them to perform" (Drucker 2008, xix). Through understanding the answers to the five basic questions, managers of corporate libraries can formulate templates that can be implemented immediately and used today and into the future.

## QUESTION ONE: "WHAT IS OUR MISSION?"

A mission is an organization's purpose and reason for existence. Drucker stated that a company's mission statement needs to be short enough to fit on a t-shirt, yet strong enough to state what the company does and why they do it, so that in every action, the company contributes to the bottom-line goal of the organization (Drucker 2008, 14). The mission statement relates to opportunities, competence, and commitment. Corporate library goals should reflect the ideals of the profession: to deliver to people exactly what they need, and often may not realize they need, in a form that they find helpful and usable, from a source that is highly accurate and reliable, and in a way that saves them time and money. The *Harvard Business Review Management Tip of the Day* recently discussed mission statements. It referred to Google's mission statement as an excellent illustration of Drucker's ideal; it is very short yet completely conveys the company's overall goal: "to organize the world's information and make it universally accessible and useful." ING Direct uses this statement: "We lead Americans back to savings." Likewise, Amazon's Kindle mission statement, "simple and ready to use, right out of the box," is both informative and reassuring, highlighting the best attributes of the product while making a statement about the company's dedication to a positive consumer experience. Similarly, corporate libraries' mission statements should convey not only which services will be provided, but also the many ways users will benefit from them. As the *HBR* management tip explained, these are not tag lines. Rather, they are singular ideas that sum up a company's entire reason for existence (Harvard Business Review 2010).

Ever since the foundation of the profession, beginning with Ranganathan's (1892–1972) five laws of library science, librarians and information professionals have connected knowledge seekers with knowledge resources. However, the way in which this has been done has constantly changed and evolved along with the societies it has served. For example, 20 years ago, a corporate librarian might have doled out a LexisNexis password to an attorney who asked very nicely,

promised not to use it very much, and vowed not to tell anyone that she had it. Today, she might conduct a Webex on LexisNexis end-user searching for all worldwide offices of the corporation. Corporate librarians are still linking knowledge seekers with knowledge resources, but they are doing it in new and fresh ways that employ cutting-edge technology and tools. In a world that can be both actual and virtual (and sometimes both at the same time), librarians have a variety of tools at their disposal to help them adhere to their mission. In order to keep pace with the speed at which information is being disseminated, librarians must stay on the cutting edge of technologies that are engaging and interesting to requestors.

Since it is critically important that staff tie each of their job functions back to that mission statement, staff should be engaged in brainstorming to help develop mission statements that tap into their creativity and individual style. When staff feel that they are part of the planning process, buy-in is easier to achieve. Employees who are given a voice in deciding the mission of the library feel more invested in their work and more willing to carry out that mission. Users look to corporate librarians to turn information into knowledge quickly and efficiently, and to give them an edge over the competition. The mission statement must reflect that expectation.

## QUESTION TWO: "WHO IS OUR CUSTOMER?"

A related query predicates Drucker's second question: what terminology best describes users of libraries? Librarians and information professionals sometimes struggle with what to call those that they serve. Patrons, requestors, clients, and as Drucker terms it, "customers," are terms often used for the library user. Joan Frye Williams advocates the use of the term "members" (2009). In the Internet world, "members" is a term that is used frequently. For example, Facebook and MySpace have members, and Amazon has a variety of member categories, including Prime Members, Kindle members, and others. Outside of the Internet sphere, Starbucks has a large number of membership levels, and cards to go with them, such as Starbucks Gold and Black cards. In considering the library customers, it is important to recognize that the group can include anyone in the organization who is seeking knowledge and information. At any given time, this group can comprise employees in any department and at any level in the corporate hierarchy. In order to make these customers feel involved with the knowledge process, and therefore the library's offerings, the use of the term "members" can foster a vested interest in the library. Knowledge seekers in organizations are members of the corporate library. Seth Godin, author of the book *Tribes: We Need You to Lead Us* (2008), states that people look for leaders. They want to feel that they are a part of a group interested in and working toward common goals. Godin calls these groups "tribes." Knowledge seekers in organizations want to feel that they are part of a tribe, and this tribe can be the members of the corporate library.

These members are never static. In order to better do their jobs, every single person in an organization needs the type of knowledge that can be provided by the corporate library. They do not necessarily need it at the same time, and each member has different information needs. While the nature of the members' needs constantly changes, corporate librarians have the ability to get every person in an organization excited to join the tribe.

Web-based social networking tools such as Twitter and Facebook are excellent conduits for building a tribe for a corporate information center. The marketing is very simple; taglines such as "The Information Center: Follow us on Twitter" and "The Information Center: Be a Facebook Fan" can be used. Relevant, useful, and project- and client-based content can then be posted from the accounts. This content is knowledge that the tribe needs, even if that need is not stated or obvious. Web sites that are highly useful in a corporate environment, such as the *Wall Street Journal* and the *Economist*, have applications (apps) that allow their content to be directly uploaded to Facebook. Tools such as these offer an alternative platform for members to access content.

Facebook and Twitter can be used to market the information center as well. Posting department newsletters and new content announcements directly to the Facebook page, and as a focal point of the Tweets, make members feel privy to department information. Department event invitations can also be delivered through these mechanisms. Recipients (Facebook page members or Twitter followers) will feel like they are part of the Information Center Tribe.

It is important for corporate libraries beginning Facebook or Twitter initiatives to adhere to a few basic guidelines. For example, consistency in tweets and Facebook posts is essential. Library staff should be apprised of acceptable types of postings, and shared information needs to be clear and completely relevant to the information environment that is present in the corporation. In order to ensure consistency in prose, it is helpful to have a prepared list of grammatical guidelines for staff use. Another best practice is the policy of having a colleague read and review any tweets or posts before they are uploaded. Finally, once a Facebook or Twitter presence for the corporate library is established, a schedule for posting should be devised and followed. If the library does not post frequently, it risks appearing unreliable and disengaged.

Corporate librarians have a unique opportunity to embrace and meet this challenge of moving an information center into a web-centric environment. Further, librarians who help members keep up with rapidly changing technology fulfill two important roles. First, they expand and possibly re-define their job functions, thus remaining employed and employable. Second, they are seen by members as the go-to people in this arena, while meeting user needs at the same time. If the umbrella organization in which the corporate library exists has not yet adopted web-centric tools, the initial implementation can be a bit tricky. Information centers should start small, perhaps beginning with a wiki or Facebook presence and then move on to more fluid tools and applications such as Twitter.

A wiki that is used exclusively by information center staff is a great way to begin branching out into collaborative tools. In its purest form, the wiki can be

used to store in-house information center materials such as bibliographies to use when given a particular topic to research, database search strings and templates, common information requests and their boilerplate treatment, lists of acronyms for use in searches, and also employee-centric information such as time-off calendars and individual schedules. By starting with this type of staff-only wiki, users will begin to see how other wikis shared across organization staff can be useful. Staff should be encouraged to share ideas for different types of wikis that can be created.

Companies as varied as Coca-Cola, Pringles, and Adidas, are leveraging the power of Facebook for branding, building a customer base, and as a platform for distributing company news. Mashable's online Facebook Guide Book contains six sections, including "Using Facebook for Business," which is the most helpful for corporate libraries. This section has a case studies chapter with examples of firms who successfully use Facebook.

Corporate librarians wanting to start a Facebook page may encounter resistance from upper management who do not immediately understand how the power of these tools can be harnessed to market the department. They may have seen Facebook apps and pages that were not business-related and may not be familiar with their use in a corporate setting. A great way to gain approval for a Facebook page for a corporate information center involves the demonstration of a highly effective corporate page. A visual is very helpful in showing exactly how social networking tools can be used to unite members to work together toward common organizational goals. The information center manager should prepare a business proposal for the point person from whom approval must be gained. This proposal should list all of the benefits of having a Facebook presence (marketing, current awareness, organization-wide communication, and collaboration). The proposal can also cite examples of corporations who are doing this successfully, such as those mentioned in the Mashable Facebook Guide Book case studies chapter (Mashable, cited 2010). The library manager should also demonstrate Facebook to the decision maker. This is not to imply, however, that the use of Facebook by corporate libraries is mandatory. Rather, it is important that corporate librarians be aware of and familiar with this tool, because many businesses have active Facebook pages.

Mashable also has a Twitter Guide Book with six sections (Mashable, cited 2010). Chapters on topics such as "Why Aren't People Following Me" and "Using Twitter for Customer Service" can be used to troubleshoot common pitfalls of using social media in corporate libraries, as well as to strengthen library customer engagement. "Organizing Your Twitter Community" can be helpful to librarians trying to determine why members use library services less often.

The media industry is an example of the power of the tribal phenomena. Print media, particularly magazines and newspapers, has found itself struggling in the current environment. However, industry trade publications such as *Information Today* are leveraging their readership through Facebook, Twitter, collaborative wikis, and online forums, in order to create tribes of members who brainstorm, network, and support each other. *Information Today* has diversified and offers

conferences and competitions for its tribe in addition to publishing magazines and books. The company also provides web content exclusively available to its group members. *Information Today* Facebook Fans have a distinct advantage over colleagues who are not fans, because they are privy to exclusive content. *Information Today* conference attendees who are fans are also able to tweet and discuss the conferences with colleagues.


## QUESTION THREE: "WHAT DOES THE CUSTOMER VALUE?"

Values are highly variable depending on the individuals and the circumstances of their situations at any given point in time. Prior to determining value, it is important to understand what is not valued. Information professionals are increasingly finding themselves in positions where they are forced to defend themselves against the notion that everything is free on the Internet, and that anyone with access to the Internet can do the job of a librarian. Basic information from the Internet, or from other sources that look like the Internet, are not seen as something that can only be received through the help of an expert such as a librarian. In order to prove their worth and the value that they bring to the organization, it is critical that information professionals do not deliver research that looks or feels like a list of Google results. Visuals, such as charts and graphs, showing that expertise, in addition to web searching, is needed to produce the delivered product, go a long way in illustrating the advantages that an expert researcher can bring to a project. Librarians can use mashups and compiling tools such as Google Domestic Trends (2010) in order to create powerful sets of data that are not readily available without a high level of web searching expertise. On a more basic level, the simple act of pulling out the top five or ten "best hits" from a search list, along with providing an explanation of what was searched and why these hits were the most highly valuable, can be very helpful to members who are experiencing information overload. Librarians can separate the useful from the useless in ways that Internet search engines cannot, and that is one of the most critical values that they provide.

According to a September 2009 Forrester research report, three quarters of all American households have PCs (Wortham 2009). Librarians can seize the opportunity to teach members about the powerful advanced search capabilities of search engines such as Google and Bing, helping them perform their own searches effectively. The advanced search tips page for google.com and the FAQ for bing.com can form the basis for an advanced web training class given by corporate librarians for their members (Google Advanced Search; Bing FAQ). Books such as *Google Hacks: 100 Industrial-Strength Tips and Tools* (Calishain 2003) are great resources for preparing web search training. Webinars or on-site brown bag lunch sessions not only establish the librarians as experts in web searching, but can also market the information center and its offerings to the members.

The Special Libraries Association (SLA) conducted a research project, the SLA Alignment Project, in order to determine the views, attitudes, and key

priorities of corporate executives in information-intensive organizations. Consulting firm Fleishman-Hillard, with assistance from Outsell, Inc., conducted in-depth interviews with C-suite level executives in order to determine what they value most from information professionals, and which terms and verbiage best communicate that value to them. This research provides concrete examples of what information professionals need to say, how they need to say it, and what they need to do in order to remain vibrant and viable in turbulent economic times. The corporate library needs to align its products and services with the organization's priorities and expectations.

The SLA Alignment Project determined that these members are looking for relevance, access, and timeliness. They trust corporate librarians for three mission-critical contributions:

- Unique knowledge regarding the information sources available and how they can best be used in each organization's unique setting;
- Assurance that information professionals are aware of the "newest and truest" sources of information and are making that information available to the organization; and
- Best practices in the most efficient use of information resources

Deliverables that ranked highest in value included competitive intelligence, management of internal content, the embedding of information professionals on project teams in order to provide a direct point of contact for research, and determination of highest quality sources and the packaging and format of distribution is much less important to them. In fact, all of these characteristics ranked in the 90th percentile of importance with senior executives were interviewed, according to the SLA Alignment Project research.

Information professionals need to be proactive in touting the value of what they bring to information, rather than waiting to react if the value is questioned. In considering the vocabulary to be used in promotional and marketing materials, "knowledge" was the word that tested highest with senior stakeholders interviewed for the SLA Alignment Project because it implies a deep understanding of information. Similarly, executives look to information professionals to decide quality and accuracy of information to create competitive advantage and benefit the bottom line. Therefore, using the word "intelligence" when describing their contributions implies that the information professional is not just doing "rip and ship" one-off projects, but instead is using information and adding value to it to produce key intelligence and enable good decisions. It is important for information professionals to break down the barriers that are sometimes inadvertently constructed when librarians and their constituents fail to speak a language of common goals.

Once it is known what is valued, this value needs to be delivered through a tangible, pragmatic information product that benefits management's bottom line. One effective way to do this is by instituting a custom clipping and alerting service. There are four main reasons to offer alerting services, and each one

provides opportunities to fulfill needs that the executives interviewed for the Alignment Project consider important:

- To market the information center and its services
- To advance the work and practices of the firm
- To increase the firm's client base
- To keep tabs on the competition

All of the above functions are very important, but the most valuable benefit of alerting services is received when information professionals provide members with research that they do not even realize they need. At this point, the librarians become an integral part of each member's personal success.

The key to developing a highly successful clipping and alerting service is to offer what I have termed "The Customized Information Experience." The Customized Information Experience is a daily news service individually tailored to meet critical member needs and to help them succeed. When an information center has a system like this in place, when a client or colleague of a member asks about a timely topic or breaking news, the member can always say to that client, "Oh, I've already read that." This sets them up for personal success and assures that the information professional is a critical part of that success.

Since customization is a key component of this approach, it is not enough to send feeds of articles on topics of interest. Anecdotal evidence from the consumer marketplace indicates that members are looking for an experience that is tailored to their individual wants and needs. There is evidence of this truism in the marketplace examples of Nordstrom and Starbucks. There is comfort in familiarity when service employees (which, taken in its most basic form, is what information professionals are) anticipate customer needs and consistently meet or exceed expectations. Nordstrom employs personal shoppers who understand the tastes and budgets of the customers. Starbucks has baristas who start preparing frequent customers' favorite drinks as soon as they see them walk through the door. If information professionals deliver an information experience, members will be surprised, relieved, and even thrilled.

Since information professionals are already experts at finding the right sources and content about various companies, industries, and concepts, the most important part of the Customized Information Experience equation is finding out which companies, industries, and concepts are of importance and interest to members. Reference interviewing is a basic skill that has been proven highly effective in order to ascertain what members are working on and what they need to know about. Oftentimes, when reference interviewing is done informally, it can be the most enlightening. Although this can be difficult in a large organization, the easiest way to get this information is to ask people what they are working on. Asking people about their work can take place in formal settings, as well as at informal places and events, for example, the elevator, the company cafeteria, or at the annual firm picnic. Regardless of how the corporate librarian learns about the members' work, the important characteristic to demonstrate is a

genuine interest in the work itself. The Alignment Research has shown that members are not interested in librarians' process and methodology. How information is accessed is not important to them; they just want to be assured that it is highly reliable and accurate. Members do want to know, however, how they can benefit from the services information professionals offer.

As information about members' areas of interest is revealed, the corporate librarian can compile a database of the information, making it easier for the information professional to distribute key information to the appropriate people. In instances where the information professional senses that members may not see the value in this service when it is merely explained; it can be better to send unsolicited emails of the information. Information professionals should also attend meetings about client case strategies so that they can understand the issues and suggest approaches to research. If the information and approaches suggested by the information professional are relevant to the work, the members will recognize the librarians' level of interest and personalization, and an "aha" moment will occur. They will feel that the librarian has their work and their areas of interest in mind.

Once a basic understanding of the issues that need to be tracked is established, it is critically important to deliver information that is from the most valuable and credible resources. In a business setting, this includes sources such as the *Wall Street Journal*, the *Economist*, and the *Harvard Business Review*, whereas in a legal environment, top law journals and reviews are the most vital. Librarians creating alerting services should take advantage of niche blogs such as the *New York Times Dealbook*, which offer RSS feeds as an added convenience for taking the pulse of an industry. While these blogs provide valuable information, members may be unaware of their existence. In order to get started, automatic alerts can be set up on fee-based databases such as LexisNexis and Factiva. However, these should not be used at the expense of rudimentary methods such as skimming newspaper Web sites. Inevitably, no matter how exacting and seemingly comprehensive search templates and strategies may appear, canned alerts sometimes fail to find key articles.

It is important to read the publications that members read. Alerts can be set up for the key publications read by members, so that librarians can push out new research as soon as it becomes available. In order to determine which publications are read by members, information professionals can compile a list of sources from which full-text article retrieval is requested, consult web statistics on databases, or again, use the basic technique of asking them. In addition, information professionals can deliver tables of contents from new issues of these favorite publications to not only requestors, but also to themselves. After a quick perusal, relevant articles can be sent out. At Compass Lexecon, an economic consultancy in Chicago, the information professionals advertise their alerting service with the slogan, "We read the news so that you don't have to!" Finally, it is a best practice to set up alerts for mentions of one's firm name, so that if an article is published by or about an employee, the information professional can send it to the person and congratulate them.

The delivery method and timing is part and parcel to the successful execution of alerts. Many delivery mechanisms can be explored and experimented with, including RSS feeds, widgets, Facebook delivery, and intranet uploading. Regardless of the mechanism, the most important element of the package is time. If a member receives a customized e-mail of critical client information while on a train to work, that member is informed of breaking news before that start of the work day. An e-mail message from the library can become one of the first communications members receive each day, and eventually, the messages will become an integral component of their work. When members open the daily e-mail messages, they receive the information they need, and they know they can respond to client questions and concerns in an up-to-the-minute, fully involved way.

The best practice for timing daily e-mail alerts is to send one per topic, which can be received via Smartphone. Information professionals can quickly skim each article of interest, summarize each into one sentence for the requestor, and upload each relevant article with the summary next to the PDF. If the article is not of interest or if the one sentence summary is sufficient information for the requestor, they need not open that particular article. The subject line of each e-mail message should contain the topic of interest, so that if the requestor will quickly know whether it is relevant.

In some industries, receiving an alert mid-morning is too late. Therefore it is possible that alerting services staff may have to be assigned to an alternative schedule, so that breaking news can be released early in the morning, while requestors are still at home preparing to leave for the office.

## QUESTION FOUR: "WHAT ARE OUR RESULTS?"

Results are the outcomes of actions that quantify and determine progress and goal achievement. In his groundbreaking work on building and maintaining loyal relationships in the workplace, Pennsylvania State University's James Kane, a "loyalty strategist" and frequent lecturer on business topics, explains that corporate restructuring and downsizing are rarely about money, but instead about who does and does not "make life better" (Kane 2010, 5). Information professionals need to find leaders in the ranks of upper management who can tout the indispensability and accomplishments of the firm's information services. Ideally, these people are executives who frequently use information professionals' services and have been pleased with the results. Through working with librarians, these leaders have come to realize the contributions librarians make to helping them do their jobs effectively and efficiently. Ultimately, when budget cuts are discussed, information professionals need an advocate in the boardroom. If a high-profile executive can demonstrate from his or her own experience the value added by the firm's information services unit, the information professional will have protected the information center from possible budget cuts or downsizing.

Information professionals often want to offer a metric as a way of demonstrating importance. In the past, statistics on the number of requests completed and number of databases accessed were collected and documented. The SLA Alignment Project research has shown, however, that constituents are much more impressed by the value that is brought to the information that is found.

Instead of reciting statistics, information professionals should expound on facts in order to tell a story. Specifically, the case study is a powerful and effective storytelling tool that can be used in a corporate environment. This is a much richer and more readable way to present the story of a recently completed research project. Using business school case studies as a model, information professionals can write about the challenges involved, approaches taken, information uncovered, and ultimately, how their research was used to solve the problem, retain the client, and win the case.

Return-On-Investment (ROI) studies are useful for positioning the corporate library as a source of revenue generation rather than a cost center. They measure the value of library services and present statistics in the language of business. A 1999 study by Jan Sykes, "Factiva Return-On-Investment Survey Findings," measured ROI from corporate information centers in terms of saving time, opportunities, improved decision making, and opportunities for further maximizing investment in information. This study enabled Factiva to put a dollar amount on the value of information services as well as money saved. Factiva also quantified time saved by having the research done by an information professional rather than the requestor. Factiva believed this study was favorably received by business executives because it explained the value of information by using a calculated method similar to those used by other business disciplines. Dow Jones's e-book, *Pay Now or Pay Later*, details the hidden costs of time and money spent when end users conduct research themselves on "free" Internet sites instead of enlisting the help of an information professional. An Accenture study found that "every dollar spent on knowledge management returned $25.06 to Accenture" (Caputo 2010, 3). Research department case studies illustrate the value-added information process in a concrete way so that stakeholders immediately recognize they can bring a research problem to the library and the librarians will use a proven approach to produce a successful outcome. For maximum impact, the case study should also emphasize the time and money that using the information center saved. A powerful ending to the story is a statement, based on a conversation with a requestor, of how long it would have taken the requestor to conduct the research without the help of the information professional. This is not to say that collecting statistics has no value, but that contextualizing statistics as a story that is meaningful to firm management creates a powerful impact.

## QUESTION FIVE: "WHAT IS OUR PLAN?"

Drucker stated that there are five effective elements of each plan: abandonment (eliminating actions that do not support the mission), concentration (emphasizing and focusing upon actions that do support the mission),

innovation (spotting trends before they become commonplace), risk taking, and analysis (the review of your plan over time) (Drucker 2008, 68–70). In devising a plan, Drucker believes that everything needs to tie back to the mission. He states that the first function should be to create action steps that guide the library into the future, making certain that each action step is a direct representation of the mission. Information centers should continually ask themselves, "What do we want to be known for?" In analyzing this question, staff tasked with carrying out the action steps should develop a list of concrete functions that directly represent the mission. Each time one of these action steps is performed, staff should feel that they are establishing the brand and reputation and building what the information center wants to be known for.

The ability to see "opportunities, emerging issues, and new conditions" before they become widespread is very helpful in devising a plan. This skill can seem like an inborn trait, but there is a technique that can be employed to integrate trend spotting into the information industry. The key is to look at trends across the board and from any industry, seeking out concepts that are being talked about and written about, and then asking oneself how those ideas or ones that are similar can fit into one's individual work or industry situation.

Public libraries have been very successful in integrating trends into their industry. For example, when Netflix started to gain ground, many public library directors applied for and received grants to institute similar delivery models in their libraries. These directors were able to see the benefits of the convenience of offering books to members via mail. Likewise, fast-casual restaurant chains such as T.G.I.Friday's deliver takeaway meals to customers' cars. They realize that patrons do not want to look for parking, buckle and unbuckle kids from car seats, or go out in foul weather. Some savvy librarians at the Houston Public Library applied this model and now offer curbside reference service at congested branches. Members can text queries to the reference desk, and the librarians bring the materials to their cars.

Callers to Southwest Airlines Customer Service Department are given the option of entering a phone number and receiving a call back instead of waiting on hold. How would information center members react, knowing that they could email the library with a message for the librarians to call them? Similarly, what would be the response if, when discussing a project with a librarian, members were told to "take all the time you need in discussing your project or request?" These are questions that merit consideration and help the library to put customer-centric policies in place. Actions such as the above are additional ways for information centers to differentiate themselves through outstanding customer service that is only available with an in-house staff of information professionals.

## CONCLUSION

Careful consideration of the meaning of and the answers to Peter Drucker's Five Essential Questions can form the basis for best practices in the corporate library. Ultimately, though, the practices that work best for each corporate library

are those that surprise, delight, inform, and exceed the expectations of its members and senior management. These practices are highly variable, depending on the focus and goals of the organization. In developing the set of practices that best lead staff to achieving these overall goals, it is important to realize that when considered in the context of helping to formulate best practices in a corporate library, all five questions are not of equal importance. "What are our results?" is much more important than "What is our plan?" Essentially, how we get there is less important than ensuring that ultimately we do "get there," and achieve our goals. Providing members with exactly what they need, when and where it is needed, in the most convenient format possible, is always the plan. The information center's key role in the overall mission of the organization, and in helping to solve problems, retain clients, and win cases, should always be the result. As has been discussed, there are many different ways to analyze potential answers to these two questions, and many different practices can be implemented to illustrate the processes. In the end, all of the responses should underscore the principles inherent in question number one, "What is our mission?"

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# 10 VALUE CREATION, ASSESSMENT, AND COMMUNICATION IN A CORPORATE LIBRARY

*Leifang He, Binu Chaudhuri, and Deborah Juterbock*

## INTRODUCTION

To counter a belief that "everything is free on the Internet," libraries of all types must often prove their value to their customers. For corporate libraries, which rely on funding from a "for profit" organization, there is often a need to demonstrate return on investment (ROI) to executive management. In 2007, the Novartis Knowledge Center (NKC) initiated a project called Value Assessment Library Use Efficiency (VALUE), to demonstrate how the NKC supports the Novartis decision-making process and is a value center and not a cost center. We developed quantitative measures to calculate our market value, as well as ROI. As a further step, we introduced our current efforts to increase the transparency of e-resource utilization and to map it to our customer base. NKC also identified critical success factors that will enable us to measure our mid- to long-term success.

A review of the literature revealed six relevant articles, dealing with return on investment and critical success factors in corporate, academic, and public libraries. Liang (1999) defines critical success factors for an academic library but does not offer performance indicators for measuring the success. Strouse (2003) found that ROI data is collected only by 7 percent of corporate libraries. In his study, he states that this is a "drastically underperformed strategic management activity" as it is only a matter of time before executive management asks for the ROI for their corporate library. Monroe (2005) reports on a study conducted by J. Griffiths and her team on a "contingent valuation" study of Florida public libraries. This study focused on the total economic benefit of public libraries by calculating their cost effectiveness in providing access to information as well as their economic impact in terms of business and job creation. White (2007) concurs with Strouse in stating that using ROI proactively is a valuable asset in addressing accountability inquiries. Tenopir (2009) discusses the "value gap" for libraries. A gap is created when perceptions of the importance of libraries decreases, but expenditures increase. This gap in understanding creates

pressure for libraries to justify their budgets. Tenopir states that ways to improve perceptions lie in using methods such as ROI and contingent valuation. Oberg and Morris (2009) acknowledge the pressure corporate libraries face in demonstrating ROI in library operations in their separate organizations. Both of their libraries have moved from paper collections to e-resources but have concluded that it is too soon to determine ROI.

While all of the above studies acknowledge the importance of demonstrating ROI to the parent organization, our study systematically outlines how NKC has created a VALUE map, and defined what and how VALUE is to be measured. More importantly, we have developed a quantitative methodology to calculate market value, savings and rate of ROI that can be applied by others. We differ from the Griffiths study in that we are able to calculate economic value using actual total NKC investment on its products and services rather than creating contingent valuation. We are able to benchmark against our industry peers and to evaluate the business impact of NKC products and services and NKC's role in the Novartis decision making process. Critical success factors and key performance indicators have also been developed to monitor our ongoing success.

Novartis was formed in 1997 with the merger of two large Swiss firms, Sandoz and Ciba. Both firms were based in Basel, Switzerland and had large U.S. operations in New Jersey. Answering the challenge of a competitive environment, Novartis began the process of transforming itself into a lean global company. Expertise was retained in centers of excellence while duplicate functions and services were eliminated. Today, Novartis, with its nearly 100,000 employees in 140 countries, offers a wide range of healthcare products through the Pharmaceutical, Vaccines and Diagnostics, Sandoz (Generics), and Consumer Health Divisions (OTC, Ciba Vision and Animal Health).

The Novartis Knowledge Center (NKC) has responded to the changing environment created by technological advances by repositioning itself from a traditional, localized physical model inherited from Sandoz and Ciba to that of a global electronic resource center, accessible 24/7. Today, the NKC centrally serves the global Novartis organization with a core of licensed scientific, technical, medical, and business information resources and services accessed through the NKC portal, tools, and 42 staff members worldwide. The repositioning of NKC occurred over an eight-year period and the current e-model is still in development (Chaudhuri, He, and Juterbock 2010).

### Evolution Timeline

Prior to 2002, NKC operated under a traditional library model. The expert searching, document services, learning/training, and help desk support were oriented around the physical library collections that each local site owned.

- A library user would come in to the library to request an expert search, training or an article. The professional staff reactively answered requests as they were received.

- Search results were delivered as stand-alone data without special formatting or consideration for the user's perspective, intended use of the material, or business impact.
- Training sessions were limited to monthly orientations for new employees and vendor product training. Customized trainings for departments were rare.
- There were multiple libraries in the various locations and divisions.
- 85 percent of the collection was print materials. Online catalogs (OPACs) included only the print materials at local sites.
- Document service requests were filled by photocopying print materials in-house and were delivered via inter-office mail.

The Novartis environment began to change rapidly in 2002. The corporation moved to a global organization with the standardized operations across function lines worldwide. The implementation of advanced technology on the corporate level enabled NKC to transition from the traditional model to a hybrid (physical and electronic) model between 2002 and 2005.

In 2005, NKC made a commitment to build an e-resource collection. A library portal was created, allowing an end-user access to journals, databases, e-books, and pharmaceutical industry news from their desktop. As a result of moving to an electronic resource model, NKC downsized its physical space and collections. Six physical libraries were changed to two virtual centralized information service centers both in Basel, Switzerland and East Hanover, New Jersey along with two other virtual information service centers in Emeryville, California and Cambridge, Massachusetts. There were no layoffs because of early retirement arrangements and internal transfers. The Novartis Knowledge Center became the only library and information service hub in the global Novartis community.

As the Knowledge Center increased its global scope, NKC developed a new business model in 2006. Three functional groups bound in close interdependency were created: Information Acquisition, acquiring all global e-resources; E-library Technology, deploying e-resources to the end user through the NKC portal; and Information Delivery, providing the end-user access to the content through consultation and learning programs (see Figure 10.1).

This interdependent model provides integrated value generation for NKC through team collaborations. The e-content collections and technologies require a significant investment. To ensure the best return on the investment, the Information Delivery service group plays a crucial role as the primary interface between the user community and Information Acquisition and the delivery

**Figure 10.1 Evolution of NKC e-library business model**
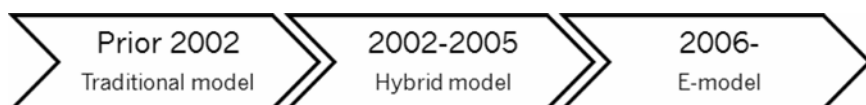
**Figure 10.2 NKC Functional Organization to support "User-Enabled Model"**
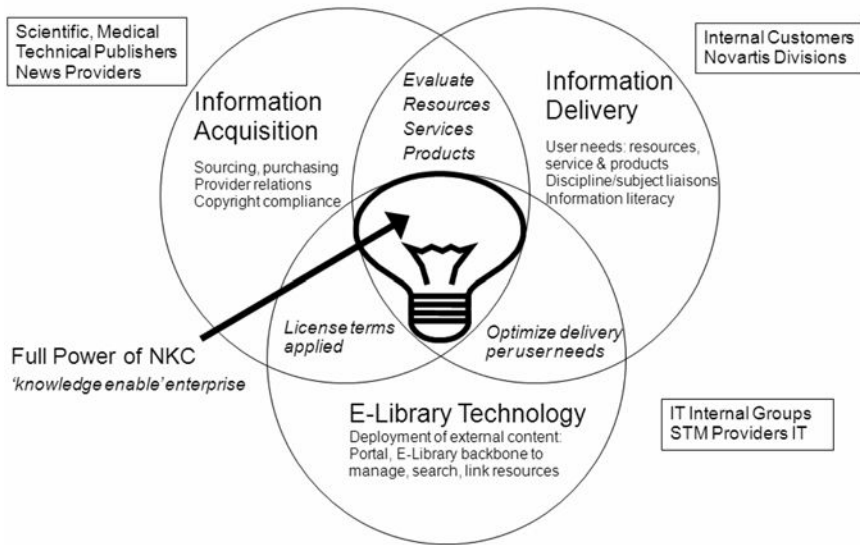


infrastructure. The Information Delivery group has the primary responsibility for enabling users to successfully utilize the electronic resources, and facilitating access to targeted resource (see Figure 10.2).

## VALUE CREATION

### VALUE Mindset

To meet the challenges of tightened budgets, NKC realized that there was a compelling need to find an innovative way to demonstrate its value to key stakeholders. In 2007, with a global organization and new business model firmly in place, NKC initiated a significant project, the Value Assessment on Library Use Efficiency (VALUE). The overall goal of this initiative was to demonstrate innovatively that NKC is primarily a value center rather than a cost center. The Knowledge Center also needed a baseline measure of customer use of its resources and services. A database was created to collect newly defined statistics. As statistics were collected and analyzed, new ways of thinking about the customer and the collection developed for NKC's staff.

To reach the next level, Outsell, Inc., a consulting firm for publishing and information industries, conducted an "Information Needs Assessment & Customer Satisfaction Study" on our behalf in 2008 (Lustig et al. 2008) (further referred to User Study 2008). Additionally, to align with corporate imperatives, we understood the need to focus not only on our customers' needs, but also on

the importance of directly contributing to corporate revenues for continued business prosperity. Identifying the value links between the company's tangible health products, its revenue generation and NKC's intangible knowledge products became the backbone of the VALUE project.

### New Roles in the Knowledge Age of the Twenty-First Century

Novartis, like many other pharmaceutical companies, is undergoing major changes in its business processes. R&D activities are no longer concentrated only in the Western hemisphere; major emphasis is shifted to emerging growth markets throughout the world. This has brought about a change in the customer base for the Information Specialists. Data from the 2008 NKC User Needs Assessment revealed that half of NKC users have been with Novartis for fewer than five years and one-third of the survey respondents consider themselves "very adept" at online searching.

While the traditional role for the Information Specialist primarily focused on expert searching with one-to-one relationships, new role definitions have emerged. "Expert searcher" no longer adequately describes the primary activities of this role. NKC has transitioned to the term "Information Consultancy," which more accurately reflects the work being conducted. Complex information projects are tackled by an Information Consultant with a one-to-many impact.

Information Consultancy in NKC involves understanding the business drivers and the thought process of the customers (He et al. 2009). The goal is to define, develop and implement solutions and formulate strategies to meet business objectives. Consultancy further involves connections—connecting the user to experts within the organization, best practices, or with technology. From these connections, communities of practice can emerge within areas such as intellectual property, competitive intelligence, and chemistry.

The core mission of NKC is to "knowledge enable the enterprise." The full spectrum of the information consultancy process includes: advising and teaching, expert searching, departmental collaborations, one-on-one trainings, and multi-faceted targeted departmental trainings. These relationships are deep and reciprocal with the respective business partners.

As the Information Consultants integrate themselves more fully into the business process of a globalized, multi-cultural, and matrix structured organization, their roles are evolving to become part librarian, part entrepreneur, part computer specialist, along with specialized subject matter expertise (see Figure 10.4, VALUE Map of NKC Services).

### What to Measure

The evolution in the corporate librarian's role and perspective has driven a parallel alteration in what to measure. In fact, two major challenges were confronted in initiating the VALUE project. A transition process needed to be developed from traditional output measurement to outcome evaluation, and a

shift from the traditional passive reactive librarian role to an active entrepreneurial spirit. Because of the deep-rooted traditional librarian model, NKC staff was unconsciously isolated from the business of the company. Despite the numerous contributions to ongoing activities for the company's important functions and projects, NKC still collected statistics from traditional library-focused services, instead of a client impact focus.

Previously, NKC's activity measurement was based on simple statistical output, for example, the number of searches completed, amount of time spent on the activities in the service areas, and the numbers of titles acquired in the collection. This focus excluded capturing data about the business needs of the user groups, and we were still unable to ascertain the impact of our activities. The true value remained buried, since services were isolated from end-user impact.

### VALUE Map of NKC Information Consultancy

As the competitive corporate environment demanded a more evidence-based practice, NKC carefully examined what contributions were made to the company's strategic priorities. The information delivery staff realized a critical change was necessary to transition to the mindset of an entrepreneur. Business critical opportunities were identified by understanding the key country markets, and key customers by tracking where the company invests the most money. Through identifying with the corporate direction, the NKC transformed gaps into opportunities.

Since 2007, a major focus has been placed on the role and activities of the information consultants. They partner and collaborate with key function groups to provide solutions to each group's top objectives. Consultancy also faces the biggest challenge due to the difficulties in quantifying and interpreting the value of an intangible such as information.

Business impact became the central starting point in switching to the VALUE mindset. We adopted an innovative approach by migrating from recording only information management activities to measuring business impact. NKC began mapping our activities to the Novartis Drug Discovery and Development Process (NDDP). This is the recognized pathway from discovery to market in the pharmaceutical industry (see Figure 10.3). Because an understanding of the drug development process is critical for VALUE to succeed, we provided all information specialists with detailed training on the Novartis drug discovery and development process. Sharing a background more easily facilitates conversations between information specialist and end user.

