

The Corporation as a Stakeholder in Information Education

by Deanna Morrow Hall

Deanna Morrow Hall is president, Corporate Information Resources, Inc., Stone Mountain, Georgia. She can be reached at dmhall@mindspring.com.

NOTE: The ASIS&T InfoPro Task Force organized a session titled *Stakeholder's Views on Information Education* (session 37) for the ASIS&T 2009 Annual Meeting in Vancouver. The participants represented four stakeholder communities: students, LIS schools, corporations and archives. This paper is based on the author's presentation to that session. For further background on the InfoPro Task Force initiative, please see *ASIS&T White Paper: Accreditation of Programs for the Education of Information Professionals* [1].

In the context of this title, one might ask: Why would, or should, a corporation care about information education?

Having spent nearly my entire career in the corporate environment and having had the opportunity to observe firsthand how numerous corporations manage their information resources, my answer to that question is: Because most corporations manage their paper clips better than they manage their mission-critical information resources.

Now we may ask: What should a corporation care about in its role as a stakeholder in information education? In response, I offer the following three issues for consideration [2]:

1. Why do some corporations have corporate libraries [3] while others do not?
2. Can iSchools recruit or produce more students whose subject competencies match the core competencies of their potential corporate employers?
3. Can library/information science and records management be integrated to create a seamless experience of information management for knowledge workers?

ISSUE 1: Why do some corporations have corporate libraries while others do not?

First, I must state my working assumption that the existence of a corporate library is evidence of corporate intent to manage information [4] for knowledge workers [5] in a formal, systematic way to improve their productivity and innovation.

With this view in mind, we can explore an answer to this question by analyzing the data in Table 1. Observe that the management authority over the transaction data required by the financial services segment of knowledge workers always resides within the financial services organization, which

TABLE 1. Classes of corporate information resources vs. management authority

What classes of information resources do corporations deal with?	Who manages these classes ?	
	"Information-sensitive" corporation?	"Information-insensitive" corporation?
• Transaction data ¹	Financial services	Financial services
• Published (external) information ² acquired for the support of <i>knowledge workers</i>	Corporate library	Individual knowledge workers [by default]
• Proprietary (internal) information ² created by <i>knowledge workers</i> in the course of their work	Archives/ Records management	Individual knowledge workers [by default]

Notes: ¹Includes sales transactions & accounts receivable; purchasing transactions & accounts payable, salaries

²Includes facts, data and concepts expressed in narrative text such as memos, reports and patents. Considered "unstructured content" by information technology professionals.

exercises this authority in formal, organizationally defined systems (including computer systems), policies and practices. These systems, policies and practices are not subject to the whim of any individual, and in fact, they follow generic professional standards.

Similarly, in an information-sensitive corporation, the management authority over both published and proprietary information used by knowledge workers resides with the functions of the corporate library and the archives/records management units respectively. In these corporations, these functions operate with the same authority and with the same responsibility to define systems, policies and practices, as does the financial services function.

In contrast, in an information-insensitive corporation, the management authority over both published and proprietary information used by knowledge workers resides with *individual* knowledge worker employees by default, who must manage their information without the benefit of formal, organizationally defined systems, policies or practices.

In the course of preparing the presentation that forms the basis for this article, I encountered a perfect example of the irreplaceable losses of intellectual property that result when individuals, even in management, have arbitrary and capricious management authority over corporate proprietary information. I was reading the autobiography of André Previn in which I discovered this passage:

I found the music library. It consisted of many huge high-ceilinged rooms, all filled with every note ever written for the studio. Songs, scores, arrangements, Academy Award efforts, and football marches – all in the manuscripts of the composers, all irreplaceable. A couple of decades later, a new studio chief, James Aubrey, ordered all the music in the MGM library burned in order to make some extra space. Tons of

score paper were incinerated, all covered with penciled notes – hours, weeks, months, years of effort thrown away. [6, p.3]

In some information-insensitive corporations, this default condition has not gone unnoticed, both by top management as well as by IT departments. The result is that IT departments have found opportunity for incursion into the management of unstructured content, for which computer science provides no concepts. In fact, their term *unstructured* is an inadvertent admission that they do not recognize the *inherent* structure that library science recognizes in knowledge workers' information. These incursions frequently involve mega-investments in suboptimal systems, resulting in negative returns on investment because knowledge workers find the systems unrewarding at best and irrelevant at worst.

