Law Firm Knowledge Management: A Selected Annotated Bibliography*

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This selected annotated bibliography covers scholarly research articles on knowledge management in law firms. The annotations are preceded by an introduction highlighting salient themes that emerge in this literature. These include the use and effectiveness of information technology in law firm knowledge management, the human side of knowledge sharing, and lessons for law firm and law school librarians.

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Introduction
Law Firm Knowledge Management

¶1 Knowledge management refers to the strategies, techniques, and tools used by an organization to capture, retain, analyze, organize, improve, and share data, information, and knowledge relating to the operation and administration of its business.¹ Knowledge management in the law firm context involves a firm’s “ability to identify, capture, and leverage the internal knowledge of individuals” at the firm and to combine this knowledge with knowledge derived from vendors and other external sources to “enhance the ability of all law firm staff to create and share knowledge across the firm, to provide excellent client service, and to compete in an increasingly aggressive professional legal services environment.”² In plainer and more intuitive language, knowledge management for law firms means “[w]ho we know, what we know and how we do what we do.”³ Law firm knowledge management is dependent on and intertwined with information technology, but successful knowledge management is not just a technological matter. Other issues, such as information culture and the importance of personal service by knowledge management workers,⁴ ensure that the discipline cannot be reduced solely to the question of which software to purchase.

¶2 Knowledge management in law firms has evolved through three phases.⁵ In the latter part of the twentieth century through the rise of the Internet, knowledge management focused primarily on improving the quality of legal services by creating, gathering, and systematizing knowledge by means of technology and in some cases using professional service lawyers and other knowledge management staff.⁶ In the next phase, continuing through 2008, law firm knowledge management activity grew significantly, corresponding with an increased demand for legal services, higher billing rates, and greater movement of partners and attorney teams among firms.⁷ Developments during this phase focused on supporting and integrating expanding law firms and helping attorneys cope with information overload.⁸ New technologies and services in this phase included enterprise search and more extensive use of searching to mine organizational data, portals, and social media, as well as client-facing initiatives and business development support.⁹ Even

6. Id. at 23.
7. Id.
8. Id.
9. Id.
though firms used knowledge management more during these boom years, the prevalence of hourly billing may have inhibited fulfillment of knowledge management’s efficiency-generating potential. In the current phase, the demand for legal services no longer exceeds supply, and clients are using their economic leverage to insist on greater efficiency and predictability in pricing for legal services, in some cases through fixed fees and other alternative fee arrangements. Knowledge management is now focused on how to help attorneys “do more with less.” Emerging trends in this area are intended to support Lean Six Sigma programs such as the one launched by Seyfarth Shaw LLP, legal project management initiatives, and pricing strategies for legal services.

Knowledge management in law firms involves a number of tools and services for more effectively managing, sharing, and using knowledge in a variety of areas: the law and how to provide legal services; clients and their businesses and industries; the expertise, skills, and backgrounds of firm attorneys and staff; and referral sources, experts, possible merger candidates or lateral hires, and other third parties. In 2012, a survey of knowledge management in law firms and corporate law departments conducted by the International Legal Technology Association, identified the following major legal knowledge management tools and services (among others):

- Collections of precedents, model documents, legal research, and legal opinions
- Intranets or portals
- Automated document assembly
- Web 2.0 collaboration tools, such as wikis, blogs, and team sites
- Enterprise search
- Document management systems
- Firm intranets
- Transactional and litigation matter information systems
- Extranets

10. Id.
11. Id. at 24.
12. Id.
13. “Lean Six Sigma” is a methodology for ongoing process improvement and problem solving within organizations to increase customer satisfaction and profitability. Ronald D. Snee, Lean Six Sigma—Getting Better All the Time, 1 INT’L J. LEAN SIX SIGMA 9, 10–11 (2010).
Overview of Annotated Articles

¶4 This overview discusses broad themes that emerge in the annotated articles and is followed by a discussion highlighting points of particular interest to librarians in law firms and in law schools. This annotated bibliography is selective in that it covers scholarly, research-based articles in English that focus primarily on law firm knowledge management and were published from 1999 to 2013. The articles are grouped into different categories based on their primary areas of focus. Despite the size of the legal industry in the United States and worldwide, and the nature of law firms as knowledge-driven enterprises, there is relatively little academic research about knowledge management in the law firm context. Nonetheless, both law firm and law school librarians can draw useful lessons about how knowledge management works—and challenges to be overcome in its successful implementation and use—from these empirical studies.

Information Technology

¶5 Most of the articles in this bibliography focus on how information technology is used in law firm knowledge management. Apistola and Lodder present a framework for law firms to consider in evaluating whether and to what extent different technology tools (e.g., e-mail, intranets, the Internet, groupware, knowledge systems) might be useful in addressing different aspects of law firms’ knowledge management needs (developing, sharing, and evaluating administrative data, declarative knowledge, procedural knowledge, and analytical knowledge). Lawyers at the South African firms surveyed by Du Plessis and Du Toit generally reported positive attitudes toward the use of information technology for knowledge management and high usage of Internet and intranet applications, but little use of extranets and a surprising level of uncertainty about the knowledge management systems their firms used.