NKC's next step was the creation of a tool that links information consultancy requests to a user profile. This profile provides data on a requestor's business functions and location, as well as their financial unit. It allows analysis of customer focused activities based on the phase of development, decision points in the drug discovery process (the pathway of the company's success), and identifies the business units from which these requests originated. The critical points of

**Figure 10.3 Novartis Drug Discovery & Development Process**

**\*Decision Points**
CSP—Candidates Selection Point
SPOC—Selection for Proof of Concept
POC—Proof of Concept
DDP—Development Decision Point
FDP—Full Development Point
SDP—Submission Decision Point
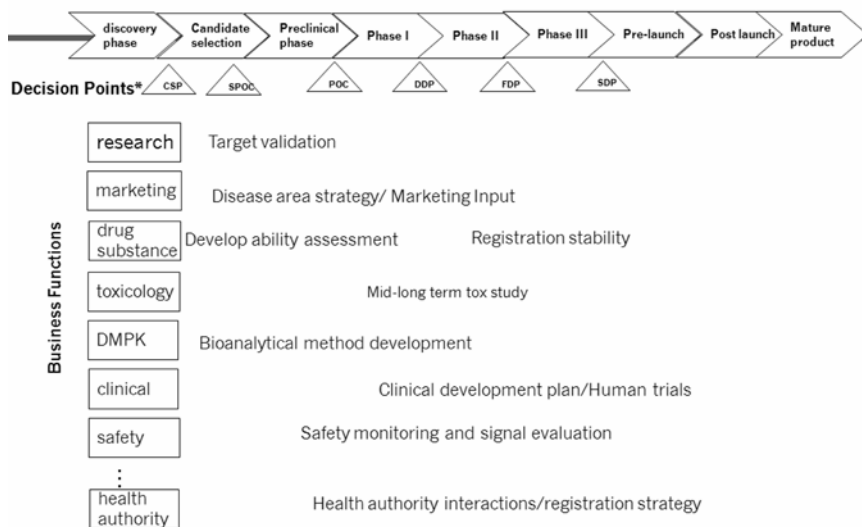


identifying the customer's business need or identifying decision points in a request are determined from ongoing conversations between the information specialist and the requestor.

Once NKC aligned its information consultancy efforts with business functions and decision points along the NDDP, we identified where and what the team contributes on the pathway of revenue generation. By utilizing this new method of measurement, we make knowledge an integral part of the company decision-making process. We now have the ability to quantify our contributions to key decision points, phase of development, and demonstrate our contributions to safety studies, regulatory submissions, and pre- and post-launch marketing studies. The following two examples demonstrate that the business values we produce in our practice are solid.

First, drug safety is one of the key functions throughout the NDDP process, ranging from preclinical, to post marketing surveillance. Drug safety is also one of the major challenges facing the pharmaceutical industry because of intense public scrutiny. Sahoo observed that the Federal Drug Administration (FDA)

**Figure 10.4 VALUE Map of NKC Services**
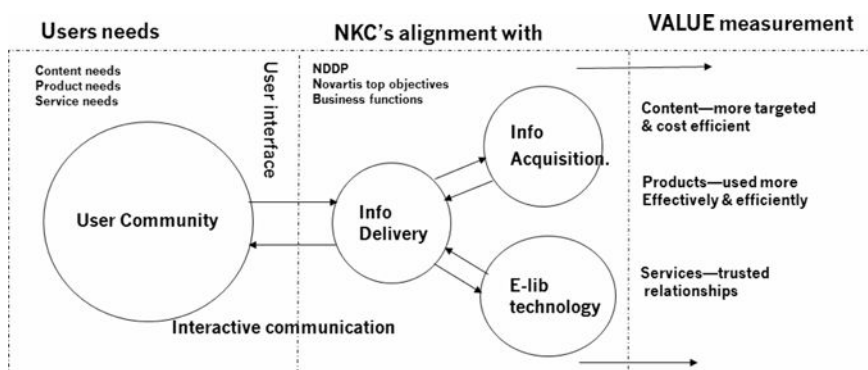


"appears to be requesting more data to verify safety in future directions in drug safety reviews" (2008) and that "Drug safety risks arise from a variety of sources including prescribing errors, patient compliance insufficiencies and inherent toxic . . ." (2008).

Because of a closer alignment with and understanding of Novartis' objectives, and challenges, NKC's information consultants have actively engaged in the drug safety process by closely communicating with different safety groups within Novartis and screening the literature to ensure that the required data is obtained for FDA and health authority responses in various countries. The NKC role transitioned from a reactive to proactive partnering relationship with the customer. NKC is now integrated into the process for many of the regulatory requirements, and the staff members closely monitor changes in the environment and keep up with health authority developments. Changes are then communicated to customers in an incremental process improvement model.

Market Research is another group with which we have partnered closely via the drug discovery process. The information consultants gather and analyze disparate forms of data across multiple disciplines to study the market potential for unmet needs. This data validates and confirms for Market Research that the right drug, for the right disease, and for the right patient population, is being made available (see Figure 10.4).

The VALUE map has been further confirmed through NKC stakeholder interviews. These interviews were conducted by Outsell, Inc. as part of the User Study 2008. The VALUE approach echoes statements from those interviewed: "Align information to the business goals. A starting point would be the top business objectives for the company. Cascade down to the brand and to the therapy area objectives. Create standard workflows. Use drug development cycle and see where information made to make decision were made along the workflow—what sources/info used to support the decisions and create a sort of road map" (Lustig et al.).

### Value Interpretation

NKC has taken these comments literally and identified five additional principles that enable information consultants to be more innovative and agile in this knowledge based decision making environment:

1. Align with Novartis business objectives and priorities through the NDDP pathway. It ensures the VALUE proposition, because NKC resource allocations are always closely aligned with the company's objectives, and confirms that VALUE optimization is based on company priorities.
2. Become an integral part of the decision making process through business function lines. Information consultancy provides solid innovative support and helps to confirm users' judgments and conclusions.
3. Grasp new opportunities proactively to add more value via the dynamic re-alignment with the company's new objectives and priorities in the changing world.
4. Act as a key interface between users and Information Acquisition and E-Library technology groups to ensure NKC content, products and services are targeted to business needs.
5. Motivate and inspire information specialists, as they can connect their everyday activities to the company's big picture and establish trusted and meaningful partnerships with their clients.

## MEASURING VALUE

### Creating the Baseline

With the new e-model firmly in place in 2007, we needed to assess the needs and satisfaction levels of the Novartis knowledge workers with regard to their external information usage and usage of the NKC service portfolio. As stated earlier, the User Study 2008 was conducted, using a methodology involving two phases. The first phase was "Stakeholder Interviews," with executive-level management in key areas including technology, and key players from growth areas, such as China. The findings from these interviews served to create the design of the quantitative survey in the second phase. It was very important to us to gain a full quantitative understanding of user needs and their level of satisfaction. At this point in time, we could identify around 18,000 users by name. We were sure the potential user market was much higher and we wanted to understand the reasons for the under-served and non-served; for example, where non-users go for information, and who our competitors were.

Therefore, in the second phase, a carefully planned data model was created to capture responses from the major user groups in all divisions (Pharmaceuticals, Consumer Health, Generics, Vaccines & Diagnostics), countries where Novartis does business, and scientific and business disciplines. The analysis of

**Table 10.1**
**"I can find everything I need"**

|  | Base | Yes % |
|---|---|---|
| Novartis | 4,769 | 23 |
| Pharma industry* | 485 | 15 |

*Outsell's Information Management Benchmark Database 2009

the data gave us a good overview of the respondent profile, including demographics, information use habits, use and perceptions of the NKC, their spending and purchasing habits, and the impact of using NKC. We were able to segment the raw data according to major user groups and further analyze the numeric data to compare user groups and to benchmark against external standards from Outsell benchmark database. We wanted to calculate the business impacts, the market value, the user savings, the return on investment (ROI), and market potential (He et al. 2009). The methodologies are detailed in the following section (see Table 10.1).

## QUANTITATIVE ANALYSIS

### Methodology

The survey was sent to 18,534 NKC users. We received 5,047 responses, a 27 percent rate of response. The quantitative analyses on the business impact of NKC are based on the User Survey 2008, and also on the raw data, which has been further analyzed by NKC. The key statistical data has been compared, statistically tested, and benchmarked with pharmaceutical industry R&D data. The R&D benchmark data is from Outsell Inc.'s IM Benchmark database. The methodologies and the conclusions from the significance tests (T tests) have been carefully examined and repeated by a senior principal statistician located at Novartis, East Hanover, USA.

### Findings/Analyses

1. 95 percent (4,769 out of 5,047) respondents indicate they use information in support of their jobs.

2. 23 percent (1,097 out of 4,769) respondents indicate they can find everything they need; this exceeds that of industry peers ($p < 0.0001$).

3. 95 percent (4,769 out of 5,047 responses) indicate that Novartis Knowledge Center drives business impact in the Novartis community.

**Table 10.2**
**Business impact 1**

| Business Impact | Total |
|---|---|
| Base (those who use information in support of job) | 4,769 |
| | % |
| Save time | 66 |
| Make strategic decisions | 46 |
| Generate revenue | 40 |
| Save money | 37 |

4. 45.2 percent (2,168 out of 4,769 responses, who use information in support of job) indicate specifically that NKC resources help them make strategic or business decisions (Study Report).

5. The overall average satisfaction rating for the Novartis Knowledge Center is 3.36 on a scale of 1–5 where 1 is poor and 5 is excellent.

**Table 10.3**
**Business impact 2**

| Business Impact | Total |
|---|---|
| Base (those who use information in support of job) | 2,168 |
| | % |
| Keep up to date in my discipline/therapeutic area | 70 |
| Make a project or candidate selection | 30 |
| Drug safety evaluation | 29 |
| Regulatory/compliance issues | 27 |
| Develop a market assessment | 24 |
| Uptake of launched products | 19 |
| Pursue a patent | 15 |
| Pursue licensing for technology/acquisition | 9 |

**Table 10.4**
**Reasons for not using NKC**

| Reasons for not using NKC | Total |
|---|---|
| Base | 654 |
|  | % |
| Don't know what services NKC offers | 52 |
| Don't know how to use NKC | 42 |
| Never occurred to them to use NKC | 33 |
| Get information from other sources | 30 |

6. The NKC's current user Market Value equals ~$80,000,000 per year (the calculation is listed in the following section).

7. The NKC produces a return on investment (ROI) rate of 2xx% (the calculation is listed in the following section).

8. The NKC saves time significantly ($p < 0.001$) for their users compared to industry peers of 174 hours per user/per year (the calculation is listed in the following section).

   Therefore, NKC can generate more value if non-users use NKC, for example:
   If the Average FTE hour cost: $150,000/1,760 hours = $85/per hour
500 user generates value for NKC: 500 × 174 hours × $85 = $7,395,000 (in terms of cost avoidance)

9. By targeting 1 percent of 50,000 non-NKC users, NKC has an extra potential user market value worth $7,395,000 yearly (excludes manufacturing and contractors) (the calculation is listed in the following section).

10. Responses from the survey confirm that NKC has good potential for growth.

### *Calculation of Market Value, Savings, ROI, and Market Potential*

### *Definitions*

The dollar value calculation is based on the following elements:

- user population surveyed (**P**) = >18,534
- total responses on who uses information in support of job (**P1**) = 4,769

Table 10.5
Mean value comparison

|  | NKC users | Pharma industry users IM Benchmark, Outsell Inc.[*] |
|---|---|---|
| Mean value on Info Gathering... (M) | 3.96 | 5.79 |
| Standard deviation (SD) | 4.05 | 5.45 |

*Outsell's Information Management Benchmark Database 2009

- total responses to hours break out on gathering, looking or pulling for information **(P2)** = 3,550
- total responses to "Most Often Use NKC for Information" = 52% **(C1)** (Study Report)
- definition based on estimation of "Most often use NKC" = 75% **(C2)** (NKC estimate)
- cost of each FTE (40% managers, 60% associates and 64% from Western world): Average Market Value = (# of ) FTE × FTE cost; ($150,000) is based on the average total compensation of R&D and Commercial associates (= 135,000 plus estimated office costs)
- the mean value on gathering, looking, or pulling information for NKC users:

$$X_{\text{nkc}} = 3.96 \text{ hours/per week}$$
$$SD_{\text{nkc}} = 4.05$$
$$N_{\text{nkc}} = 3,550$$

- one FTE working hours/per year: 40 hours × 44 weeks = 1,760 hours

$$[52 \text{ weeks} - (4 - \text{week vacation}) - (1 - \text{week personal})$$
$$- (2 - \text{week paid holiday}) - (1 \text{ week sick}) = 44 \text{ weeks/year}$$

NKC FTE working hours: 44 weeks × 40 hours = 1,760/per year/per person]
- NKC total investment: $S (Investment figure not disclosed owing to confidentiality)
- The Pharma/Biotech benchmark mean value on gathering, looking, or pulling information (Outsell data) for regular R&D users in pharmaceutical industry

$$X_{\text{bench}} = 5.79 \text{ hours/per week}$$
$$SD_{\text{bench}} = 5.45$$
$$N_{\text{bench}} = 485$$

*Outsell's Information Management Benchmark Database 2009

*Calculations*

**NKC User Market Value (MV) Projection Currently**

The market value is calculated as:

(Number of hours per year spent by NKC users gathering information/number of working hours per year per FTE) × (times) FTE cost

a. number of NKC full-time users

$$N = P \times (P2/P1) \times C1 \times C2$$
$$= 18{,}534 \times (3{,}550/4{,}769) \times 52\% \times 75\%$$
$$= 5{,}381$$

b. number of hours users spent per year on NKC resources

$$T1 = X_{nkc} \times 44 \text{ weeks} \times N$$
$$= 3.96 \times 44 \times 5{,}381$$
$$= 937{,}525 \text{ hours}$$

c. one FTE working hours per year

$$40 \text{ hours} \times 44 \text{ weeks} = 1{,}760 \text{ hours}$$

d. FTE = T1/1,760

$$= 937{,}525/1{,}760$$
$$= 533$$

e. FTE cost: $150,000

f. Market Value (MV) projected

$$MV = FTE \times FTE \text{ cost}$$
$$= 533 \times 150{,}000$$
$$= \$79{,}902{,}662$$

**NKC User Savings (SV) Per Year Expressed as Cost Avoidance**

The rationale for the following is to convert the hours that NKC users saved in information gathering, comparing to the benchmark, into the FTE equivalent cost. All the expenses are included here, such as salaries and office expenses. Cost Avoidance is used to express the implied savings, and not savings from the bottom line.

Following the same methodology as we discussed above, we replaced the hours (H) of difference between Benchmark mean value and NKC mean value per week in information seeking:

a. Number of hours saved per user per week

$$H = X_{bench} - X_{nkc} = 5.79 - 3.96 = 1.83 \text{ hours}$$

b. Number of hours saved per year from NKC users

$$T2 = H \times weeks \times N$$
$$= 1.83 \times 44 \times 5,381$$
$$= 433,250 \text{ hours}$$

c. NKC use savings (SV) per year

$$SV = (T2/1,760) \times FTE \text{ cost}$$
$$= (433,250/1,760) \times 150,000 = \$36,924,715$$

**NKC ROI Rate (Rr)**

Here the total NKC investment is used to evaluate NKC's new e-business model's success:

$$Rr = [[(MV + SV) - NKC \text{ total Investment}]/NKC \text{ investment}] \times 100\%$$
$$= [[(\$79,902,662 + \$36,924,715) - \$I]/\$I] \times 100\% (\$I \text{ is confidential})$$
$$= 2xx\%**$$

**Market Potential**

The rationale for the following is to use the hours spent on NKC resources per year per user, and multiply the given numbers of the users. Then the total hours can be converted to FTE expense.

Time spent by users of NKC:

3.96 hours/week gathering information × 44 weeks worked

= 174 hours/per year/per user

## CONCLUSIONS

By adopting the methodologies described above, we have been able to calculate market value, savings, and rate of ROI, and to benchmark NKC users'

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**Real ratio and some data cannot be disclosed owing to confidentiality

information gathering efficiency against industry peers, evaluating its business impact, and projecting its future market potential.

In addition, the data calculations are connected with user profiles, user business functions, and major divisions. We can then construct profiles of who needs the information, for what business need, how they want it delivered, as well as estimate the cost to deliver it. Our strategies and actions for future NKC growth can then be based on concrete and solid evidence.

### Measuring Resource Utilization

Our next phase, currently in development, is to better measure the utilization of e-resources. In particular, we need to conduct a deeper analysis of the e-content vendor-generated statistics and map them back to user profiles and business functions.

To increase utilization of our resources, we are assigning an information consultant with his/her subject expertise to a division (see Figure 10.4 Value map of NKC services) or a key customer group. The information specialist will be responsible for handling the targeted information needs. This type of collaboration promotes innovation, because it encourages a free flow of ideas among the people who must work together to discover new solutions to problems. Through this knowledge sharing process a trusting relationship can be developed between an information specialist and a key customer group. With the establishment of this trust, funding questions can be reduced as key customers can speak to the business impact of NKC resources and staff. Pursuing this trusting relationship of enabling users to make smart decisions, and maintaining NKC's image as a premier model, are forefront in our minds.

### Creating an Architecture for Future VALUE Reporting

For efficient reporting of these factors, we need a technical solution with automatic harvesting, standardizing and processing for various data fields. This is an ambitious plan that leverages technology. It integrates the industry standards and protocols, for example, COUNTER and SUSHI and internal NKC Key Performance Indicators, dynamically. With both quantitative and qualitative data harvested here, it will provide us user profiles more effectively and efficiently, based on each user's organization and discipline as well as data on which e-journals, databases, and services they use, and how well they use them compared to industry peers.

With this reporting in place, we will be able to demonstrate to our partners what is being used, and how often each resource being used. Through our service tracking data base, we will also be able to determine which projects and business opportunities we are supporting. This data will help us make more informed decisions regarding spending for our collections as well as future investments. As Novartis' business focus and priorities change, we will be able to proactively adapt our resources to meet these needs.

**Figure 10.5 VALUE reporting architecture**
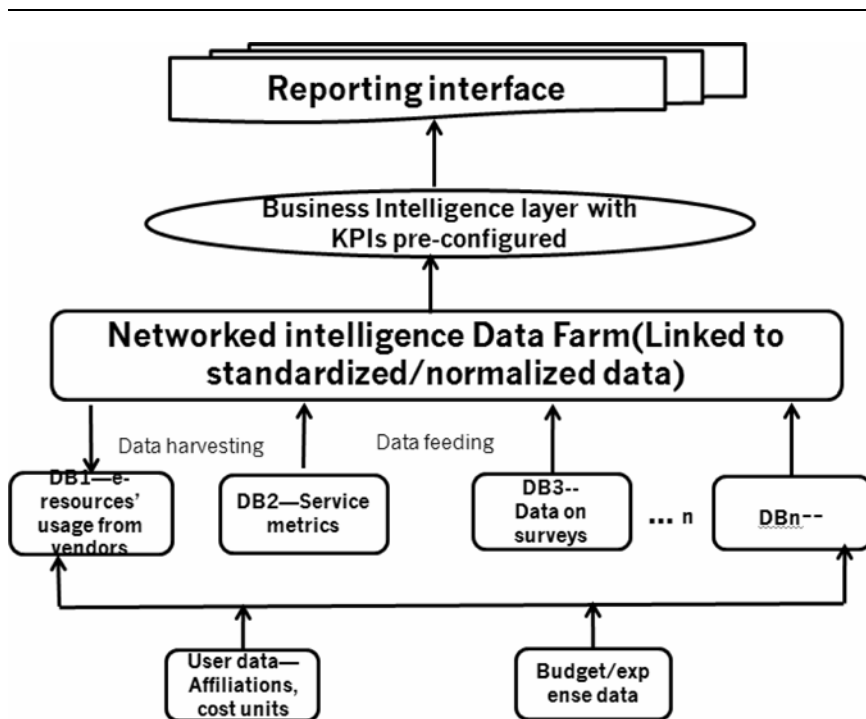


## PURSUING SUSTAINABILITY

### Introduction

In March 2009, we published "Creating and Measuring Value in a Corporate Library" in *Information Outlook* (He, Chaudhuri, & Juterbock 2009). We received many comments from peers in the knowledge management field, which recognized the innovative aspects of VALUE pilot. The next step in the analysis was to determine sustainability and integrate the next level of corporate vision. Alignment with the Novartis drug development process proves service relevancy, but does it demonstrate our efficiency? We now needed to translate the success of the pilot to encompass the entire Knowledge Center and maximize the value of NKC as a single unit. We needed to define what constitutes NKC's success for years to come.

In a fast changing economy, decisions often need to be made quickly. Decisions are made based on information, and knowledge of knowing how to best proceed. Information services are in an excellent position to take data and to transform it into critical knowledge to provide a competitive edge.

**Figure 10.6 Three Pillars for a Long-Term Success**
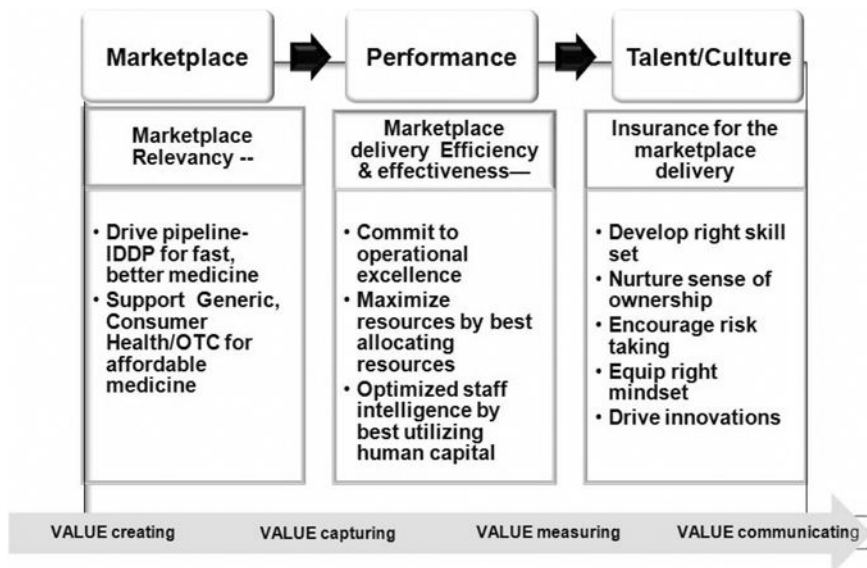


The pharmaceutical industry faces many challenges, including patent expirations, increased regulatory scrutiny from health authorities, and health care reforms demanding lower drug prices. Strategies to find solutions to these challenges, in the form of case studies and best practices, often get lost in today's environment of data deluge.

Since "organizing information" and "delivering answers" are core competencies within the information profession, this provides us with a unique opportunity to explore and to organize Novartis's information needs along the demands of the marketplace, efficient delivery of resources, and the development of talent.

### Pillars for Long-Term Success

NKC's marketplace, or customer base, has a global scope. To ensure a protected pipeline to deliver quickly more effective medicines for unmet needs, NKC's marketplace needs to align itself with the whole process. From the drug discovery phase to pre-clinical, clinical, and post marketing, a tremendous amount of information is needed for decision making. Quality and on-time information delivery for each decision point is crucial. To off-set the potential loss from industry challenges such as patent expirations, the NKC marketplace needs to be in line with the company's top strategies, such as the safeguarding of intellectual property, drug safety and regulatory matters and issues in drug pricing. In the marketplace, NKC also needs to establish strong relationships with our

Generics and Consumer Health groups in addition to the pharmaceutical business, as they contribute significantly to the overall Novartis strategy.

The Performance pillar refers to the efficiency of delivery of our service. All marketplace services come with a cost. To ensure efficiency and effectiveness, NKC needs to focus on three distinct aspects of service:

- **Operational Excellence:** NKC must continually look for ways to improve our processes. We must be innovative and identify new solutions. Effective and efficient delivery can often be achieved by repurposing and re-using existing materials, increasing resource utilization.
- **Maximize Financial Investment:** At budget time, knowledge services face challenges to prove their value. It is incumbent upon us to allocate resources for services based on top business priorities and strive toward optimizing the content portfolio (according to user needs) with highly effective vendor portfolio management.
- **Optimize Staff Intelligence:** Each staff member has developed an expertise and potential. This expertise must continue to develop as the direction of the organization shifts. Each team member needs to be afforded opportunities to reach their full potential.

In developing the last pillar of Talent/Culture, staff must have the right mindset and skill set to tackle quickly changing demands. They must also be encouraged to take some risks. Innovative solutions are the way to position NKC service to a competitive advantage, but this only occurs when the culture is right. Staff members need to have a sense of ownership, and to be motivated by understanding how their daily activities connect to the company's objectives and mission.

### NKC Critical Success Factors

How do we know we will continue to be successful? To sustain our success, we created a matrix of five different Critical Success Factors (CSFs), based on the above three pillars, and work done in other authoritative works (Haddock et al. 2006; Hammer et al. 2007; Hansen & Birkinshaw 2007; Hays & Upton 1998; Kim & Mauborgne 2009; Pil & Holweg 2006). We identified key performance indicators for each using quantitative data and combining them with qualitative, descriptive stories. We also provided supporting measurements as well as a value proposition for each critical success factor to determine long-term NKC success.

The success factors reflect three strategic propositions of "value, profit, and people." Value is calculated from the services a customer receives from NKC minus the investment they made. Profit is based on the revenues (ROI) NKC generates minus the cost to produce and deliver it. The people proposition reflects the thought that positive staff motivation and incentives lead to high quality services. These Critical Success Factors are newly implemented for 2010 and take the process to the next level of analysis and customer relationship management.

**Table 10.6**
**Matrix of NKC success factors and their supporting metrics**

| | KPIa | KPIb | KPIc | Supporting measurement | Strategy proposition |
|---|---|---|---|---|---|
| **CSF-1** NKC is an integral part of Novartis decision making process | **Focus/Business Impact** on the pipeline, priorities and phama industry challenges | **Correlate** company performance (annual sales) and service and content usage | NKC user **Info Seeking efficiency** compared the industry peers (yearly or every 3-5 years) | a-<br>• Impact data from survey<br>• Info service baseline data; survey<br>b-<br>• Total usage<br>• Annual sales<br>c-<br>• Derived time and $ value saved from the survey compared to the peers | Value proposition for stakeholders (funders & users) |
| **CSF-2** NKC User market performance | Shareholder value/ NKC **ROI (every 3-5 years)** | NKC User **satisfaction (every 3-5 yeas)** | **NKC performance** NKC market value and it's potential (every 3-5 years) | a-<br>• Derived statistical calculation from the survey<br>b-<br>• Data from the survey<br>c-<br>• Costs mapped to # of users | Revenue/"profit" proposition for end user and management |

| CSF-3 Operational excellence | Customer-centric services High-quality Customer intimacy Relevant and consistent Convenient and friendly Efficient and effective | Content licensed Quality Relevant Customizable Timely Cost effective | Products delivered Product leadership in features (find-ability, search-ability, navigation) Performance Ease of use | a-<br>• Activity tracking tool<br>• Survey baseline<br>• Monthly report<br>b-<br>• Content usage mapped to functions/disciplines<br>• Efficient utilization by appropriate customer groups<br>c-<br>• Project mandates and proposals<br>• Product usage captured | Value and revenue propositions for end user and NKC management |
|---|---|---|---|---|---|
| CSF-4 Resource optimization | Info D2D Technology 1. Efficiency of content life cycle management for the back-end delivery 2. Technologies applied to increase utilization 3. No significant service outages | Budget utilization 1. Cost leadership in Information Acquisition & Vendor portfolio management 2. High value service development & deployment | Staff utilization 1. Innovative programs to engage staff in continuous improvement activities 2. Appropriate sourcing model defined for commoditizable activities | a-<br>• Project mandates and proposal rationales<br>• Deployment time decreased<br>• Product & portal usage<br>• Logs of outages recording<br>b-<br>• Align objective setting to top business requirements with BSC mindset<br>• Budget established to deliver content & services via IAB<br>c-<br>Time / activity tracking & analysis | Value and people proposition for NKC staff and management |

**Table 10.6** (Continued)

| | KPIa | KPIb | KPIc | Supporting measurement | Strategy proposition |
|---|---|---|---|---|---|
| **CSF-5 Staff development** | **Consultancy mindset** Business analysis Project management Analytical skills Requirement gathering | **Technical training** Information science; portal & web technologies; SharePoint & collaborative web 2.0; Project management | **Business / Scientific Knowledge** Appropriate training taken to maintain knowledge of discipline or Therapeutic Area | a.b.c—<br>• Success stories from Customers<br>• Role descriptions & career pathways<br>• Internal & external training courses<br>• Company values & behaviours<br>• Benchmarks with ext. IM function | Value proposition for staff |

### CSF-1

*Description/Definition:* NKC is an integral part of the Novartis decision making process. Information is critical for decision making in this knowledge based economy.

*Methodology:* A quantitative analysis was conducted using our Needs Assessment data. The impact of our services was used to create a baseline for services, total content usage and to derive time and cost avoidance compared to industry peers.

*Performance Standard:* Alignment with top company priorities demonstrates NKC's relevance to the company. Business impact is calculated by correlating the company's annual sales and content usage. Service efficiency is demonstrated by comparing the amount of time Novartis employees spend in seeking information to that of their industry peers.

*Results provide positive "value" for end users and management.*

### CSF-2

*Description/Definition:* Measure the performance of NKC.

*Methodology:* An end-user survey is conducted every three years.

*Performance Standard:* Market value is estimated through our ROI calculations, and user satisfaction is measured by user responses to our survey. Results provide "profit" for end user and management.

### CSF-3

*Operational Excellence:* NKC is engaged in continual improvement of internal processes to ensure highest quality services.

*Methodology:* All consultancy, information desk and learning session activities, including business function and time spent, are recorded in NKC "Activity Tracking Tool." Through the capture and analysis of this data, NKC can ensure that our content and delivery processes accurately reflect user needs.

*Performance Standard:* The key performance indicators used are descriptive data, such as comments and success stories from customers as well as survey results.

*Results demonstrate "value" and "profit" for both NKC management and staff.*

### CSF-4

**Resource Optimization**

*Description/Definition:* NKC makes maximum use of all its resources by decreasing the amount of time to load NKC products as well as decreasing outage time for the NKC portal. For content and services, we strive to stay within budget and offer quality products that are aligned with Novartis top priorities.

*Methodology:* We use a technical tool to monitor load time and system outages on the portal. We divide our portfolio into six subject areas and assign small teams to review quality and identify gaps.

*Performance Standard:* Through the measure of load and delivery time, and improving our technical platforms, we ensure and improve upon the process by which end users can find resources quickly.

*Results provide "value" and "people" for both end user and NKC management.*

### CSF-5

**Staff Development**

*Description/Definition:* Helping staff understand how their daily activities contribute to Novartis business, leads to staff empowerment and professional development.

*Methodology:* NKC provides a career path through role descriptions, which are benchmarked with industry peers. Annual mandatory training in both technical and scientific areas is required for skill maintenance and renewal.

*Performance Standard:* The development of highly motivated staff members who take on creative challenges as part of their personal objectives is the standard. Alignment with the company's values and behaviors is essential for success. Success is measured through stories and comments received from customers.

*Results provide "people" proposition for NKC staff.*

## CONCLUSION

### Communication and Building a Trust Relationship

The Novartis Knowledge Center is funded by the major divisions within Novartis through an Information Acquisition Board (IAB). This board is composed of key decision makers that represent the divisional leaders and user groups. The role of the IAB member is to decide which external content is purchased for Novartis to provide strategic advantage, and to decide upon the budget and allocation to the divisions. This board sponsors the visibility of the NKC within the company and with the external information providers, and helps ensure compliance with copyright laws and license terms. Key drivers of this model include an expectation of transparency of resource utilization with a high standard of accountability to the centralized budget.

NKC recognized the need to provide an accounting of what e-resources and services are being used, how often they are used, and by which business group within each division. By providing clear and credible communications, NKC is in a position to develop a trusted relationship with its partners and many users and continue with its current funding model.

Therefore, the NKC has acted to find an innovative way through the VALUE project to communicate, with credibility and transparency, how NKC's staff, services, e-resources and products contribute to Novartis business. Critical success factors measure our ongoing success with managing our customer relationships and staff development. These factors play a major role in the ultimate goal of NKC to effectively contribute toward the faster discovery and launch of new and safer medicines for patients.

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# 11 MEASURING VALUE IN CORPORATE LIBRARIES

*Valerie J. Ryder*

## INTRODUCTION

Corporate libraries must support the overall mission and goals of the organization in which they exist. Proving the value of information and the services provided by the corporate library is an ongoing challenge but necessary for continued success, and inevitably for survival. The objective of this chapter is to summarize best practices for measuring and documenting tangible value provided by corporate libraries to an organization. Initially, this chapter will examine the theoretical underpinnings of value measurement, using a variety of sources. Augmenting that background, the chapter will present and discuss metrics in use by a selection of corporate libraries from a variety of industries, including chemicals, computers, consumer products, and pharmaceuticals. The charts used as examples of metrics in this chapter are based on those in use in actual libraries and portray data that is representative of these measurements rather than data from any specific library or industry. The actual data and charts are confidential and proprietary to the corporations from which the example charts were derived.

## REVIEW OF THE LITERATURE

A significant amount of research on quantifying the value of the corporate library and its services has been conducted, especially during the 1990s and 2000s. Corporate libraries have measured and tracked many kinds of metrics, but they focused in the past on operational aspects such as how many books or journals are in their collections, how many items were circulated, how many reference questions were answered, how many database searches were conducted, or how many users they served. While these measurements are useful in ensuring operational efficiency, they are less useful in proving the value of their services to the organization they serve.

Portugal (2000) researched and addressed the problem of quantifying the value of corporate libraries in financial terms that are accepted measures in the corporate world in "Valuating Information Intangibles; measuring the bottom line contribution of librarians and information professionals." His findings are based on interviews with 125 representatives of corporations and organizations. Portugal investigated the continual dilemma of applying accounting systems that focus on tangible or physical assets to the intangible nature of information. Portugal's underlying principle is that real value to a corporation occurs when their intangible assets of data, information, and knowledge are used as building blocks to achieve sales growth, product diversification and create new saleable products and services that have a positive impact on the corporation's profitability.

Portugal presented four methodologies as potential avenues by which a corporate library may calculate the elusive value relationship to their corporation. One methodology is the closest to the traditional ratio used in business: return on investment (ROI) and cost-benefit analysis. The other three methods focus on estimating the intangible value of corporate libraries by aligning their value with more quantifiable measures. Knowledge value-added methodology attempts to capture the relative amounts of knowledge embedded in corporate sub-processes by choosing a substitute measure, such as time needed to learn the sub-process, for estimating the amount of knowledge in a sub-process. The intranet team forums methodology utilizes a mechanism, such as an intranet, to track the flow of information into a new product or service and compares the benefit of the new product or service with the initial costs of the information and the usage of the information. The intellectual capital valuation methodology measures the human and structural factors that contribute to a corporation's value and relates trends in those metrics to changes in the overall value of the corporation. Portugal included a workbook with illustrative data for each of the four methodologies by which an organization can apply these techniques to their own situation but did not collect the actual data necessary for the calculation for a particular organization as part of his study.

The dilemma of how to measure the value of libraries in corporations has been studied internationally as well as in the United States. Woldring (2001) summarized the major studies in Australia, Canada, and the United States of the 1990s while exploring the difficulty of assessing the value of corporate libraries in monetary terms. Woldring concluded that corporate libraries should focus on measuring perceived value of library services by their clients as a proxy for quantifiable value, citing research done by Broadbent and Lofgren (1991).

Special Libraries Association (SLA) provides a regularly updated bibliography of articles and monographs on the topic "Value of the Information Center" as an information portal on its Web site available to SLA members. Dialog Quantum[2] program provides workshops, case studies, white papers, and articles on the topics of Measurement and Management Buy-In. Both Web sites are useful resources for corporate librarians to stay current on approaches and techniques for measuring value for their organizations.

## RETURN ON INVESTMENT (ROI)

Outsell, Inc. is a research and advisory firm focused on the publishing and information industries. In an *Information Outlook* article Strouse (2003) summarized the results of their 2002 study that explored performance measurement metrics used by corporate, academic, and government libraries. Outsell found that corporate libraries were the most likely of all three types of libraries to study their value impact but that ROI data is the least often gathered value metric. Strouse included a sample questionnaire to gather ROI data that enables the corporate library to calculate the amount and dollar value of time saved by users, revenue generated per library use, and money saved for the company per library use. The actual ROI data for these measures is updated regularly in Outsell's "Normative Database." In Outsell's "Information Management Benchmark: 2009 State of the Function" Wilson (2009) presented effective metrics for corporate, government, and academic libraries based on their 2009 study.