This analysis then begs the question of what is it that information-sensitive corporations know that information-insensitive corporations either do not know or are unable or unwilling to act on.

The answer appears to be that information-sensitive corporations have persuaded themselves, either intuitively or by making a persuasive business case, that individual knowledge workers cannot manage the information that they acquire or create in ways that leverage its benefit even individually, to say nothing of collectively. As evidence of this conclusion, consider Table 2 (on next page), which profiles the 57 Fortune100 companies that employ librarians. Notice that in terms of annual revenues the top-ranked company is 10 times larger than the median company (number 50) and 20 times larger than the 100th company on the list.

But we all know that some large corporations employ librarians, so how far down in corporate size do we need to go

Continued on page 46

TABLE 2. Fortune 100 companies (2009)

FORTUNE Rank ¹	Name	Revenues (billions)	No. of employees	No. of librarians ²	FORTUNE Rank ¹	Name	Revenues (billions)	No. of employees	No. of librarians ²
1	Exxon Mobil	\$ 442,851	104,700	24	48	Time Warner	\$ 46,984		4
3	Chevron	\$ 263,159		15	50	Safeway	\$ 44,104	197,000	0
4	ConocoPhillips	\$ 230,764		3	51	Supervalu	\$ 44,048		1
5	General Electric	\$ 183,207		1	53	Kraft Foods	\$ 42,867		4
6	General Motors	\$ 148,979		1	54	Lockheed Martin	\$ 42,731		18
7	Ford Motor	\$ 146,277		4	55	Hess Oil Co.	\$ 41,094		1
9	Hewlett-Packard	\$ 118,364		10	57	Cisco Systems	\$ 39,540		2
10	Valero Energy	\$ 118,298	21,765	0	60	Walt Disney	\$ 37,843	137,000	6
11	Bank of America Corp.	\$ 113,106		2	61	Intel	\$ 37,586		7
12	Citigroup	\$ 112,372		1	63	Honeywell International	\$ 36,556		8
14	International Business Machines	\$ 103,630		2	68	Comcast	\$ 34,256		1
15	McKesson	\$ 101,703		1	69	Northrop Grumman	\$ 33,940		15
17	Verizon Corp.	\$ 97,354		4	70	News Corp.	\$ 32,996	55,000	0
20	Procter & Gamble	\$ 83,503	135,000	9	73	Coca-Cola Co.	\$ 31,944		3
21	UnitedHealth Group	\$ 81,186		1	75	DuPont	\$ 31,836		6
23	Marathon Oil	\$ 73,504		1	77	Aetna	\$ 30,950		1
27	Archer Daniels Midland	\$ 69,816		1	78	Motorola	\$ 30,146		5
28	Target	\$ 64,948		3	80	Abbott Laboratories	\$ 29,527	75,000	7
29	Johnson & Johnson	\$ 63,747		4	81	Allstate Insurance	\$ 29,394		4
30	Morgan Stanley	\$ 62,262	46,964	7	82	TIAA-CREF	\$ 29,362		1
31	State Farm Insurance Cos.	\$ 61,343		3	83	General Dynamics	\$ 29,302		2
32	Wellpoint	\$ 61,251		1	84	Prudential Financial	\$ 29,275		1
34	Boeing Co.	\$ 60,909		14	86	Liberty Mutual Insurance Group	\$ 28,855		1
35	Microsoft Corp.	\$ 60,420		11	87	Deere & Co.	\$ 28,437		2
37	United Technologies	\$ 58,681		3	90	ALCOA, Inc.	\$ 28,119	87,000	1
39	Metlife	\$ 55,085		1	94	Emerson Electric	\$ 25,281		3
40	Goldman Sachs Group	\$ 53,579	34,738	3	95	3M Co.	\$ 25,269		11
41	Wells Fargo	\$ 51,652		4	97	International Paper Co.	\$ 24,829		3
44	Caterpillar	\$ 51,324		4	99	Travelers Companies	\$ 24,477		1
45	Medco Health Solutions	\$ 51,258		3	100	Rite-Aid	\$ 24,417	103,000	0
46	Pfizer	\$ 48,296		15					