¶6 Articles authored or coauthored by Gottschalk focus on firms’ use of technology in knowledge management. In his first article, Gottschalk develops the hypothesis, based on a survey of Norwegian law firms, that a positive relationship exists between information technology use and law firm knowledge management. Further research by Gottschalk indicated that the extent to which law firms use information technology generally has a significant impact on the extent to which they use information technology for knowledge management. In a 2000 article, Gottschalk determined that law firms did not, contrary to expectations, use information technology significantly less than consulting firms in knowledge manage-
ment, although law firms made heavier use of databases rather than more general information sources.\(^\text{23}\)

\(^\text{7}\) Gottschalk’s subsequent research addressed more specific research topics. In 2003, Gottschalk and Khandelwal explored a “stages of growth” model (an analytical tool used in organizational and information technology research) for the development of law firm information technology systems in connection with their knowledge management processes. In this model, firms pass from (1) having only “end-user tools” such as e-mail and word processors, to (2) using information technology to identify “who knows what” within the firm, to (3) using information technology to retrieve information stored in documents such as contracts, memos, etc. in the “what they know” phase, to (4) using information technology systems in such a way that the systems themselves help provide solutions—the “how they think” phase.\(^\text{24}\) The results of the research did not confirm that the Australian law firms studied moved through these stages of growth in the manner hypothesized, although the research did suggest that the number of lawyers and the number of information technology workers tended to predict the stage of information technology knowledge management projects at a firm.\(^\text{25}\) In 2004, Gottschalk and Khandelwal published the results of research on Norwegian and Australian law firms that provided limited support for the applicability of the stages-of-growth model in the law firm knowledge management context.\(^\text{26}\)

\(^\text{8}\) In 2009, Gottschalk and Karlsen revisited the stages-of-growth model in light of newer research. In an article that first reviews the law firm business model, the role of lawyers as knowledge professionals, and the idea of knowledge organizations, they found that most of the firms surveyed were in the third stage of growth (which centers on the use of technology to afford access to stored precedents, documents, e-mails, and other materials used and generated in law practice).\(^\text{27}\) Their newer research did not, however, confirm that law firms consistently progress through the stages of growth in order.\(^\text{28}\)

\(^\text{9}\) Gottschalk addressed an area of great interest to lawyers when in 2002 he explored whether client demands were driving law firms’ implementation of information technology in knowledge management, although his research results did not show that client desires had a significant impact on firms’ selection of information technology for knowledge management purposes.\(^\text{29}\) Clients reported higher levels of satisfaction with firms that could readily receive from and share with


\(^\text{24}\) Petter Gottschalk & Vijay K. Khandelwal, Determinants of Knowledge Management Technology Projects in Australian Law Firms, 7 J. Knowledge Mgmt., no. 4, 2003, at 92, 93–96.

\(^\text{25}\) Id. at 102–03.


\(^\text{28}\) Id. at 432.

clients both administrative and substantive information about client matters.\textsuperscript{30} As Gottschalk noted in his conclusion, however, client demand for effective use of technology in managing practice knowledge is likely only to increase.\textsuperscript{31}

¶10 In a 2001 article, Gottschalk explored the use of information technology in “inter-organizational knowledge management,” or knowledge management among law firms that are members of networks in which business is referred and, to an extent, knowledge is shared.\textsuperscript{32} A study of Norwegian members of Eurojuris, a network of firms in nineteen European countries that has invested heavily in information technology, showed that member firms were using the network for finding solutions to legal problems, selecting among possible solutions, and evaluating the solutions selected, but not cooperating on cases.\textsuperscript{33} In an article the following year, Gottschalk and Khandelwal compared research on interorganizational knowledge transfer based on surveys of Norwegian and Australian firms. While firm cooperation (cooperation among law firms on a national, international, or global level)\textsuperscript{34} and knowledge cooperation (sharing administrative, declarative, procedural, and analytical knowledge)\textsuperscript{35} predicted the use of information technology in support of such networks in Norway, only knowledge cooperation was such a predictor in Australia.\textsuperscript{36}

**The Human Side of Knowledge Management**

¶11 Other articles address interpersonal and behavioral aspects of law firm knowledge management. Topics include the dynamics of knowledge sharing, the importance of firm culture in successful knowledge management, and the attorney behaviors that can arise when a knowledge management system has been introduced into a law firm.

¶12 In a 2009 article, Forstenlechner, Lettice, and Bourne stress the importance of exchanging “personal know-how” with peers, identifying it as a “key predictor of fee income” based on their case study of a large global law firm.\textsuperscript{37} They conclude that the significance of this form of knowledge transfer was due not to inadequate knowledge management technology but to lawyers’ preference for personal information exchange, noting that, although knowledge management involves, at its core, automation of knowledge processes, “it remains a discipline highly dependent on human interaction.”\textsuperscript{38}  

\textsuperscript{30} Id.
\textsuperscript{31} Id.
\textsuperscript{33} Id. § 5.
\textsuperscript{34} Petter Gottschalk & Vijay K. Khandelwal, *Inter-Organizational Knowledge Management: A Comparison of Law Firms in Norway and Australia*, 42 J. COMPUTER INFO. SYS. (SPECIAL ISSUE) 50, 52 (2002).
\textsuperscript{35} Id.
\textsuperscript{36} Id. at 50.
\textsuperscript{38} Id. at 66. “Personal service from the KM team” was also identified as a key predictor of fee income. Id.
In their research on current information services in a large London law firm, Attfield, Blandford, and Makri found that knowledge management staff served as “intelligent filters.” Their article highlights the importance of back-propagation of information from users about their requirements and preferences in order to enable knowledge management professionals to customize the information provided to their users’ needs.

Brivot considered whether implementation of a centralized knowledge management system that emphasized the collection of attorney work product in a central repository resulted in attorneys losing power within the organization to administrators. Despite lawyers’ fears, the research suggested that attorneys actually gained power as a result of knowledge management, even though the creation and sharing of knowledge in the firm had become more bureaucratized. Significantly, those without social capital could still access valuable knowledge even in the absence of personal relationships with those possessing the knowledge.

Lustri, Miura, and Takahashi studied a knowledge-sharing initiative at a Brazilian law firm. The initiative, which involved three experienced lawyers and three trainee lawyers, was designed to provide the trainees with tacit knowledge about client service, marketing, and the business of law that was held by the more senior attorneys. The authors found that this model developed the desired competencies more quickly than the firm’s conventional training.