Bromley (2002) provided a step-by-step guide used at the Bureau of National Affairs to conduct a user survey to calculate ROI for the library. Through in-person interviews with key users, the library staff identified instances in which the library services saved employees time (in hours), saved the company money (how much), or helped them make money for the company (how much). Time saved was converted into dollars saved for the company by calculating an average hourly salary rate for the levels of employees that had been interviewed. The total savings and increased revenue for the company from the sample based on the interviews was extrapolated for the total company based on the number of times these activities took place using transactional data that the library tracks and informed estimates. Some of the types of savings were:

- time saved by using the library web pages on the company intranet
- costs saved by using internal resources instead of outside consultants or information brokers
- risk mitigation by avoiding copyright infringement
- cost avoidance for duplicate collections and subscriptions throughout the company
- minimizing internal costs for paying multiple invoices by paying a consolidated invoice for information resource fees

The quantitative data demonstrated that for each dollar the library spent within its budget, more than a dollar was returned to the company in terms of savings or increased revenue. In addition to the financial ROI, the report included user testimonial statements verifying the value contributions made by the library.

Anecdotal evidence can be very effective in illustrating how library services contribute value to the corporation as well as having a direct impact on the financial bottom line. Case studies that relate the use of information to meeting business goals can make empirical evidence seem more real, especially in

organizations that use storytelling as a knowledge management technique. Burylo (Quantum[2] Case Study) described an on-going process at Air Products, a global industrial gases company, by which the information center tracked anecdotal evidence that their services provided tangible business value to the corporation and quantified the impact whenever possible. Anecdotes have been gathered since 1997 through a feedback mechanism initiated about three months after an information project was completed which requested the user to describe the outcome of the project with specifics such as how much time or money was saved, whether a contract had been won or whether increased sales had resulted. Positive outcomes were linked to one of the corporation's critical success factors so that the results would be recognized using a standard measurement of success throughout the corporation. A unique feature of this ROI process was recognizing the contribution that the user made through the effective use of information to create direct business value to the corporation. A Gold Nugget Award (a piece of "fool's gold" embedded in a Lucite® wedge with the information center's logo and an inscription about the award) was presented to the user at a meeting of the user's peers and management. The standard for receiving a Gold Nugget Award was set high and included criteria to ensure that those contributions recognized were verifiable and tangible. Not all anecdotes were rewarded with the Gold Nugget Award but all the data was still useful. All instances were tracked in a database that facilitated using this ROI evidence whenever needed to justify the information center's budget, staff, or existence rather than having to perform the ROI analysis when a crisis occurred.

Sykes (2003) continued the discussion on how a corporate library can demonstrate value to its parent organization by presenting a series of anecdotal scenarios that illustrate how information professionals add value in a quantifiable way as well as in perceived usefulness to a corporation.

## EXPRESSING INFORMATION VALUE IN ALIGNMENT WITH CORPORATE VALUES

An overarching proposition is that a corporate library must express its value to the business in terms that resonate with the values of the corporation. The 6th Chief Knowledge Officers (CKO) Summit (The Knowledge Proposition 2003) focused on how different approaches to realizing the benefits of the knowledge proposition must reflect the business priorities of senior management and the primary orientation of the corporation. Their premise was based on Treacy's and Wiersema's book *The Discipline of Market Leaders* (1994), which suggested that successful companies have a primary strength in one of the three dimensions of "Customer Intimacy," "Product Leadership," and "Operational Excellence," as well as being competitive in the other two dimensions. Companies that excel in Customer Intimacy understand their customers' needs and requirements at an intense level so that they are able to better serve their customers. Companies

that take pride in Product Leadership are "best in class" for their product lines and usually are first to market with innovations. Companies that focus on Operational Excellence are exceptionally efficient and cost-effective in all aspects of their business. The management of successful companies understands that their competitive advantage results from concentrating their efforts on their primary strength while not neglecting either of the other two areas. The Balanced Scorecard approach to measuring performance, discussed later in this chapter, helps to focus attention on a company's primary strength while maintaining a balance with the other two areas. Much of the CKO Summit discussion is applicable to the challenge of expressing value in the language of the organization's values. Corporate librarians need to understand which of the three dimensions is the core strength of the organization that they serve and develop key metrics by which they demonstrate the value of their corporate library in those terms. A challenging dilemma is that different departments within a corporation may have a primary strength that is not the corporation's primary strength, and therefore that department may not always be in alignment with the corporate values. For example, the primary strength of a research and development function may be Product Leadership. The primary strength of the research library that supports the research and development function may be Customer Intimacy. Yet the primary strength of the corporation in which the research and development function and its supporting library exist may be Operational Excellence. In this situation, the challenge for the library and its management chain of command will be to maintain the right balance between their primary strengths and those that are valued by corporate management. The corporate library may need to emphasize metrics that support the corporation's primary strength when involved in discussions with top management yet focus on a different mix of metrics for its direct management or for its internal customer base.

Examples of actual metrics used by corporate libraries that quantify the value of information in terms of these three primary strengths are discussed in the following sections and are drawn from a variety of industries, including chemicals, computers, consumer products, and pharmaceuticals. The examples of metrics are based on those in use in actual libraries and portray data that is representative of these measurements but do not portray actual data from any specific library or industry, due to proprietary concerns. These graphs are shown in black and white for purposes of this book, however, in practice these types of metrics are usually depicted in color so that the meaning of the graphs is easily portrayed. The target that represents acceptable performance is normally shown in green. The trigger point when remedial action must be taken to correct performance that is significantly below the target is normally shown in red. The zone between the target and trigger point is normally shown in yellow and corrective action may be taken when the metric falls slightly below the target into the yellow zone. Using the color scheme of red-yellow-green, similar to a traffic light, can enhance the easy understanding of the metric and minimize the amount of explanation needed with different levels of management or audiences.

## CUSTOMER INTIMACY

Organizations that strive towards customer intimacy extend their market presence through the strength of their reputation and level of trust by their customers. Examples of organizations with a primary focus on customer intimacy include consulting firms, outsourcing companies, professional advisory organizations, corporate banking and law firms. Corporate libraries within customer-intimate companies should focus their value metrics on:

- Presenting information about solutions from a client issue viewpoint
- Providing sector and client information that allows staff to deliver the right solutions for each client
- Developing processes to support rapid re-use of new solutions for other clients
- Capturing repeatable processes
- Maintaining excellent customer relationship management processes

Corporate libraries will best serve the needs of a customer-centric company whenever they can relate their library services to enabling the company to meet customer needs. One example is tracking and reporting instances in which information provided or made available by the library was used to win a contract, deliver a project or exceed a customer's expectations. Corporate librarians within these companies should be involved in the knowledge management processes and organization of internal information. One way to demonstrate value is by quantifying how the capture and reuse of best practices has resulted in additional successful projects. Corporate librarians that provide market research to key customer-facing staff, such as sales and product delivery managers, can demonstrate the value of their client briefing reports and market analyses to better enable the company to understand and meet customer requirements. Internal metrics for a corporate library should include measurements of customer satisfaction and regular feedback mechanisms to ensure customer intimacy with their internal clients.

There are many ways to measure satisfaction of internal clients with library services. Some corporate libraries conduct annual customer satisfaction surveys that solicit feedback and quantitative measures of satisfaction with specific library services as well as an overall satisfaction rating. Other libraries conduct regular, often monthly, surveys with representative samples of their client base that may focus on specific services on a rotating basis. One caveat is that surveys should be brief yet utilize precisely worded questions so that the measurements are informative without requiring extensive time and effort for the customer to reply. In all cases, surveys should not be conducted so often that the internal clients are overburdened and do not respond or answer questions routinely. Corporate libraries in customer-centric organizations will find that conducting customer satisfaction surveys is more acceptable to their internal clients because this technique is in accordance with their corporate values.

An example of portraying a customer satisfaction metric is shown below, using data that is representative rather than actual, although this type of metric

**Graph 11.1 Customer Satisfaction**
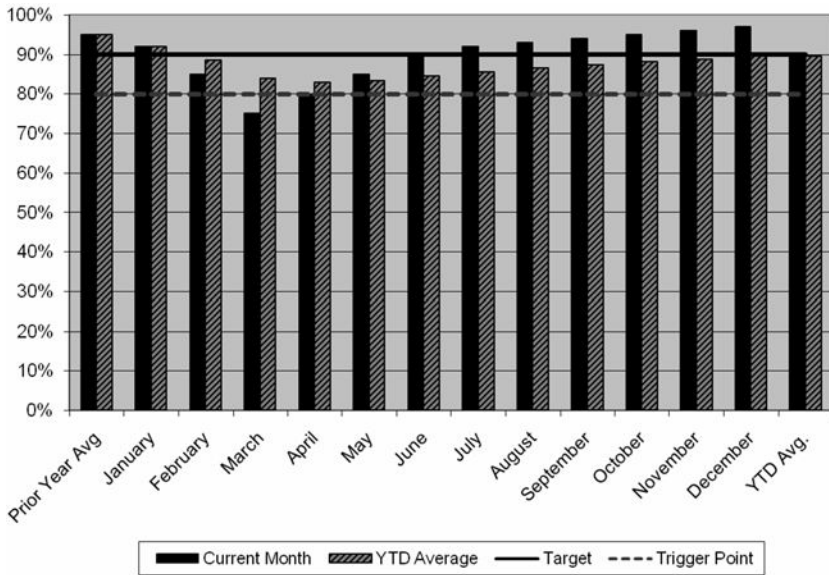


is widely used in a variety of corporate libraries. This graph shows the technique of setting a target (90% or above) and points (Yellow and Red Zones) at which remedial action must be taken. If the customer satisfaction metrics falls into the Yellow Zone (80–90%) for any month, as is shown in February, library management may investigate and take corrective action. If the customer satisfaction metric continues to fall and drops to the trigger point (below 80%), as is shown in March, the library management must enact significant remedies to achieve improvement. It is sometimes difficult to regain customer trust after a negative incident and in the case depicted, customer satisfaction does not return to the target of above 90 percent until June. Although customer satisfaction ratings remained above the 90 percent target for the rest of the year, the Year to Date Average did not reach the 90 percent target until December. This scenario illustrates the necessity of continually monitoring customer satisfaction, taking prompt action to remedy any unsatisfactory results and demonstrating that the library listens to and acts on valid feedback from its customers (see Graph 11.1).

### *Customer Satisfaction*

Customer satisfaction can also be measured and monitored for specific information products and library services. Ongoing tracking of how library customers perceive the components of library deliverables is recommended so that specific actions can be taken quickly and directly to remedy situations as necessary.

The following example illustrates the results of a customer survey on satisfaction with a collection of electronic books that was used by a corporate library in a high-tech industry. The survey solicited responses to a number of questions on a five-point scale ranging from Strongly Disagree to Strongly Agree:

- I was able to access relevant content
- I found the service easy to use
- I was able to access information immediately
- I was able to obtain the information in a format that met my needs
- I saved time by using this service
- I saved money by using this service

The graph displays the percentage of responses in the Agree or Strongly Agree categories for each question with a target of 90 percent and a trigger point of 80 percent below which remedial action is required. In this example, further investigation would be taken for one factor (I was able to obtain the information in a format that met my needs) to find out what formats would have facilitated the use of the information from the electronic books (see Graph 11.2).

### *User Satisfaction with Electronic Books*

Measuring the on-time delivery of services as one factor of customer satisfaction can help monitor a key element in meeting customer expectations. The

**Graph 11.2 User Satisfaction with Electronic Books**
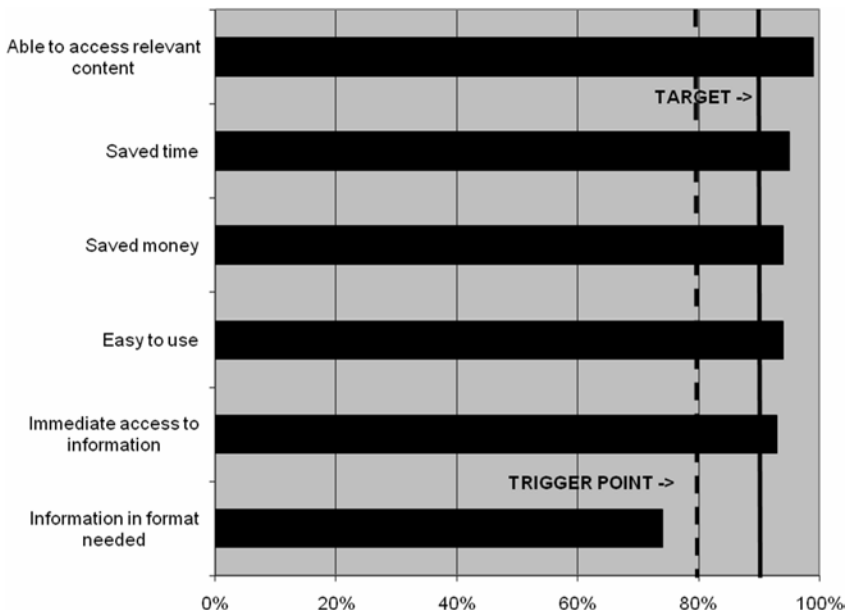
**Graph 11.3 On-time Delivery of Information Searches**
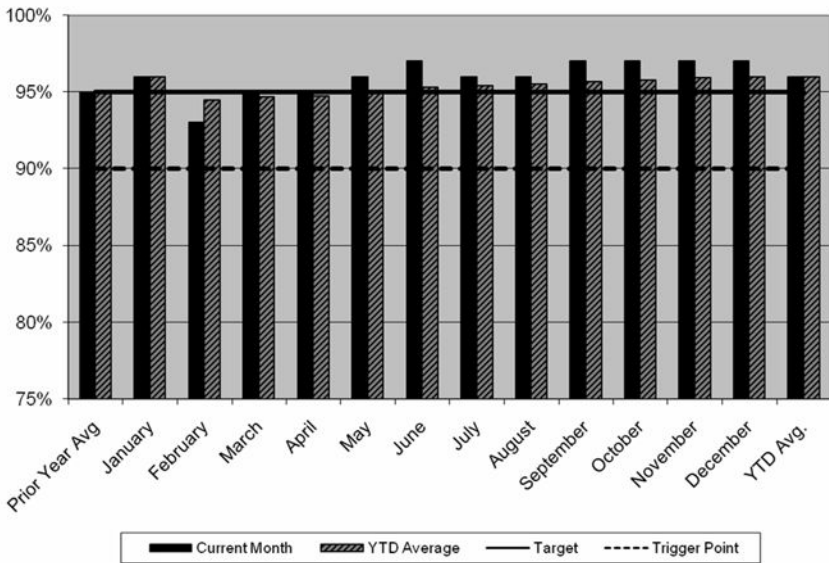


example shown below portrays performance against a target set for 95 percent on-time delivery of information searches with a trigger point of 90 percent when remedial action is expected to determine causes for missing the standard and invoke corrective solutions (see Graph 11.3).

## PRODUCT LEADERSHIP

Organizations that excel at product leadership are continually expanding their portfolio of products and services through innovation and invention. Examples of organizations with a primary focus on product leadership include pharmaceutical R&D, telecommunications and electronic equipment manufacturing, media and energy companies. Corporate libraries within product leadership-driven companies should focus their value metrics on:

- Supporting the innovation culture
- Directing knowledge sharing between projects
- Delivering product portfolio, competitive and supply chain intelligence
- Facilitating access to product information within the company
- Encouraging creative thinking

In a research-oriented company within a highly competitive market where reducing the time to market for a new product is critical, accelerating the access

to information is directly related to delivering value to the company. Delivery of journal articles to a researcher in as short a cycle time as possible can impact the course of an experiment or affect the direction of a research project. High-level research management understands that saving time in a researcher's work schedule can have a very positive impact on the cost of research as well as meeting research timelines. As electronic journals are more widely deployed and replace the ordering of articles from document delivery suppliers, the cycle time for a researcher to obtain a desired article can decrease from 2 to 4 days for document delivery to almost instantaneous delivery to the researcher's personal computer, wherever the researcher is located.

Graph 11.4 depicts the shift from delivery of printed articles to electronic delivery of journal articles over a 10-year period in a research-intensive corporation within a highly competitive industry. The value of expediting article delivery to the research process can be calibrated within an organization using their standards for the daily cost of research or market impact for shortening the research cycle.

An important role for the library Web site within the corporate intranet is facilitating access to information. The corporate library can focus attention on the competitive position of its Web site within the internal information marketplace of the corporation by monitoring the number of Web site visits for the most popular intranet sites. As depicted in Graph 11.5, showing data from a corporate library that operates within a knowledge-sharing culture, consistently ranking in the Top Ten most visited sites is a benchmark that demonstrates the vital role that the library plays by being recognized by employees as the expert site for information.

Corporate libraries that have responsibility for organizing and disseminating internal documentation can demonstrate their value as a knowledge-sharing

**Graph 11.4 Journal Articles Delivered by Source**
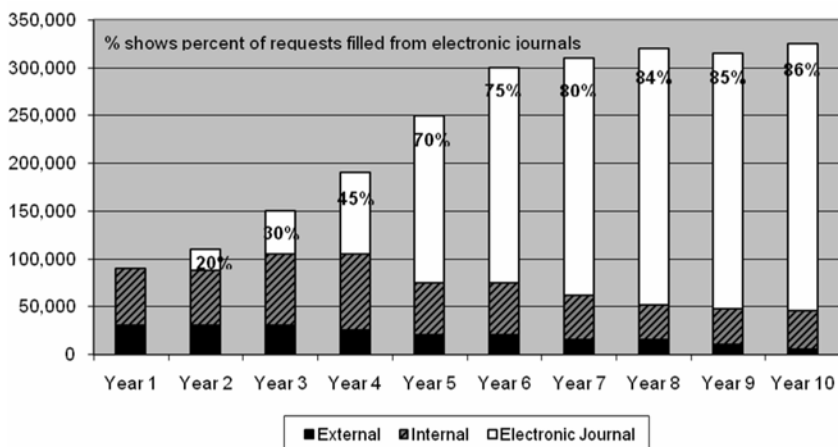
**Graph 11.5 Top Ten Intranet Sites**
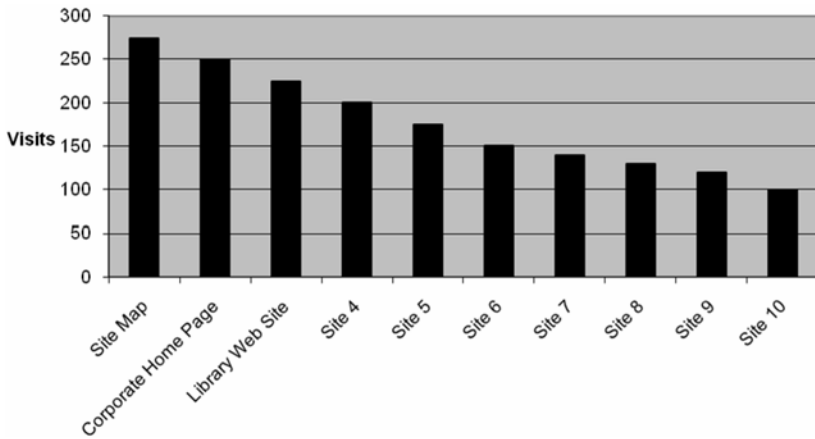


hub. The following metric (Graph 11.6) from a research-intensive company tracks the number of reports deposited into the knowledge database as well as the number of reports viewed on a monthly basis. The target goal of having at least 100 reports deposited or viewed recognizes the value of sharing knowledge for the future and building upon past knowledge. The target was exceeded in all months except December, which may reflect the seasonal pattern of work.

Anecdotal evidence can be as powerful as quantitative measures when specific instances where information provided by the library had a direct impact on competitive assessments, market research, or product development. Corporate librarians should follow a practice of capturing feedback on specific projects from their internal clients so that they have a rich and diversified collection of testimonials that can be quoted to illustrate the value delivered to the company. The specific details concerning the product, project, initiative, or corporate goal should be included in the quote as well as identifying the person and department when these quotes are used for internal purposes to increase the credibility and impact of the statements. Those specific details have been generalized in the following quotes and case studies to protect the confidential nature of the anecdotes taken from actual examples used by companies in a variety of industries. Client Testimonials:

- "This information was used for the new product market study for evaluating new ideas. I needed the information quickly and you provided market information that I was not able to find on my own." Quote from a Marketing Department
- "The information you provided was relevant to the commercial decisions that we were making. This information saved me several thousand

**Graph 11.6 Use of Knowledge Database**
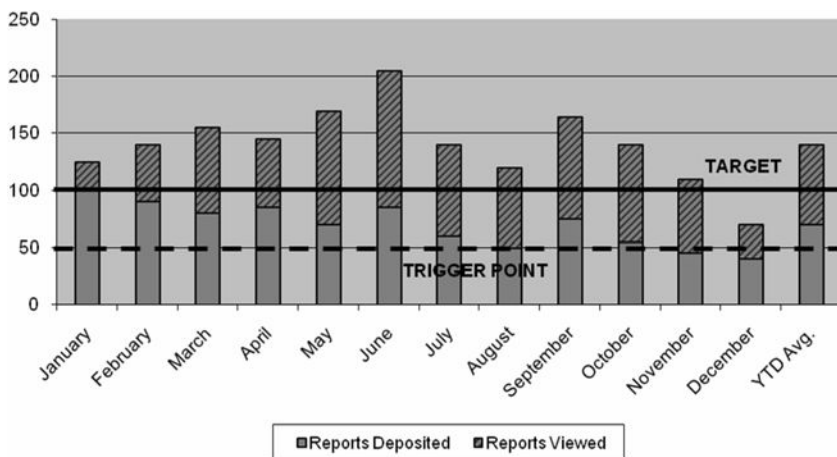


dollars in travel costs, 2–3 weeks of field research and about 8 hours of my work time." Quote from a Product Development Group

- "You helped me with market research for two projects. Your work saved me at least two weeks' of work as you were very efficient in finding reliable and good sources of information." Quote from a Marketing Department
- "You did an excellent job providing the information I was seeking. The word 'jackpot' is an understatement to describe the website you located. Very helpful and very relevant to our work. Thank you very much." Quote from a Legal Department
- "The work you recently did for our team was tremendously helpful. Many of our future commercial and regulatory activities will benefit from the work that you did for us." Quote from a New Product Planning Group
- "Very fast execution and exactly the information I needed. It helped us to map our industry and determine growth areas to develop future initiatives." Quote from a Product Manager
- "This is a strategic issue, and the data provided was useful for a customer visit with senior management." Quote from a Business Unit Manager
- "I was investigating the use of a new technology for my project. The library search revealed that some engineers in Germany had begun work in this area. This, hopefully, will save us much time and energy by not having to 'reinvent' the wheel. Your search capabilities are very impressive and appreciated." Quote from a Project Manager

Case Studies:

- Information was used to evaluate the viability of signing a long-term, multi-million dollar contract as a first business entry into a developing country.

- Information was used to analyze the market potential for third party channel sales that resulted in signing a strategic alliance agreement for an exclusive national distributor of product and created a new revenue stream for emerging markets.
- Information from syndicated sources that is unavailable on the free Internet is used to produce a quarterly competitor assessment report that is reviewed by the company's Board of Directors.

## OPERATIONAL EXCELLENCE

Organizations that succeed through operational excellence are focused on improving productivity through efficient and effective processes, supply chain management to accelerate speed to market and competitive pricing. Examples of organizations with a primary focus on operational excellence include manufacturing, commodity-based industries, retail, consumer banking, energy distribution, and government services. Corporate libraries within operationally excellent companies should focus their value metrics on:

- Driving costs out of the system
- Developing more efficient processes
- Making the most effective use of resources
- Enhancing productivity across the input and output chain
- Benchmarking and sharing performance data

Corporate libraries within an operational excellence centric organization are often able to reposition their transactional metrics in a way that highlights cost savings, cost avoidance, time savings for internal clients or improved productivity. It is worthwhile to discuss how these measurements can be calculated in accordance with accepted standards with key decision makers in the corporate finance or cost accounting departments to ensure that these value metrics will be believable in the context of the organization's focus on operational excellence.

An example of translating usage of electronic journals into cost savings for the corporation is shown below. This chart, used by a corporate library in a cost-conscious, commodity-focused industry, depicts the cost savings that results from users downloading an average of nearly 2,000 articles per month from electronic journals for which the library pays $180,000 in annual subscriptions. Document delivery costs of $580,000 for the entire year (at $25 per article average cost) are offset against the electronic journal subscription costs on a monthly basis. It is not unusual for a corporate library to obtain cost savings of two to three times the cost of the subscription when users can easily download or view journal articles on their computer instead of ordering the articles through a document delivery service on a pay per document basis. The corporate librarian may decide to reduce the number of articles counted in the metric by some factor to take into account that individual users might not have viewed as many

articles if they had to pay the cost from their own budgets. This is a conservative approach that may be advised by the corporate finance or cost accounting department so that the value metric conforms to their standards. In the case shown below, a cost savings target of 125 percent above the cost of the subscriptions ($18,750 per month) was established. The target was met in all months except August, which may have been due to vacation periods of users. The trigger point was set as 90 percent above the monthly cost of the subscriptions as a signal to evaluate the continued cost effectiveness of specific electronic journal subscriptions at renewal time. Corporate librarians should establish their own targets and trigger points to meet their organizational goals for cost recovery. Some organizations have conservative goals of just meeting breakeven points for cost expenditures rather than demonstrating cost savings that are multiples of the base cost (see Graph 11.4).

Another example from the same company illustrates the declining cost per use for three kinds of electronic content: journal articles, patents, and electronic books. The annual subscription costs for electronic access to these three content types are distributed over the number of accesses or downloads using data compiled over a five-year period (shown as FY1–FY5). Targets for cost per use were established at the average market rate for purchasing these items. Typical cost per article through document delivery is $25, including copyright fees. Average cost per patent from a patent delivery vendor is $5. The target for e-book views was set at $15 to be comparable to fees assessed for interlibrary loan of books. An alternate target might be calculated using the average cost for books purchased by the library divided by the average number of times a book is borrowed. In all three cases, the cost per use for accessing electronic content is well below

**Graph 11.7 Cost Savings of Electronic Journals**
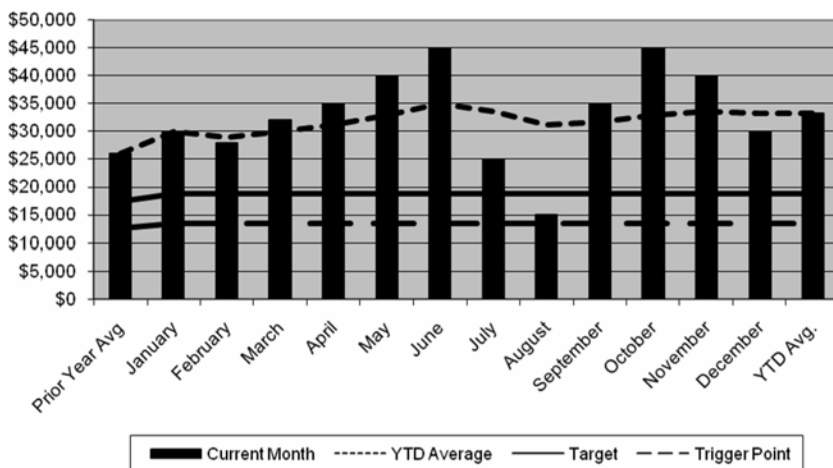
the cost for purchasing the content on an as-requested basis and shows a steady decline in cost per use as the electronic access becomes more widely used.

Another example from a corporate library operating in a cost-reduction mode focuses on whether a particular resource is being effectively utilized or deployed to the right people when there is limited availability of the resource. In some cases, a corporate library may purchase a specified number of accounts or access IDs for an expensive resource and wants to ensure that the premium service is being cost-effectively deployed. As Graph 11.9 depicts, utilization of the premium resource remained above the target point of at least 75 percent of the accounts using the resource at least once in the month until the summer lull for June through September. Usage in July was dangerously low and approached the trigger point where 50 percent or less of the accounts was used. Library staff would monitor this utilization rate and investigate whether the users need additional training or perhaps no longer find sufficient value in using this premium resource due to a change in projects, in which case better value to the company would result if the account were re-deployed to another employee.

Benchmarking with competitors and peers is extremely important to corporations that value operational excellence. Therefore, the corporate library must become adept at gathering comparative data about the information management function in competitor companies, customers and industry leaders and analyzing its operations against the critical performance factors in these organizations. It is usually difficult to obtain the detailed data about staffing levels, users served and spending levels for information content for specific companies. There are market research firms that specialize in the library and information industries who compile such data and make it available for a fee on an aggregated level.

**Graph 11.8 Cost Per Use for Electronic Content**
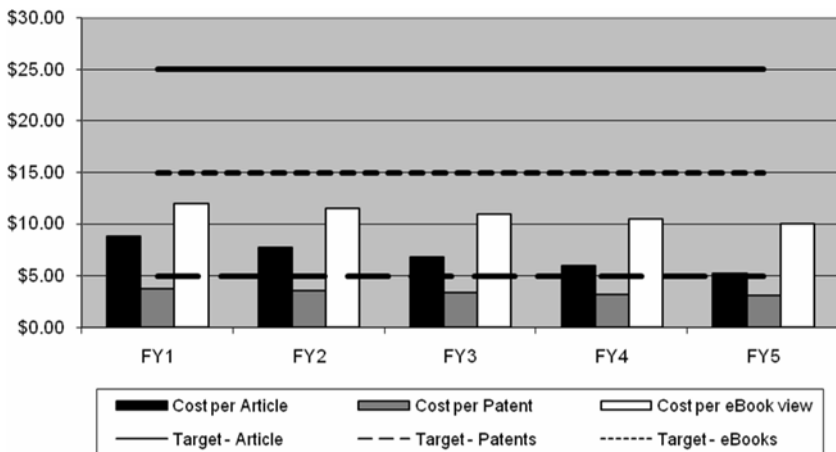
**Graph 11.9 Utilization Rate of Premium Resource**
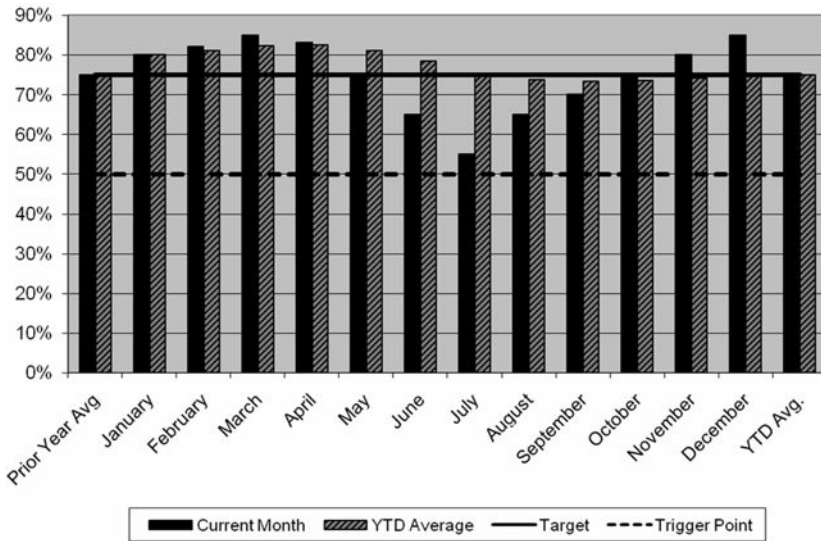


The benchmarking example from a corporate library operating in a highly competitive industry depicts how libraries have dramatically decreased the cost of information per user served by deploying electronic content that can be accessed throughout their company and therefore serve more employees than was possible with physical libraries and on-site staff. Comparisons of a company against several of its key competitors and averages for the industries in which the company operates or markets that it serves can be an effective message to upper management in an organization that finds its competitive advantage in operational excellence. Often such a company regularly benchmarks its operations against leaders in other industries who are known as hallmarks for specific attributes that top management would like to emulate. It is important to include those companies in the library benchmarking to demonstrate that the library is supporting corporate improvement goals (see Graph 11.10).

## BALANCED SCORECARD

Matthews (2003) discussed the balanced scorecard as an effective way to present benchmarking measures so that a corporate library is communicating with its management in familiar terms. Input measures assess the resources that have been allocated to the library and may include collection size, budget, and staffing levels. Process measures assess the efficiency of the library in transforming resources into the services it offers and may include the cost or time to perform a specific task such as ordering items. Output measures indicate the

**Graph 11.10 Driving Down Info Cost Per User**
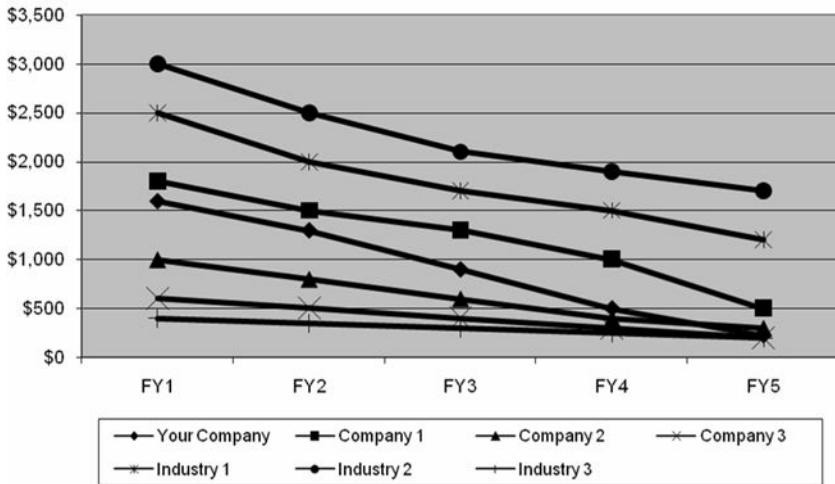


degree to which the library and its services are being used and may include number of items circulated, number of people using the library, or number of reference questions answered. These three types of metrics are often the easier statistics that library staff used in the past to measure their operations. Outcomes measures indicate the impact that the library and its services have on its users. Outcomes measures, while more difficult to quantify, are the closest metrics to ascertaining the value delivered to the organization. Matthews further discussed a balanced scorecard that presents metrics for the customer perspective, internal effectiveness perspective, an innovation and learning perspective, and a financial perspective. Using a balanced scorecard enables the library management as well as its customers to monitor whether improvements in one area are made at the expense of other performance indicators.

There are various methods for creating and showing a Balanced Scorecard and often a company already has a standard template for corporate performance metrics that a library can adapt for its purposes. In some corporations the Balanced Scorecard is also referred to as a Dashboard. In most cases, the scorecard is shown in color rather than black and white so that it is easy to see at a glance where performance is acceptable and where attention is needed. Typically green is used to denote the target, yellow is used to indicate where performance is slightly below target, and red is used to delineate where performance is significantly below target.

The example shown by Graph 11.11 uses the three dimensions of market leadership discussed earlier in this chapter: Customer Intimacy, Product Leadership, and Operational Excellence. The metrics listed are representative of those discussed earlier in the chapter. The scorecard shown in Graph 11.11 uses the evaluation criteria that the monthly status of each category (Customer Intimacy,

**Graph 11.11 Balanced Scorecard**

| | Current Month | Year to Date Average |
|---|---|---|
| **Overall Performance** | | |
| | | |
| **Customer Intimacy** | | |
| Customer Satisfaction | | |
| Electronic Books Satisfaction | | |
| On-time Information Searches | | |
| | | |
| **Product Leadership** | | |
| Electronic Delivery of Articles | | |
| Top Ten Intranet Sites | | |
| Knowledge Database Use | | |
| | | |
| **Operational Excellence** | | |
| Cost Savings E-journals | | |
| Cost/Use E-content | | |
| Utilization Rate | | |
| | | |
| | | |
| | | |
| | | |
| **Legend** | | |
| On Target (Green) | | |
| Slightly Below Target (Yellow) | | |
| Significantly Below Target (Red) | | |

Product Leadership, Operational Excellence) is determined by the lowest status of any metric within that category. Thus, any metric in a Slightly or Significantly Below Target status will determine the status of that category. The Overall Performance status for the month reflects the average status for the three categories. In contrast, the Year to Date Average for a category reflects the majority of the metrics' status for that category. The Year to Date Average for the Overall Performance also reflects the majority status for all three categories. Criteria for determining the status of each metric, category, and overall performance can be defined by the library to achieve desired results or may be established by upper management for the corporation or business unit to which the library reports.

## TRACKING BUSINESS VALUE

He, Chaudhuri, and Juterbock (2009) described their process for tracking and mapping the value produced by the knowledge center to a key business process at Novartis, a global pharmaceutical company. Their first challenge was replacing their traditional output measurements that focused on counting transactions or time spent on activities with outcome evaluation to measure the

impact of their services on the end-user. They initiated a project called the Value Assessment on Library Use Efficiency (VALUE) to innovatively demonstrate that the knowledge center is a value center rather than a cost center. One of their first steps was to map their activities to a key process in their company called the Novartis Drug Discovery and Development Process (NDDP), a discovery-to-market pathway. To begin, they focused on one service component, information consultancy (traditionally called expert searching), and concentrated on measuring impact and outcomes. Standardized data collection procedures were instituted so that staff members link information consultancy requests with a user profile containing the user's business function, location, and financial unit. The database of user requests facilitated an analysis of requests to identify which phase of development and decision points in the drug discovery process were being supported by the knowledge center. Future phases of the VALUE project will translate and incorporate ROI calculations into performance data to create clear value-added statements for the key functions of the knowledge center and extend the VALUE metrics to their other services.