¹This table lists the 57 companies of the Fortune 100 companies that employ librarians, plus every tenth company if it does not employ librarians (4 companies) for a systematic comparison of size over the entire range of 100 companies.

²The number of librarians was determined by searching for each of the Fortune 100 company names in the membership directory of the Special Libraries Association (October 2009). This approach will under-report the number of librarians if some corporate librarians do not join SLA or do not disclose their work affiliation, but it will not over-report.

before we find no librarians? To explore this, consider Table 3 that profiles the nine companies of the Fortune 901-1000 that employ librarians, plus every 10th company for comparison. Notice that in terms of annual revenues the Fortune 901 company is very close to the same size as both the Fortune 950 (median) company (\$1.8 B) and the Fortune 1000 company. In fact, there are even smaller companies that employ librarians, for instance Stiefel Laboratories, Lawrenceville, Georgia, whose annual revenues are \$29,000,000. Therefore, this data provides evidence that size is not the only factor determining whether a corporation has a corporate library. Rather, this factor seems to be some undefined sensitivity by top management to the need for information professionals to manage information resources for knowledge workers.

The Educational Challenges for Issue 1

LIS programs and other programs are an obvious resource to improve corporate sensitivity, which leads us to consider two questions:

First: *Can corporate top management be persuaded that it is in their corporation’s own economic best interests to provide information professionals to manage information resources for their knowledge workers, and how can LIS graduates be better prepared to make this case?*

These objectives can be achieved in the following ways:

- By assembling and synthesizing the literature on the economics of the administration and use of information for knowledge workers into actionable evidence and introducing it as a core element of LIS education
- By producing new studies that go well beyond personal time saved to include systematic quantitative economic measures at the corporate level [7] such as:
 - Reduced time from idea to market
 - Better ideas faster identified.

TABLE 3. Fortune 1000 companies (2009)¹

FORTUNE Rank	Name	Revenues (billions)	No. of employees	No. of librarians ²	
901	Oceaneering International	\$ 1,977	7,900	0	9 companies out of 100 (9%) employ librarians
903	Cephalon Inc.	\$ 1,974	3,000	1	
910	Baldor Electric	\$ 1,954	7,891	0	
920	M&F Worldwide	\$ 1,906	?	0	
921	Moog Inc.	\$ 1,902	8,364	1	
927	Teledyne Technologies	\$ 1,893	8,800	1	
930	Retail Ventures	\$ 1,885	12,500	0	
940	HealthSouth	\$ 1,871	22,000	0	
941	ManTech International	\$ 1,870	?	1	
950	Plexus Corp.	\$ 1,841	7,500	0	
960	E.W. Scripps Co.	\$ 1,806	6,000	1	
970	American Greetings Corp.	\$ 1,776	26,600	0	
976	Olin Corp.	\$ 1,764	3,600	2	
977	Bio-Rad Laboratories	\$ 1,764	?	1	
980	Watson Wyatt Worldwide	\$ 1,760	7,700	2	
990	Sunrise Senior Living	\$ 1,741	37,800	0	
999	MGIC Investment	\$ 1,721	1,160	1	
1000	Career Education	\$ 1,721	?	0	

¹This table lists the 9 companies of the Fortune 901-1000 companies that employ librarians, plus every tenth company if it does not employ librarians (8 companies) for a systematic comparison of size over the entire range of 100 companies.