Olatokun and Elueze explored knowledge sharing in Nigerian law firms. They learned that associations among lawyers engaged in knowledge sharing, lawyers’ attitudes about their personal contributions to knowledge sharing, and the use of information technology were stronger predictors of knowledge sharing than attorneys’ positive attitudes toward it.

Choo and others studied knowledge management in a large Canadian law firm that had invested significantly in knowledge management strategy, technologies, and processes. They found that the firm’s “information culture”—its “values, norms, and practices with regard to the management and use of information”—was more important to information use outcomes than “information management”—the “application of management principles to the acquisition, organization, control, dissemination, and use of information.”

40. Id. at 643.
41. Marion Brivot, Controls of Knowledge Production, Sharing and Use in Bureaucratized Professional Service Firms, 32 ORG. STUD. 489 (2011).
42. Id. at 503.
44. Id. at 200.
46. Choo et al., supra note 4, at 493.
47. Id. at 491.
48. Id. at 492.
Brivot and Gendron explored what effect a centralized, precedent-oriented knowledge management system had on the interpersonal dynamics of lawyers in a Paris law firm. Rather than resulting in management surveillance of work product (referred to as the “panopticon” model), the authors instead found patterns of mutual surveillance by lawyers within the firm as they accessed and evaluated colleagues’ work, as well as behaviors involving the ostentatious display of work as self-promotion and the hiding of documents in shadow networks outside the official knowledge management system.

**Effect on Fee Income**

In 2009, Forstenlechner, Lettice, and Bourne, using the results of an intensive case study of one of the largest multinational law firms in the world, addressed the knowledge management issue that many practitioners might view as central: the effect of knowledge management on law firm revenue. This research supported the proposition that knowledge management increases a law firm’s fee income. One hopes that other researchers will further explore the financial benefits of knowledge management to law firms.

**Implementation**

Beaumont explored the complexities of implementing knowledge management in a midsized regional firm in the United Kingdom, detailing the firm’s technological initiatives, new knowledge management support roles, and major achievements after the first year and a half, such as starting precedent repositories and creating platforms for sharing internal knowledge.

Research by Hunter, Beaumont, and Lee on Scottish law firms found that while the firms in question used information technology in service of knowledge management, only some of the firms used dedicated personnel to actively manage their knowledge management functions. The authors argue that knowledge management functions must be adequately staffed if firms are to effectively convert their tacit knowledge to explicit knowledge, and that the industry’s focus on technology solutions overlooks this element of knowledge management.

Fombad, Boon, and Bothma conducted extensive research on the level of knowledge management activity by law firms in Botswana. In one article, the trio detail the results of that research, which determined that knowledge management efforts by those firms—most of which are very small—consisted primarily of using precedent, research, weekly learning reports, records management, and training.

50. *Id.* at 152.
51. Forstenlechner et al., *supra* note 37.
52. *Id.* at 66.
55. *Id.* at 17–18.
junior lawyers; more sophisticated functions like know-how systems or work product databases were much less common.\textsuperscript{56} In another article, the authors used the results of their research to propose detailed recommendations for implementing knowledge management, such as picking appropriate technologies, having lawyers invest ten percent of their time taking seminars and communicating with others in the legal community about knowledge management, and rewarding attorneys who perform knowledge management work and crediting them for time spent on it.\textsuperscript{57}

\textit{International Aspects}

\textsuperscript{¶23} Beaverstock’s research on ten London-based international law firms explored knowledge management in the context of expatriation of legal knowledge.\textsuperscript{58} The author found that knowledge dissemination and sharing varied geographically depending on the location of the satellite offices.\textsuperscript{59} In east Asia, knowledge-transmission was one-way, from the English lawyers to their local colleagues.\textsuperscript{60} In Europe and North America, in contrast, knowledge was developed and shared in both directions, with local attorneys sometimes playing an equal role in the management of their offices.\textsuperscript{61}

\textbf{Lessons for Law Librarians}

\textbf{Law Firm Librarians}

\textsuperscript{¶24} The scholarship on law firm knowledge management provides insights for law librarians in law firms, particularly those who are or would like to become involved in their firms’ knowledge management activities. Several of the case studies discussed in these articles include descriptions of the knowledge management departments or functions of large and mid-sized law firms:

\begin{itemize}
  \item Forstenlechner, Lettice, and Bourne offer an overview of knowledge management at one of the three largest law firms in the world. This firm had a high ratio of knowledge management staff to attorneys, a high level of investment in knowledge management, and a knowledge management team led by a partner with the title of chief knowledge officer.\textsuperscript{62} The firm used a hybrid approach in which the strategic direction and infrastructure for knowledge management are established at the firm level to support knowledge management initiatives at the practice group level.\textsuperscript{63}
  \item Beaumont describes a case study of knowledge management implementation at a regional U.K. law firm that involved the addition of new
\end{itemize}

\begin{itemize}
  \item \textsuperscript{56} Madeleine C. Fombad et al., \textit{A Survey of Knowledge Management in Law Firms in Botswana}, \textbf{19} \textit{AFRICA N J. LIBR. ARCHIVES \\ & INFO. SCI.} 141, 149 (2009).
  \item \textsuperscript{57} M.C. Fombad et al., \textit{Strategies for Knowledge Management in Law Firms in Botswana}, \textbf{11} \textit{S. AFRICAN J. INFO. MGMT.}, no. 2, 2009, \S \textsuperscript{7}.
  \item \textsuperscript{58} Jonathan V. Beaverstock, “Managing Across Borders”: Knowledge Management and Expatriation in Professional Service Legal Firms, \textbf{4} \textit{J. ECON. GEOGRAPHY} 157 (2004).
  \item \textsuperscript{59} \textit{Id.} at 173–74.
  \item \textsuperscript{60} \textit{Id.} at 173.
  \item \textsuperscript{61} \textit{Id.} at 173–74.
  \item \textsuperscript{62} Forstenlechner et al., \textit{supra} note 37, at 57–59.
  \item \textsuperscript{63} \textit{Id.} at 58.
\end{itemize}
“Knowledge Fee-earners” embedded in each of the firm’s fifteen practice teams.64 The initial accomplishments of this knowledge management initiative included precedent banks, the use of consistent cover sheets for firm documents, the implementation of a firm intranet, the development of blogs and wikis for internal knowledge sharing, how-to guides, transaction toolkits, and fee and billing information resources.65