## CONCLUSIONS

Corporate libraries must report metrics that matter to their organization by selecting measurements that relate to the essential core values and competitive factors on which their parent organization approaches its market. Some organizations focus primarily on quantitative measurements and discount metrics that rely on perceptions or intangible factors. Other organizations recognize the intrinsic value of anecdotal evidence to augment empirical data. Corporate librarians must determine what value metrics will deliver the strongest results and credibility within the value structure of their organization prior to embarking on a program to gather, track, analyze, and present measurements of library value. While the undertaking may seem daunting to some librarians and self-serving to others, being able to continually demonstrate the value of library services is an essential keystone to survival of the corporate library and ensuring its evolution to serve future information needs of the corporation.

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# V
# CHANGE MANAGEMENT AND REORGANIZATION

# 12  APPLICATION OF TECHNOLOGY AND CHANGE MANAGEMENT IN STAFF DEVELOPMENT

*Sue Brewsaugh and Vicki Valleroy*

This chapter addresses the Boeing Library Services' response to the need to address the changing skill set of the librarian, a common trend in corporate libraries. In response to changing times, as evidenced by a global workforce, virtual workers, new information delivery systems, and financial cutbacks, the Boeing Library Services group had to create a new operational model. Like many other corporate libraries, the Boeing Library Services is ultimately driving towards a virtual library with support from a smaller physical warehoused collection. Library staff quickly discovered that this new model would require new skills, especially, more IT-based skills, and a different kind of marketing and outreach approach. Additionally, the model would require more in-depth cataloging, because patrons would lose the ability to find information by perusing a physical collection. A whole new set of metrics would need to be developed to mirror the new business model. As a result, a new staff development team formed within the library to address this issue, identifying the skills necessary to successfully transition to this new model, and creating a plan to provide opportunities for staff to develop these new skills. The team also reviewed the requirements for both the professional and paraprofessional positions, determining that the position descriptions needed to include more in-depth technical knowledge, content management, information management and information architecture skills, as well as expanded skills and knowledge about copyright, intellectual property, metrics, project management and process-based management skills. Acquiring these skills are the responsibilities of the staff as they develop and share their career goals and aspirations with their managers. The staff development team outlined training paths and developed opportunities to obtain this training.

Initially, the team consisted of members from the different services within the library. New web technologies such as blogs, wikis, and virtual meetings were the most effective means to internalize and display these new skills. An interactive template was used for both traditional library activities as well as new more

technologically oriented skills. The team created a staff development program where training plans and opportunities were collaboratively created and continually updated. Examples of the plans and templates are included in the appendices.

For the library staff, a willingness to change is as important as the skills themselves. At Boeing Library Services, the team researched change management principles and practices, choosing elements that the team could effectively influence or control, subsequently creating programs and activities to address the issues. Although much of the change management literature and research pertains to companies changing large computer systems, the learning is transferable. Giving the staff adequate information, social support, participation in decision making, personal impact, and efficacy (an individual's confidence in their ability to perform adequately in the new environment) augmented their readiness to change. Being as open and transparent as possible retained the trust between librarians and their management. This chapter describes Boeing Library Service's experience and the resulting best practices of these changing staff development activities.

## BACKGROUND

Like most corporate libraries, the Boeing Library Services strives to continually find less expensive ways to deliver more content and services. At one time, Boeing had almost a dozen physical libraries, many from aerospace companies that had been acquired by Boeing in recent mergers and acquisitions. Because much of the material in the physical collections was duplicated across three or more of these libraries, consolidating the collections and removing the duplicates seemed at first to be an obvious strategy. However, like many multinational corporations, The Boeing Company had tens of thousands of employees scattered across the globe. Removing physical collections from various sites would impact employees' access to needed research materials. This combination of factors suggested that one potential solution was to abandon or consolidate the physical collections and create a primarily virtual library. While Boeing already had both a strong virtual and physical presence, it became evident that efforts should be put into creating a true virtual library rather than building multiple duplicative collections. The advantage of this approach was that it would serve all employees, regardless of their locations or time zones. A benchmarking study, performed by an outside company, supported the supposition that Boeing spent more time on its physical collection than other comparable corporate libraries. It was determined, however, that Boeing Library Services could not become a totally virtual library, because much of the existing print collection was not available in electronic format. Therefore, the final plan formed to consolidate the physical resources into a warehouse environment with the least cost while building a user-friendly, interactive virtual library. The first step was to consolidate the physical collections, saving the company a significant sum of money. Some of that savings was earmarked for the continued development of the robust virtual library.

This was a great plan. However, it was apparent that we would have to deal with many issues besides moving and consolidating collections. This plan required our staff to embrace not only new skills, but the idea of change itself.

## CHANGE MANAGEMENT PRINCIPLES

The staff development team researched the topic of successful change management. It was clear from the literature that readiness to change is the key to any successful change management strategy (Armenakis, Harris, & Mossholder 1993; Kotter & Schlesinger 1979; Walinga 2008). According to the change management literature, several elements have been determined to influence a person's openness to change and reorganization. Among these are information, social influence or support, participation in decision making, personal impact, efficacy (an individual's confidence in their ability to perform adequately in the new environment) and trust in management (Armenakis, Harris, & Mossholder 1993; Wanberg & Banas 2000; Hetzner et al. 2008). Furthermore, several personal characteristics comprise additional factors: self-esteem, optimism, and perceived control (Wanberg & Banas 2000). The staff development team decided to address each element and characteristic to the extent that its creativity, budget and management structure allowed. However, not all of the plans were as successful or as immediate as the team would have liked.

## INFORMATION

To address the element of information, the team made as much information available to the staff by as many different communication vehicles as possible, aiming for total transparency with the staff. To this end, all of the consolidation-related documentation was uploaded to the library SharePoint site, and accessible by the entire staff. A communication blog for the librarians was created, which did not receive as much traffic as predicted, and a portion of most staff meetings was dedicated to updates on the consolidation activities. While the team's focus on communicating information to the staff was good, in retrospect, the team realized that an equal focus on listening to staff concerns about the change should have been given equal importance.

## SOCIAL INFLUENCE

The concept of improving the librarians' social influence or support was one where the team failed. Once approved, the project was given a timeline that precluded many of the tasks designed to deal with these elements. In the time since the physical consolidation, however, the team has made progress on this particular aspect.

In the January following the successful consolidation, the entire library staff of more than sixty people met face-to-face for the first time. The meeting agenda

included a personality profiling session, during which tips and advice were shared for working with people who have various personality types. Every article or book on teaming suggests this face-to-face meeting before the beginning of a huge change project, and although the January meeting occurred after the consolidation, it was nonetheless helpful for the virtual library development and ongoing staff development planning.

Another tactic to improve the social support was the creation of a social networking site, LibraryFun, strictly devoted to the staff's personal interests. Hosted on an external social networking site, thus eliminating the necessity of using any of the company's computing resources, the long-term success of the LibraryFun is yet to be determined. It is evident that the site has brought diverse groups together in a meaningful way. For example, librarians have exchanged favorite musical groups and songs, compared favorite walks, and posted recipes. People who appeared not to have anything in common other than a profession and a workplace suddenly discovered common interests and hobbies. It is worth noting that research shows that closely knit groups, such as clans, handle change better than more disparate social groups (Shun, et al. 2008). Katzenbach and Smith explain that high-performing teams are committed to their members' personal success as well as the overall team's success. Understanding each others' personalities, learning more about each other as individuals, and interacting on a personal as well as a professional level all contribute to the success of a team.

Boeing conducts an employee survey every two years. In 2010, the library score on trust rose 22 percent, possibly attributed to the deliberate attempts to build better social support. While it is not clear whether the attempts to create social support were helpful in facing reorganization and staff development, the survey results demonstrate that the library staff increased their ability to trust. Many individuals were able to trust previously little-known librarians to make decisions in the organization's best interest, and librarians were able to concentrate on building their skills in newer fields such as social networking rather than participating in every possible team decision.

## PARTICIPATION IN DECISION MAKING

Participation in decision making is another predictor of a successful change management program. At Boeing, the team recognized that there would be little or no participation in the consolidation decision itself, which was more of a directive from the management. The team discussed Nahavandi's decision-making model, which describes four types or styles of decision making (Nahavandi 2006). The consolidation decision fell into the autocratic style, with little or no staff input allowed. However, the team hoped to move consequent decisions into the consultation or group decision-making style. The team did its best, therefore, to involve as many people as possible in subsequent decisions. Lean events were held in every region. Lean, one of Boeing's preferred quality improvement methodologies, is a quality technique that focuses on optimizing work processes

and eliminating waste. Librarians decided how to physically configure their own space within the guidelines provided by Boeing for facilities. In addition, librarians had total control over the process of identifying and removing duplicated and out-dated material. Joint decisions were made by the Collection Development and Distribution Center teams. Decision making is made at the team level for the virtual library enhancements as well. Management input and oversight is relegated to resource, budget and over-arching strategy.

This approach was also used for the staff development team. They were asked to create a list of new technologies that all librarians should master, and to create an implementation plan to help the staff master these technologies. The staff development team was completely invested in the successful outcome, and the staff who were not on the team trusted the team to have developed an appropriate course of action. While some staff members did not enthusiastically accept the entire plan, everyone accomplished the minimal requirements.

## PERSONAL IMPACT AND EFFICACY

The context of personal impact is a bit more difficult to assess than other change management factors. Before the change, all of the librarians had multiple conversations with their managers, sometimes within the formal performance appraisal system, sometimes in less formal discussions. It was clear that changes of some sort would impact every staff member to some extent, some more than others, which was one of the drivers for the creation of the staff development team.

Efficacy is another area that is difficult to assess. Boeing's approach was similar to that described above for personal impact. The staff development team created an outline of the competencies that would be required for success within the new vision, and a training plan that would help each individual get to the desired state. While the work of the staff development team was impeccable, the journey towards competency was as individual as each librarian.

## PERSONAL CHARACTERISTICS

As suggested before, personal characteristics play a large role in an individual's readiness to change (Wanberg & Banas 2000; Nemanich & Vera 2009). Among these personal characteristics are self-esteem, optimism, and perceived control. Once again, the staff development team's work was an active attempt to create an atmosphere of readiness. The team also demonstrated confidence in the librarians' ability to carry out the work, and assured the staff that the tools and time to develop new competencies would be available. This approach would lead to positive self-esteem, optimism, and some degree of perceived control. The staff development team was given the job of evaluating the libraries staff's current capabilities as well as evaluating desired future skills. Once that was done, they completed a gap analysis and created and implemented the plan to close the gap.

## THE STAFF DEVELOPMENT TEAM'S ASSIGNMENT

To identify the skills necessary to successfully transition to a new concept of operations, the team created a staff development program that provided opportunities for staff to enhance their performance while supporting the company's business goals. Within the company, a Future Skills Team explored the business driver impacts on future skills needs, and developed resources for staff to update their professional and technical skills. Future skills include not only specialized skills but pivotal skills, such as project management and leadership. The library team approached creating the staff development plan by aligning their efforts with the work already completed by the Future Skills Team. The requirements for Library Specialist and Librarian positions were reviewed to determine what education or specialized skills were to be extended to include more in-depth technical knowledge, content management and information management skills, in addition to expanded skills/knowledge about copyright, intellectual property, metrics, and process based management skills. Specialized skills are defined as tactical areas that are not unique across the company. Acquiring these skills are the responsibilities of the staff as they develop and share their career goals and aspirations with their managers. Additional documents that were used included the *SLA Core Competencies*, the *IMLS Future Librarians in the Workforce Study Update* by Dr. Jose-Marie Griffiths, and other relevant material.

A staff development plan template was used for each of the different services, including research, collection development, digital and library systems, vocabulary management, reference, cataloging, marketing, acquisitions, serials management, and general library staff skills. Because of the importance of addressing how to embed librarians into other groups and the importance of understanding marketing within the context of a library setting, the team included marketing skills. During development these plans were posted to the library's SharePoint site and formed the training requirements for staff. A total of 40 hours of training were required for the year. Thirty-two of the hours were to be training of a professional nature and related to work, including the mandatory training required by the company. Reading professional literature could account for up to fifteen of those hours. Eight of the forty hours could be training on whatever interests a staff member in any subject area. All of the training, including professional reading, had to be recorded with a brief description of what was learned and how it could be applied.

The appendices include examples of staff development plans based on the template that each service group used to populate specific plans. The key components of the template included links to orientation material for new staff members; refresher training and workshops for existing staff; self-needs assessment checklists; and resources needed for daily work, such as manuals, tutorials, process documents, and desktop procedures. Also deemed important for professional growth were: professional reading, seminars, mentoring opportunities, conferences, certifications, and membership in professional organizations. These plans are invaluable for both new and seasoned staff members. The plans outline not only specific areas in

which one should be familiar in when starting a new position, but provide resources for those interested in expanding their expertise into other library service areas.

During the entire process, the team kept an *Issues List*, which helped the team keep on track during meetings without losing ideas and suggestions. Periodically, the team revisited the items on the list and those items deemed of immediate importance, such as funding, were brought to the attention of management. The following is a sample from the list:

1. How to ensure that staff members are informed of development opportunities: Staff development (SD) training intranet site.
2. Need to review staff development opportunities with costs associated with them. What if requests exceed available funding? What is the current funding? Is there a training materials fund?
3. How to evaluate the effectiveness of this staff development plan?
4. Who is responsible for organizing the internal training and disseminating information on external training events?
5. Is a staff development policy needed?
6. Is a formal SD team needed?
7. Recommend next steps to management.
8. Include the staff and give feedback to staff development.
9. Annual staff development day!
10. SD team needs to look into the future. They are responsible for identifying the future skills.
11. Mechanism/calendar for training/events.

The need for an official staff development policy was discussed with management, and it was decided that instead of a policy, a Responsibility, Authority, and Accountability (RAA) document for an individual designated as the coordinator of staff development would be drafted. The coordinator of staff development would be responsible for disseminating staff development training opportunities. At length, the team discussed the most effective means to disseminate staff training opportunities and to enable staff to contribute and create content for a richer user experience. As a corporate library, issues of computer security and only using company-approved software limited some choices of software. Since the company had multiple Web 2.0 tools in place, including wikis, the team readily adopted this collaborative tool, which could be used for sharing information and training tips, connecting to the existing staff blog and the files posted on the library's SharePoint site and the company's social networking site, supporting other librarians in the company, and posting dates of training, workshops, and conferences.

During a virtual staff meeting, an overview of the wiki was presented and subsequent training provided staff with the ability to set up accounts, access, and contribute to the content of the wiki. An additional wiki page captured tips and advice for reference questions when providing virtual reference

service, populated in part by mining transcripts from nine years of the Ask-A-Librarian service. This wiki page allowed staff to quickly search for answers to difficult reference questions, as well as to share collective knowledge. Global customers can access this Ask-A-Librarian wiki page when library staff is unavailable.

## VIRTUAL ROUND TABLE DISCUSSIONS

Staff can access and post details about online training webinars, podcasts, and webcasts on the wiki calendar, and the staff blog provides additional information for external and internal training opportunities. In order to foster a sense of community, the team arranged monthly book club times to discuss recent articles, blog postings, and books of interest. This concept developed into Virtual Round Tables (VRTs), which provided library staff with opportunities to discuss professional topics with colleagues in an informal setting; provided a forum for learning together, from books, articles, and each other; and fostered a learning community within the library. By teleconference and web conferencing software, staff hosted open forums about issues of importance to our staff, with topics ranging from reports on conference attendance to specific team projects, such as changes to the library's Web site. The VRTs proved to be popular, because they established a set time for staff to set aside to learn from each other, and a platform to ask questions. Virtual Round Tables further cemented the social support network, providing an opportunity to share vacation pictures and experiences as well as training opportunities. Virtual Round Tables, then, were used as both training and community-building opportunities. The use of Web 2.0 tools increased the use of our library's content and services, in addition to raising the library's profile within the company.

## A MULTI-YEAR APPROACH

Because of the time needed to plan and implement the approach, the staff development team took several years to address the issue of future skills and staff training. During the first year, the team established the future skills needed for the new library delivery model. In the second year, the team addressed library-specific competencies needed for new research and communication tools. The team restructured the training and self-development goals by targeting specific competencies to support the company's skills initiative. A more focused approach to develop technical skills was needed to deliver services. Building on the Special Libraries Association's innovative "23 Things" self-directed training program, the team developed the Core Competencies goal, specifically targeting staff applying and demonstrating skills in selected areas. Discussions were held regarding evaluation: what would constitute meeting expectations, exceeding expectations, or meeting some expectations in demonstrating skills. The expectation is that every staff member should demonstrate a minimal level of competence

on the tasks, except those labeled "exceeds expectations," based on their initial skill level. Managers discussed competencies to achieve with each staff member. Appendix E provides the specific competencies that the staff could select to incorporate into their personalized performance goals.

Throughout the year, targeted Virtual Round Tables (VRTs) were held on the various competencies as well as other topics of interest, including job searching and networking in the new electronic environment, web conferencing basics, blogging, and other social networking tools.

Usage and value statistics are important for libraries to gauge internal processes and services, including the staff development program at Boeing Library Services. The functionality inherent in many Web 2.0 tools provides an additional means for measuring the outcomes of staff development programs. Both patrons and internal staff are able to use interactive polls to rate library services and resources. For example, the Ask-A-Librarian software has the "Rate Your Service" feature, providing additional feedback to assist the staff development team in evaluating and determining future library service training. Various metrics, such as the number of wiki page requests and staff surveys help determine what pages are useful to staff in their self-directed learning.

## CONCLUSION

The library staff continues to learn together while the evolving staff development program creates an atmosphere where the librarians develop confidence in using constantly changing technologies. The success of the program is evidenced by several facts. The trust amongst the staff is at an all-time high, with the score on a standardized employee survey rising 22 percent. This was due, we hypothesize, to our efforts in creating a stronger social network. The Web 2.0 skills of the staff increased greatly, with all staff members able to use social networks, blogs, and wikis. All staff members use company approved interactive tools without hesitation. This is a direct result of the staff development teams work with the identification and training of technical competencies.

Evaluations also demonstrated shortcomings in the plan. For example, the team should have listened more when it communicated, and the change management techniques should have been adopted earlier in the consolidation process. Additionally, some staff members chose to retire rather than deal with the change.

The next state of the program, its third year, is a focus on change management. A series of sessions consisting of key exercises based on change theory are being developed. The hope and expectation is that the information, social support, and personal efficacy that have been built will assist the staff in being more adept with change in general. The Boeing Library Services' staff development program encourages staff to take control of their own learning, to use available technology to optimize both interpersonal and professional competencies, and to put into use their ever changing lifelong learning skills.

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## APPENDIX A

### *Staff Development Plan Template*

Orientation packets for new staff
Refresher training/workshops for existing staff
Resources
    Manuals
    Reference works
    Processes/desktop procedures
    Tutorials
Mentors
Self-needs assessment checklist
Professional reading
Library team membership

Seminars
Conferences
Courses
Certifications
Professional organizations memberships

## APPENDIX B

### *General Library Staff Development Plan Template*

*An Example of Using the Template to Develop the Staff Development Plan for General Library Staff Skills*

- Orientation material for new team members/staff
  - Library Services SharePoint site
  - Millennium (SharePoint links)
  - OPAC & Staff OPAC training (SharePoint links)
  - Library blog
  - Internal company web pages
  - Organizational charts
  - Library initiatives/ projects/ mission statement
- Minimum skills/characteristics
  - Customer service
  - Communications skills (written/verbal)
  - Working knowledge of library operations
  - Time management
  - Flexibility/adaptability/multi-tasker
  - Ability to work virtually
  - E-tool literacy
  - Analytical thinking skills
  - Sees the big picture
  - Ability to work collaboratively & independently
  - Knowledge of project management
  - Knowledge of LEAN principles
- Resources
  - Boeing sites for LEAN, project management
  - Vision statement Web site
  - Inside Boeing Web site
  - Library Services SharePoint sites
  - Boeing Pivotal Skills Web site
- Processes, desktop instructions
  - Library Services SharePoint
- Professional reading
  - Library Journal
  - Information Outlook
  - Outsell

- ○ Choices
- ○ American Libraries
- Mentors
- Library team participation
- External
  - ○ Seminars
  - ○ Conferences
  - ○ Courses
  - ○ Professional organizations membership
    - ▪ Special Library Association (SLA)
    - ▪ American Library Association (ALA)
    - ▪ State & regional library associations
  - ○ Blog/Wiki for exchange of ideas

## APPENDIX C

### Vocabular Management Services Development Plan Template

*An Example of Using the Template to Develop the Staff Development Plan for Vocabulary Management Services (VMS)*

- Orientation material for new team members/staff
  - ○ Definitions of products and services
  - ○ Overview presentation of VMS
  - ○ SchemaLogic Quick Start Guide
  - ○ Overview of VMS consultation process
- List of minimum skills for VMS team members
  - ○ MLIS or Master of Information Science required
  - ○ Minimum of 3 years library experience
  - ○ Familiarization with vocabulary management software products
  - ○ Familiarization with ANSI Z39.19 standard
  - ○ Excellent verbal and written communication skills
  - ○ Problem solving skills
  - ○ Ability to work in a team setting
  - ○ Comfortable working in a virtual environment
  - ○ Interpersonal skills
  - ○ Proficiency in end user relations
- Resources
  - ○ SchemaLogic Manual
  - ○ *Guidelines for the Construction, Format, and Management of Monolingual Controlled Vocabularies*, ANSI/NISO Z39.19-2005. National Information Standards Organization (NISO) 2005.
  - ○ Zeng, Marcia Lei. *Construction of Controlled Vocabularies: A Primer*. National Information Standards Organization (NISO), 2005.
- Reference Materials
  - ○ Reading Material (links)

- Processes, desktop instructions
- Professional reading
  - JASIST
- Mentors & SME's
- Library team participation
- External
  - Seminars
    - Selected SLA webinars
  - Conferences
    - Taxonomy Bootcamp
    - Internet Librarian
    - KMWorld
    - Other professional conferences with sessions on Taxonomies or controlled vocabularies
  - Courses
  - Professional organizations membership
    - Special Library Association (SLA)
    - American Library Association (ALA)
    - American Society for Information Science & Technology (ASIS&T)
    - State & regional library associations
  - Blog/Wiki for exchange of ideas
    - Taxonomy CoP

## APPENDIX D

### *Selected Content of Staff Development Wiki*

Staff Development Plans *(Links to SharePoint Files)*

- Library Services Center staff skills training list
- General library staff skills development plan
- Acquisitions and Serials Management staff development plan
- Vocabulary Management Services staff development plan
- Marketing Team staff development plan
- Cataloging staff development plan
- Digital and systems library staff development plan
- Reference library staff development plan
- Research staff development plan
- Collection development staff development plan

### *Staff Training Calendar Link to Blog*

**Orientation Packets for New Staff**

- New employees' Wiki
- General Library staff
  - Library Services home SharePoint site
  - Millennium (SharePoint links)

- OPAC & Staff OPAC training (SharePoint links)
  - Library blog
  - Internal company web pages
  - Organizational charts
  - Library initiatives/projects/mission statement
- Outreach (marketing) staff
  - Marketing Team SharePoint site
  - Library Services Case Studies page
  - Library 2.0 presentation for the future of online library services
  - Library Services blogosphere (Staff, Spotlight/News, Consolidation, Haystack)
  - Internal company communication process
- Cataloguing
  - Introduction to Millennium Cataloging Module
- Digital and systems library staff
  - Overview of our Web site and OPAC
  - Introduction to Millennium Automated Library System
  - Library server architectures

  Web site and document servers

  Millennium servers
  - Library programming standards
- Reference and Research staff
  - Introduction to Chat presentation
- Chat Guidelines (in presentation)
- Chat FAQ
- Common questions/Knowledge base
- Chat log analysis & content audit
  - Introduction to Millennium presentation—includes searching
  - Boeing documents
  - Web site Walk through
  - Boeing News Now
  - Document delivery materials
- Vocabulary Management Services staff
  - Definitions of products and services
  - Overview presentation of VMS
  - SchemaLogic Quick Start Guide
  - Overview of VMS consultation process
- Acquisitions
  - Purchaing card training
  - Purchasing card expense tool training
  - Procurement/Payables information
  - Copyright—10-minute trainer
  - Acquisitions/serials modules

- ○ ERM module
- ○ Military guide sheet
- ○ Military Critical Technical Data Agreement
- Collection Development
  - ○ CD SharePoint Site
- CD Policy
  - ○ Electronic Resource Management (ERM) for Lead Librarians
  - ○ Electronic Resource Management (ERM) Overview
  - ○ E-subs team SharePoint site

*Professional Reading*

- Outreach (marketing)
  - ○ International Association of Business Communicators (IABC)
  - ○ APQC
  - ○ Seth Godin: http://sethgodin.typepad.com/seths_blog/
  - ○ Hugh McLeod's Gaping Void
  - ○ Tame the Web, Libraries and Technology
  - ○ Presentation Zen
  - ○ Marketing articles
  - ○ Marketing Library Services newsletter
- Digital and Systems Library Staff
  - ○ D-Lib
- Reference
  - ○ Searcher
  - ○ Product & industry news
- VMS
  - ○ JASIST
- Acquisitions
  - ○ Serials Review journal
  - ○ NASIG newsletter
  - ○ CONSERline—newsletter of CONSER (Cooperative Online Serials)
  - ○ ALA journal
  - ○ ALCTS Newsletter Online (Association for Library Collections & Technical Services)
  - ○ Library Resources & Technical Services (Journal of the ALCTS)
  - ○ Acquisitions Librarian
  - ○ Library Connect
  - ○ Library Hi Tech
  - ○ Library Journal
  - ○ Information Outlook: Magazine of the Special Libraries Association
  - ○ Library collections, acquisitions, & technical services [periodical]

*Links*

Library blog
Boeing Leadership Center—Development conversations that aren't a waste of time
Blog—Competencies for the 21st-century Library school from San Jose State University

*Mentoring*

**Tip of the Month**

# APPENDIX E

## *Staff Development Wiki*

**Figure 12.1 Staff Development Wiki**

## APPENDIX F

### *Library Services Group*

### *Staff Development Competencies*

1. Blogging
   - Sign up for an account to post to the L&LCS staff blog
   - Subscribe to the L&LCS staff blog to receive email alerts of new blog postings
   - Subscribe to the L&LCS Spotlight/News blog to receive email alerts of new blog postings
   - Post x number of new items and comment on existing blog postings in the L&LCS staff blog
   - Subscribe to the CIMS Communication blog to receive alerts
   - Post x number of new items and comment on existing blog postings in other Boeing blogs
   - Create own blog (internal or external)

2. Wikis
   - Sign up for a wiki confluence account to post to the library wiki
   - Subscribe to the library wiki to receive email alerts of new wiki postings/edits
   - Post x number of new items and comment on existing postings in the library wikis
   - Post x number of new items and comment on existing postings in other Boeing wikis

3. Social Networking tools
   - inSite (Boeing's internal social networking tool)
   - Sign up for an account
   - Post to Share It!
   - Post to Ask It!
   - Post to Bookmarks
   - LinkedIn (example)
   - Boeing Group, Special Libraries Group
   - Facebook (example)
   - (building community = far exceeding expectations)
   - BoeingLibraryFun.ning.com

4. Photos & Images—exceeds expectation
   - Add an image/photo internally & externally (inSite or Flickr, examples)

5. RSS & newsreaders
   - Sign up for the L&LCS staff blog RSS feed
   - Sign up for the L&LCS Spotlight/News RSS feed

- Install a RSS feed reader
- Add feeds to RSS feed reader
- Set up x number of feeds internally & externally

6. Webex
   - Run a meeting using Webex

7. Outlook calendar
   - Share calendar
   - Schedule a meeting (PM discussions, etc.)
   - Book a conference room as needed
   - Post our absences/telecommuting schedule

8. Sharing professional expertise—exceeds expectations
   - Give a 5–10 minutes presentation in a Library staff meeting or library organized event. Subject can be on diversity, safety, leadership, service culture or a professional topic pre-approved by your manager.
   - Host and participate in virtual round tables
   - Presentation on non-library tasks—BoeingLibraryFun.ning.com

9. E-books—exceeds expectations
   - Explore different formats for e-books
     - PCs, mobile devices, e-readers

10. Podcasts, Video & Downloadable Audio—exceeds expectations
    - Create audio presentation using sound recorder (podcast)

11. IM
    - Activate IM
    - Add a contact
    - Add a note to your status
    - Start and instant webex from IM
    - Saving a transcription (File save as E-mail)
    - Conversation—multiple participants

12. Millennium
    - Basic familiarity with OPAC/Staff OPAC
    - Basic familiarity with Client

13. SharePoint
    - Post bi-weeklies, enter info on schedules, etc.

# 13 CORPORATE LIBRARIAN'S SURVIVAL KIT FOR ORGANIZATIONAL REALIGNMENT

*Valerie J. Ryder*

This chapter discusses best practices and lessons learned from a variety of corporate information managers who have experienced organizational realignments during their careers in a wide spectrum of industries and corporations. Throughout the chapter, the term Information Management (IM) will be used to denote corporate libraries, information centers, knowledge centers, and information management functions, since the IM field is changing significantly. The venue in which information managers apply their skills is no longer only in a physical space called a library, information center, or knowledge center. The objective of this chapter is to provide IM practitioners with advice, suggestions, and techniques to use as a survival kit for predicting and responding to organizational change.

## HISTORICAL PERSPECTIVE

Organizational realignment can include the re-organization of the IM function, changes in reporting structure for the IM department, corporate re-organizations such as mergers, acquisitions, divestitures, and bankruptcies that impact the IM function, as well as the most extreme phase of realignment, called downsizing, reduction-in-force, position eliminations, or job redundancies. For the past 30 years, U.S. industry has driven out waste, streamlined production processes, and established stringent quality requirements. Manufacturing has been moved overseas, always chasing the country of lowest production costs. During the past 10 years, research and development has similarly moved offshore to benefit from lower wage rates for equivalent intellectual capital. These business trends have impacted industry after industry, with identical cycles of downsizing, consolidations and divestitures that have affected the corporate IM function as well as every aspect of business.

The downsizing of the corporate information management sector is not a recent phenomenon, although the intensity of the negative changes has been highlighted during several recent economic recessions. James Matarazzo's study (2008) of the special library job market in New England during 1997–2005 documented the continuing decline in the number of job vacancies, with an interesting shift in dominance in the job market from public sector companies to private sector companies. The dearth of job openings in the corporate information management arena is only one symptom of the overall downward trend in employment evidenced during the 2007–2010 recession.

Matarazzo and Pearlstein wrote a series of articles in *Searcher* magazine (2009–2010) that explored closures of libraries in a variety of sectors and focused on the alignment of the corporate library with its parent organization. Pearlstein and Matarazzo (May 2009) delivered a postmortem on the closure and subsequent resurrection of the Environmental Protection Agency libraries during 2006–2008 that attributed the closure to a failure to document costs of the libraries and express their value in terms that were meaningful to the overall organization. Pearlstein's and Matarazzo's (June 2009) case study of the closing of a divisional library at a magazine publisher postulated a predictive model for closure decisions. Common elements among the library closures that they studied were (1) decisions made at a high management level without input of those who use the services, (2) reductions in the number of customers served, (3) availability of outside resources as a substitute for the library, (4) lack of evaluations of the library service, and (5) evidence of financial crises in the parent organizations. Pearlstein and Matarazzo (September 2009) delineated a process for identifying and evaluating outsourcing options for services—often a precursor to or a form of downsizing an information management function—using a case study of a fictitious global professional services firm. Within the framework of a case study concerning a library in a company that undergoes a takeover, Matarazzo and Pearlstein (November 2009) presented an outline of steps to perform scenario planning, not just as a survival technique but, more importantly, as a way to influence the future of a corporate library. Matarazzo and Pearlstein (May 2010) studied the steady decline of newspaper and media libraries over the past five years as a phenomenon within the downward spiral of the news industry. The article included three case studies that illustrated various survival techniques pursued by news libraries. Ironically, the jobs of the library staff of the newspaper cited in one case study were eliminated, just as the article went to press.

Arlene Fletcher (2009) and five co-authors provided an overview of prior literature and results of their 2008 web-based survey of 113 special librarians in the Washington, D.C., area that explored the success of survival strategies recommended in past library literature: (1) reducing costs, (2) forming partnerships with other libraries, (3) making librarians visible in the organization, (4) advertising library services to other members of the organization, and (5) advertising library services to the organization's management. Sue Hill (2008) provided additional advice from a European viewpoint: (1) providing cost effective

information resources and services, (2) exploring new opportunities for IM roles and responsibilities, and (3) focusing on information governance and compliance.

Many experts believe that U.S. companies need to revitalize their technical leadership, become more creative and re-invent themselves to remain competitive in the world markets. Astute information managers will realize that information is at the heart of innovation and creativity. Therefore, the IM profession needs to re-invent itself to remain viable in corporations of the future.

## METHODOLOGY

The main data-gathering methodology was a series of guided interviews, conducted by the author, using open-ended questions with corporate information managers in a variety of industries that included chemicals, computers, consumer goods, electronics, high tech, manufacturing, pharmaceuticals, publishing, and software, as well as some individuals who are currently in job transition. The interviews were done by telephone during November 2009 through January 2010. Each interview lasted from 45 to 90 minutes and covered a list of questions that were sent to the individuals in advance.

The following topics were covered in the interviews and served as a starting point for the guided discussion:

- Signals and signs for early detection of organizational realignment that will affect your department/library/information center.
- Gaining and maintaining support for your department from all levels of management: within your hierarchy, your customer base, budget decision makers, staffing level decision makers, and corporate level executives.
- Techniques for survival that worked for you.
- What you wished you had done, or done better or differently.
- Advice for getting through organizational realignment with the least amount of long-term damage, as well as mitigating the immediate damage to staff, services, and customers.
- What do you define as "surviving"—for you, for your staff, for your function?
- How do you progress from "just surviving" to "thriving"?
- What do you think is the future for corporate libraries and information centers? What do you think is the future for information and knowledge professionals?

Initially, 30 individuals who are personally known by the author and who are recognized as leaders in the IM profession were contacted to participate in the interview process. A total of 17 individuals were interviewed by telephone and the results of those discussions were consolidated into common themes. A draft version of this chapter was distributed to all 30 individuals so that interview participants could review the compilation of their best practices and lessons

learned, while those with whom it had not yet been possible to schedule time for an interview could provide feedback and additional discussion points via e-mail. All discussions and interviews for this chapter were conducted with a promise that no comments or responses would be attributed to any individual and the identity of those individuals who participated, and their organizational affiliations, would not be revealed. This confidential approach enabled the participants to be open and honest without having concerns that their viewpoints, as expressed in this chapter, might be misinterpreted by the management of their organizations.

The information managers selected for the interviews have all experienced repetitive and significant organizational realignments, guided the survival of their IM group during tumultuous times, and have migrated from one corporation or industry to another for their personal career survival, sometimes by choice and sometimes as a result of corporate downsizing. While all interviewees are located in the United States, their careers reflect working for global companies and corporate organizations that are U.S. and non-U.S. owned with a span of control that encompasses U.S., European, and Asian information management functions. Their experiences and advice, as well as those of the author, were distilled into best practices and lessons learned to share with other corporate information managers.

## SIGNALS AND SIGNS FOR EARLY DETECTION OF ORGANIZATIONAL REALIGNMENT

An information manager can maximize chances of survival as an individual as well as for the IM group by first recognizing and accepting the reality that all IM groups are vulnerable to some degree, in certain circumstances and at some point in time. One common theme expressed by the IM practitioners who were interviewed was that downsizing of the IM function can happen to anyone, no matter how great a job they are doing, how well they have positioned their group, or how satisfied their clients are with the IM services their group provides. An information manager may minimize the impact, forestall the ultimate phase, or realign the IM group for survival by understanding the factors and detecting the early warning signals.

Information managers always have to be aware of corporate priorities and the priorities of the part of the organization to which they report. Their understanding of these priorities needs to be translated into the goals and direction of their IM department to such an extent that they and their staff are speaking the language of these corporate priorities in all of their communications with their management chain of command and their client base. As the priorities of the corporation change, information managers must change their priorities. They must be sensitized to changes in the management structure and the incumbents of key positions. They must investigate and interpret how management changes may impact their IM group. While changes in their chain of command may

appear to have the most immediate impact, they must be cognizant that changes in management, and directions and priorities of their key clients, will also have a significant impact. When a new CEO, Vice-President, or upper management player is brought in from outside the corporation, it can signal important changes to come. Sometimes a new top management player will make a clean sweep of existing management positions, actions that can have wide-ranging repercussions affecting the client base that IM serves. Information professionals have the research skills to uncover prior track records of new management and how supportive they were of the IM function in their prior positions. Armed with that knowledge, they should develop a plan of action to reposition the IM group in support of new corporate directions and priorities. Some signals to pay particular attention to are when entire levels of management are eliminated or major shuffles occur, when long-term product lines are eliminated or divested, when major research projects are halted, when new product lines are launched, and when new research directions are pursued. Other warning signals include when and how retirements of top management are announced in addition to what reorganizations occur as a result. Staying aware of what is going on in the corporation, interpreting the political signs, and taking action to mitigate potential negative impact, are vital parts of an early warning system.