²The number of librarians was determined by searching for each of the Fortune 900 company names in the membership directory of the Special Libraries Association (October 2009). This approach will under-report the number of librarians if some librarians do not join SLA or do not disclose their work affiliation, but it will not over-report.

Anecdotal stories of qualitative benefit, while interesting, are not persuasive to corporate management.

Second: *Where in the educational system does the economics of information need to be injected?*

- In the iSchools. We need to know the economic facts of our own profession.

- In the business schools (especially). Their graduates need to be strongly aligned with information professionals in understanding the economics underlying the value of information and its unique management requirements.
- In undergraduate information literacy courses. Educated citizens also need to understand the economics underlying the value of information, especially when it is not free, and why it is not free.

ISSUE 2: *Can iSchools recruit, or produce, more students whose subject competencies match the core competencies [8] of their potential corporate employers?*

Why is this dual competency desirable? If the core competencies of an organization are the foundation of its success, then it seems reasonable to expect that the primary role of the information professional should be to support those core competencies. Furthermore, that support should involve some fundamental intellectual understanding of those core competencies. In this context, it is my observation that many knowledge workers, including scientists and engineers, would like to relate to an information professional as a peer consultant who has the following dual competencies [9]:

- A formal, systematic understanding of the corporation's core competencies;
- A formal, systematic understanding of information management for knowledge workers.

This knowledge would allow the information professional to

- Understand the generic information needs of the corporation in the context of its core competencies (the corporate ontology), so that these needs can be optimally defined and translated into systems, policies and practices;

- Understand the specific information needs of individual knowledge workers, so that they have the option to fully integrate the information professional into their project teams.

Is there evidence of the need for an information professional who has more than bibliographic expertise?

The LIS community, both educators and practitioners, has long ignored the issue of the correlation between the professional subject competence of its students versus the core competencies of their future employers. This appears to be the result of a failure to distinguish between the competencies required for employment in the public library community versus the competencies required for employment in the corporate community. In the public library community, the subject matter required by the private citizen as client [10] may be characterized as “a mile wide and an inch deep,” and no subject competency on the part of employed librarians could comprehensively meet those demands. Conversely, in the corporate community, the subject matter required by the knowledge worker as client [11] may be characterized as “an inch wide and a mile deep,” and the subject competencies of the information professional can be correlated quite readily with the core competencies of the employer. As independent evidence for these assertions, I offer the following three quotes:

The librarian will give answers to a question without even understanding the question or the answer, if he can find what looks, on linguistic and formal grounds, like an answer in a standard reference work. [12, p. 104]

Is there not room for an “information professional” with more than bibliographical expertise, but distinct from the already existing range of professions and near-professions? Of course, the answer must be yes;

new professions arise regularly, and one would be foolhardy to try to say what new occupational groups will and will not come into existence. But let us see if we can describe, very tentatively and sketchily, the sorts of new information professionals that might occupy the interstices in the present array of professions. [12, pp. 116-117]

Only when clients can respect the subject knowledge of librarians will they respect their professional competence.” [13, p.8]

The Educational Challenge for Issue 2

The core educational question for Issue 2 is the following: *Can iSchools recruit or produce more students whose subject competencies match the core competencies of their potential corporate employers?*

This objective can be achieved in the following two ways. The primary way requires iSchools, working with forward-thinking corporations, to reach into the undergraduate student community and to persuade some small percentage of them to augment their undergraduate subject major with an advanced LIS degree leading to a fascinating, viable, alternative career. This outreach will not be simple to achieve, but it is not unknown in the LIS community either, having been pursued for years by Gary Wiggins at the Indiana University School of Informatics (www.asis.org/Wiggins_Gary.html) in the context of chemical information.

The secondary way requires the iSchools to offer a dual-degree program as some iSchools, such as the University of Michigan School of Information and the University of North Carolina School of Information and Library Science, now do.