- Brivot details a knowledge management system implemented at a large Paris law firm that involved the creation of a searchable database of legal opinions and other documents created by firm attorneys, with a selection categorized as “best practice” documents by a standards committee at the firm.66
- Attfield, Blandford, and Makri describe current awareness services at a 900-lawyer law firm with knowledge management staff that includes professional support lawyers, knowledge management executives, paralegals, and researchers.67

¶25 Law firm librarians involved in the design and development of knowledge management at their firms will discover in the annotated articles that there is no single path for the evolution of law firm knowledge management. In a series of articles published from 2003 to 2009, Gottschalk proposed that law firm knowledge management follows four stages-of-growth: (1) “end-user tools” or “lawyer-to-technology,” (2) “who-knows-what” or “lawyer-to-lawyer,” (3) “what-they-know” or “lawyer-to-information,” and (4) “how they think” or “lawyer-to-application.”68 Despite a number of attempts to verify this progression, Gottschalk’s research ultimately did not support the hypothesis that law firms implementing knowledge management necessarily moved through those four stages in order.69

¶26 Law librarians should also note the human dynamics explored in several of the articles. Choo and others found that the information culture in the large Canadian law firm they studied had more influence over the use of information than the firm’s information strategies and systems.70 Brivot and Gendron focused on networks of mutual surveillance among lawyers in a firm with a centralized, precedent-based knowledge management system, in which attorneys scrutinized one another’s work product to evaluate quality, and dark pools of practice materials developed among those who did not wish to share their work product.71 Law librarians who are a part of or work with their firms’ knowledge management departments can draw on these behavioral insights to help them more effectively promote knowledge management contribution and knowledge sharing, and to access stores of knowledge that may not be part of a firm’s official repositories.

64. Beaumont, supra note 53, at 228.
65. Id. at 230.
66. Brivot, supra note 41, at 495.
67. Attfield et al., supra note 39, at 635–43.
68. See, e.g., Gottschalk & Karlsen, supra note 27, at 437–39.
69. Id. at 432.
70. Choo et al., supra note 4, at 508.
71. Brivot & Gendron, supra note 49, at 149, 152.
Law firm librarians should be particularly interested in the work of Forstenlechner, Lettice, Bourne, and Webb on attorneys’ perceptions of the value of knowledge management. In a survey of lawyers from the top-ten global law firms, researchers found that interviewees believed that knowledge management provided the following benefits: greater efficiency, higher quality, improved risk management, long-term benefits, positive influence on firm culture, improved awareness, and better and faster training. Forstenlechner and a similar group of researchers also found that certain knowledge management predictors had a positive impact on fee income of the case study law firm (one of the three largest firms in the world). The research-based support offered by these articles may be useful to law firm librarians who advocate for (or are obliged to justify) the creation, expansion, or continuation of knowledge management activities in their firms.

**Academic Law Librarians**

The scholarship on law firm knowledge management will help academic law librarians not only enhance their understanding of private practice and the activities of their law firm counterparts but also find ways to improve the services they deliver within their law schools. The Principles and Standards for Legal Research Competency, approved in July 2013 by the Executive Board of the American Association of Law Libraries, includes a specific reference to “[r]ecogniz[ing] the benefits of requesting assistance from knowledgeable individuals, or an institution’s knowledge management system” as a competency to be developed by a successful researcher. As explained above, many of the annotated articles offer detailed depictions of how knowledge management is conducted in law firms. As the legal educators primarily responsible for instructing law students on how to effectively and efficiently locate the information and knowledge needed in the practice of law, law school librarians should explain to students the importance of finding useful, reliable sources of practice know-how within law firms. Law librarians should also make students aware of attorney behaviors associated with attempts to impose systems for the management of that knowledge, such as the mutual surveillance, “showing,” “hiding,” and shadow knowledge economies described by Brivot and Gendron.

Law school librarians might also wish to explore whether these law firm knowledge management articles yield any guidance for academic information professionals who use knowledge management systems or techniques to provide services to their users. For example, the current awareness service for lawyers studied by Attfield and others might be adapted by academic law librarians to provide a similar service for law professors at their institutions. Academic law librarians

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73. Forstenlechner et al., supra note 37, at 66.
75. Brivot & Gendron, supra note 49, at 150, 152.
76. Attfield et al., supra note 39.
should also consider whether any lessons for legal research instruction can be learned in the mentor-mentee competency development model evaluated by Lustri and her colleagues.77

Information Technology and Knowledge Management

General


Based on then-existing literature and on the results of surveys of Dutch law firms conducted by the authors, this article proposes a framework for knowledge management in law firms that combines taxonomies of three elements of law firm knowledge management: knowledge, knowledge processes, and information technology. The taxonomy of lawyer knowledge includes administrative data, declarative knowledge (knowledge of the law), procedural knowledge (how), and analytical knowledge (how declarative knowledge applies to a particular set of facts). The taxonomy of knowledge processes includes the development of knowledge, the sharing of knowledge, and the evaluation of knowledge. The taxonomy of information technology includes word processors, databases, Internet applications (such as discussion boards and search engines), intranets, e-mail, groupware, and knowledge-based systems (such as expert systems, neural networks, intelligent agents, and case-based reasoning systems). The authors’ proposed framework is offered as a starting point for evaluating how well various information technology applications support law firm knowledge processes.