One of the most significant factors in survival, as stated by the interviewees, is where the IM function reports. Although there is no one "best" place to report, the critical factor is how closely IM is organizationally aligned with what the corporation values. Knowing what the corporation believes in and acts on, not just what they say, is essential. In companies where innovation is the key business driver, the Research or Research and Development or Innovation group will be the most beneficial reporting structure for long-term viability. In companies where customer satisfaction is the key business driver, often a client-facing group such as Sales or Marketing, or a key product line or commercial sector, is a desirable reporting hierarchy for the IM function. In many companies, the IM function reports to a service group for the entire corporation or a corporate-level group. That reporting structure can work well as long as the service or corporate group values knowledge and information as represented by the IM function. In many corporations, the IM function becomes part of the IT department as a corporate service group. The rationale is often that information is the common link between the two functions. The IM-IT partnership can be successful when both professions acknowledge their respective expertise areas and leverage the different skills that each discipline has without engaging in political battles in areas where they overlap. It can be detrimental for an IM group to move into a group whose budgets and staff levels have historically been reduced or limited. It is also undesirable for an IM group to report to a group with whom the IM function does not share any core competencies, professional skills, or key objectives. Perhaps the most adverse situations occur when the IM function is regularly moved from one group to another because the corporation is always seeking to find the best alignment for a group with which top management is not sure what to do.

Organizational realignments that change the reporting structure for the IM function need not be detrimental to its future. However, a well-thought-out transition plan, developed in advance, is critical to success. Often managers at many levels in the new reporting organization do not understand the IM role, or have preconceived ideas about what IM is, or used to be. Educating the managers to whom IM reports as well as peer-level managers early in the transition is very important, especially if they or their direct reports have not been clients for IM services. Many experienced information managers have found it useful to prepare a brief (from 15 to 20 minutes) but powerful presentation providing an overview of the IM function, which they can update quickly and use to educate new management when change in the chain of command occurs. Such a presentation should focus on value statements documenting how the IM function contributes to corporate objectives and is totally customer-aligned, illustrated with quantitative data and anecdotes telling the IM story through real-life examples.

Some dramatic corporate realignments that impact IM functions as well as the rest of the corporation include mergers, acquisitions, divestitures, and bankruptcy. The nature of these high-level changes is such that the early stages are conducted in secrecy and on a need-to-know basis. Hence, it is difficult to detect early warning signals for these events. Depending on how closely the IM function is aligned with corporate planning, business development, finance, or top management, an information manager may detect vague signals that something is being planned from the types of research questions being answered. However, it is difficult to make accurate predictions, and unwise, and possibly illegal, to take action or share assumptions based on confidential inquiries that may be considered "insider's information." One benefit, however, may be that information managers may not be totally surprised when the actions take place and have had an opportunity to make some mental preparations that accelerate transition plans.

Early warning signals may take more subtle forms. Dramatic increases or decreases in level of usage for IM services, as well as an influx of requests from client groups that were previously underserved, can signal impending changes. A point of concern should occur when the IM manager is questioned about budget or spending levels, costs of major items, who IM's major client groups and stakeholders are, or what the return on investment (ROI) for IM services is—especially if these questions are asked outside of the normal budget cycle or from sources that typically do not make these inquiries. Other subtle messages are delivered when a pattern appears of canceling IM projects that were considered top priority at the beginning of the fiscal year, especially if the cancellations take place without warning or a believable explanation. Without developing unwarranted suspicions, information managers may also detect impending problems when they are omitted from key decision-making processes or meetings in which they would normally be included, or if individuals with access to decisions stop talking with them. Sometimes there are confusing signals that seem to contradict each other, so predicting the future can be challenging.

Finally, there are times when the decisions that impact information managers or the IM group are made at a high level of the organization, or in a decision

process that does not include input from them, their management or their client base. These are the decisions that are impossible to predict or detect and are often the hardest to accept, because the information managers have no recourse. These decisions are announced as fait accompli and the information manager's role is to accept and possibly implement the decisions. When these decisions are conveyed to information managers, their best course of action is to accept that there was nothing they could have done to prevent the decision. There are times when the value that IM delivers to the corporation does not make a difference to the decision makers. The decision makers have already determined that there is something else they want to do with the budget dollars, the space that IM occupies, or the headcount that IM represents.

Watching for and interpreting early warning signals are tactical measures. Proving the value of information management to the corporation is a strategic measure. Information managers have a much better survival chance if they continually prove IM's value to their organization by providing services that their clients value.

## PROACTIVE TACTICS BEFORE THE CRISIS

A consensus of the information managers who were interviewed agreed that long-term survival depends on gaining and maintaining support from all levels of management, not just within their hierarchy, but also including senior-level management, budget decision makers, staffing-level decision makers, and corporate-level executives. In the past, everyone may have known that the IM function was important but in times of economic downturns, an information manager has to prove it every day. In order to support the corporate business objectives, IM must know what the business needs are and provide services that meet those needs.

Of the information managers interviewed, those who find their survival paths to be the easiest are those working where top corporate management recognizes the value of information and IM to their corporations. There is a natural affinity for IM functions in industries where information and knowledge are key business success factors. The influx of computers, electronic content, and the Internet has been a positive force for IM in the companies that recognize the importance of skilled professionals to harness the power of the information explosion. Several information managers who were interviewed have forged strong and lasting relationships with senior managers who were key IM clients as they rose through the organizational hierarchy. Bonds with a Chief Executive Officer or corporate level manager who is key to the IM client base can be strengthened when an IM has served that decision maker's information needs throughout the individual's career, and these bonds can continue to be a key conduit for keeping the champion informed and up-to-date on important issues.

The concept of Stakeholder Management has become a best practice among corporate IM functions. It has been expanded beyond the client level that is directly served by IM to be a more important practice at the senior management level for IM's client base. Senior managers may not be users of IM service, but

they need to know what IM does for their groups to help them meet their business goals. It is critical for information managers to draw a direct connection for senior managers from the information that they requested through their direct reports to the IM services that delivered the answers. Relationships with champions at a high level of management who will speak up on behalf of IM at meetings where they or their management are not present can be developed through Stakeholder Management. However, one should not rely too heavily on these champions to save IM, because although it is important to have champions at high levels, the organizations can change rapidly. Current champions can be "out of favor" or out of the organization altogether in an instant.

Other critical aspects for ensuring the short- and long-term survival of the IM function include an understanding of the decision-making processes in the corporation, who the decision makers are, and what their criteria in decision making are. The ultimate decision maker may not be the obvious person, and may not be the top person in the chain of command. Once an information manager determines who it is, he or she must also determine the factors influencing the decisions, so that and IM value can be expressed in appropriate terms. For decision makers whose key criterion is cost reduction, IM must express their ROI in dollars and cents. For decision makers whose key criterion is customer satisfaction, IM must describe their value in terms of their client satisfaction ratings. For decision makers whose key criterion is innovation, IM must demonstrate how its leading-edge technology-based IM services contribute to corporate innovation. Information managers must establish a network of senior managers who know what is going on, are trustworthy, and can be enlisted to keep IM attuned to what leaders want. Therefore, it is vital to have contacts in various places within the corporation, and establish two-way communication channels, providing them with personal business value as an individual, not just to their business function, in return for their IM support. An astute information manager will find ways to help key decision makers succeed by knowing about their current interests, being informed about their projects, and proactively providing them with actionable data, as well as being supportive of their initiatives.

It is critical to define IM value in terms that resonate with the corporation's value statements. Information managers can enlist key clients in defining IM value and developing value statements in their language of value. Information managers must demonstrate that they understand the strategic direction of the corporation, its business priorities, and how IM contributes to meeting corporate goals. It is important to highlight IM's resources for business intelligence about competitors and customers, skills in knowledge sharing, and ability to connect people who would benefit from working together on corporate priorities.

## BEST PRACTICES AND LESSONS LEARNED DURING THE CRISIS

The information managers who participated in this study offered many best practices to maximize the chances for an IM function and information managers to survive and thrive in the ongoing waves of organizational realignments. An

equally important part of knowledge sharing is identifying lessons learned, including situations that could have been handled in different and better ways.

### Survival as an Individual

The manager's first and foremost role is to ensure the survival of the IM function. However, the IM group manager must determine on an individual basis that if their company cannot support an IM function for a sustained period of time, then it is time to eliminate the function and personally move on. Often it is difficult for information managers to decide to divest themselves from their organization and focus on their personal career paths. One interviewee expressed the opinion that those in other professions do not get as emotionally invested in their employer organizations as information managers tend to do.

If the IM group manager determines that there is a viable future for the IM function, then the information manager must survive in his or her individual position in order to lead the group forward. The information managers who were interviewed offered a number of survival techniques for the manager as an individual. Thus, an IM group manager should:

- Pursue opportunities outside of his or her core field. Step outside of his or her typical duties, take on projects that add variety and diversity to a skill set; these opportunities can position an information manager for the future and demonstrate the ability to do well outside of an IM role, such as work in project management or research methodology.
- Go beyond departmental boundaries to find opportunities where information is vital, and get insights into what issues the company faces.
- Know his or her own skills, and position them to serve what is needed by the company at the time. Develop skills in new and marketable areas such as knowledge management, business intelligence or change management. Incorporate these specialties into the information management domain to develop new expertise areas for the IM staff.
- Be an advocate for his or her ideas. Contribute ideas early in relevant discussions to avoid only echoing others' ideas. Trust his or her intuition when suggesting new ideas.
- Balance being a team player with what is the right decision in the long term. Defend a position if it is the right thing to do, even if it goes against the prevailing beliefs at that time.
- Networking is critical. Information managers often do not do a good enough job networking with their clients and through professional organizations. Stop working through lunch, and start networking with customers at lunchtime or, if necessary, at dinnertime and after work.
- Match the company's culture for looking and being successful. Update his or her professional image by dressing professionally and looking up-to-date. Consider a session with an image consultant as a valuable investment for the future.

- Take personal responsibility to learn and expand professional skills, even if the company does not support it. There are many free options today for seminars, distance education and web-based learning, so there is no excuse for not engaging in lifelong learning.

The information managers in the survey provided further advice on how to maximize the chances that the IM group survives.

### Organizational Positioning

A key survival factor mentioned by a number of the information managers who were interviewed is being in the "right" place at the "right" time for the IM group. Although it is not always possible to select or influence where the IM group is located within the corporation, the IM manager needs to recognize that the likelihood of long-term survival depends on achieving a high level of synergy with the organizational unit to which the IM group reports. Therefore, and IM manager should:

- Be in the best business unit for your corporate culture. Find a group where there is a natural affinity for the IM function, although this group may vary for different corporate cultures. Initiate a change in IM reporting structure when the current reporting location is not beneficial for long-term viability.
- Align the IM group with the corporation's values. One IM group rebranded itself from a services group that is too easy to outsource to whatever is best aligned with what is currently important to business. When knowledge management was "in," they re-branded their function as a knowledge-sharing group; when compliance and risk management was "in," they re-branded their function as records management.
- Embed the IM work into the business processes for the company. This does not mean that IM staff has to report into a business group. Be a part of teams that do critical business processes, such as the strategic planning process. Get involved in institutional processes. It is more difficult to extricate IM from a critical process. Be proactive in contributions to these teams, not reactive. Participate as a team member to get IM name recognition for IM work.
- Develop and apply change management skills in the department and client base within the corporation. Demonstrate that IM is part of the solution, not part of the problem.

### Strategic Intent

Another common survival theme that emerged during the interviews of information managers is the necessity of thinking and acting like a business manager, not just an information manager. Successful information managers manage the IM function like a business within their corporation, and should:

- Establish tactical and strategic goals for the department, focusing on achieving results that impact the corporation's bottom line in a positive direction. Develop skills to be successful as a businessperson as well as an information manager.
- Benchmark with other leading IM functions to identify specific best practices, and calibrate the IM function against others in a company's competitors, customers, and industry as well as world-class organizations.
- Conduct research on the state-of-the-art and future trends in IM using information industry market research reports and findings, and incorporate these findings into a strategic plan for the future.
- When other companies in the industry eliminate IM functions, conduct research to ascertain the facts. This enables one to demonstrate that an IM function provides better service and better ROI than the eliminated functions, before management asks about doing the same thing.
- When involved in a merger with or acquisition of another company, conduct competitive intelligence about the other company's IM group. Perform a SWOT (Strengths-Weaknesses-Opportunities-Threats) analysis, and capitalize on the weaknesses of the other company's IM function by identifying and emphasizing one's own strengths. Provide briefings on each IM group to the Integration Team that is handling the merger of the two companies. Briefings should include quantitative, qualitative, and empirical data to show the impact of the merger of the two IM groups. Make suggestions on how to move forward to a merged organization and achieve the synergy targets for integration. Be realistic about vendor expectations for consolidation of contracts. Identify what is expected for the merged companies and demonstrate plans for achieving those goals.

### Service Portfolio

An essential part of demonstrating that the IM group is aligned with corporate objectives is through the IM group's portfolio of services provided to the organization. The IM group must continually monitor the corporate direction and its users' needs, to adjust its repertoire of information products and services to match ever-changing requirements. Therefore, an information management group should:

- Stay in touch with what is happening in the corporation, its industry, and its markets. Identify trends and opportunities that IM can leverage to increase its products and services through increased value to the business. When the timing is right and IM has developed its action plan, make a proposal to management. Persevere even if the initial proposal is rejected.
- Establish, communicate, and follow clear goals and objectives. Be very clear about what the IM charter is and is not. Do not try to be all things

to all people, and do not pretend to be able to do all things. Show users things they can do for themselves.

- Do more than just deploy content for everyone. Customize information deliverables to meet business needs. Craft custom newsletters on topics of key interest to the company.
- Play an active role in organizing proprietary information and intellectual property during mergers, acquisitions, and divestitures. Build IM's reputation for knowing where relevant information is stored, how it is used, why it is important to the company, and how it needs to be divided during divestitures or organized during mergers and acquisitions. Build IM's involvement with proprietary data that no one else understands. Promote IM's understanding of legal implications of records.
- Focus on winning products and services, dropping those that are not performing well. As in financial investing, it is important to know at what point to let go, even when an investment is making money, rather than waiting until it performs poorly.

### Marketing Acumen

A critical aspect of survival is marketing the IM group within the corporation and particularly to upper management and key decision makers. IM manager need to:

- Learn how to articulate IM value to everyone at all levels in the corporation, and be aggressive at conveying the value when the opportunity arises.
- Market IM services continually. Communicate "Up the Ladder" and to users, as much as possible, without alienating them.
- Maintain a balance between staying under the radar and being known within the decision-making circles.
- Keep in touch with stakeholders and reach up to the second level of stakeholders, middle management layer and higher levels.
- When being an advocate for the IM concept and function, speak as a corporate citizen instead of an information manager. Do what is best for the company. This may be hard to do, because information managers are often emotionally engaged in their jobs, their departments, and their companies.

### Financial Savvy

An IM group manager who accepts the underlying reality of the for-profit sector—that every business decision is based on financial impact—will increase the IM group's survival chances. The IM group manager must obtain a fundamental understanding of financial concepts, as well as achieving acumen in applying financial techniques to managing the IM group. Thus, the IM group manager should:

- Understand the environment in which the team exists in order to determine how to charge for IM services. Know where the money comes from to determine whether centralized or decentralized service, or a blend will work best.
- Investigate cost sharing with the businesses that want new content or services, even in tight budget years. Explore different financial models for IM budgets and partner with knowledgeable individuals in the finance group to determine what model will work best for the IM group within the corporation.
- Optimize the budget that the IM group does have and spend it wisely. Information managers need to learn that business is all about money; if IM costs more than management wants to spend, the IM budget will be reduced.
- Practice economies of scale, especially in procurement of content, so that the corporation realizes that it is better to leave content procurement centralized.
- Corporate space is expensive, so IM physical space needs to shrink. Reducing IM's footprint is not a negative move.
- Replace talking about how much money the IM team has saved with demonstrating how that saved money is invested to increase ROI and impact for employees.

### Value Measurement

An astute information manager can express the business value of the IM group in quantitative and qualitative measures that demonstrate the integral role of information management in the success of the corporation. The effective information manager will:

- Develop, monitor, and communicate metrics that measure the value of the IM function in terms that resonate with the corporation's value perspectives.
- Present a Review of IM Services to upper management, focusing on stories illustrating how IM made an impact on research projects or achieved cost avoidance. Avoid quoting only quantitative data, but translate numbers into illustrations of how users or the company benefits from IM services. Craft stories that get people to realize the value that IM provides to the organization. When telling the IM Value Story, relate it to money or impact.
- Maintain all the latest numbers and facts about costs that IM has saved the company and how the IM team gets the most value for the funds that it spends.
- Follow up on each search or research project to identify business impact. Eighty percent of the time the user will not be sure yet what the impact

is, because the project is still in development, but 20 percent of the time there will be a demonstrated and significant impact to the company.

### *Innovation*

The IM group manager must be a thought leader in the information management field for the organization. It is critical that the IM manager proposes and implements new technologies, information tools and improved information flow processes for the parent organization, as well as the IM group, before these innovations are deployed by others in the organization. The IM manager needs to be recognized as the resident IM expert for the organization and one who anticipates how new IM tools and techniques can enable the organization to achieve business goals. Thus, an effective IM group manager will:

- Continue to demonstrate that IM is an innovator by doing new things that do not cost much money. Start small and expand new services by starting with a basic level and adding features to minimize risk. Have the big picture of the end result in mind but implement the project in steps.
- Always have projects in progress to use new technologies and look at new products. When it is possible to add staff, bring in individuals with new ideas and perspectives.
- Be innovative, but discard projects that do not work. Take risks and experiment. Always call it a pilot, not a long-term project. A pilot can be scaled up or down depending on its success. Practice a willingness to innovate that gives freedom to users and to staff to be creative.
- Be targeted on projects. Don't attempt too many projects. Set parameters to evaluate potential projects that include tiebreakers if all factors are equal, such as whether the project is fun to do or the staff will learn from it, as well as criteria that are important to the company.

All of the information managers who were interviewed perceived that "just surviving" is an interim state and a stage in which it is not desirable to remain for long. While this stage may follow a drastic reduction in the IM group, it is characterized by maintaining the status quo and absence of any growth in services or scope. Information managers also practiced the recommendations for survival discussed in this section as a means for accelerating the journey back to a growth mode.

## TRANSITION THROUGH CHANGE

Information managers need to accept that organizational changes that impact their budget and staff resources are inevitable, especially during the low points of economic cycles. The information managers in the survey provided advice for getting through these organizational realignments with the least

amount of long-term destruction as well as mitigating the immediate damage to staff, services, and clients.

Even when the IM group is going through major changes, there should be a strategy for the future. It is necessary to look beyond the present and focus on a point in time a few years in the future to determine what the IM function needs to be. If the IM group already has a current Strategic Plan, the information manager should review it often to ensure its validity and to make appropriate modifications to adjust for the changes in the corporate environment. The IM group manager should be proactive in determining IM's future direction and be prepared to find a new reporting structure if that option becomes necessary.

The first order of business during a downsizing of resources is often to perform triage on the IM products and services that the remaining group will be able to provide. A team of key IM staff members with representative clients is usually best to conduct the review to identify the most critical products and services for meeting the IM group's charter for existence. A review of IM goals and objectives with a comparison to existing products and services will help identify gaps in service that will occur. Focus these efforts on preserving the products and services that are the strongest contributors to corporate value and identify others to eliminate, outsource, make more efficient or replace with more cost effective options. Most information managers prefer to eliminate services that have little impact on customer service. However, there is a school of thought that says more visibility on reductions in IM budget or staffing results by eliminating some key services and then harnessing client outrage to regain some funding. This approach is often employed when an IM function has been repeatedly reduced to the point where its resources have been "cut to the bone" and there is nothing else left to cut except the key services. If the major client base has sufficient political and financial influence within the corporation, it can be successful in preventing the continued crippling or complete elimination of the IM function.

The key to enlisting client support in a positive manner lies with involving key clients in the difficult decisions regarding which products and services to retain. Sustainable changes are more likely to result when decisions are made in conjunction with clients by discussing various suites of products and services with the accompanying costs and possible alternatives. A careful analysis of the costs, value provided, and impact on client groups, and ultimately the business, will result in decisions that are endorsed by key clients as well as management. In these discussions, it is important to be as transparent as possible about costs and any allocations to client groups. Engaging key clients in the difficult discussions and decisions about the IM portfolio of services will enhance IM credibility. In some cases, a client group that strongly wants to preserve a particular product or service is willing to share part of the cost with IM or possibly fund the entire cost. One risk in the cost-sharing maneuver is that the sponsoring department may unilaterally decide to end its cost expenditure, or may itself be eliminated in the future. In other cases, a product or service that was thought to be indispensable proves to be not so critical and can be eliminated without much grief.

It can be useful to take a zero-based budgeting approach to determining what products and services should be provided with a reduced staff and/or budget. Start with a blank slate and no assumptions about what products and services have to be provided. Then evaluate each product and service for the value it contributes compared with the resources it requires. This approach often reaches the same portfolio of products and services as when one decides what to eliminate but can get to the end result more quickly. The zero-based budgeting approach also better reflects new organizational realities, because each addition to the product and service portfolio has been justified against those realities. The zero-based budgeting process can also be better for staff morale, because they feel that they are building the new service model instead of tearing down the old one.

When an IM organization has gone through numerous rounds of reductions, the group manager and staff often gather user feedback on the value and usefulness of IM products and services in a preemptive manner. By continually soliciting and documenting which products and services are most valued, the IM group is better equipped to make decisions quickly to react to sudden funding changes. Another critical component for fast action is having reliable and up-to-date metrics and usage statistics about IM products and services.

An approach that has proven viable in some cases is the outsourcing of certain services, even core functions, with the IM function retaining the overall management oversight for those functions. This approach frees up staff to continue providing or even expand into services that are more highly valued by the corporation, such as competitor intelligence, knowledge management, taxonomy development, and maintenance, as well as records management. In making decisions about which functions to outsource, information managers need to understand, promote, and leverage the unique advantages that they provide to their corporations. Information managers have a broad and deep understanding of the corporation and its markets, its products and its competitive advantages. This knowledge is something that an outsourcing company cannot easily provide. Conducting a company's most critical and sensitive market research within the company rather than by outside consultants also reduces competitive risk.

During the waves of corporate library closures of the 1990s and 2000s, the reductions in budget, staff, and space accelerated the migration from print to electronic resources. As publishers experimented with pricing models to stimulate the acceptance of electronic content, many IM groups dramatically shifted their resource collections from print to electronic, while increasing their ability to reach their global client base and absorbing budget reductions while maintaining the same content scope. At the same time, many of these IM groups downsized their physical presence to achieve cost savings and decrease any negative perceptions centered on their visible footprint. The same decades witnessed a significant increase in the deployment of self-service tools for information provisioning through technology advances.

Often information managers are not aggressive enough in reducing services due to an unspoken assumption that they will be heroic and provide the same level of service with reduced budget and/or staff levels. The problem with this approach

is that the remaining staff become disillusioned with management's support for their efforts, staff morale suffers, and eventually those staff members who can find jobs elsewhere leave the group. Equally damaging for the long-term is the decrease in the quality of service and customer satisfaction when it becomes impossible to provide the same level of service at the reduced funding level.

## FUTURE OF THE CORPORATE INFORMATION MANAGEMENT PROFESSION

Throughout the discussions with the information managers, there was an underlying theme about the future of IM as practiced in the corporate venue. Although there was widespread concern and pessimism around the entity of the corporate library or corporate information center as known in the past, there was general optimism about the field of information management as long as its practitioners are able to reinvent themselves to meet the values and future needs of the corporate world. The consensus is that while corporate information management will look different in the future, there still is room for information management expertise in companies. Corporate libraries as we know them today will cease to exist, but the functions that information managers perform must continue and be part of the corporation, so that the company can survive and flourish. Information managers understand the infrastructure of information resources so that they can provide information to advance corporate goal. Information managers must transform themselves and the information management function in alignment with the values of their corporation.

There is a definite belief that IM skills and functions will be dispersed throughout a corporation wherever the need for this expertise is recognized. Information managers will be embedded in various groups such as information technology, product groups, marketing, patent department, strategic planning, business intelligence, competitor intelligence, market research, and procurement. In some cases, IM skills will become part of the required job skills for these functions. The transformation of the corporate information management function should focus on value-added services. Information managers should seek out roles that depend on research and analysis, with an emphasis on analytics and text mining, to provide understanding and insights based on search results. Areas that are rich in these types of roles are patent analysis, competitive intelligence, business intelligence and knowledge management. IM skills can be applied to the development of thesauri, ontologies, metadata, and indexing and abstracting of internal information.

The future of IM lies in internal information and applying IM skills to organizing this critical body of knowledge. While there is no shortage of internal content in corporations, most of it is not well organized and not widely used. Information managers can apply their skills in the arenas of company proprietary data, intellectual property documentation, and vital records. Internal information is more critical to a corporation's survival than external information, but the responsibility to effectively organize and deploy internal information rests

with the corporation. As many corporations have found out when implementing document management, knowledge management, and records management systems, just making information searchable is not enough to guarantee that relevant, targeted, and accurate information is provided to enable critical decision making. While some corporate information managers prefer not to delve into their company's internal information, others have successfully applied their core competencies to provide comprehensive services across internal and external information sources. A key is to focus on the internal information that yields the highest corporate value, is governed by the most regulations or mitigates the highest commercial or legal risk to the corporation. Successful information managers harness the dual factors of providing high value to their company as well as minimizing risk for their company.

Informed decisions about which information resources the company needs and how to use that information to facilitate decisions, research, and analysis are still needed. This is one of the core domains of IM whether the responsibility resides in an IM function, an IT group or in the procurement department. In a similar vein, the knowledgeable oversight of outsourced IM functions, such as database searching, document delivery, cataloging, and indexing and abstracting, will be required to ensure that necessary quality standards and customer satisfaction levels are achieved in exchange for a cost-effective solution. Information managers will also have critical roles to play in the emerging areas of discoverability and e-scholarship that have increasing importance in specific industries.

Key characteristics of the successful information manager of the future include:

- An understanding of what the company values and the ability to deliver that value
- A knowledge of IM strengths and confidence to apply them in various venues
- Flexibility, adaptability and a willingness to change
- Agility in transferring skills when being reabsorbed or redeployed to other departments
- Collaboration skills, including online and mass collaboration
- Versatility and the ability to learn new skills
- The ability to thrive on change and live with ambiguity
- Fluency in social media, ubiquitous computing, user-generated information and communications technologies of the newest generation of knowledge worker
- Optimism that IM skills can be applied in a million different ways that can deliver value to the business

Information managers and the IM function can survive organizational realignments and thrive in the corporations of the future, but only if IM practitioners adapt quickly to change and reposition the profession to provide tangible value to their corporate organizations.

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# VI
# CURRENT STATE OF LIBRARIES

# 14 SUSTAINING CORPORATE LIBRARIES IN BARBADOS: A SURVEY

*Beverly Hinds and Judith Toppin*

## INTRODUCTION AND BACKGROUND

Barbados, the most easterly island in the Caribbean archipelago, is a small developing nation with a land area of 166 square miles and a population of 275,338 (Barbados Statistical Service 2010). This English-speaking country has a well-educated population with a literacy rate of 92.9 percent (UNDP 2009). It can also boast of having one of the more stable democracies in the Western hemisphere having gained its independence from Britain almost 44 years ago. Originally an agriculturally based economy relying specifically on the growth of sugarcane and the production of sugar and rum, the Barbadian economy has, over that last 30 years, transitioned to one that records manufacturing and trade, fisheries, tourism, construction, energy and utilities, and international financial and business services as its major revenue earners (Central Bank of Barbados 2008). It is known as one of the foremost offshore service centers in the region and enjoys a thriving business environment (Williams 2003). It also has a rapidly developing entertainment services industry. Barbados' 2005–2025 National Strategic Plan visualizes that the country should transition towards becoming "a fully developed society that is prosperous, socially just and globally competitive" (Barbados Government, Ministry of Finance and Economic Affairs 2005). The United Nations Development Programme's Human Development Report, which examines life expectancy, education and GDP has rated Barbados as number 37 out of 182 countries in the world in its Human Development index (2009) and according to the Internet World Statistics, it ranks 27th, with a 63.8 percent Internet penetration rate (2009).

The shift from an agriculturally based economy, supported by research centers and units, to one with a focus on services suggests that private companies in both the services and manufacturing sectors would experience an increased need for information support to satisfy a growing demand for market research and product development information. As our survey suggests, this has not happened. Instead of an expansion, there has been a decline in the establishment

of an organized collection of information resources. The reasons for this decline require further examination.

Corporate libraries or information centers are a subset of special libraries. Their primary focus is to develop and provide services to meet the information needs of a company, organization, or group (Spiegelman, Carlson, & Flury 2003). While corporate libraries have been in existence in the United States from the early twentieth century, they continue to face challenging times. The literature is rife with reports suggesting that such libraries started a steep decline from the 1990s. Reasons given for this decline include structural changes in companies, adoption of electronic information services, economic conditions, and the social perception of librarians and libraries (Hall and Jones 2000). Davenport and Prusak were more damning in their research. In their study on corporate libraries, they said these libraries "have largely been left behind by the information revolution . . . they have little influence and their employees are often in dead-end careers" (1993). David Churbank, in an article on how the use of the Internet and innovative software would cause the demise of the library said, " . . . in lieu of librarians we will have programmers and database experts" (1993). The profession quickly rebounded with strategies that may be implemented to counterbalance this phenomenon.

In Barbadian corporate culture, the relevance and importance of libraries and information centers remains unclear, since it has never been fully embraced by the corporate sector. Corporate libraries in other English-speaking Caribbean islands have been established for a longer period and have a larger pool of trained staff to support their services. However, they also face an uncertain future and have sought to implement managerial changes to facilitate the introduction of information and communication technology into their environment (John 2007). While quick, easy, and efficient access to various types of information is often demanded by students, researchers and business personnel, the expectation, particularly in the corporate environment, invariably does not result in the financial support required to sustain a viable corporate information center. Although both tourism and financial services continue to be major foreign exchange earners, the establishment and maintenance of information resources by the business community to support these and other sectors has not increased relative to their growth. Evidence suggests that the business community is unaware of the services offered by libraries/information centers that support market expansion and various revenue generation activities.

A directory of special libraries and special collections in the Caribbean, compiled in 1992, lists Barbados as having 46 fully operational special libraries and special collections (Williams, Stewart, & Stephenson 1992). The majority of these special libraries and collections were located in either government institutions or as part of a larger university collection. Only six of the organizations listed in the directory could be described as having fully established business or corporate information units or libraries (Williams, Stewart, & Stephenson 1992).

Recognizing the need for current data on the status of corporate libraries in Barbados to support an analysis of the existing situation, the decision was taken

**Table 14.1**
**Breakdown of firms by sector.**

| SECTOR | NUMBER OF FIRMS SURVEYED |
|---|:---:|
| Banking Services | 1 |
| Conglomerates | 3 |
| Insurance Services | 1 |
| Legal Services | 1 |
| Manufacturing Services | 5 |
| Media/Communications | 3 |
| Professional Services | 4 |
| Utility Services | 1 |
| Total number of firms | 19 |

to conduct a survey. The *Performance* (2001) publication distributed by the accounting firm of Ernst and Young was used to identify the top performing companies in Barbados. Seventeen companies listed in the publication were selected for survey. The selection process sought to have a company from each major sector represented in the survey. The size of the company, the nature of business conducted and the possibility of them having an in-house library were also taken into consideration as part of the selection process. In the final selection, companies included in the survey fell within the sectors of media/communications, professional services, banking and insurance, utility, legal, manufacturing, and conglomerates. The six companies listed in the 1992 directory that indicated that they maintained a library were automatically included in the survey. This brought the total number of companies surveyed to nineteen. See Table 1.

A questionnaire was designed and data collected by telephone interview. Where there were no library personnel employed, information was solicited from a member of staff in human resources, training and development, public relations, or the legal department. In one case, information was solicited from the firm's attorney and in another, from the owner/manager of the firm. The questionnaire consisted of fifteen questions and was divided into four sections:

1. Information requirements of the parent organization
2. Qualifications, gender and age of library personnel
3. Scope and size of internal information resources
4. Products and services offered to clients

The survey also collected and analyzed the availability of electronic resources within each organization and the existence of a maintained Web site.

This chapter will examine the current status of corporate libraries in Barbados based on the results of a survey. Some possible solutions to their sustainability will be identified and discussed.

## ANALYSIS OF SURVEY DATA

The overall results of the survey suggested that not only has there been a decline in the number of fully functioning corporate libraries in Barbados, but plans to incorporate such a unit into the corporate structure do not appear to be forthcoming. Of the nineteen companies contacted, 36.8 percent or seven companies maintained an in-house library. Only four out of the six corporate libraries listed in the 1992 directory continue to function. The two libraries that ceased to exist fell within the professional services and media/communications categories. The four operational libraries fell within the sectors of media/communication services, utility services, and professional services. The results of the survey revealed the existence of two corporate libraries that were not listed in the 1992 directory. They were allocated to the categories of professional and legal services.

In addition to supporting the fact that there has been little change in the number of corporate libraries established in Barbados since 1992, the findings also show that none of the companies in the financial (banking and insurance) and manufacturing services sectors had established libraries or information centers since they came into existence. This is worthy of notice, since both sectors are regarded as areas of high growth in the Barbadian economy and should therefore have a great need for additional information resources.

## INFORMATION NEEDS OF THE ORGANIZATION

The primary information needs of those organizations with in-house collections included company profiles for local and regional companies, economic data, technical reports, financial regulations and legislation, information on total quality management (TQM), International Organization for Standardization (ISO) production standards, and local, regional, and international building codes and practices. The most frequent users of in-house information materials were at the managerial level along with staff members involved in product development and market research. while many acknowledged the value of information support in their work, the majority were unsure how their needs could be met by trained library professionals. These organizations also made budgetary allocations for the purchase of information materials, while those without a library or information center relied on the intranet and the Internet as primary sources for their information needs.

Of the nineteen companies surveyed, ten stated that they did not have a library. Five of the manufacturing companies topped the list followed by three

conglomerates, one insurance company and one professional services firm. There appeared to be no correlation between the absence of a library and the mainte- nance of a Web site. It was interesting to note that despite the absence of a tradi- tional information management center that seventeen (89.4%) maintained Web sites and one firm in the financial services sector had an intranet system. Two of the three conglomerates and three of the five manufacturing companies all had up-to-date Web sites, containing information on products, services, investor information, company personnel and contact information. When asked why they did not see the need for maintaining a library/information center that could be used by their subsidiaries especially as it related to data used by more than one entity, the manufacturing and conglomerates firms listed the following reasons:

- We have access to the internet.
- We have a cadre of in-house management trainees and analysts who perform all of our research tasks.
- We see no need for a central system.
- We outsource if the project is too large.
- Resource personnel at each subsidiary do their own research.

These responses elucidate the position taken by the decision-makers at the organization regarding the integration of a library or information center into the corporate structure. Many of the reasons given are on par with those found in the literature where reasons for downsizing or closings were "...a result of consolidation, outsourcing off-shoring, economic realities, or just plain naïveté about the web's capabilities" (Pearlstein 2009).

## RESOURCES

As the survey suggests, for the seven libraries reporting that they did maintain a library, six of them had the traditional books and documents as part of their

| Resources | Number |
|---|---|
| Books & Documents | 7 |
| Technical Reports | 1 |
| Newspaper Clippings | 2 |
| Electronic Resources | 3 |
| Conference Papers | 1 |
| A/V Materials | 1 |

collection. The media company and the utility company retained newspaper clippings and three companies each kept technical reports, conference papers, and audio-visual materials. Only three companies had any type of electronic resources.

## ROLE OF LIBRARY PERSONNEL

According to the survey, of the seven libraries that did maintain a library, there were only three companies, or 17.6 percent, that employed trained library personnel. That qualification was the Library Assistant's Certificate. The companies were the two media companies and the utility company. In the professional services firms, one person was an office assistant who had received on the job training and had a sound knowledge of the resources at the firm; another person described their training as a teacher who worked part-time at the firm for approximately seven years; the law firm used one of their professional staff members to perform the library tasks and the managing director at the engineering firm undertook some library duties. Tasks ranged from general administrative activities such as filing documents, locating reports, or providing information requested by their superiors to tasks generally considered the responsibility of a qualified librarian such as organizing and managing the collection, updating the in-house catalog, and monitoring loaned material. While the professional services firm recognized the importance of having access to information resources, they did not regard hiring professional or trained staff as a priority. Additionally, there was some indication that budgetary constraints influenced hiring of trained staff.

The gender of the persons employed in the capacity of librarian were primarily female; five of the seven persons. Of the two others who were male, one was the managing director of his company and the other had worked for the firm for over 20 years. He was fully aware of the size and scope of the collection, and served both senior management and external clients in his capacity as office assistant.

| Industry | Employee |
|---|---|
| Media | 2 |
| Prof Services | 3 |
| Utility Services | 1 |
| Legal Services | 1 |

## PRODUCTS AND SERVICES

The majority of the persons interviewed indicated that their resources were available for consultation by all persons employed by the organization. They also indicated that the administrators and senior managers were the primary users of

| Services offered | Number |
|---|:---:|
| In-house circ of docs | 6 |
| Reference services | 6 |
| Current Awareness Services | 1 |
| Inter-Library loan | 0 |
| External loan | 1 |
| Electronic database searches | 2 |

the collection. Mention was also made in two cases (media and utility) where the collection was also accessible to the public and to the families of employees.