ISSUE 3: *Can library science and records management be integrated to create a seamless experience of information management for knowledge workers?*

Shortcomings of Traditional Records Management Practice for the Use of Records by Non-Financial Knowledge Workers

Characteristics of traditional records management	Relative to non-financial knowledge workers
It isolates proprietary, internal information from published, external information	Knowledge workers tend to see these two types in an integrated, holistic way
In general, the software for records management and library management is not provided by the same vendor	Prevents integration of these two classes of information even though the software is superficially similar
Its organizing principles are trivial, see for example, <i>Establishing Alpha, Numeric, and Subject Filing Systems</i> . ARMA. 2005	The description and control of the complex intellectual content of the proprietary information produced by knowledge workers and their information needs and behaviors require more sophisticated knowledge organization systems
It imposes the legalistic, intensely finite, retention requirements of business transaction data types onto the intellectual content of the proprietary information created by non-financial knowledge workers	This rigid structure, based on legal and first-life requirements, ignores the fact that the intellectual content of some internally produced documents, especially those relating to science and technology, has a long, even perpetual, time value. For example, scientific data and concepts.

Why is this integration desirable? An over-arching problem, even in many information-sensitive corporations, is that there is no integrated understanding of the two classes of information resources (public and proprietary) that are acquired and created by knowledge workers. Consequently, they generally are administered in isolation from each other. This isolation results from the historical roots of records management versus library science: records management looking inward at proprietary business transaction records [14]; library science looking outward at published information. In addition to this isolation, there is a further problem with records management, in that its systems, policies and practices, having been developed in the context of business transactions, do not adapt well to use by non-financial knowledge workers whose information resources have fundamentally different characteristics, objectives and functionalities. (See sidebar above for more on this topic.)

Consequently, while it is necessary to be able to make the distinction between the two classes of information resources, it is counter-productive to make the distinction under separate management systems. For the knowledge worker, it would be highly advantageous to interface with a single system to identify both classes of information resources, which are relevant to any information need. Referring to Table 1, this integration would require conceptual integration of the systems, policies and practices of the library and records management functions (including archives where appropriate), each reporting to the same informed information-sensitive manager.

Is there evidence that integrated management of these two classes of information resources is needed?

One of the many councils of the Conference Board (www.conference-board.org) is the Information Research and Management Council, which defines its membership as follows: To be eligible for membership, an individual must have direct managerial responsibility for the provision of information from both internal and external sources to support the decision-making of the management of his or her company.

Thus, leaders of the corporate community, as represented by the members of the Conference Board, have already recognized the need for integrated management of these two classes of information. Therefore, the educational community needs to respond.

The Educational Challenges for Issue 3

There are two questions we can ask about the educational challenges of Issue 3.

First: *Can the LIS community rethink and reinvent records management to*

- *make it applicable to the proprietary, internal information resources created by non-financial knowledge workers;*

■ *integrate it with LIS to create a single paradigm of information management for non-financial knowledge workers?*

This objective can be achieved in the following two ways. The information science community has had a major impact on the systems and practices of library science. Now the information science community needs to apply its research methodologies to understand the proprietary information needs of knowledge workers and to define systems, policies and practices that would provide optimal support to them in their work environment. Evidence of the need for this research can be seen in the plethora of very expensive, yet fundamentally inadequate, electronic systems purporting to support enterprise information management.

Furthermore, iSchools need to segregate their curricula to more clearly delineate between the professional requirements of the public library versus the professional requirements of corporate information management. Some of this segregation is occurring in the dual-degree programs, but a more holistic view of information management for knowledge workers in general is needed.

Second: *Where in the educational system does this reorientation need to be injected?*

I believe this reorientation should be injected in the iSchools so that their graduates

- understand the corporate knowledge worker as a distinct client group having unique information needs and behaviors and
- have the concepts and the tools to operate seamlessly across both proprietary information and published information..