This article discusses the results of a survey of information and knowledge management practices at South African law firms. The author also analyzes the results of a survey of South African law firms on the use of information and communication technologies for knowledge management. Survey responses indicated that South African law firms used intranets, document management systems, and electronic communication technologies but had not embraced more sophisticated technologies such as automated document assembly applications and online dispute resolution platforms, nor had they implemented semantic technologies or cloud computing.


This article evaluates how the evolving legal information environment affects the process of legal research and how knowledge management can support or improve legal research. The authors also examine the electronic legal research process and consider the skills that lawyers proficient in print research will need to use electronic resources effectively. This article is useful for its analysis of lawyers’ needs to access various types of information, including primary and secondary sources of legal information, information about clients and their matters, forms and precedents used repeatedly in work for clients, and information about

77. Lustri et al., *supra* note 43.
the firm’s operations and administration and about its business environment. The article also describes the results of a survey of South African lawyers regarding technology and knowledge management. A high percentage of respondents were willing to use knowledge management to acquire and share information, work remotely, and participate in developing new knowledge. But there was also significant uncertainty about whether knowledge management systems were in use at their organizations as well as some unfamiliarity with extranets. In addition, the survey results indicated that although they were not generally asked to assist in day-to-day legal research, librarians performed important knowledge management functions and “should increasingly take on the challenge of developing or improving on current systems designed for typical KM activities that are aimed at law firm competitiveness, especially with regards to packaging individuals’ knowledge into information products” (p.370).


The author conducted a field study of the largest firm in Norway and a survey of Norwegian firms to learn the use of knowledge management in law firms. Based on the results, he formulated three research hypotheses: (1) a positive relationship exists between firm knowledge and knowledge management, (2) a positive relationship exists between firm culture and knowledge management, and (3) a positive relationship exists between information technology use and knowledge management. Professor Gottschalk is the most prolific author of scholarly research articles regarding knowledge management in the law firm context. This article represents the beginning of a series of studies by him on law firm knowledge management and sets the stage for a subsequent article in the same year regarding the third research hypothesis described above on information technology and law firm knowledge management.


This article analyzes the results of research on Norwegian law firms’ use of information technology in interorganizational knowledge management. Interorganizational knowledge management involves information sharing among members of cooperative associations that include multiple law firms, ranging from formal national and international networks to informal cooperative relationships. The author found that the extent of law firm cooperation and of knowledge cooperation each had a significant effect on the use of information technology in connection with interorganizational knowledge management, although the level of trust among members of the networks did not. This article also compares the interorganizational knowledge management used by law firms with that used by consulting firms. Notwithstanding a perception that consulting firms were far more advanced than law firms in their use of information technology in support of knowledge transfer, survey results showed that consulting firms’ use was only slightly higher than that of law firms.


This article considers predictors of the use of information technology to support knowledge management in law firms, based on a study of the largest law firm
in Norway and a survey of Norwegian firms. The author’s research found that the extent to which firms use information technology generally has a significant impact on their use of information technology for knowledge management. Law firm culture and firm knowledge were identified as potential predictors of information technology support for knowledge management in Norwegian firms. As with much of Gottschalk’s work, the law firms studied are all located in Norway. They do not include any of the large multi-office (or multinational) firms of the sort that would be found in major cities in the United States or Canada, London, or other large legal markets.

“Stages of Growth” of Law Firm Knowledge Management


Gottschalk, along with another professor at the Norwegian School of Management, returns to the stages-of-growth model for examining information technology usage in support of knowledge management at law firms. The article begins with a discussion of the law firm and its ongoing transition from a professional to a corporate business model, lawyers as knowledge workers, and knowledge organizations. The authors refine the stages-of-growth model and provide illustrative examples of the information technology employed in each stage. Stage 1, referred to as “end-user tools” or “lawyer-to-technology,” uses productivity applications, such as word processing, legal databases, spreadsheets, and scheduling, which are available to knowledge workers (p.437). Stage 2, described as “who-knows-what” or “lawyer-to-lawyer,” involves using technology to map and make available firm knowledge like the areas of expertise of its attorneys (pp.437–38). Stage 3, characterized as “lawyer-to-information” or “what-they-know,” captures information—such as agreements and other work product, memos, letters, reports, policies, e-mails, voicemails, and other materials generated in the firm’s operation—from attorneys and others in the firm in databases and other repositories and uses search engines and data mining to access and combine needed information (pp.437, 438). Stage 4, referred to as “lawyer-to-application” or “how they think,” applies advanced tools like artificial intelligence, neural networks, and expert systems in order to solve legal knowledge problems (pp.437, 438–39). Although most of the firms surveyed (all of which are in Norway) are at the third stage of growth, the research did not confirm the stages-of-growth model.


Gottschalk and Khandelwal explore results of a survey on the use of information technology in knowledge management among Australian law firms. The authors describe a four-category or four-stage growth model for the adoption of knowledge management information technology by law firms. The first stage, “tools for end users,” involves information technology tools that are made available to knowledge workers, such as word processing, e-mail, and spreadsheets (p.93). The second stage, “information about who knows what,” is concerned with information about knowledge sources available to the firm, such as intranets with details about the experience and areas of expertise of attorneys within the
firm, and the creation of “a knowledge network” (pp.93–94). The third stage, “information from knowledge workers,” involves the construction of databases of information compiled from knowledge workers and used for searching and data mining and making knowledge accessible via intranets (pp.94–95). The fourth stage, “information systems solving knowledge problems,” concerns the application of advanced technologies such as expert systems and artificial intelligence on knowledge problems (pp.95–96). Of the firms surveyed, most were focused on end-user information technology tools, some were working on storing firm knowledge, and a few were working on storing information about who knows what within the firm or on developing systems to solve knowledge problems. Both the number of lawyers and number of information technology staff members in a firm were major determinants of the stages of knowledge management technology present in the firm.