With regard to major services offered, six of the libraries provided in-house circulation of documents as well as reference services. Two also maintained electronic databases and facilitated databases searches by company staff and in one instance external users. One provided a current awareness service and another limited external loan to individuals. However, it should be noted that none of the organizations had established procedures for the provision of an inter-library loan services for their users.

Of those organizations employing trained library staff, all persons interviewed indicated that they were responsible for the general administration and organization of the collection as well as assisting clients with locating information in the library. Six of the seven persons were involved in processing information materials, while five were involved in selecting and purchasing new information material. The fact that only two persons indicated that they undertook cataloging of new material points to the level of trained staff responsible for library management, as well as to the fact that few libraries have established or maintained an in-house catalog. The preparation of products such as a current awareness bulletin and a newsletter by one organization was also evidence of highly trained staff. Four persons indicated that assistance was provided for searches conducted on in-house databases.

## ELECTRONIC RESOURCES

The primary focus of the survey was to ascertain whether there was a decline in the number of functioning corporate libraries in Barbados. While an analysis of the results of the survey supports this, the information gathered also provides some insights into new areas that organizations were exploring in order to meet their information needs. Any previous data collection exercise that captured information on corporate libraries in Barbados would not have addressed this, since the utilization of various electronic resources within the corporate

**Figure 14.1 Tasks performed by library staff**
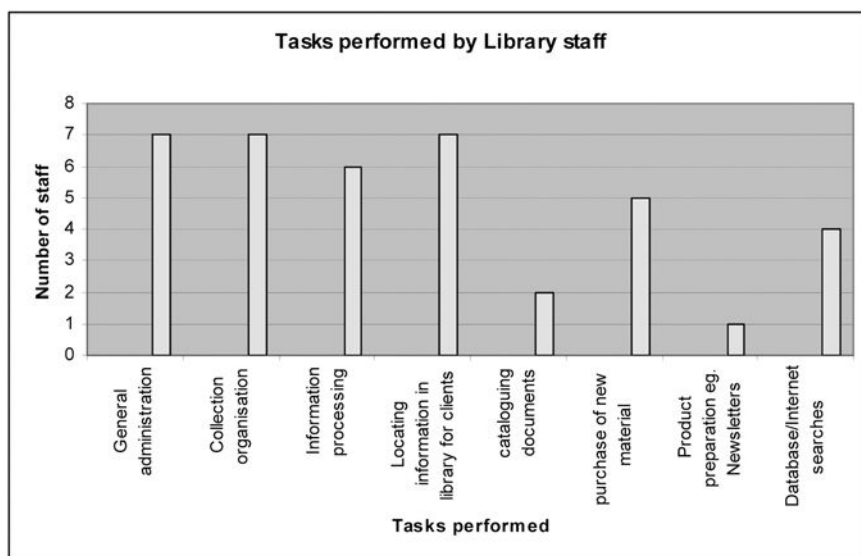


environment was in its infancy. Today, electronic resources are standard in many firms and play a critical role in the dissemination of information products.

The results showed that all nineteen firms (100%) contacted had a fully functioning email and internet access. Ten of the firms also had intranet services that provided them with access to internal documents, company regulations, legislation, and market information. Only three companies had established an electronic catalog and access to database resources.

In the area of Web site development, seventeen companies had established Web sites. The Web sites provided information about the objectives of the company, its achievements, top management and directors, key products and services,

| Internal Electronic resources | Number |
|---|---|
| Email | 19 |
| Internet Access | 19 |
| Intranet Access | 10 |
| Electronic Catalogue | 3 |
| Databases resources | 3 |

company newsletters and news releases. None of the Web sites mentioned the existence of a library or information center, nor was there any indication that the library played a part in the maintenance and update of information available through the site.

## POSSIBLE SOLUTIONS

The critical role that information should play in providing firms with competitive advantage is widely acknowledged by academics and corporate managers in the developed world (Davenport & Prusak 1999). Nevertheless, corporate libraries in these environments still struggle to survive and be recognized as an essential resource. Davenport and Prusak also point out many of these issues stem from an inability of the librarian to shift their focus from one of storing and organizing information, the warehouse model, to one that promotes the library as a critical center in the internal business network (1999). The corporate library in the developing world faces similar challenges. In fact, the results of our survey point to the fact that the warehouse model has become even more entrenched among existing corporate libraries and that an even greater effort would be required to remove these libraries from their traditional and comfortable modus operandi.

The survey's results clearly indicate that the corporate library in Barbados faces the threat of being severely downsized or of disappearing completely. Many companies do not recognize the need for internal information resources or the need to significantly expand existing ones. Corporate Barbados is aware of the global explosion of information, but appears slow to implement procedures that would integrate the use of information resources into business activities. This is essential in an era when knowledge resources are acknowledged to play a critical role in economic growth and development.

Possible solutions require a critical examination of the current climate, followed by the implementation of strategies to restructure, re-organize, and transform the corporate library. The major that which should be considered for inclusion in a strategy to resuscitate the library and ensure its sustainability are (1) implementation of a re-branding and marketing program to promote the library as a center for knowledge and the librarian as the gateway to that knowledge, (2) facilitation of increased professional development and training opportunities for librarians, which would encourage a shift towards the repackaging and the preparation of value added products and services, and (3) promote of the use of electronic resources and information technology in the storage and delivery of information services and products.

## MARKETING AND BRANDING

Some researchers have posited the view that the corporate librarian and the corporate library are relics of a past era and are irrelevant in today's information revolution (Davenport & Prusak 1993). Others have argued that libraries are

still flourishing and exhibit no visible signs of demise (Hall and Jones 2000). What is clear from these and other studies is the need for these libraries to reinvent themselves and the services that once made them valuable to the corporation.

The corporate and business library clientele have a distinct set of priorities that are non-existent in other library spheres. School, public, and government librarians do not operate as profit centers; it is not in their mandate to do so. On the other hand, the end result of any corporation's activities is to realize profits for themselves and their investors and to create a market share for their products. Consequently, the library's research and support services are invaluable components in the decision-making process that contributes to the company's profitability. This is where the twin concepts of marketing and branding can be implemented by librarians to efficiently promote the company's agenda while carving out a role for themselves and their services. This concept can be effectively implemented even in a small developing country such as Barbados.

Marketing is not a concept that librarians easily embrace, and it is not usually in their job description. It is a term generally associated with a product or service owned by one person or entity (the seller), to be sold to another entity (the buyer). Most people regard marketing as solely an advertising or selling strategy, which in some situations can have a negative connotation for people (Brown 1997). Using the American Marketing Association's definition of marketing makes it somewhat easier to contextualize the term as it pertains to the corporate library environment. It is defined as "the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large" (AMA 2007). The value-added component of marketing has evolved over time in the literature (Wood 2000). In this context, it is regarded as an important element in the interaction between the librarian/information professional and the customer/client. Whilst most librarians have little training in marketing, there clearly is a need for library staff to acquire these skills (Dubicki 2007).

A brand is defined as a name, term, sign, symbol, design, or combination of these that is used to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors (Kotler et al. 2002). Corporations understand the concept of branding and use it frequently in their quest to distinguish their goods and services from that of their competitor.

In a study conducted by Frank Portugal for the Special Libraries Association in 2000, it was reported that the top companies in the Fortune 500 listing were benefitting from the knowledge and resources that came from having functioning and well-supported information centers. This was especially true in companies in research-heavy sectors such as health and science, technology, and financial services. Conversely, those at the lower end did not have libraries. This may have been due to one or a combination of several factors—there may have been a lack of funds to devote to such a unit; the belief that their companies could manage quite ably without the expenditure on resources and personnel to manage such a unit; there were other means of obtaining the information they

needed for decision making; the type of business they were operating did not warrant the services of such a unit or they saw the unit as a mere cost center. All companies need data, information and knowledge and it is often needed expeditiously. How can librarians brand their unit and market themselves so that managers and decision makers are convinced that they add value to the corporate bottom line?

Researchers have posited some ways in which this could be achieved. For example, Guy St. Clair suggests that librarians and information professionals could integrate their skill set into the organization's broader mission. They should, " . . . see themselves as knowledge thought leaders providing information, knowledge, and strategic learning support for non-library affiliated knowledge . . . " (2008). Another researcher, who surveyed library staff in eight corporate headquarters, reported that some of the strategies used to market themselves should include ensuring that the library and its services were highly visible to management; assisting the company in staff training; become involved in the company's intranet development; and providing information consultancy on external projects (Hall and Jones 2000).

Our survey reported that the manufacturing conglomerates, insurance and financial firms had no library or information center and no plans to incorporate such a unit into their corporate business structure. The fact that they did not feel the need for such a unit meant that these companies had taken the position of the libraries in the lower end of the Fortune 500 study. It is notable that of the seven firms maintaining a library, only three of the personnel had some type of acceptable library qualification, a library assistant's certificate. The other four library personnel had no library training. Implementation of a marketing and branding strategy would convince some companies of the benefits and value to be gained from these units and professionals. Some of the respondents with functioning libraries were well aware that marketing their libraries was important. When asked what they thought might bring value to their library, two of the respondents said that they needed to market the library more effectively.

In Barbados, where the market is small, corporations with existing libraries or information centers could use the tools at their disposal to expose their clientele to the value-added services with a viable marketing exercise. Those librarians, who responded that they needed to market their companies more effectively, might use some or all of the strategies other information managers and librarians used to market their respective libraries and information centers. They all stated that one should start by developing a marketing plan. It was also important to know one's industry; know who the library's customers are; and conduct a poll of staff to discover staff's information needs. Other strategies include developing information brochures listing available library services; hosting a library open-house day for company and its major clients; creating strategic liaisons with certain departments in the company; using email to provide useful information to clients; requesting to participate in orientation sessions for new employees in order to meet new staff members and introduce them to the library's services; and holding awareness meetings to introduce new products and services.

It is more challenging to market library services to those companies who have no in-house library or information center. However, existing library staff might employ St. Clair's suggestion to integrate the librarian or information manager skill set into the organization's larger mission. Perhaps a broad approach should be taken, especially in the case of Barbados, to engage the assistance of the local library association and initiate a campaign to highlight the benefits of the corporate library and information center to the organization. This may work, especially if it could be proven that this addition could add value to the corporate bottom line.

## PROFESSIONAL DEVELOPMENT

The corporate library in Barbados faces three major challenges (1) a paucity of staff with the requisite skills and training to effectively organize and manage the collection, develop information products and facilitate the delivery of essential information services, (2) an in-house collection that exists without any formal supervision or organization or budget, and (3) the threat of closure of its operations by senior management. Recognizing that this situation is one which many developing nations face, there should be a strategy to address and correct this situation.

The study undertaken by Gosine-Boodoo (2006) indicates that there is a considerable number of trained special librarians operating in the Caribbean; however the number of those attached to corporate libraries which can be regarded as a subset of the special library, is not fully determined in the study. The steady decline in the number of corporate libraries in Barbados coupled with the low number of trained library staff employed in business establishments infers that the current modus operandi for corporate libraries in Barbados is one that does not encourage the professional librarian to enter this field. This also suggests that an alternate approach must be taken in an attempt to salvage what should be an expanding service in the Barbadian business environment.

Many reasons have been given for downsizing both libraries and librarians in the international corporate world; the primary ones being budgetary cuts and the feeling that the same information can be easily obtained from the internet with lower overhead costs. While it is clear that the services offered by corporate libraries 20 years ago can no longer guarantee their existence today, corporate librarians must recognize that re-tooling, updating their skills and professional training are essential for both their sustainability as well as for the efficient management of information material (Matarazzo & Pearlstein 2007). Additional professional training will equip the librarian with the necessary skills required to interact with and be accepted by the strategic planners within the organization. Ultimately, this will facilitate the virtual transfer of the library from being regarded as a storage facility to one that is actively client centered (Matarazzo & Pearlstein 2007). The library's role and function within the organization must be regarded as an essential value added component to the overall business strategy if it is to have a viable future within the organization.

The library's sustainability will also be assured when senior management recognizes and accepts the library as a valuable business asset. According to Matarazzo and Pearlstein (2007), much of this can be accomplished through critical thinking and strategic planning by the librarian. They recommend that the librarian's survival strategy must be a proactive one and should include the ability to identify business opportunities for the firm and also provide a targeted information support to senior management. When the library demonstrates its ability to enhance the firm's revenue earning capabilities, the services they provide will be considered essential to overall profitability and revenue generation targets, and as a consequence, the libraries' operational budget will be assured.

In addition to skills in information organization and management, the corporate librarian in this information age must acquire a working knowledge of business operations and business management. One of the primary objectives of every business is to make a profit. Survival of corporate librarians will be influenced by their ability to think and speak the language of business and ensure that the information services provided add value to the company (Rimland & Masuchika 2008). Additionally information can be used to provide the librarian with a strategic tool to demonstrate to management how vital information can be to ensuring that the firm maintains a competitive advantage over its competitors (Cronin & Davenport 1999). Some other skills identified as critical to the librarian's survival in the corporate environment include knowledge management, information technology, database management, and project planning. In addition, a familiarity with some of the softer skills such as leadership, communication, and negotiation skills are considered an asset (Chen & Chiu 2005).

In Gosine-Boodoo's study on the role of the special librarian in the Caribbean, she observes that many special librarians are acquiring managerial and administrative skills, which allow them to move beyond providing basic library services, and to embrace information technology (IT) related activities (Gosine-Boodoo 2006). These skills would give the librarian a strategic advantage and allow the library to be rebranded as the knowledge center of the firm. When a more visible profile has been established, the functions of the center can be further advanced by providing assistance with activities such as Web site design and the establishment of databases and knowledge repositories (Gosine-Boodoo 2006).

In this knowledge era, the special librarian in the corporate environment must also be informed in the basic principles of business management. An understanding of these skills is essential for survival in a contemporary business scenario; the corporate librarian must demonstrate strong communication skills with the strategic thinkers and strategists within the organization whose mandate is to identify areas for future growth, development, and expansion. When the corporate librarian is regarded as a strategist and a critical thinker, the opportunity for the library to make the shift from being regarded a nonessential support center to one that is a valuable resource in business planning exercises becomes a reality and the opportunity to rise above the support role in the organization will have been accomplished.

## INFORMATION RESOURCES

In their assessment of the role of corporate libraries in Taiwan, Chen and Chiu (2005) identify the primary responsibilities of the library as encompassing sourcing, acquiring, organizing and disseminating information to management and staff. For the library to be seen as a viable entity in the corporate environment, it must enhance and adapt the traditional functions of library administration to incorporate the electronic storage, retrieval and dissemination of information. A vibrant collection development strategy should emphasize the integration of electronic information products and services. These would add value to the library's activities and demonstrate an expansion of its resource base. The librarian also needs to adopt an aggressive business attitude, particularly in the development of products that capture the firm's internal knowledge and best practices. These, along with subscriptions to electronic databases, will demonstrate the value of information and help integrate the library's services into the internal network, enhancing the library's image as a vital contributor to the business decision making process (Chen & Chiu 2005).

The use of the internet and the World Wide Web in providing access to information resources is recognized and heavily used internationally. The majority of the firms surveyed indicated that they maintained a Web site, while some acknowledged the existence of an intranet. The opportunity exists for information specialists in corporate libraries to embrace the internet and intranet currently existing in their firms, align themselves with the information technology or systems personnel and seek to develop services such as the Web site design, maintenance and update, Selective Dissemination of Information (SDI), using the intranet, or the development of a digital library (Boss & Cook 2007). Additionally, training in information management equips the information professional with the ability to develop other services such as Web site content evaluation and the compilation of subject directories of useful sources of business information (Nurse 1999).

## CONCLUSIONS AND RECOMMENDATIONS

This chapter discussed those factors that impact the sustainability of corporate libraries in a developing country. It attempted to identify some critical areas that those responsible for the management and daily administration of corporate libraries should be aware of, if they are to survive, thrive, and expand their sphere of influence beyond the traditional areas of support. An attempt has been made to highlight some of the socio-economic issues that contribute to the decline or non-establishment of corporate support units among companies in Barbados. The results of the survey point to a substantial reduction in the number of fully operational corporate libraries in Barbados. Any strategy implemented to arrest this decline must first accurately identify the cause and following this, implement the necessary corrective measures.

A review and analysis of all operational activities will help identify those areas where change is required. In order to remodel the corporate library so that it functions as a viable entity, its perception as a cost center rather than one that adds value to the parent company needs to be addressed. The duties and responsibilities of library personnel within the organization, the scope of resources under their management along with the products and services offered, should be re-packaged to reflect contemporary information environment.

Though Barbados is a small market and the survey included only nineteen companies, the results provided information that was used to analyze the status of corporate libraries there. The results confirm that corporate libraries are not an integral part of the organizational structure of companies and that there is little desire on the part of the stakeholders to encompass a corporate library as part of the structure. It also reveals that where libraries do exist, that staff qualifications are either the bare minimum or that library functions are assigned or performed by non-qualified staff.

The ultimate success and sustainability of the corporate library depends on the ability of the library manager to promote the economic value of the unit to top management (John 2007). The goal of every business is to be profitable and to increase the value of its shares to its shareholders. The library's sustainability will be measured and determined by its ability to play a critical role in helping the parent company realize its goals and specifically to make a profit. If the library is not seen as bringing value to the organization, then it inevitably faces downsizing, severe budget restrictions, and ultimately closure. In order to avoid this, corporate librarians need to adopt a proactive approach to providing a value added information service. They also need to employ creative and non-traditional methods to ensure that the services that they provide are recognized as ones that are inextricably linked to the overall profitability of the organization (Prusak & Matarazzo 1990). Consequently, the library manager should develop a strategic plan which is directly linked to the company's mission. This plan must address all aspects of the libraries functionality, specifically, the placement of the library in the organizational structure, the branding of the unit, staffing and professional development, development of the collection, and most importantly marketing and delivery of products and services.

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## 15 PATTERNS FOR IMPROVING WEB USE QUALITY BY CORPORATE LIBRARIES IN LOW-INCOME COUNTRIES

*Samuel C. Avemaria Utulu and Adetoun Sote*

### INTRODUCTION

Twenty-first-century corporate organizations exist and operate in corporate environments that are strongly influenced by the socio-economic, cultural, technological, and political changes brought about by the information society. The dynamic information society environment of the twenty-first century has transformed the roles information and knowledge play as economic resources and also increased the value corporate organizations accord to information and knowledge management. Within the ambit of those transformations, the invention of the World Wide Web and its consequent utilization as an information and knowledge management platform have provided unprecedented opportunities to corporate organizations to harness their information and knowledge resources. In the recent past, corporate organizations in low-income countries (LICs) have also come to realize the importance of information and knowledge in achieving corporate goals and the important role the web can play in the transformation of corporate organizations' information and knowledge management fortunes. Hence, most corporate entities in LICs have started developing the principles and practices required to accommodate these changes and the culture of using the web to harness information and knowledge as corporate resources. They now expend a lot of time and human and capital resources on learning how to create and acquire information and knowledge resources using web technologies. This trend has dramatically influenced the ways and patterns adopted by corporate organizations in LICs in their bid to use the web as an information and knowledge management tool.

Corporate organizations in LICs have become an integral part of the community of organizations harnessing and tapping into information resources available on the web. The aggregate of corporate organizations in LICs together with those in high-income countries (HICs) that are involved in using the web has resulted in an exponential increase in the number of corporate web users. Observations

have shown that there are tens of millions of Web sites on the Internet of which a greater part are owned by corporate organizations that use them for several corporate and business functions. The most popular ways in which the existing mirage of corporate Web sites are used include electronic commerce transactions, such as business to business transactions, business to consumer transactions, advertising, and for administrative communication (internal or external) between stakeholders. Crandall and Swenson commented that "developments in web technology have made the web an attractive solution for many cross-company services that were previously impossible to implement" (1996, 1175). However, the large number of uses also raises web use challenges that corporate organizations have to tackle. Some of the challenges emanate as a result of the level of proficiency of those who design, host, implement and maintain web information systems for corporate organizations. Other challenges arise from the number of information and knowledge management functions corporate organizations are willing to use their Web sites for (Abrahao 2008; Kamthan 2008). Also, frequent changes in available web technologies and the invention of new ones have created web use optimization challenges faced by corporate organizations in LICs (Duncan and Holliday 2008; Ginige and Murugesan 2001; Constantine and Lockwood 2001).

The use of the web for corporate library functions has therefore not been prominent in LICs. Consequently, corporate libraries in LICs now face the need to take up the responsibility of developing patterns for improving web use in corporate environments, especially as it concerns:

- Initiating corporate library programs for the development of local content that are of immediate relevance to local corporate needs
- Initiating corporate library programs for training web end-users in corporate organizations
- Setting off innovative practices of organizing and creating access to the vast information and knowledge resources available on the web to members of the corporation who are entitled to use their libraries
- The design, deployment, and maintenance of Web sites and web based platforms where executives, managers and staff of corporate organizations can access available information in corporate libraries
- Developing and inserting web use tools and services like web accessibility, web usability, online reference, and other relevant features, into existing Web sites that corporate libraries use to meet the needs of their users

The changes in the ways information is managed in corporate settings create the need to reposition corporate libraries in a manner that will make them better able to perform their statutory duties. These changes result from the effects of the Internet and web technologies on the way information is created, manipulated, and disseminated, and how people use information. This chapter will examine what a LIC is, the function of the corporate library, and the way in which

information systems and content management in the form of a web information system (WIS) can serve the needs of corporate libraries in LICs.

## CHARACTERISTICS OF LICS' ECONOMIC ENVIRONMENT

LICs are designated as such because they have a low potential to generate wealth and resources for development. This low potential does not arise as a result of limited natural resources, but as a result of political instability, low ability to creatively turn available knowledge to innovative practices that can help improve productivity, inadequate policy formulation and implementation, low investment in human capacity development, and limited and low levels of knowledge production activities, to mention but a few causes. These factors result in low per capita income, which manifests as undesirable level of standard of living. There have been scholastic arguments about the actual causes of low income in countries, and these arguments have been approached from different points of views in the social sciences and allied fields over the years. The three theories most often used to explain low income in countries are:

1. Anti-Western perspective: this perspective argues from the point of view of the effects of colonialism, neocolonialism and western dominance on income level of LICs.
2. Pro-Western perspective: this perspective argues in favor of the West by citing their contributions to development initiatives and economic aids to LICs countries and puts the blame on LICs' level of corruption and inability to make and implement development policies.
3. Modernism theory: scholars stress the effect of the acceleration of history that led to the evolution of the industrial society to the information society and the consequential effects on countries with a low ability to invent and use information communication technologies for development purposes and to create wealth (Handelman 2006).

Apart from the social science field, other academic fields including the library and information science (LIS) field have concerned themselves with issues relating to LICs' development. The LIS field mostly concerns itself with the effects of the level of information production, extent of digital divide and human development index—mostly from the point of view of access to relevant information and quality education. The LIS field argues that the state of these factors in a country leads to general poverty and extremely low gross national product (GNP). It is proposed that for a country to move up the ladder of development, such a country must develop and invest in information and knowledge production activities, bridge digital divide and improve access to and quality of education at all levels (Britz et al. 2006; Varis 2007). It is believed that the human development index of a country is the best way to measure such a country's standard of living. Hence, LICs have a low human development index, which is reflected in high poverty rate, limited access to quality education, low

life expectancy, and low adult literacy. These factors affect the value of human capital and the eventual distribution of active populace across various sectors of LICs' economies. Among the greatest challenges LICs face however, is the need to improve their educational systems and information and knowledge production activities. Expanding education, particularly raising literacy rates, is a major prerequisite for information and knowledge use and economic and political development. An uneducated workforce leads to low labor productivity and also leads to limited political awareness and participation.

World Bank statistics have shown that more than 71 percent of the workforce in LICs is engaged in the agricultural sector. This uneven labor force concentration is a pointer to the level of expected poverty in LICs as their agricultural sector is characterized with obsolete and outdated farming technologies that are denied the use of mechanized farming methods and limited access to biotechnology and scientific knowledge. The remaining 29 percent of the workforce is however, employed in other sectors of the economy that are also affected by poverty traits and low productivity. This includes those employed in corporate organizations. The corporate organization environment of LICs, where practically less than half of the workforce is employed, can be categorized into six broad sub-sectors as shown below:

**Figure 15.1 Broad Categorization of Corporate Organizations in LICs**
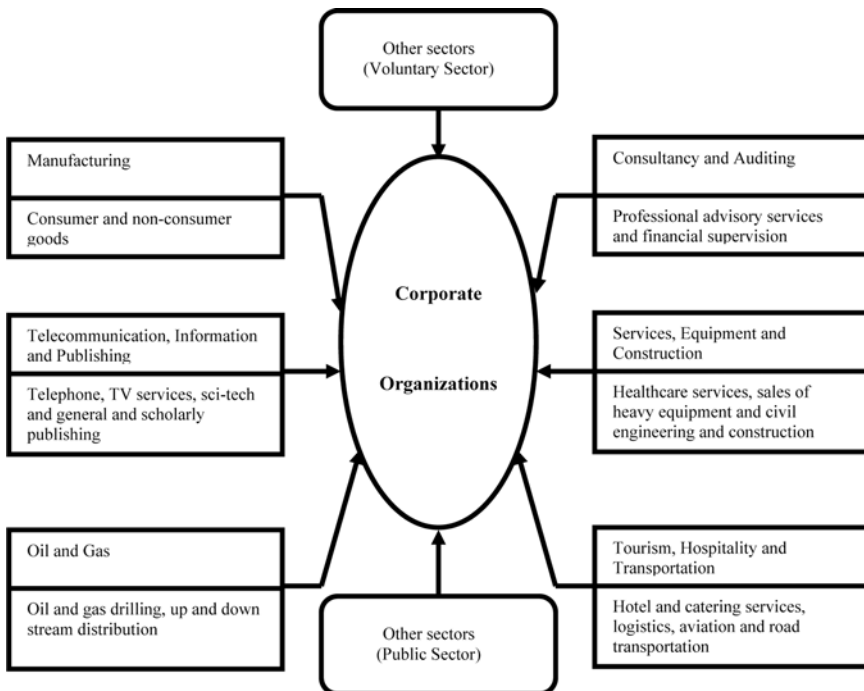
The sizes of these sectors of corporate organizations in LICs have been greatly affected by lack of entrepreneurial ability. This results from limited access to funding to start up a business, high cost of doing business in LICs' corporate environments, and lack of basic amenities and incentives to support entrepreneurial plans and programs. Although some of the corporate organizations in LICs are multinationals, entrepreneurship in these countries has been inhibited by the malfunctioning social systems, the force of traditional customs that have not given way to modern trends, the rigidity of traditional statuses, and the distrust of new ideas and existing measures that suppresses intellectual curiosity and development. Apart from all these factors, LICs are characterized by malfunctioning and unreliable means of transport and communications, irregular power supplies, and unavailability of sufficient raw materials, trained labor, and well-developed capital market.

The issues raised in this chapter on the low performance of corporate libraries in LICs are compounded by the hindrances existing in LICs economic environments. The ability of corporate libraries to surf through existing information markets, adopt innovative plans that will encourage acquiring information resources electronically, and develop innovations that will help incorporate the electronic resources acquired with those internally generated, have become very important. This is why the patterned improvement of WIS to a robust and reliable information system is very important. Also far more important is the need for corporate libraries to see the importance of integrating their corporate information services systematically into WIS in order to rationalize the effect of the information scarcity experienced in the LIC economic environments.

## CORPORATE LIBRARIES

The popularity and dynamics of Internet and web technology have brought about new ways people describe what a library is. People tend to call every collection of information resources, especially those on the Internet, a library, often irrespective of whether such resources are organized. Hence, Koehler was of the opinion that "Web-based collections, are redefining both the role of electronic information storage and retrieval as well as the role of traditional libraries" (1999, 4). However, libraries can be defined as information management institutions, staffed by trained personnel who are referred to as librarians, or with other similar nomenclatures such as archivists or information managers, and whose responsibility is to present available library resources to library users in an organized way, using some standards. A library's primary objectives include selecting, acquiring, organizing, disseminating, and preserving information resources so as to maximize their usage by library users. The functions performed by libraries have not particularly changed over the centuries, these are: the collection and preservation of information, the organization of information and the dissemination of information.

A corporate library therefore, is owned and funded by a corporate organization to select, acquire, organize, disseminate, and preserve information and knowledge

resources that are relevant to such corporate organization's needs. A corporate library can also be categorized as a type of special library, that is, a library considered 'special' because of the characteristics of the information and knowledge resources it houses, and the characteristics of its parent body. In true sense, corporate libraries are special libraries, and therefore have unique characteristics that distinguish them from other forms of libraries. One of the distinguishing factors is the nature of organizations that are referred to as corporate organizations. As their name implies, corporate libraries are owned by corporate organizations and hence, are expected to participate in the businesses of their parent organizations so as to support the corporate goals with the provision of relevant and timely information. This implies that corporate libraries are established to collect and preserve information and knowledge resources, organize information, and knowledge resources using some standards, and disseminate such information and knowledge resources in a manner that both management and staff are sufficiently supported with required information and knowledge resources that will help them initiate and carry out corporate plans and strategies for profit making. The idea of establishing corporate libraries became popular immediately after World War II when organizations developed a strong interest in using research information and knowledge as strategic resources. Corporations felt that corporate libraries could transform long standing experience in academic environments to business environments by managing and making available information and knowledge resources they needed to gain corporate advantage over their competitors.

Corporate libraries in LICs provide information services that are determined by accurate evaluation of information needs and appropriate understanding of the information seeking behavior of members of the corporation. Information needs and information seeking behavior evaluation help LICs corporate libraries provide information services in a most appropriate manner. Scammell therefore, suggested that information management and organizational management skills are important skills corporate librarians may need to acquire to be able to meet their parent bodies' information and knowledge needs (1997). Scammell specifically stated that librarians in contemporary corporate information environments need technology and subject expertise skills and skills required to identify, anticipate, and analyze organizational information needs. He also pointed out the importance of having a broad knowledge of available information resources and ability to access/integrate, organize, and store information for effective retrieval, and ability to add value to information through appropriate presentation, editorial, and publication skills. Scammell also stated the importance of knowledge management skills and the need for appropriate level of knowledge of legal aspects of information. With regards to management skills required by corporate librarians, Scammell outlined the need to possess an ability that will aid appropriate understanding of organizational culture, design and implementation of a strategic plan, financial and change management skills, and marketing and communication skills.

Over the years, corporate libraries have been faced with many challenging issues. The improvement in the ways information is processed and people's easy

access to information, especially through the Internet, led to a strong criticism of corporate libraries. Brophy commented that "instant pervasive access to world's information from the home, . . . work place and while on the move raises questions about the structures which have been developed to organize and make available information in the past" (2007, 6). The evolution of the information society resulted in the development of several categories of information professionals, especially computer science and allied courses, that could handle information management in ways perceived to be distinct and more efficacious than the ways adopted by corporate libraries. The skills acquired by diverse professionals employed in corporate organizations to manipulate and manage information and communication technology facilities for information and knowledge management, and the fact that major information and knowledge management operations are carried out in departments other than corporate libraries, also aided the relegation of corporate libraries in most corporate organizations. That is why Agada (1996) assessed factors that led to the outsourcing of corporate library functions by corporate organizations in the turn of the twentieth century. He then advised that corporate libraries should revamp their information services to lay emphasis on those areas that will allow them take up prominent roles and as information counselors in project teams, to enhance corporate library contributions to corporate organizations existence. Brophy (2007) also noted the central role electronic and computing technology is playing on the current efforts by contemporary libraries to reposition and justify their importance.

Ajiferuke also observed this trend from the knowledge management perspective thus:

> Information technologies, such as intranets, web portals, and groupware, are often used to facilitate the sharing of knowledge among a group of workers (commonly referred to as a community of practice) in an organization because of their capabilities in extending the reach as well as enhancing the speed of knowledge transfer . . . the key professionals involved in [information and] knowledge management activities are human resources managers, process and product developers, and information technologists. (2003, 247–48)

The diagram below pictures the information and knowledge management scenario evident in corporate organizations globally and the position of corporate libraries as a result of the transformation experienced in corporate information environment.

The diagram shows the sophistication that characterizes information and knowledge management in corporate organizations globally. It resulted from the growing importance of information and knowledge as economic resources and the proliferation of personnel involved in the generation and management of information and knowledge in corporate entities. Consequently, in their bid to harness their information and knowledge resources, like their counterparts elsewhere around the world, corporate organizations in LICs have continued to design

**Figure 15.2 Corporate Organization Information Management Model**
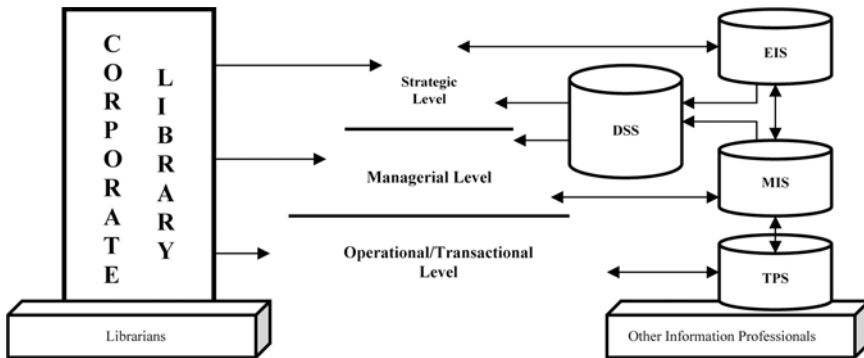


and implement their operations in a manner that leads to the use of transaction processing systems (TPS), management information systems (MIS), decision support systems (DSS) and executive information systems (EIS) across the various levels of management. This means that at every management level, all staffs are involved in the generation and management of information and knowledge. As a result of their training, computer scientists and engineers in electrical and electronics fields and allied professions have been found to be more involved in the design and implementation of information and knowledge management systems in corporate organizations than corporate librarians in LICs. The scenario has therefore resulted in a situation where traditional library information services are separated from TPS, MIS, DSS, and EIS services as shown in Figure 15.2.

In LICs, other related professionals like the MIS staff, human resource managers, accountants, and other specialists working in various management levels are engaged in creating and managing work flow data that are tied to the corporate existence of the organization. These information and knowledge management related operations are carried out outside corporate libraries' line of operations and are, in most cases, not integrated into the information and knowledge resources managed by corporate libraries. This was represented in the diagram with the two-way arrows, which connote that there are mutual data and information creation and flow processes between the responsibilities of these various other information professionals and managers working in corporate organizations. In contrast, corporate libraries in LICs focus on acquiring and providing information that is mostly created outside the corporation and that may not be in mutual flow with the corporation's work flow. Such information may be books, journals, and reference materials, which in their own right are relevant to the larger information needs of the corporation. Some of these information resources are also internally created for corporate purposes. For example, newsletters, public relations leaflets, and corporate Web sites may be created and made available in corporate libraries.

**Figure 15.3 Corporate Library Information Environment Model**
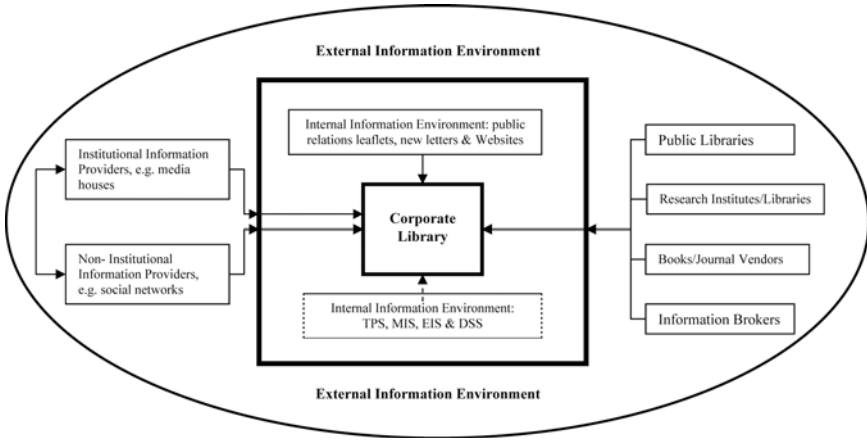


Figure 15.3 shows how corporate libraries relate with both internal and external information environments, which comprise other libraries, book/journal vendors, information brokers, and formal and informal information providers. Although the availability of internally coordinated information systems in corporate organizations reduces the value accorded these information and knowledge resources, they remain relevant to vital information needs of corporate organizations. Since most corporate organizations may not be able to afford the cost of carrying out all the research they need to address corporate issues bordering on their corporate existence and businesses, research published in journals is a vital source of accessing and assessing new knowledge trends. This is also applicable to information and knowledge available in books and other reference sources. As a result, corporate libraries in LICs have been primarily involved in repackaging these information and knowledge sources by summarizing, condensing, organizing, and representing within the context of the corporate needs of its parent body.

Figure 15.3 shows the array of information sources available in corporate libraries' external and internal information environments. For instance, it illustrates that a corporate organization's external information environment includes libraries (public and research libraries), information vendors and brokers, institutional information providers such as media houses and the Internet and non-institutional information providers which are mostly embedded in social networks. The diagram also shows that corporate organizations are not entirely open systems that receive all sorts of information and knowledge from external sources by adopting a thick border separating the external information environment from the internal information environment components already shown in Diagram 1. It is expedient to note that corporate librarians in LICs maneuver through both the internal and external information environment in their bid to meet the information needs of their corporate parent body by selecting,

acquiring, repackaging, and re-presenting available information from the deluge of information available to them.