Conclusion

Is there reason to think that a new information professional

is needed in the corporate environment? My conclusion is an unqualified yes. The new information professional is

- one who understands the economics of information, especially of information use by knowledge workers in the corporate environment;

- one who has a formal, systematic understanding of the core competencies of the employer; and
- one who has the concepts and tools to integrate proprietary, internal information with published, external information for seamless delivery to knowledge workers. ■

Resources Mentioned in the Article

- [1] *ASIS&T white paper: Accreditation of programs for the education of information professionals*. October 20, 2007). Retrieved April 16, 2010, from www.asis.org/white_paper.html.
- [2] See also Moulton, L. W. (1993; comments 2009). *Education for careers in information management*. Retrieved April 16, 2010, from <http://lwmtechnology.com/wordpress/wp-content/uploads/2009/11/Education-for-Careers-in-Information-Management-11132009.pdf>.
- [3] Over the past 40 years, the corporate library community has floated numerous names for itself: "information center" followed by "knowledge center," being the most popular ones. However, the term *library* still retains instant recognition for all knowledge workers in the context of its contributing role in the corporate environment.
- [4] This paper makes no effort to address the current word clouds surrounding the terms *information* and *knowledge* and uses them in *ad hoc* ways. The following well-researched article provides a much-needed challenge to the use of these terms: Wilson, T.D. (2002, October). The nonsense of 'knowledge management.' *Information Research*, 8(1). Retrieved April 16, 2010, from <http://informationr.net/ir/8-1/paper144.html>.
- [5] For the purpose of this paper, knowledge workers are defined by the Professional, Technical, and Managerial Occupations (Section 0/1) of Information Technology Associate's *Dictionary of occupational titles*, retrieved April 16, 2010, from www.occupationalinfo.org/cat_div1_0.html.
- [6] Previn, A. (1991). *No minor chords: My days in Hollywood*. New York: Doubleday.
- [7] An excellent example of such a study is Kluge, J., Stein, W., & Licht, T. (2001). *Knowledge unplugged: The McKinsey & Company global survey on knowledge management*. New York: Palgrave. 2001.
- [8] Prahalad, C.K., & Hamel, G. (1990, May-June). The core competence of the corporation. *Harvard Business Review*. Retrieved April 17, 2010, from <http://hbr.org/1990/05/the-core-competence-of-the-corporation/ar/1>. This article is now considered to be a classic in management literature. In this context, see also Edgar, W. B. (2007, October). Corporate library resource selection: Exploring its support for corporate core competencies. *Library Quarterly*, 77(4), 385-408.
- [9] The concept of dual competencies was explored in the debate session that I organized for SIG/Information Analysis and Evaluation (IAE) for the ASIS 1985 Annual Meeting in Las Vegas, Nevada (Session 68: *Staffing the Information Center Research Function: The Case for Hiring Dual Competencies vs. On-the-Job Learning*).
- [10] Case, D. O. (2002). *Looking for information: A survey of research on information seeking, needs, and behavior*. New York: Academic Press. Chapter 12: Research by social role and demographic group, pp. 257-280.
- [11] Case, D. O. (2002). *Looking for information: A survey of research on information seeking, needs, and behavior*. New York: Academic Press. Chapter 11: Research by occupation, pp. 231-256.
- [12] Wilson, P. (1977). *Public knowledge, private ignorance: Toward a library and information policy*. Westport CT: Greenwood Press. This book came to my attention several years ago, and I purchased it because the main title seemed to represent a very concise statement of the condition of the average knowledge worker in most corporations. I discovered that, in addition to this perception, the book is almost a manifesto of the need for the library profession to rethink itself.
- [13] Bundy, M. L., & Wasserman, P. (1968, January). Professionalism reconsidered. *College & Research Libraries*, 29(1), 5-26.
- [14] The case for the derivation of present-day records management from its historical roots in the business transactions of antiquity is made in the following very interesting article: Pemberton, J. M. (1998, April). The earliest records systems: A journey in professional history. *ARMA Records Management Quarterly*. Retrieved April 17, 2010, from findarticles.com/p/articles/mi_qa3691/is_199804/ai_n8805113/.