Gottschalk and Khandelwal again collaborate on research regarding information technology and knowledge management in law firms, analyzing the results of Norwegian law firms based upon the stages-of-growth model. Research results did not entirely validate the model and suggested that refinement and further research would be needed. It was not clear from the results that firms necessarily progressed through the stages in order. The article does, however, provide detailed explication of the stages in the model and the knowledge management and information technology aspects of each.

**Clients as Drivers of Technology Adoption for Knowledge Management**


This article concludes, based on a survey of law firm clients in Norway, that client demands were not driving information technology use by law firms in 2002. At that time, law firms were primarily using only tools such as e-mail, word processing, spreadsheets, and presentation software and making limited use of then-emerging technologies like extranets and expert systems. The research did not suggest that the law firms’ clients were drivers of change regarding law firms’ adoption of knowledge management technology. The author’s research did, however, show increases in client satisfaction when firms had the capacity to electronically code the client information they received and used information technology to transmit information to the client, provide clients with access to information, and provide information to clients regarding cases and administrative matters that could be coded by the client.

**Information Technology and Interorganizational Knowledge Management**


This article analyzes the results of research with respect to Norwegian law firms’ participation in Eurojuris, a network of European law firms that has invested in
information technology for knowledge management. Eurojuris includes offices in 650 locations in nineteen countries, covering a total of 3000 lawyers. In Norway, there are eleven law firms with ninety lawyers in the Eurojuris network. As the author explains, law firms participate in international alliances as a way to generate cross-border business for themselves. The research results indicated that participating lawyers perceived benefits in “three out of five value activities [from their participation in interorganizational knowledge management]: problem-solving, choice, and control and evaluation” (§5). Problem solving involves finding and analyzing relevant law and documents, drafting documents, and locating experts. Choice entails selecting an appropriate solution to a problem from alternatives. Control and evaluation involves measuring and assessing the effectiveness of the solution that is implemented. These results support the proposition that information and communication technologies used in interorganizational networks provide benefits in generating potential answers to problems, choosing among potential solutions, and evaluating the success of the solution chosen. Benefits from information and communication technology were greater at the level of “advanced knowledge” (knowledge enabling effective competition) than at the levels of “core knowledge” (basic knowledge needed to operate in an industry) or “innovative knowledge” (knowledge that enables an organization to lead or transform its industry) (§2). The research also suggested that members of the network were not using the network to cooperate on cases or on administrative support.


This article analyzes information technology use by law firm networks in Norway and Australia. The research indicated that while both the level of cooperation among firms in a network and the level of sharing of administrative, declarative, procedural, and analytical knowledge within a network predicted higher levels of information technology usage in such networks in Norway, only the latter did so in Australia. The level of interorganizational trust proved not to be a significant predictor. In both countries, word-processing systems, e-mail, and legal databases were the primary technologies used. Australian firms appeared to use information technology more than Norwegian ones, particularly e-mail, presentations, other law firms’ web pages on the Internet, library systems, intranets, document systems, and other law firms’ web pages on extranets.

The Human Side of Knowledge Management

Knowledge Sharing


This article discusses the results of a study of electronic current awareness services in a large London law firm, involving attorneys and the firm’s knowledge management staff. The authors found that the staff acted as “intelligent filters” attuned to the information needs of specific practice teams that helped time-starved fee earners cope with information overload (p.643). The authors suggest
that current awareness services address several design recommendations. The first recommendation is rapid evaluation of information against an individual’s interests by reading information items first, supplementing items with additional relevant information, adding information to specific newsletters, sending specific items to individuals, and storing items in different collections depending on their intended purposes. The second recommendation is to organize information to support different uses, including “known purpose” collections that are limited in scope and duration based on task deadlines and more expansive “future reference” collections supported with browsing and searching tools (p.644). The third recommendation is to employ back-propagation of details about information needs and preferences from users to better understand their requirements, electronically as well as by means of social interaction with users.


This article uses the results of a case study of a business law firm to evaluate whether the use of centralized knowledge management systems in large professional service firms led to a power shift within the organization. The author focused on the Paris office of a large firm that belongs to an international network of lawyers, accountants, and consultants. The Paris office, which employs 250 lawyers, had implemented a significant knowledge management function that included two full-time knowledge management staff members and a searchable database of legal documents and other work product from prior engagements, with some of the documents endorsed by an internal standards committee as “best practice” examples for reuse in response to recurrent client requests (p.495).

The author found that despite increased bureaucracy involved in the creation, sharing, and use of knowledge within the firm, attorneys in the firm gained power as a result of the centralized knowledge management system rather than losing control to administrators. In addition, lawyers are now able to access knowledge in the firm even without social capital (such as personal contacts with individuals who have relevant knowledge), which can help foster diversity within the firm. The article includes an extensive discussion of the effects of the knowledge management system on attorney behaviors, such as displays of knowledge within the system intended to advertise expertise within the firm, and withholding knowledge in certain areas of expertise from the system to restrict access to that knowledge to a select group of practitioners in the firm.


This article uses the results of research on Scottish law firms to look at human resource issues related to law firm knowledge management. The article addresses knowledge management within the framework of the development of human capital, tacit knowledge, and human resource management, based on case studies of five law firms ranging in size from more than fifty lawyers to fewer than ten. The authors found that in the area of knowledge management, law firms remain focused on developing human capital, with two of the firms studied having developed knowledge management teams and appointed knowledge managers. All five firms used tools such as databases and document templates to increase
productivity, and each aimed to facilitate the development of social capital, both internally with technology such as intranets and externally with technology such as client-facing extranets. The firms showed less interest in the social and cultural processes that develop tacit knowledge, such as communicating with attorneys in other practice areas and mentoring. The authors argue that human resource managers can contribute to a firm’s knowledge management strategy by helping lawyers develop policies and performance appraisal standards that are aligned with the effective development and sharing of knowledge within the firm.