The need to harness and integrate all the information and knowledge coming from outside and those created within the corporate organization therefore, arises and leads to a strong consideration of the adoption of a robust web information system (WIS). By the nature of web technology, WIS is capable of integrating a corporate organization's information and knowledge systems into a single unit. The corporate library, being proficient in information organization (cataloging, classifying, repackaging, taxonomy building, and indexing), can use these skills to provide better access to information and knowledge resources acquired by it and those created and stored in transaction processing system, management information system, executive information system, and the decision support system using WIS. Since web technologies allow the integration of all sorts of software, achieving this integration using WIS may not be difficult. The possibility of achieving this integration would give a new meaning to the functions of corporate libraries. Brophy advised that

> A linked development which has emerged from workplace libraries, although it also has roots in business management is that of knowledge management (KM). It thus provides an interesting example of convergence between library and information services and broader business practices. (2007, 49)

## WEB INFORMATION SYSTEM

The word "system" has grown to be popular in the computer, management, and library and information science fields and indeed in most fields where logical procedures and verification of outcomes and claims have become the norm. It also describes methods or rules set out to govern a defined human or natural activity with set procedures and processes for obtaining set objectives. Consequently, we have terms like "power system," "production system," "school system," "library system," "information systems," and "web information system," which are characterized by sub-entities that are carefully put together to provide a defined output. A WIS is therefore, designed and implemented for meeting set objectives like information and knowledge management and delivery.

WIS describes the systematic and dynamic use of web technology to create a system-based information management solution. It encompasses web technology, other supporting application software, human ware, and procedures put together to provide organizations with web-based information systems. Like the traditional information system, WIS has specified patterns through which it deploys solutions at various management levels to support the information management needs of a corporate body that sets it up. In LICs, WIS design and implementation has not become as sophisticated as in HICs. However, corporate organizations in LICs have used WIS for communication channels, advertising

media, portals, and for basic e-commerce transactions such as inventory management, supply chain tracking and management, logistics and cash management and fund transfers. According to Wang (2001), WIS are web technology based information systems that are integrated with conventional information systems such as databases and transaction processing systems and that perform all the functions a conventional information system performs. It supports corporate organizations by integrating Web site components into task performance procedures and strategies that are useful in solving problems related to data processing, information and knowledge management, and decision making. With the growth in the use of portal technology, WIS also makes use of portal technology as part of its strategy to deploy solutions to corporate operations and information management needs. Detlor revealed that

> Corporate portals are single-point Web browser interfaces used within organizations to promote the gathering, sharing, and dissemination of information throughout the enterprise. As such, these tools offer corporations a means by which to manage and access information from disparate sources across the firm. (2000, 91)

Over the years, the use of Web sites by corporate organizations can be described as a phenomenal development. This is because almost all corporate organizations in the world, including those in LICs have Web sites that they use for reasons that include: communication, advertising, registering web presence, and electronic commerce. Most corporate organizations have developed their Web sites into WIS, which has helped them to lower transaction costs, focus on group customers, carry out product and service differentiation and enhance competitiveness (Wang 2001; Hudson et al. 2000). The evolution of WIS has made it uncommon for corporate organizations to have static Web sites. Most of them now rely on database management system and other software that are deployed from the WIS back-end, to use their Web sites as interactive platforms to disseminate information and to receive responses from their stakeholders.

WIS has also been used to shape stakeholders' perceptions of corporate organizations. Kitchen commented on the role corporate reputation plays in maintaining a corporate organization's position in the corporate environment. Accordingly, he wrote that:

> Corporate reputation, or management and communication of the corporate brand, is playing an increasingly important role in terms of the ability of corporations to build and sustain market share, and influence the minds, and hearts of customers and stakeholders all over the world. Corporate reputation also significantly impacts upon share values and on the ability of the business to attract and retain excellent employees. (2004, 65)

Because of the importance of corporate reputation to corporate organizations, corporate WIS have also been used to support corporate reputation building

and sustenance. Such reputation building and sustenance is infused into ecommerce solutions available to stakeholders through WIS. Hence, e-commerce activities designed to be deployed using WIS may range from product presentation, differentiation and description, tutorials on how to use products, to actual buying and paying, product shipment, and shipment tracking. Utulu however, observed that the use of WIS in LICs is not as sophisticated as its use in HICs (2008). While HICs' corporate organizations have reached an advanced stage of WIS use for corporate activities, most LICs' corporate organizations still use it for basic business dealings like registering their presence on the web, basic transaction management, product advertisement, and one-way communication with stakeholders.

Mescon, Bovee, and Thill therefore, opined that WIS can be used for eight business activities, namely: marketing and sales, communication and collaboration, globalization, telecommunications and outsourcing, cost containment, information management, raising funds, and employee recruitment (1999). WIS have also been used by corporate organizations, especially those in HICs, to effect sophisticated corporate communication, manage corporate knowledge through the creation of e-collaboration, web based communities, and by organizing information and knowledge resources, among other functions (Kim 2000; McKenzie & Winkelen 2004; Riel & Fombrun 2007; Rowley & Hartley 2007). Ettredge et al. for example, presented the agenda used by corporate organizations to present financial information to investors using WIS to:

1. Provide individual (retail) investors with a quantity and timeliness of information previously available only to select parties, such as institutional investors and analysts
2. Aggregate existing publicly disclosed information such as wire releases, company publications, and Security and Exchange (SEC) filings
3. Equip retail investors with items not previously available to them, such as transcripts of analysts, conference calls, and so on (2001)

A WIS has become the cheapest means, so to say, to achieve corporate management and investment portfolio maintenance by corporate organizations.

The fact that web technology has been so improved to enable them to be integrated with other application software has made WIS the most widely used computer and Internet business based solution in the recent past. Pant et al. in their article describing how WIS can be implemented thus, presented an illustration of information system planning frameworks, which can guide those planning to develop a WIS. The frameworks include value chain analysis, critical success factor, strategic system planning, and information engineering frameworks. They concluded that strategic systems planning and information engineering frameworks are by far more appropriate for the planning of WIS (2001). The various frameworks used for information systems planning provided by Pant et al. are as a result of the enormous challenges corporate organizations have faced in the course of developing and using information systems (IS).

The need to expand IS platforms to accommodate WIS functions and the recent call for technology auditing as a result of the need to justify investment on technology resources including WIS has become wide spread. Literature in the field of web engineering, web architecture, and web designing has grown over the past years because of the growing needs for appropriate design and deployment of WIS. It has been revealed in the literature that inexperience, lack of required expertise, and choice of inadequate WIS development methodology and the clamor to use WIS for too many undefined purposes constitute hindrances to its appropriate use by corporate organizations (Duncan & Holliday 2008; Ling & Schaik 2006; Yoo & Jin 2004; Ginige & Murugesan 2001; Constantine & Lockwook 2001). Kamthan observed that WIS is "facing technological and social challenges posed by new implementation languages, variations, in user agents, demand for new services, and user . . . background, age groups, and capabilities" (2008, 57).

## PATTERNS OF IMPROVING WIS QUALITY IN LICS' CORPORATE ORGANIZATIONS

The need to appropriately manage the increasing dynamism, complexity, and large sizes of WIS used by corporate organizations has resulted in the development of patterns for improving WIS quality. Web quality assurance has been approached from various angles such as: listing quality solutions, reorganizing web resources, discussing relevant web quality attributes with stakeholders, analysis of users' perception, and general web evaluation. These approaches become informal and preventive measures when adopted as a unit or independent of one another. This is because as a unit, they lack required elements that could provide a holistic approach to WIS quality assurance. Kamthan however, provided an extensive discussion of pattern-based WIS quality assurance and noted that pattern was formally introduced in the urban planning and architecture domain. He revealed that patterns offers a proven solution to recurring problems in a given context, and have been used to address WIS quality problems such as usability (which can be user centered or design centered), maintainability, and ergonomics problems. Accordingly, patterns can be defined as "proven and rationalized solutions based on established principles that are specific to problems in given context [and is] in a structured form . . . " (Kamthan 2008, 58). In clearer terms, pattern means structured and systematic approaches to WIS quality assurance.

LICs' corporate organizations operate in technology, information, and knowledge deprived environments. This means that the availability of technology, that is, skills and machinery, and the level of information and knowledge production activity in existence in LICs' corporate environments are still at the basic level. This places strong challenges before LICs' corporate organizations, in the sense that they have to re-evaluate their positions within this technology and information deprived environment in order to carve a niche where

they can uniquely design and operate a dependable information infrastructure. This is also an opportunity to turn the challenges of LICs' information environment to a productive opportunity, and also improve the value accorded to corporate libraries in corporate organizations.

Corporate libraries information services are greatly influenced by academic systems as a result of the historical evolution of libraries as academic entities. This limits corporate library services' relevance to a handful of staff in research and development (R&D) units, whose information needs are academic in nature, and irrelevant to staff whose mandates require the use of tacit knowledge and highly processed and condensed information. It then becomes important to start a pattern for improving WIS quality from the design of a corporate library system that will infuse the information service attributes modeled in Figures 1 and 2 together. This approach will not only improve the quality and quantity of information available to corporate WIS users, but will also make them enjoy the advantages of combining information services provided by various other information professionals with that of corporate librarians.

Corporate librarians' professional ability to catalogue, classify, index, and abstract information resources will definitely come to play in providing a strong quality edge under this hybrid model. It will also go a long way in assisting those who deal with WIS architecture and information retrieval alternative access points to the array of corporate information resources available in LICs' corporate organizations. While this integrated system would be beneficial to managers and operations staff, it will also benefit R&D staff, who may need to relate experience and knowledge documented in books and journals with internal experiences and knowledge resources available in corporate databases. It will be an integration of a conventional information system and corporate library system as shown in Diagram 4 below.

In trying to initiate patterns to improve WIS quality in LICs' corporate organizations from the standpoint of the model presented above, it is important to note that the components of WIS quality to be adopted can be classed into three broad categories, namely:

1. social—dealing with people (designers and users), their mentalities and capabilities, policy frameworks, and business environments dictated by social relationship and interactions
2. technical—dealing with software, machines and information and communication technologies, and designers' technical abilities
3. information infrastructure, that is available information resources and the frequency and quality of information creation activities

The life cycle of a WIS can be a simple description such as design, deployment and use, and maintenance and improvement. At every stage of this cycle, the three classes of WIS quality components are important in achieving and maintaining WIS quality. This is because of the key roles that people (designers and users), technology (technical know-how, machines, and ICTs), and content

**Figure 15.4 Hybrid Corporate Information Management Model**
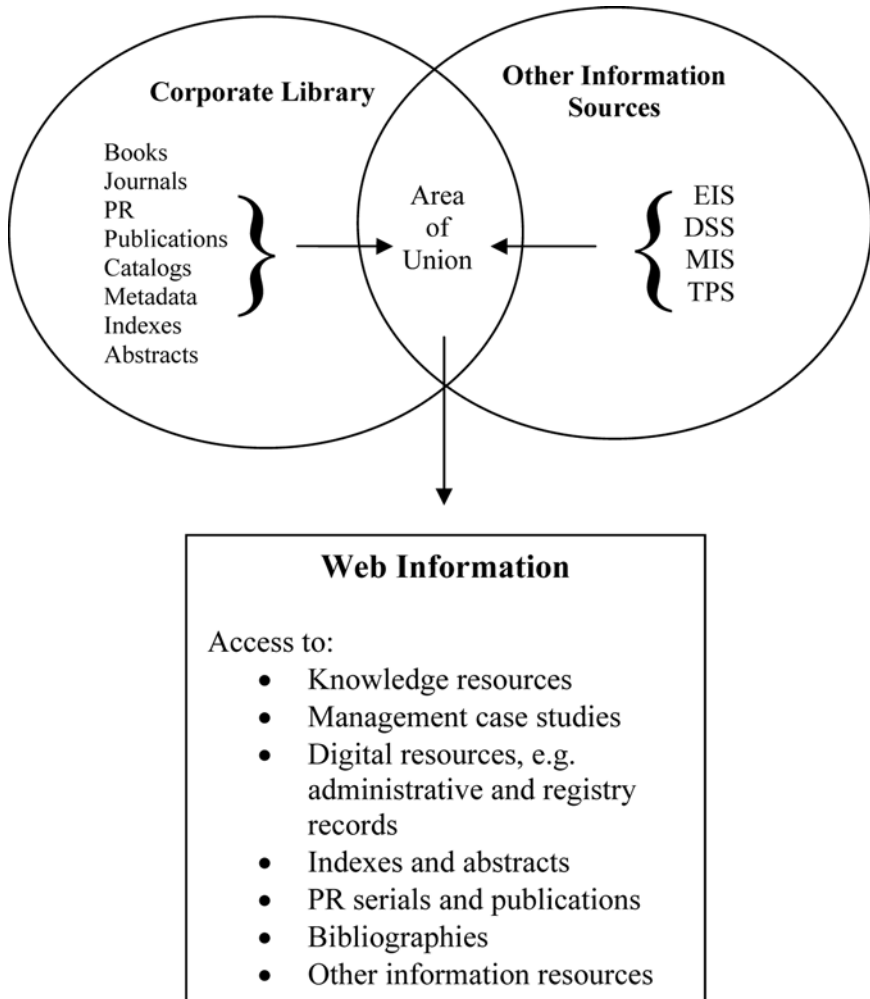


play in providing quality WIS. Adopting a pattern approach requires that at every stage, proven, and rationalized solutions must be systematically defined and applied. Therefore, a patterned consideration of social aspects of a WIS would lay strong emphasis on six social factors, namely:

1. identification of critical information needs and information seeking behavior
2. identification of critical information creation and information use activities within the corporate organization

3. vulnerability and risk assessment
4. policy formulation to coordinate every aspect of WIS design, use, and maintenance, which must include security and intellectual right management
5. education and training
6. strategic intelligence management to monitor occurrences, processes, and outcomes

After a patterned evaluation of these social factors, technical factors would also be considered using an equally proven and rationalized pattern available in the literature. This therefore, means that factors like available software, staff skills, and capabilities, reliability of power supply and cost of deploying fail-safe measures among others would form technical parameters to be carefully considered. Technical consideration of WIS design and deployment must also choose applicable web engineering and web architecture patterns that are manageable within the confines of the WIS objective and resources available to build, manage, and maintain it. Although many corporate organizations may consider information infrastructure evaluation as less important than the two aforementioned factors above, its importance in patterned WIS quality assurance cannot be over emphasized. This is because of the importance of content in users' judgment of the relevance and quality of WIS. Hence, patterned evaluation of existing information infrastructure would rely on information mapping and information auditing. This would present a clear picture of available information resources and the information management roles performed by the corporate librarian and those performed by other classes of information professionals and how to properly integrate the array of information activities into the WIS. Apart from this, it would also help identify areas of possible convergence and how to regulate areas that will remain divergent. Pattern approach takes all these activities holistically and rationally maps them out and approaches their implementation systematically.

The literature has recognized four factors considered paramount by WIS implementers to provide quality solutions to WIS. The factors can also be managed in the context of the three broad components—social, technical, and information infrastructure explained earlier:

1. Design: working out or making arrangements for how a WIS should look or the form it should take, that is, the arrangement of the scheme which will form the basis of the shape of the WIS (Nantel & Glaser 2008, Tractinsky et al. 2006; Zeng et al. 2009; Ling & Schaik 2006; Plessers et al. 2005).
2. Users: WIS users are those seeking information from a WIS. They always have purposes that determine what they want, and have attributes (professional assignments, gender, education level, location, among others) that determine their information needs and how they seek to meet their information needs (Richard & Chandra 2005; Tan & Wei 2006).

3. Content: all the information resources that are in the collections of information available in a WIS. WIS contents may be in several formats like text, audio-visual, charts, and other formats, and are critical in determining the value of WIS (Nantel & Glaser 2008; Ling & Schaik 2006; Blake et al. 2005; Ranganathan & Ganapathy 2002; Uhegbu 2001).
4. Architecture: information architecture deals with the analysis, design, and ornamentation of the data stored in WIS and concentrates on entities, their attributes and their relationship, which helps in modeling data for individual database and integrating such model into integrated systems of databases (Plessers et al. 2005; Ling & Schaik 2006; Tan & Wei 2006; Hausman & Siekpe 2009).

## CONCLUSION

The issues regarding the development and deployment of WIS in LICs' corporate organizations and the roles corporate libraries are expected to play go beyond making library contents easily accessible. The issues also incorporate the need to improve LICs corporate organizations' performance and productivity through the improvement of WIS. Since the use of corporate WIS has been in existence in the past, improving it to include library content formed the basis of the argument in this conclusion. The role librarians play in the information society, and the transformation of the media for delivery as library resources, has created the need to incorporate corporate library services in WIS. Once this is done, the added value achieved would be regarded as a primary way of improving LICs' corporate organizations' use of WIS. It has been established in the LIS literature that availability of information and the ability of information users to use available information is crucial to achieving corporate goals and profitability. More important than information availability and ability to use information is the level of access users have to available information. Since WIS are designed and implemented as a way to improve access to information, it then becomes very important as shown in this chapter to integrate every possible effort that would lead to increasing the quality and quantity of information available and also integrating access creation efforts across various information management professions in LICs corporate organizations to create value-added access through WIS. There can never be a time that is more appropriate than the present for the adoption of patterned based improvement for LIC corporate organizations' WIS, due to the importance of WIS to the desire of corporate organization to meet their corporate goal and objectives.

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# 16 LIFE AS A CORPORATE LIBRARIAN AT THE SOFTWARE ENGINEERING INSTITUTE

*Sheila L. Rosenthal and Melissa J. Harvey*

As a corporate library, the Software Engineering Institute (SEI) Library is an integral part of the organization. SEI librarians collaborate with researchers on technical projects, contribute to SEI goals, provide outreach and training to raise awareness of the library's services, encourage library users' independence, and provide special services that add value to the organization. This chapter provides background on the SEI Library and how it became a vital resource within the SEI organization. From its inception, the library's staff has been committed to customer service and to the fulfillment of research requests and project collaborations, demonstrating their high value to the organization in the vital services they provide.

## LITERATURE REVIEW

Embedded librarianship and corporate library impact are important aspects of a corporate librarian's work life; these two themes emerge frequently in the literature about corporate libraries. The importance of librarians having an embedded role in the special research projects of their corporations is the most prominent theme. Constance Ard discusses the importance of embedded services and co-location for successful corporate libraries, as well as benchmarking strategies to ensure delivery of services required to demonstrate the library's integral role within the organization (2009, 25–38). Meredith G. Farkas also talks about the embedded librarian, reference services, and online courseware (2008, 53–64). *Information Outlook* has published a number of journal articles describing embedded librarianship, most notably David Shumaker and Mary Talley's "Models of Embedded Librarianship: A Research Summary" (2010, 26–28, 33–35);

Jill Stover Heinze's "Leveraging Internal Partnerships for Library Success" (2010, 12–15); David Shumaker 's "A Wide Range of Approaches" (2010, 10–11); and Amy Maule's "Corporate Librarian or Corporate Climber?" (2009, 10–11). Other authors investigate the trend of embedding libraries in projects: Judith Siess's "Embedded Librarianship: The Next Big Thing?" (2010, 38–45) and David Shumaker's "Who Let the Librarians Out? Embedded Librarianship and the Library Manager" (2009, 239–242, 257).

The second significant theme in the literature is the importance of corporate library impact. Owens, Moore, Levitt, and Catino discuss this issue in *Case Study: Deere & Company Library Integrates with the Business and Quantifies Its Impact.* This report states,

> Many corporate libraries face extinction because they are out of step with business needs and out of the loop with their potential customers. To overcome this challenge, Deere & Company's library team hired a professional with a business background, built trusted relationships with stakeholders, and measured the value of what it delivers in business terms. The library's success stems in part from its ability to speak a language that executives understand, using concepts such as growth, metrics, and value to convey its usefulness. By communicating and expanding its competency, this 40-year-old library has transformed itself into a relevant and dynamic enterprise function. (Owens et al. 2008, 1)

*Library Quarterly* published a two-part article on "Corporate Library Impact" by William Edgar, "A Theoretical Approach" (2004, 122–151) and "Methodological Tradeoffs" (2004, e1–e18). Part I reviews the literature on determining how corporate libraries contribute to their larger organizations and recommends a more theoretical approach. Part II examines the methodological pros and cons of this approach and examines four kinds of research methodologies in relation to a theoretical approach.

## BACKGROUND: THE SEI LIBRARY

The Software Engineering Institute was established in 1984 as a federally funded research and development center operated by Carnegie Mellon University as a semi-autonomous, non-academic unit. The SEI mission is to advance software engineering and related disciplines to ensure systems have predictable and improved quality, cost, and schedule. The SEI operates at the leading edge of technical innovation, working with defense, government, industry, and academic institutions to improve software-intensive systems continuously (Software Engineering Institute 2009, 3).

Shortly after the SEI was created, management decided that the institute required its own library, separate from Carnegie Mellon University Libraries, with its own mission, manager, staff, and budget. In 1986 the SEI Library was

established to meet the information needs of the technical staff and facilitate the achievement of the SEI's mission and goals. The library serves as the repository for the official records of the SEI, managing an archive that is separate from the Carnegie Mellon University Libraries archive. For internal security reasons, the library is closed to the public except by special appointment for information unavailable in other area libraries.

Initially, the library focused on its book collection and fulfilling researchers' requests for their own desk copies of seminal works in software engineering and computer science. Today in addition to books, the collection includes online resources such as e-journals, e-books, and databases. This approach is similar to that of the MITRE Corporation's library, established within a year of the company's inception. The MITRE corporate library eliminated its book collection in the mid-1990s and moved to electronic information delivery, renaming itself Information Services (Trimble 2010, 24).

The two corporate libraries also share the desire for their information professionals to become embedded librarians. Many experiences described in this chapter support the SEI librarians' goal of becoming embedded in technical programs. In his case study on MITRE, Michael F. Moore concludes that

> being dedicated to systems engineering means I can provide more extensive subject knowledge, both to the systems engineers I work for, and to the information analysts I work with. Working with people with various capabilities means I can contribute to (and take advantage of) the team's synergy. Working with other dedicated information analysts means I can take advantage of their subject knowledge. It also means I can be a bridge point for people in both teams, finding out about solutions and opportunities and passing them on. For those of us who are dedicated to a project or team, it is a successful model to work with. (Moore 2006, 25)

The SEI Library's special relationship with Carnegie Mellon, discussed later in this chapter, is comparable to the relationship between the NASA Jet Propulsion Laboratory (JPL) Library and California Institute of Technology. In both cases, the corporate libraries and their university affiliates are separate, but they share mutually beneficial services. Carnegie Mellon University Libraries provide cataloging and acquisition support for the SEI Library as well as access to all of their databases. All cataloged materials are mutually available for circulation. In addition, employees of the JPL and employees of the SEI are eligible for borrowing privileges at their university affiliates' libraries (Jet Propulsion Laboratory).

There are also some differences between the SEI Library and some of the other corporate libraries. Two differences are size and the date of creation. For example, the MITRE Corporation began in 1959 and has 7,000 employees today whereas the SEI's origins date back to 1985, with a current total of about 700 employees. In addition, the SEI Library has only one location, given the institute's overall size. This is in sharp contrast to the MITRE Corporation, which has library locations in MacLean, VA, and Boston, MA. Similarly, the RAND

Corporation, which began in 1948 and has approximately 1,600 employees today, has a library at its headquarters in Santa Monica, CA, and branch libraries in Washington, DC, and Pittsburgh (RAND Corporation 2010).

Another major difference between the SEI Library and the RAND Corporation Library is RAND's use of the concept of charging patrons' projects for library services, which supplements the library's budget. By contrast, the SEI library manager believes that the library's services should be free of charge and that everyone at the SEI should be encouraged and motivated to use them. The library is supported through general SEI funds.

The Heinz Corporate Information Center (CIC) in Marshall Township, PA, and the SEI library are similar in that they both have very specialized collections: the Heinz CIC collection emphasizes food science and business, and the SEI Library collection focuses on software engineering, computer science, and military computing. The Heinz CIC's archived corporate materials are stored offsite whereas the SEI archive, when assembled, is intended to be located within or near the SEI's headquarters. The Heinz library initially serviced only the quality control staff; even today, the Heinz CIC staffs only one librarian and a research associate. For its first eighteen years, the SEI library's permanent full-time staff consisted of a library manager, a reference librarian, and one paraprofessional. Additional support was provided by one or two student employees. In 2005, when the SEI celebrated its twentieth anniversary, the library initiated an archive project, and an archivist was hired to maintain and preserve all of the SEI's vital records under the supervision of the library manager.

## COLLABORATION WITH THE UNIVERSITY LIBRARIES

The SEI Library's mission is to provide timely and relevant information to the SEI staff efficiently by maintaining an expert library staff and a collection of excellence. However, because the physical location of the SEI headquarters is adjacent to the Carnegie Mellon campus, the library also has a collaborative relationship with the Carnegie Mellon University Libraries.

The SEI Library's budget is separate from the University Libraries' budget and is used for purchasing books, journals, and online resources for the collection, which is focused on the research needs of the SEI staff. The University Libraries provide acquisition and cataloging services to the SEI Library for a fee, adding the SEI Library's holdings into the university library catalog.

Because of the relationship between SEI and Carnegie Mellon University, SEI staff members can access the Carnegie Mellon University Libraries. Such a relationship is rare among corporate libraries. The SEI librarians can focus on purchasing materials that are crucial to the SEI research mission and can refer SEI staff to the University Libraries for additional materials and resources.

Carnegie Mellon also benefits from this relationship. The computer science-related materials in the University Libraries are heavily used, and there are often not enough copies of materials. Fortunately, the campus community is able to

borrow the books from the focused collection of the SEI Library. They are also able to draw upon the expertise of the SEI librarians when necessary.

Also, the SEI library manager and the University Libraries computer science librarian work together closely. Since the SEI Library's collection focuses primarily on software engineering, the computer science librarian can concentrate on buying materials in other fields of computer science, limiting duplication of purchases in software engineering. Both librarians confer on potential collaborative purchasing of databases and journals, pooling funds whenever possible. These collaborations have enhanced the quality, range, and value of the services offered to the SEI staff and to the Carnegie Mellon community.

The rest of this chapter will describe the typical activities of the SEI librarians, many of which Ross Housewright identifies as essential for the success of corporate libraries. He states that "the value of traditional corporate library roles and services shifted over time as technology and user behaviors changed" (Housewright 2009, 258). He believes "more successful corporate libraries encouraged end users to be more self-sufficient and devoted less staff time and resources to low-value tasks" (Housewright 2009, 259).

## COLLABORATION WITH RESEARCH GROUPS

One goal of the SEI Library staff is to play a major role within the institute. The library staff keeps up to date with the institute's research activities by attending its internal presentations and reviewing project information on its public Web sites and internal SharePoint sites. In addition, each year the Director's Office initiates independent research and development (IRAD) projects. When funding is awarded, the library manager contacts the award recipients, encouraging them to use the library services to support their IRAD as well as other in-depth research projects.

One of the library's research goals is for the library manager and reference librarian to become embedded librarians. Both were invited to team meetings on a critical infrastructure project and met with the project leaders for a tactical service-oriented architecture (SOA) project. SharePoint was used as the information collaboration tool for two of the projects described below. Over the years, library staff members have frequently been invited to do in-depth research for SEI projects, sometimes becoming so well integrated into the team that the librarians attend project meetings. Several of these projects are described below; they highlight the importance of the library's goal for both the projects and the librarians.

### Project 1: Who's Doing What?

#### Research on Use of an SEI-Defined Approach

A member of one of the SEI technical program teams asked the library to track down examples of software product lines being used in real case study examples. The team members of the Product Line Practice initiative identified

a list of software product lines that people are building or have built (http://www
.sei.cmu.edu/productlines/casestudies/catalog/). The idea was to compile a long
list of examples so that if a potential customer said, "Product lines don't apply
to my business area," the SEI staff could show them this list and, most likely,
one or two entries that specifically refute their claim. The librarians began with
the list of product lines that the technical staff already knew about, with an indi-
cation of their successes. This team thought that using a research approach,
rather than depending on a grapevine what-have-you-heard approach, might
yield a whole new set of results. After completing their research, the SEI librari-
ans provided sixty-nine citations with short descriptions of documents about
software product lines that have been used by organizations in various industries.
In addition, the librarians offered to set up blog or RSS feed keyword alerts
to track this information in the future as more organizations adopt product line
systems. The feedback from the technical staff reflects the value of the library's
contribution:

> A 2-minute glance reveals some gems that I think we'll be delighted to
> know about (and didn't!). I'm very excited about this—it's going to be
> a big boon to our program.
>     With your help we've identified 42 examples of industrial software
> product lines!

Moreover, the following comment by a researcher highlights the beneficial
side effect of increased visibility for the library and, thus, opportunities for
involvement in other projects.

> I think we're your biggest fans. I was telling someone yesterday about this
> work, and heard myself saying, "We have absolutely the most wonderful
> library at the SEI."

The library has received similar feedback on other projects as well.

### Project 2: What Depends on What?

*Research on Critical Infrastructures*

The developers of an SEI model for operational resilience management asked
for the SEI librarians' involvement in research on U.S. national critical infra-
structure protection, with a focus on modeling and analysis of dependencies and
interdependencies (http://www.cert.org/resilience). Preparation for this project
involved acquiring an understanding of the CERT® Resilience Management
Model (CERT-RMM) (Caralli, Allen, Curtis, White, and Young 2010). Organi-
zations in every sector—industry, government, and academia—are facing
increasingly complex operational environments and dynamic risk environments.
These demands conspire to force organizations to rethink how they manage

operational risk and the resilience of critical business processes and services. The CERT® Resilience Management Model (CERT®-RMM) is an innovative and transformative way to approach the challenge of managing operational resilience in complex, risk-evolving environments. It is the result of years of research into the ways that organizations manage the security and survivability of the assets that ensure mission success. It incorporates concepts from an established process improvement community to allow organizations to holistically mature their security, business continuity, and IT operations management capabilities and improve predictability and success in sustaining operations whenever disruption occurs.[1]

The next step was to research the eighteen U.S. sectors for critical infrastructure protection and their respective Information Sharing and Analysis Centers (ISACs) and to become familiar with some of the ISACs in each of the fifty states.

The first aspect of the librarians' in-depth research involved (1) determining the best usage of the terms "dependency" and "interdependency" and (2) providing examples and identifying best practices, that is, how to best manage dependencies of information or how to best manage operations, again providing examples. The second aspect involved clarifying the following regarding the U.S. Department of Homeland Security: (1) how its operations are secured and how critical infrastructure protection requirements are met, (2) what methods are used for identifying dependency and to what degree operations within the government have dependencies; and (3) what international efforts have been initiated both in the U.S. and abroad. The librarians were also instructed to look for international and national conferences and any other types of training on these topics.

Using the project team's SharePoint site, SEI librarians uploaded literature searches on interdependencies and critical infrastructures, cyber attacks, and situational awareness. Since the technical team members were very interested in the Department of Homeland Security, the librarians provided the link to this Web site from their database subscription list along with a brief instructional tutorial. Other research results included a link from a November 8, 2009 *60 Minutes* program segment regarding the lack of U.S. readiness for cyber attacks and the book *Cyber Situational Awareness: Issues and Research* (Jajodia 2010). This book generated the following comment from one of the team leaders: "Yes, I think this book would be valuable . . . I reviewed the abstract you attached and find it in synch with our model needs, i.e., codifying situational awareness as one factor of resilient critical infrastructure." The technical leaders of this project found the resources retrieved by the librarians to be beneficial, so the librarian initiated subscriptions to the *International Journal of Critical Infrastructure Protection* and the *International Journal of Critical Infrastructures*.

The work that is done by this team is crucial in supporting the prevention of cyber warfare both within the U.S. and internationally. Given the interdependency of the eighteen U.S. sectors—drinking water and water treatment, agriculture and food, energy, transportation systems, nuclear reactors, and so on—an attack on one could shut down the entire nation. The SEI's upcoming

course "Introduction to CERT Resilience Management Model" focuses on helping organizations to protect and sustain their critical business processes and services by ensuring the continued productivity of assets, such as people, information, technology, and facilities in the face of disruptions and unplanned events. The CERT-RMM gives users an objective means to measure their ability to manage operational resilience and identify areas of improvement while allowing them to continue using their expertise with familiar domain-specific practices (Software Engineering Institute Training).

Another important use for the information generated by this research is the forthcoming book *The CERT Resilience Management Model: Improving Operational Resilience Processes*, written by three SEI authors and published by Addison-Wesley. This book should be available in December 2010.

### Project 3: Who Said What?

#### Research on Insider Threat and Espionage Court Cases

The library manager assisted a group of insider threat experts who wanted to obtain court documents for cases involving current or former employees who used information technology (IT) systems to commit illegal acts of national security espionage against the United States government. This was the second case study the team conducted and the assistance of the library was invaluable to the richness of the data that was eventually collected.

In 2002, the *Insider Threat Study* team, composed of U.S. Secret Service (USSS) behavioral psychologists and CERT information security experts, collected approximately 150 insider threat cases that occurred in U.S. critical infrastructure sectors between 1996 and 2002, and examined them from both a technical and a behavioral perspective. A series of four reports has been published as a result of this work: cases in the banking and finance sector http://www.cert.org/archive/pdf/bankfin040820.pdf, the IT sector http://www.cert.org/archive/pdf/insiderthreat_it2008.pdf, the government sector http://www.cert.org/archive/pdf/insiderthreat_gov2008.pdf, and all critical infrastructure sectors http://www.cert.org/archive/pdf/insidercross051105.pdf.[2]

The SEI experts studied these court cases to determine the details of how the employees planned and carried out their attacks. The court documents were used to collect and analyze data relating to the technical, non-technical and organizational aspects of the incidents. Using that data, the team was able to document several of their observations about the nature of these crimes, which can be found in the above-mentioned reports.

Using modeling and simulation to analyze the complexity of the insider threat problem, this team produced the Management and Education of the Risk of Insider Threat (MERIT) model of insider IT sabotage. The MERIT model demonstrates the impacts of policy decisions, technical security measures, psychological issues, and organizational culture on the risk of insider threat over time (http://www.cert.org/insider_threat/). The Insider Threat team uses the model to lead facilitated training on the risk of insider IT sabotage and to raise

employers' awareness of an insider's ability to set up and carry out an attack against their organization. The case study research also contributed to the SEI technical report, *The Big Picture of Insider IT Sabotage across U.S. Critical Infrastructures* (Moore, Cappelli, & Trzeciak 2008).

After that collaboration with the USSS, the Insider Threat Study team began studying cases involving national security espionage. They collaborated with the Department of Defense (DOD) to collect data on known cases of individuals who compromised national security information. The research goal was to determine if there are any common trends to the technical and non-technical activities of the subjects in order to provide better indicators of these illegal activities to investigators and counterintelligence officials. In order to fulfill this request for court cases, the library manager was given several spreadsheets containing the names of the subjects, the location of the crime, the date of the crime, and other notes that would be helpful in tracking down the court documents. Once she obtained confirmation on whether these cases actually ever went to trial, the library manager used Public Access to Court Electronic Records (PACER) and LexisNexis to locate more than 100 cases. For most of these cases, the only way to obtain complete transcripts was to contact the original court reporters and then purchase the transcripts. Here are two e-mails sent to the library manager from the technical leader of this project:

> Your time getting us all of these court documents is an incredible help to us—thanks to you we'll be able to accomplish so much more for this project! Thank you so much!!!
>
> We are SO appreciative of your help—we will pass the word about the great work you and your staff can do for CERT! Your dedication to our project went well beyond the "call of duty." The Sundays and nights you spent working for us was amazing. Thank you again!

The team's reports and training help employers recognize warning signs of insider threat and act to reduce the risk. The team's efforts are crucial to the protection of critical infrastructures from insiders who use IT systems to compromise an organization's data.

The majority of the library research for this interesting and important project lasted from 2007 through 2009. The library manager received special recognition from the technical leader of this project and continues to work with this team by setting up current awareness alerts for court indictments on insider threat cases involving cyber crime, conspiracy, or espionage.

### Project 4: What's the State of the Practice?

#### Research on Service-Oriented Architecture

Recently, an independent research and development (IRAD) project leader asked the SEI librarians to provide information required to evaluate the state-of-the-practice of tactical service-oriented architecture (SOA). "SOA is an

approach for designing, developing, deploying, and managing systems that are characterized by coarse-grained services that represent reusable business functionality. These systems serve consumers that compose applications or systems using the functionality provided by these services through standard interfaces" (Bianco, Lewis, & Merson 2008, 1).

After giving the librarians a list of keywords for use in research, the project leader specified that answers to the following questions would be very helpful for his project:

1. What are the characteristics of various types of tactical environments in which SOA-based systems will be deployed?
2. What advantages can SOA provide in tactical contexts?
3. What are the technical challenges in implementing tactical SOA?
4. What limitations and constraints for tactical SOA are acceptable?
5. How are these limitations and constraints likely to evolve assuming Moore's law holds?
6. What architectures and technologies are appropriate?

The librarians' first search involved SOA and the military and resulted in fifty-two pages of citations that were all selected and tagged by this requester for use in SharePoint with his team. Other related research requests included a special report from Forrester Research, a relevant new book purchase, information on how to cite certain documents for bibliographic usage, tagging documents in SharePoint, and requests for additional spin-off literature searches, like those in the e-mail below:

> This needs to be a quick search, so feed me what you find as you find it. Single system software development (or acquisition) practices do not apply or work in a Systems of Systems (SOS) context. Some areas of practice might include:
>
> 1. Requirements definition/management
>    a. Architecting
>    b. Verification and validation
>    c. Testing strategies
>    d. security
>    e. The engineering "V"
>    f. Change management
>    g. Sustainment
>    h. Governance
> 2. Research is critically needed in;—Sources that call for research in these areas
>    a. SOS Architecture
>    b. SOS testing

  c. SOS Requirements management
  d. SOS Identity management
 3. Others are working in the SOS research arena
 4. Who and at a high level what are they doing.

The library manager and reference librarian shared this request. Below is a reply they received in response to a literature search on others who are working in SOS (system of systems) research:

> This is really on target. Thanks. Can you add the citation I would use to each of the numbered descriptions?
>  Also in the fourth paper, 7th slide, there is a chart labeled "SOS: Increasing Popularity." The citation on it is Chuck Keating, 2006, ODU. Could you try to find this source?
>  Thanks again, great work.

The project team's work is important to the U.S. Department of Defense (DoD). The team provides information and support regarding the DoD decision to move toward SOA as a key technical strategy for achieving net-centric operations, a new military doctrine or theory of war. "It seeks to translate an information advantage, enabled in part by information technology, into a competitive war fighting advantage through the robust networking of well informed geographically dispersed forces. This networking combined with changes in technology, organization, processes, and people—may allow new forms of organizational behavior."[3]

### Project 5: How Can We Get the Word Out?

#### High-Impact Promotion of a New SEI Book

The SEI Library is in an ideal position to promote publications by the technical staff. In one extensive effort, the library manager assisted with promoting *A Process Research Framework*, a book produced by the SEI's International Process Research Consortium (IPRC) and edited by a senior member of the SEI technical staff (Forrester 2006). Their goal was to distribute the book to appropriate libraries throughout the United States and internationally. The solution was for the library manager to send the book, as one librarian to another. She contacted 500 libraries nationwide, as well as many international libraries at universities and other organizations. Each received a copy of the book and a letter explaining how it would benefit their library's collections.

The library manager is a member of a federally funded research and development center (FFRDC) librarians' group, called Research Center Information Managers (RCIM). The group members share information, ideas, news, events, and policies and procedures that are important to all FFRDCs. The library manager arranged for the editor of the IPRC book to speak at the 2007 annual RCIM

meeting hosted by the SEI Library. Each librarian received a copy of the book. The editor's presentation generated many interesting questions. The meeting was a great success, and one attendee, the director of the Library and Information Resources Center at the Aerospace Corporation, told the library manager that she had "raised the bar and set a new standard" for these meetings. Another factor in the success of this meeting was that it was held in conjunction with the SEI Library's Annual High Tea, described later in this chapter.

## CORPORATE-LEVEL CONTRIBUTIONS

The library also supports the SEI at the corporate level through ongoing responsibilities and responses to one-time requests from upper management. The two major ongoing activities are managing the institute's archive and providing data for the Institute's balanced scorecard. The balanced scorecard is an approach to strategic management developed in the early 1990s by Dr. Robert Kaplan (Harvard Business School) and Dr. David Norton, both of Palladium Group (http://www.thepalladiumgroup.com). The balanced scorecard "complements financial measures of past performance with measures of the drivers of future performance. The objectives and measures of the scorecard are derived from an organization's vision and strategy. The objectives and measures view organizational performance from four perspectives: financial, customer, internal business process, and learning and growth" (Kaplan and Norton 1996, 8).

### SEI Archive

Preservation of an organization's history is crucial to its continued existence. For this reason the SEI archive project was established in 2004 as the SEI was approaching its twentieth anniversary. Because the archiving of all of the SEI's vital documents was too large a project to be handled by the current library staff, the library manager was authorized in 2005 to hire a professional archivist. An initial action was to educate the SEI staff on the difference between a library and an archive and the role of an archivist. This was accomplished in two ways. First, Carnegie Mellon's Head of Archives and Digital Library Initiatives made a presentation at the library's High Tea in 2005 (detailed later in this chapter). In addition, the library used the poster in Figure 1 to show areas in which there is overlap. The library held a special ceremony for the SEI to showcase this poster when it was displayed behind the reference desk in the library.

The SEI archivist began an oral history project that video recorded interviews with the employees who have been with the SEI since its inception. In advance of their interviews, these staff members were given a list of questions designed to encourage them to talk about their work at the SEI over the last twenty-five years. The library manager, who is a member of the Special Libraries Association (SLA) and their Pittsburgh Chapter, wrote an article for the chapter's newsletter to introduce the SEI archive to local librarians (Rosenthal 2006, 6–7).

**Figure 16.1 Poster Featured Behind the SEI Library's Reference Desk**



Other corporate libraries have adopted this tradition, some labeling it as "storytelling," as in the case of the Aerospace Corporation (Braun 2007, 52–53) and the Jet Propulsion Laboratory (Bailey 2007). The Aerospace Corporation's library sponsored the storytelling series *Aerospace Stories* to capture corporate memory and provide mentoring. The series has been recorded on DVD and is available for checkout from the library.

### SEI Balanced Scorecard

For the SEI Director's Office, the librarians contribute technical output and citation analysis information for an important and highly visible project called the SEI Balanced Scorecard, which the SEI started using in 1999. The balanced scorecard is a strategic planning and management system that is used extensively in business and industry, government, and non-profit organizations worldwide to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organizational performance against strategic goals.[4] It originated as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more balanced view of organizational performance.[5]

Each program and functional area provides certain statistics for the balanced scorecard. From 1999 to 2006, the only information requested from the library was any mention of the SEI or SEI-authored articles in the Software Technology

Support Center (STSC) publication, *CrossTalk*. In 2006, the library's section of the balanced scorecard was enhanced to include collecting data on all publications by SEI authors of books, technical reports, papers in refereed journals, and conference proceedings, all of which were referred to as the SEI's technical output. Also, the library was asked to provide citation analysis data that included statistics on how many times SEI-authored publications were cited and which individuals or groups were citing them. This information is important to the Director's Office for measuring the impact of the SEI. The library now distributes these statistics quarterly. The balanced scorecard has recently been re-implemented to integrate into the SEI's organizational workforce improvement model, making its usage even more critically important to the SEI.

For the citation analysis section of the balanced scorecard, the library had been using Thomson Reuters Web of Science® cited reference search tool. The library provides data on an annual basis. Beginning in 2010, the improvement plan is to use the tools ResearcherID (http://www.researcherid.com/) and InCites™ (http://researchanalytics.thomsonreuters.com/incites/). These tools will involve the SEI staff. Each SEI author will be required to register for the Researcher ID service and enter the citations for their publications. The tool will eliminate author misidentification and enable users to search for collaborators, review publication lists, and confirm how their own research is being cited and used. InCites is a customized, citation-based research evaluation tool that enables organizations to analyze their productivity and benchmark output against similar or competitive organizations worldwide. This comprehensive resource supplies all the data and tools required to produce targeted, customized reports, which enable organizations to conduct in-depth analyses of their role in research, as well as produce focused snapshots that showcase particular aspects of research performance. The library manager plans to conduct several information seminars, introducing SEI staff to these new tools and resources. The goal is to motivate each SEI author to register for ResearcherID and upload their citations into this service.

## CREATING BENEFICIAL PROGRAMS: HIGH TEA IN CELEBRATION OF NATIONAL LIBRARY WEEK

The SEI Library has established an annual tradition for holding a celebration during National Library Week called High Tea. All SEI staff members are invited to this event, which includes a guest speaker whose presentation focuses on libraries and the benefit their services bring to the organizations they support. After the presentations is a reception with refreshments, and a raffle is held. Raffle items range from decoratively wrapped candy, flamingo cookie jars (flamingos are the library's mascot), plants, and gift certificates to fine restaurants.

This tradition was established under the direction of the first library manager in 1986 and has continued through the years. The High Tea brings together the entire SEI staff and provides them with both broad educational opportunities

**High Tea Reception**



and an opportunity to interact informally with each other and the librarians. Through the year, the SEI Library also regularly engages in more focused outreach and training activities, described in the next section.

Examples of some of the High Tea programs are the following:

- 2010: Terry W. Roberts (http://www.sei.cmu.edu/about/people/troberts.cfm), Executive director, Acquisition Support Program/Interagency and Cyber, focused her presentation on the SEI and the cyber environment. Roberts drew on her experience leading SEI customer support for the U.S. Department of Defense, the U.S. intelligence community, and the federal government, with a special focus on network security and acquisition in today's cyber environment and architecture areas.
- 2009: The Informedia Digital Video Project (http://www.informedia.cs.cmu.edu/) was described by Michael Christel, senior systems scientist at the Carnegie Mellon Entertainment Technology Center. In addition to SEI staff, attendees included Carnegie Mellon students and faculty, as well as staff from the RAND Corporation, whose Pittsburgh office is next to the SEI headquarters.

- 2008: Jim Johnson, chairman of the Standish Group, spoke about the group's CHAOS University database (http://www.standishgroup.com/index.php). The database is an important reference source for the SEI because the Standish Group's research concentration is on software failures, their causes, and how to prevent these failures. However, members of the SEI staff find the database to be very difficult and cumbersome to use.
- 2007: Isaac Councill, a Penn State University doctoral student and technical leader of the CiteSeer database (http://citeseerx.ist.psu.edu) spoke about CiteSeer[X], which was in early development at the time. CiteSeer is a well-known resource within the computer science community.
- 2006: Sheila Rosenthal, SEI library manager, celebrated the founding of the library and honored the SEI, which celebrated its twentieth anniversary the previous year. Her presentation included a video of the first library manager describing the founding of the library, early photos of the SEI offices and staff, and discussion of early publications and important books. Members of the library committee belonging to different SEI programs and functions were recognized.
- 2005: Gabrielle Michalek, head of Archives/Digital Library Initiatives at Carnegie Mellon, presented "Show Me the Value: What an Archive Can Do for You." Michalek described what an archive is, defined "vital record," and provided examples of the types of materials archives include.

## OUTREACH AND TRAINING

SEI Library's outreach and training activities raise awareness of library services and enable staff members to work independently on many tasks, freeing the librarians for more complex activities.

### Library Visibility through Corporate-Level Internal Reviews

At the corporate level, internal reviews play an outreach and awareness role. On the SEI organization chart, the SEI Library falls under Financial and Business Services, which also includes other internal services departments such as Financial Services and Human Resources. Beginning in 2009, the group started participating in SEI internal reviews, which involve providing information on each group's most essential responsibilities and projects along with all relevant metrics. The reviews are an important opportunity to update upper management on the impact of the library. Figure 3 shows an example of the data provided by the library on research performed, alerts provided, circulation, and interlibrary loans arranged.

Other presentation materials enable the library to raise awareness of additional activities. Slide headings and content for the December 2009 review are typical:

1. *Library/Archive Services—Operational Facts:* research and analysis support that the library provided for the balanced scorecard and the Insider Threat project, previously described above, as well as new projects

**Figure 16.2 Library Data Presented at Internal Review, December 2009**

## SEI Library Resource & Service Transactions - FY09

| | FY09 Q1 | FY09 Q2 | FY09 Q3 | FY09 Q4 |
|---|---|---|---|---|
| ■ ILL | 162 | 182 | 135 | 149 |
| ■ Circulation | 326 | 315 | 236 | 253 |
| ▢ Alerts | 82 | 124 | 55 | 36 |
| ■ Research | 79 | 205 | 79 | 129 |
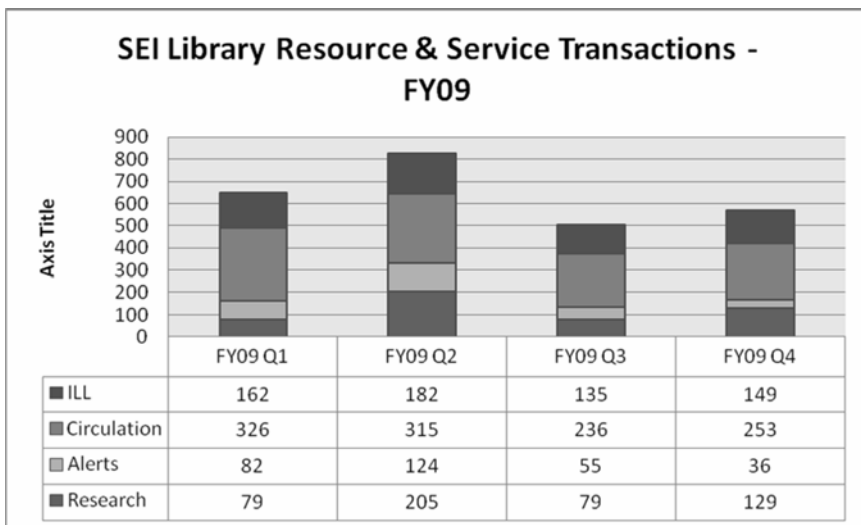
2. *Outreach Efforts:* the archive advisory group, the library committee, and new hire orientation
3. *Business and Library/Archive Services—Completed Projects:* Serials Shift and Reconciliation Project, new signage in the library, beta library services survey, number of oral histories completed
4. *Business and Library/Archive Services—Projects in Progress:* archivist's review of offsite material, an important activity for reducing the amount and cost of materials in offsite storage by bringing them into the SEI headquarters
5. *Business and Library/Archive Services—Targeted Projects:* develop training effectiveness survey, library services survey phase II, library resource seminars, library request system upgrade

By continuing to report on its operational responsibilities and projects to the SEI Director's Office and SEI management team, the library stays highly visible at the corporate level. The reviews establish the library as a necessary and vital department within the institute. The library staff has found an additional benefit: because each bulleted point on the "Projects in Progress and Targeted Projects" slides includes a specific date range for completion, the library and archive staff stay focused and aware of timeframes and targeted project completion dates.

### Outreach to SEI Staff

Outreach to the technical staff is critical to establishing the library as a vital resource within the organization. In order to address this service the library

manager often arranges for the library staff to speak at SEI programs' regularly scheduled meetings. During these meetings, the library manager provides an overview of library services and asks the audience about their specific research areas. Once aware of their research needs, the library staff offers additional information and instruction on the appropriate databases.

### Orientation for New SEI Employees

Library orientation is an excellent way to encourage new members of the SEI staff to utilize the library. This service has been officially registered on the SEI Human Resources checklist for new employees. The library manager tailors each orientation to the new employees' subject areas of expertise and demonstrates how to search the library catalog, relevant databases, and Web sites. She introduces them to library staff members, reviews the library's mission statement, and gives an overview of all the services provided by the library. Since many of the SEI staff members work in the SEI's Washington, D.C. office, the library manager visits their site whenever possible so they will also have the benefit of library orientation.

### Training: Library Request System

When the library request system is upgraded in 2010, the SEI staff will receive training on its use. The system enables library staff to collect statistical information on research, keyword and table of contents alerts, and interlibrary loans. It also allows the librarians to identify frequent users, track trends in their subject areas, and determine who requires more outreach activities to initiate or increase their library usage. The ultimate goal is to have SEI staff enter their own requests into this system, allowing them to track current requests and provide historical information on their previous research. Currently, the system is used only by the library staff. They enter each request received into the system according to category, record work they have done on each request from beginning to end, and collect statistical metrics for internal reviews.

### Training: ResearcherID and InCites

The library will soon provide training on how to use the ResearcherID and InCites tools mentioned earlier. SEI programs are very interested in collecting data identifying individuals who are citing their work and the number of times they are cited as well as identifying future collaborators. Also, the collective data acquired by using these tools will help to measure the impact of the SEI. The main challenge for the library staff will be to motivate SEI researchers to identify and enter their own citations into these resources. They will also have the option to utilize the ResearcherID mechanism for bulk registration and data upload.

*Ensuring Training Meets Staff Needs*

The library manager and her staff created a Library Services Survey to answer the following questions:

- Who is using SEI library services?
- How long have they been a library user?
- What are their research subject areas?
- What resources do they typically seek when conducting research?
- Did they complete a library orientation and, if so, was it helpful?
- How have they been using the library's physical and online resources?
- Do they follow certain trends or topics and, if so, what methods do they use?

The library services survey phase I beta was distributed to all SEI administrative support staff in August 2009. This sample survey provided the librarians with valuable data on how the survey itself should be restructured and also helped develop a better distribution methodology. The survey was distributed in March 2010. The main purpose of this survey was to reach out to members of the SEI staff who are not currently using the library services as well as to perfect services for current users. The survey has helped identify areas requiring training on library databases and resources.

Out of 700 SEI employees, 215 began the survey and 139 completed it. The four technical programs had fairly even representation, giving the librarians a good cross-organization sample of responses. The majority of the staff members who did not take the survey fell into the categories of visiting scientists and remote employees, showing that these are two groups the library needs to target. Although the librarians are in the early stages of analysis, the most frequently requested services have already been determined:

- Library orientation: Survey participants requested refreshers or indicated not remembering but wishing to take the library orientation.
- Online training: Access to online resources/training modules/webinars were preferred (68%) rather than in-person meetings or information seminars.
- Marketing/outreach: Responders seemed amazed at the number of resources and services mentioned in the survey, and they were unfamiliar with many of them.

In response to the survey results, the librarians have been brainstorming a plan to develop methods for training. Each quarter the library will host a "Quarterly Library Resources and Services Training Series." For example, in one quarter of 2010, the library will focus on a theme such as "Alerts and Current Awareness: Tools, Training, and Habits to Keep You Up to Date" and offer focused training on services and resources. The librarians can offer a scripted tutorial for program meetings, design a special online training module, and offer one-on-one meetings.

The survey results can be used to home in on the needs and skill levels of the SEI staff, making the survey a point of reference or guide and not requiring the librarians to draw all conclusions before starting improvements to services. This approach is feasible because there are three areas of requirements shown by the survey results: the need for regular patron contact, further training, and increased marketing of library services.

## PROVIDING SPECIAL SERVICES

Special services include providing library alerts, fulfilling rush requests, obtaining corporate memberships, and highlighting publications in a display case outside the library entrance.

### *Library Alerts*

Staying up to date with the scholarly literature is essential to library patrons' research. The library staff provides two types of alert services—table-of-contents and keyword—available to everyone at the SEI, along with assistance in selecting keywords. While the library staff has created searches on patron-selected keyword phrases in the appropriate subject-specific databases, they also offer instruction for those who would like to run these searches on their own. For the articles they need, patrons may now directly download full-text articles or send requests to the library for articles not readily available in full text. In addition, the library provides interlibrary loan services when items are difficult to obtain.

### *Rush Requests*

The SEI Library philosophy is to attempt to accommodate all SEI staff requests whenever possible and to always go the extra mile. Therefore, in addition to ordering all requested materials in a timely manner, the library also provides rush request services for items needed as soon as possible. These items may include IEEE or ISO standards, as well as other publications. The library also maintains borrowing cards at local libraries, the Carnegie Library of Pittsburgh and the University of Pittsburgh's library system, that have proven to be essential for many of these rush requests.

### *SEI Corporate Memberships*

In addition, the director of financial and business services and the manager of business services have entrusted the library with the responsibility of managing and maintaining all of the SEI's corporate memberships, providing assurance that these memberships will remain operational within the SEI. For the benefit of SEI staff, specific services included in these memberships are announced and promoted by the library. Site licenses are also handled and controlled by the library, along with the expert help of SEI's Contracts Office. The library manager

**Display Case Near the SEI Library Entrance**



reviews memberships and site licenses during their respective renewal cycles and assists with renewal decisions.

### *Display Case*

The library display case is a showcase for SEI publications. When new SEI-authored books are published, they are featured in the display case next to the library entrance. The library is on the first floor of the SEI building, along with conference rooms for SEI education courses attended by students, faculty, and other external SEI course attendees. This location makes the library a center of attention for these outside visitors and increases the importance of materials emphasized in the display case. The library manager's goal is to make the library the main feature on the first floor.

## FUTURE SERVICES

Housewright emphasizes the importance of deep engagement with the user community (Housewright 2009, 253–271). An initial collaborative effort with one of the members of the SEI technical staff has led to possible initiatives for the future. One example is a presentation for iConference 2010 at the University of Illinois at Urbana-Champaign entitled "The Role of Informatics in Software

Engineering: Literature Reviews, Agenda, and Software Informatics" (Monarch, Rosenthal, & Callison 2010). This same technical staff member is also very interested in working with the library on using text-mining tools to collect data in support of the library's knowledge management efforts. The librarians would like to collect and maintain data on the importance of software and how this importance will grow over the years. Another project has involved helping to identify the best research laboratories for the SEI to provide assistance to and collaborate with in the future. This involved conducting thorough research on a large number of government research laboratories.

As the library continues to expand its services, it will become increasingly important for the librarians to gain knowledge of the SEI technical work, continue to become personally involved in the projects, attend presentations, and take SEI courses on technical topics.

## CONCLUSION

This quote from "Themes of Change in Corporate Libraries: Considerations for Academic Libraries" summarizes the philosophy of the SEI librarians:

> In the corporate world, the library is not judged as a library but as a part of the company it served. The relevant measure of excellence, then, is how much the library contributes to its parent company's success by improving overall corporate efficiency and effectiveness. Demand-driven libraries, which crafted their service offerings based on demonstrations and measurements of needs and priorities of their constituents and host, were generally more successful. (Housewright 2009, 256)

Supporting research in software engineering and establishing the SEI library as a vital resource within the Software Engineering Institute are the main goals of the library manager and her staff. Serving as a corporate librarian means having a total commitment to customer service for the organization and to the fulfillment of research requests and project collaborations. One challenge all librarians face is determining the dollar value of all the services they provide. At the SEI, the value of the library is reflected by the feedback received from its patrons. This is the most gratifying form of appreciation and is of the greatest value to the librarians. The SEI Library will celebrate its twenty-fifth anniversary in 2011, and the librarians are dedicated to continuing to enhance the level of services for the SEI for many more years to come.

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## NOTES

1. For more information, see: http://www.sei.cmu.edu/library/abstracts/reports/10tr012.cfm

2. For more information, see: http://www.cert.org/insider_threat/

3. For more information, see: http://en.wikipedia.org/wiki/Net-centric_operations

4. For more information, see: http://www.balancedscorecard.org/BSCResources/AbouttheBalancedScorecard/tabid/55/Default.aspx

5. While the phrase "balanced scorecard" was coined in the early 1990s, the roots of this type of approach are deep and include the pioneering work of General Electric on performance measurement reporting in the 1950s and the work of French process engineers [who created the "Tableau de Bord"—literally, a "dashboard" of performance measures] in the early part of the twentieth century.

# GLOSSARY

*Marjorie Porter*

It is the intention of this book to be useful to information professionals and students of library science. To this end, a glossary has been included to help readers who may not be familiar with business terms. However, producing a business information glossary is no simple task as business language can be complex and indefinite. This short introduction explains some of the reasons why this is so.

## VARIETY OF INFORMATION SERVICES

The first difficulty in defining terms for corporate librarians is the lack of distinction between one type of information service and another. Although the specific information needs of a business can be listed and explained, the actual responsibilities overlap among the various types of professionals.

For example, it is not possible to define specific terms based on who performs them because titles, definitions, and responsibilities of information services and personnel are as diverse as businesses themselves. Non-library departmental staff may be asked to select, acquire, and know how to use information resources such as subscription databases. A corporate librarian may be asked to create a computer system to gather and store business data in addition to organizing and cataloging it. Depending on the company, an information management department may not perform all the duties or may do significantly more duties than those defined under the term information management.

Despite the efforts of academia and professional organizations, the actual responsibilities of professionals in information science are not specifically defined. The main branches include information technology, libraries, and information management. Information technology usually refers to the creation, management, and/or maintenance of hardware and software used to gather, create, manipulate, store, and/or disseminate information. Library science usually refers to the selection, acquisition, and organization of information resources and to the ability to find and use a variety of information resources. However, both of these definitions may also apply to processes labeled information management. In any case all of these processes and responsibilities overlap and herein lays the difficulty in terminology. An information technologist's system may include a collection of hardware and software, but an information manager's system may include that hardware and software as well as all of the people and resources that contribute data. Both professionals will refer to the system but each may actually be referring to different parts or aspects of the same thing.

## JARGON: CORPORATE SPEAK AND BUZZWORDS

Whether it is a salesperson pursuing a new client or an employee hoping to get a good evaluation, business communication requires a certain amount of persuasion. Particular words which create emotional responses, like enthusiasm or confidence, tend to develop a certain value. When this happens, they become a sort of currency in communication. People who can use these words effectively can buy credibility, attention, and/or respect. However, once a word becomes valuable in this way, it may also be appropriated for any situation needing extra weight. When this happens, its meaning may be stretched, replaced, or removed altogether.

There are many reasons why this happens, which will not be examined here. Change in meaning is a phenomenon of linguistics and happens everywhere language is used. In the business arena, however, this phenomenon happens quickly and often. Words gain value, are appropriated for other uses, and laid aside or simply readopted with the new function. The retention of meaning is not nearly as important as the emotional and persuasive impact of what is being said. It is no accident of linguistics that the dictionary defines jargon as both specialized language of a certain profession and meaningless or incoherent talk (Webster's 1999). These weighted terms are called buzzwords but lately the whole phenomenon has been referred to, usually mockingly, as *corporate speak*.

The common criticism of corporate speak is that it avoids definitions and makes meaning ambiguous. In his article "The Master's Voice," writer Peter Krass (2006) examines the language used by CEOs in their annual letters to shareholders. He points out which CEOs manage to communicate effectively with their shareholders and companies and which obscure meaning using the emotional impact of language. He even goes so far as to compare the business acumen of CEOs, as ranked by *Forbes*, with the ability to effectively communicate with

shareholders (2006, 16–20), thereby, suggesting that better communicators are usually better managers.

There are two main methods by which terms are appropriated into corporate speak: the change of words from one part of speech to another and the misappropriation of a word as a synonym for another word. The first method can be seen when nouns are made into verbs. Where formerly one might use a *liaison* to communicate with another project team, today one may simply *liaise* with the other group. Rather than going through the trouble of providing an *incentive* to encourage performance, management may now just *incent* their workers. Alternately, a verb may become a noun. Instead of *delivering* products or services, a department may produce *deliverables*. The second method may be seen in the use of the word *leverage*. While the definition of this word is sufficiently expansive, including the physical action of a lever and the ability to influence, in business literature of the past few years this word has also been used as a synonym for use, introduce, and distribute.

## NEW TRENDS AND PRODUCTS: BUSINESS TRAINING IS BIG BUSINESS

Business consulting and training are a big business. There are seminars, assessment tools, books and workbooks, and hundreds of other products for businesses to take advantage of. However, because of the number of products and methods available, producers must be able to stand out to potential consumers. One way of doing this is to have your product name, slogan, or buzzword catch on in regular business communication.

In order to understand business language, it is important to differentiate between a product name and a business concept. Some terms are very specific processes, such as the Balanced Scorecard developed by Kaplan and Norton. Some are programs to help businesses conduct established business practices effectively. For example, Six Sigma and LEAN is a method for performing quality assessment and improving processes. Some terms are simply concepts such as win-win, which is most often associated with Franklin Covey management products.

A business concept, however, is some actual function necessary to business. Quality assessment is the process in which products and/or processes are observed and assessed in ensure high quality of finished products, efficiency of the process of developing the product, or compliance with standards. Whichever named program they choose to adopt, a company must still check quality.

The difficulty for novices to business communication is that these products and the associated terms tend to arrive as trends and take a substantial place in the literature for a period of time before being replaced by a new product. During this time, they are sometimes used in place of the original concept. Please note, the pervasiveness of a product's name or slogan in business communication is not necessarily a reflection of its quality as a product. Some products that form a trend

for a short time are excellent products. Some that linger are not. Nevertheless, some continue for a good reason while some disappear for reasons that are just as good. Some words associates with products that enter the mainstream may suffer the same fate as other buzzwords, namely, the term may shift in meaning. An example of this is examined in the article "The term 'win-win' in conflict management: A classic case of misuse and overuse" by Lisa McNary. In it she follows the term 'win-win' from its origin in the literature of conflict management, where it is defined as a situation of compromise, to its status as a buzzword which suggests that all parties in a conflict may achieve their goals or even gain an advantage. A suggestion which McNary refutes (2003, 144–59). It is therefore necessary to understand the concepts and processes in business in order to avoid misusing language.

## GLOSSARY

This glossary is included for the benefit of information professionals and students who are not familiar with business terms and communication. While an attempt has been made to avoid specific product names or buzzwords, this glossary is very much a product of the time of the publication of this book. Future readers may need to seek out the same concepts under different terms. This is in no way a comprehensive list of business terms nor does it examine in detail the specifics of each. Instead, the purpose of this glossary to provide a brief and informal introduction to the terms and concepts that may be of relevance to an information professional in business. Also included is a short list of references which includes further reading for some of the glossary terms.

The terms **Added Value** and **Value Add** have separate and specific meanings in economics and accounting. Usually when referred to in the information science literature, it means finding a way to provide a competitive edge by enhancing a product or service. For instance, adding a document delivery service to a reference service or training users to use electronic resources on their desktop instead of simply providing the resources.

**Alignment** happens when various teams, departments, or functions begin to work under the same set of goals or mission. For example, corporate libraries should align themselves with the business goals of their parent company.

An **Archive** is a repository of documents or information. It may be a physical or virtual space. To archive is to put documents or information into such a repository using a specific organization. Documents may be archived for their information value, and therefore need to be available for later examination, but may also be archived based on legal or regulatory requirements.

**Benchmarking** refers to the practice of comparing one's own performance against the performance of others. An organization may benchmark

internally, comparing the performance of some departments with the performance of others, or externally, comparing itself to a peer organization or an organization with a reputation for excellence in a specific area. Organizations may gather data either internally or externally for benchmarking purposes, or they may purchase benchmarking data from publishers or consultants.

A **Boilerplate** is a template and refers to language or processes that are established and can simply be included or applied. Boilerplate language is often used in legal documents where the wording in successful contracts can be reused as necessary.

**Business Critical** refers to functions or processes within an organization that the performance of the organization cannot continue without. For example, a manufacturer cannot continue to operate if all factories are shut down.

**Business Intelligence** refers to the practice of gathering and analyzing internal company data to determine what products or departments are making or losing money and what the actual costs of a business function is. This information is used, along with competitive intelligence data, in decision making and feeds decision support systems. See also competitive intelligence and data mining.

**Chief Information Officer (CIO)**, depending on the company, the CIO may be the chief executive in charge of information technology within a company including all information usage policies or the executive in charge of gathering and disseminating business and competitive intelligence within the organization or both.

**Chief Knowledge Officer (CKO)**, depending on the company, the CKO may be the chief executive in charge of gathering and disseminating information and intelligence within an organization and making the gathered information relevant and important to business needs. Also may be called the CIO and is an ideal position for a librarian.

**Cloud Computing** refers to the use of software and services that are available online and run from and are stored on a remote server, as opposed to being installed on and stored on an individual's computer. There are also hybrid systems where a client may have software installed on a computer that communicates directly with the Internet program.

**Content Management (CM)** refers primarily to the software or program used to add, remove, display, or not display content from a Web server and which guards access (usually through password log in).

**Competitive Intelligence** refers to the collection and analysis of data about a specific industry and the related market including information about competitors.

**Community of Practice** is a group of people with a variety of experience levels and skills with a common interest or purpose. These groups organize and work together to share knowledge and to learn from each other. An example of this is a professional organization but COPs may also be found internally in a single company.

A **Cost Center** refers to anything in the organization that must be funded in order to function. This may be a department, such as a library with subscription and other acquisitions costs, or it may be a person such as a consultant. See also *value center*.

In information technology, a **Data Center** is the room or other facility where technology hardware is kept. The center may be on site or remote.

**Data Mining** refers to using complex queries and algorithms to examine and analyze large amounts of data. Data mining attempts to find useful information such as trends or anomalies across large amounts of data.

A **Data Warehouse** is a database where internal business data is stored. A company may keep one data warehouse for the entire company or multiple warehouses for each group or department. Data is accessed using complex queries to make the data meaningful to users. See *data mining*.

**Decision Theory** is the field of mathematics that focuses on determining possible outcomes based on known information, trends, and possibilities. Decision theory is related to game theory.

A **Decision Support System (DSS)** is akin to a weather forecasting service. Known information, trends, history, projections, known variables, and assumed variables are all examined to help management know what they may expect from various courses of action. DSSs are built using principles of decision theory which is based on game theory. See *decision theory* and *game theory*.

Unlike a DSS, the **Executive Information System (EIS)** is not a computer based outcome generator. The EIS includes all people, processes, departments, and documents that are used to provide the company executives with information. The EIS is like the DSS in that it is used to inform decision making. See *decision support system*.

An **Embedded Librarian** is a librarian who is assigned to a specific department or group to specifically serve the information needs of that department or project. The librarian may or not be a permanent member of the group and may or may not be physical located within the group. Ideally, an embedded librarian is an active participant in department or project planning and implementation.

**Explicit Knowledge** refers to knowledge that has been recorded in some way whether on paper, electronically, or by some other means. A few examples of explicit knowledge include documents, audio or video recordings, and data sets stored in a database.

In business, a **Function** may refer to a group of related processes with a specific purpose. For example, an information function may include IT and library processes that provide needed information to the company.

**Game Theory** is a branch of mathematics that seeks to determine outcomes of decisions made by one person based on the knowledge of the decisions of others. The term was first formally introduced in the 1944 book *Theory of Games and Economic Behavior* by John von Neumann and Oskar

Morgenstern, which compared decisions in economics with the choices a
chess player makes in a game of chess.

Generally speaking **Human Capital** refers to the collected skills, abilities,
experience, and competencies of the company's workforce.

**Information Management** includes any processes or systems that contribute
to the collection, organization, storage, analysis, and distribution of
information.

**Information Resource Center (IRC)** is the name sometimes given to corpo-
rate libraries or similar services.

**Information Resources Management** is the management of information that
is relevant to the function of the business including knowledge manage-
ment, business and competitive intelligence, and information services.

**Information Services** specifically provides access to external or internal
information resources. Usually, this is the corporate library.

**Information Technology** refers to the selection, creation, management, and/
or maintenance of hardware and software used to gather, manipulate,
store, and disseminate information.

**Intellectual Property** is anything that can be protected by copyright, pat-
ents, trademarks, and trade secret laws including products, documents,
processes, and ideas.

**Knowledge Management** refers to the ability of a company to capture, ana-
lyze and disseminate the explicit and tacit knowledge in a company. It
also refers to systems set up to capture tacit knowledge in explicit formats.

**Learning Management Systems** are created to assist in Knowledge Manage-
ment. See *knowledge management.*

A **Learning Organization** is a business ideal where a company is capable of
examining, experimenting, and innovating itself on a regular basis to be
able to thrive in a changing environment. A learning organization
encourages new ideas, analyzes and evaluates past decisions regularly, is
able to gather and share explicit and tacit knowledge across the organiza-
tion as needed, and is willing and able to adopt a new course of action
whenever needed.

The **Management Information System (MIS)** is the system used to capture,
store, analyze, and deliver company information. It may be a single system
or a group of systems and includes a computer system (may include the
data warehouse) and the processes and policies for all aspects of its func-
tion. See *information management* and *data warehouse.*

**Offshore** refers to contracting or hiring out work to people or companies in
another country. Usually used to reduce costs, it may also be part of the
process of opening new markets.

**Outsource** refers to using an outside company or service too perform a busi-
ness function. For instance, a library may contract with an outside com-
pany to repair damaged books instead of installing the equipment,
personnel, and costs required for preservation.

**Provenance** refers to the office, department, or employee that originally created or received a document or record.

**Research and Development (R&D)** is a department or function that develops new processes, services, or products or resolves problems with current processes, services, or products.

**Return On Investment (ROI)** has a more specific definition in economics. In libraries, ROI usually refers to the ability of libraries to show their value in measurable terms. For example, a library wants to show that their contribution to the company in terms of services and resources has an impact throughout the company that results in more revenue than the library costs to function.

**Stakeholder** is anyone who has something to gain or lose in any given situation.

**Tacit Knowledge** refers to knowledge that is not expressed or recorded. This may include personal experiences, individual know-how, and all other information that resides in a human being. The term was first introduced by Michael Polanyi in his 1966 book *The Tacit Dimension*.

**Transaction Processing System** is the system that manages and records the transactions in a corporation. These may include transactions with customers or clients such as sales but may also include transactions between departments, allocation of funds internally, and other transactions.

A **Value or Profit Center** is a department or function that contributes to revenue for the company.

**Web 2.0** refers to Web services and products that encourage interaction and sharing among users and invite the contribution of content without requiring programming or coding skills. Usually associated with O'Reilly media, Web 2.0 includes services such as RSS feeds, blogs, mash ups, and other related technologies.

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# INDEX

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