This article describes the results of case study research on a knowledge management model used by a Brazilian law firm to help junior attorneys develop law practice competencies. Three lawyers identified as possessing the desired competencies and three trainee lawyers with the potential to develop those competencies participated in the program. Other experienced lawyers attended meetings with program participants. The competency model that served as the basis of the program consisted of a “nucleus” and four “spheres” (pp.194–95). The nucleus involved two series of workshops focused on sharing the vision of the knowledge and competencies to be cultivated. The first sphere consisted of an introductory module on “customer service and relationship[s], service quality standards, presentation techniques, relationship with the media, dissemination of the service areas composing the firm, dissemination of the products/services offered by each area and the characteristics of their target clients” (p.195). An advanced first-sphere module covered “market analysis, organisational analysis, business management, finance, strategic planning, consultancy techniques and skills” (p.195). The second sphere involved biweekly meetings focusing on the transfer of tacit knowledge via individual conversations; creation of a manual of client service standards; and mentees’ observation of mentors at meetings, negotiations, presentations, court appearances, and other activities. The third sphere (not completed at the time of the article) was planned to involve knowledge dissemination by both the three mentors and, after two years, the initial three lawyers who were being trained in the competencies program. The fourth sphere (also not complete at the time of the article) was planned to consist of practical application of the competencies developed, such as client visits, presentations within the firm, and lectures and interviews. The authors found that the model developed the competencies in question more effectively than the conventional training methods used by the firm during the preceding four years.


This article explores the results of a study of factors that affect the attitudes and behaviors of lawyers with respect to knowledge sharing based on a survey of lawyers in a major city in Nigeria. The authors found that the expected reward from knowledge sharing was not a significant motivator of knowledge-sharing behavior among lawyers. Expected associations among lawyers involved in knowledge sharing and the lawyers’ attitudes about their own contributions were predictors of knowledge-sharing behavior. Although positive attitudes toward knowledge sharing led to positive intentions to engage in it, these positive intentions did not
translate into knowledge-sharing behavior. Use of information technology did contribute to knowledge sharing, although the level of information technology was generally limited to e-mail and mobile telephony.

**Perceived Value of Knowledge Management**


This article discusses the results of research into the perceptions of the value of knowledge management by lawyers and staff at the top ten global law firms. The authors found that lawyers at those firms strongly supported the proposition that knowledge management adds value to the business of a law firm. The benefits of knowledge management reported by survey respondents included improvements in attorney efficiency; improvements in the quality of work product; better risk management, resulting from the use of more consistently updated and refined know-how; differentiation from competitors and increased productivity; a more collaborative, consistent, and unified firm culture; improved current awareness; and better training for junior lawyers.

**The Importance of an “Information Culture”**


Authored by seven scholars working in several disciplines at three Canadian universities, this article analyzes the results of a detailed survey of employees at one of Canada's largest law firms, a diversified, multi-office organization offering legal services in a broad range of practice areas. Respondents included lawyers and support and administrative personnel. The research included an analysis of survey responses and interviews with the firm’s senior management, including its chief knowledge officer and others, about the firm's knowledge management strategy. The authors’ analysis of survey results suggested that this law firm’s information culture—as “reflected in the organization's values, norms, and practices with regard to the management and use of information”—plays a greater role in information use outcomes than its high level of information management activities (p.493). The information values held by those in the law firm that played the largest role in information use were those relating to the sharing, proactiveness, transparency, and informality of information. Copies of the survey questions, addressing a broad range of information-related behaviors, were included in the article, offering insight into how researchers conceptualize knowledge management issues in the law firm context.

**Attorney Behavior and Incentives**


The authors use data from a case study of a French law firm to evaluate the phenomenon of surveillance in a contemporary organization and assess the limits of
the panoptical metaphor in analyzing present-day surveillance. The metaphor of the panopticon, “prevalent in the managerial control literature, is predicated on a hierarchical view of control in which localized and specific targets of surveillance never know whether or not they are actively being watched—thereby leading them to assume they are constantly watched” (p.136). The authors found that after installation of the firm’s knowledge management system, which focused on building a collection of firm attorneys’ legal opinions and other work product, lateral networks of surveillance developed instead of central surveillance by firm leaders. Although some traits of panoptic surveillance were present, fellow lawyers, rather than firm management, generally were the ones who scrutinized the validity and quality of the documents submitted to the knowledge management system. After the system was implemented, attorneys generally complied with the requirement that their documents be included. Lawyers also engaged in “showing off”—playing “games of visibility involving the purposeful self-disclosure of one’s work”—and “hiding”—resisting the knowledge management system by developing unofficial knowledge markets outside of it (p.152). This article is a fascinating study of how lawyers respond to the professional and social incentives involved in a centralized knowledge management system and the layers of complexity that human behavior adds to law firm knowledge management.

Other Areas of Focus

Effect on Fee Income


This article analyzes the results of empirical research on the financial benefits of knowledge management based on an in-depth case study of one of the three largest law firms in the world, in an attempt to discern whether knowledge management provides a competitive advantage. The firm had a well-developed knowledge management function, with knowledge management staffing far above the industry average, and general investment in knowledge management also above the industry average. The results supported the conclusion that some knowledge management factors can partly predict fee income:

- the value perception of knowledge management services based on quality of personal service from the knowledge management team;
- the exchange of personal know-how among peers;
- the quality of counsel and legal opinions;
- the ease of use of know-how systems;
- the use of news and current affairs;
- lawyer commitment; and
- the staffing of the knowledge management function.

The authors note that their research was limited to a single firm and that they analyzed the results using the existing “KM Balanced Scorecard” (a method of performance measurement in an organization being studied) developed for this firm; thus the results may not be completely applicable to other organizations (p.56). The authors’ conclusions were based on “internal surveys on KM services, performance measures, usage data for KM systems and tools and organisational financial data” (p.56).
Implementation


This article details the implementation of knowledge management at a regional full-service law firm in the United Kingdom. The knowledge management initiative began in 2007. Prior to that, the firm's Information Department employed two information professionals and a part-time, retired attorney who primarily delivered knowledge internally, without a significant strategic approach. The firm hired one professional support lawyer and had possible plans to hire another, although this did not occur until after the knowledge management program was implemented. In addition to its existing Information Department, the firm, with advice from a consultant, introduced a new role, called a knowledge fee earner, in each of its fifteen practice teams (p.228). Knowledge management activities were included in performance appraisals, and some level of contribution to knowledge management became a requirement for promotion within the firm. The fifteen new knowledge fee earners developed a set of eight talking points used to promote the knowledge management initiative within the firm. In addition to staffing and performance appraisal changes, the knowledge management initiative was supported with the firm's existing document management systems and other technology. After eighteen months, the knowledge management program achieved the following results: development of precedent banks, creation of a standardized cover sheet that can be attached to any document with a single click, implementation of a firm intranet, development of blogs and wikis as platforms for internal knowledge sharing, seamless integration of links to knowledge resources from external providers, development of standardized pitch materials, development of how-to guides on various information topics, creation of “transaction toolkits” that include relevant documents and guidance from an experienced lawyer, and compilation of historical fee and billing data (pp.230–31).


This article describes the results of research on knowledge management in law firms in Botswana. Most law firms in that country are very small by U.S. standards: more than two-thirds consist of one- or two-lawyer practices. The authors found that the state of knowledge management by lawyers in Botswana was limited; the most common knowledge management practices involved the use of precedent, legal research, weekly learning reports, records management, and hiring and training young lawyers. Only one-fifth of the lawyers surveyed maintained know-how systems and information banks or work product repositories. The research also addressed factors that respondents believed contribute to effective knowledge management and those that they believed inhibit it. Most lawyers did not believe that participation in knowledge sharing was essential for promotion. Interestingly, a majority of respondents did not believe that knowledge was viewed as a source of power among lawyers, although the interviewees indicated that “lawyers in Botswana are often not willing to share their expertise, because knowledge is regarded as power and lawyers believe that monopoly of particular information will lead to personal indispensability, job security, influence, and professional respect within the firm” (p.150). Most respondents felt that their
firms lacked the technological infrastructure for effective knowledge management; other perceived obstacles included a small firm size and limited financial resources. The authors recommended that lawyers in Botswana should “consider talking to others in the legal fraternity about knowledge management, attend meetings and workshops on knowledge management, invest time and money in creating bulletins boards, sample skill directories, form alliances with international professional associations and get connected to [a] physical or electronic forum that engages in collaborative thinking” (p.151).


Using the results of the research described in the preceding annotation, the authors present a detailed set of recommendations for Botswana law firms to implement and use knowledge management effectively. The recommendations include the following:

- Picking initiatives within a firm’s “current technology, business processes, funding constraints and cultural readiness” (§7);
- Being prepared to engage in long-term knowledge management projects and learn from mistakes;
- Investing in appropriate technologies, taking into account “people, structure, processes, leadership and techniques before selecting a technological solution” (§7);
- Using the Law Society (the governing body of Botswana law firms) as the “principal institution for facilitating knowledge management in law firms” (§7) by setting up conferences and workshops for lawyers and working with legal academics to facilitate knowledge management in firms;
- In large firms, having knowledge managers keep management informed about initiatives and considering knowledge management as a basic skill to be developed by all lawyers;
- Devoting at least ten percent of lawyers’ time in talking to others in the legal community about and attending seminars on knowledge management, using sample skill directories, forming alliances with international professional organizations, and participating in online or in-person discussion forums;
- Providing and attending professional development sessions on relevant knowledge;
- Rewarding lawyers who devote time to knowledge management, crediting attorney time spent writing documents that are included in knowledge databases, providing personal recognition for lawyer contributions to knowledge management, and exploring ways of billing for value and not hourly;
- Developing and managing knowledge about clients and their industries; and
- Implementing user-friendly interfaces for electronic knowledge management systems that do not require lawyers to undergo significant training.
International Aspects


In this article, the author examines the results of case studies of ten London-based international law firms in the context of cross-border knowledge management and the expatriation of knowledge. British law firms send lawyers to foreign offices to supply them with English common law knowledge resources, and, at the same time, use local lawyers to provide legal services with respect to the laws of their countries. The research indicated that in East Asian offices, the expatriation followed a “multinational” model, with transmission of English law and management of offices by the expatriates (p.173). In Europe and North America, expatriation followed a “transnational” model, with knowledge developed and shared in multiple directions along networks of relationships; expatriates and locals practiced alongside one another and served in management roles (pp.173–74).

**Conclusion**

¶30 These articles paint a picture of knowledge management as a discipline with enormous potential for making law firms more efficient and effective in providing legal services, although that potential has in some respects not yet been fulfilled. There are, nonetheless, powerful lessons in the existing research for librarians in law firms and in law schools. Those in private practice who work in or are interested in knowledge management are likely well aware that it is the subject of extensive commentary on social media78 and in industry publications.79 The scholarship summarized in this article can serve as an empirical foundation for thoughtful and informed decision making about the implementation, development, maintenance, and modification of knowledge management and provide valuable long-range perspectives that frame and supplement the often more immediate advice and guidance of knowledge management practitioners.

¶31 Academic law librarians can also learn from the law firm knowledge management literature. In their roles as legal research instructors, law school librarians can make students aware of how legal and practice knowledge may be accessible via an electronic knowledge management system in their practice setting. Students should also be alerted to the ways in which practice knowledge may be shared through both formal and informal networks within firms, and consider ways to ensure they have access to critical knowledge resources when they enter practice.

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