Turning knowledge into value in professional service firms

Ingo Forstenlechner
United Arab Emirates University, Al Ain, United Arab Emirates
Fiona Lettice
University of East Anglia, Norwich, UK
Mike Bourne
Cranfield University, Cranfield, UK, and
Carol Webb
Sheffield Hallam University, Sheffield, UK

Abstract

Purpose – The purpose of this paper is to present and discuss the findings of research into the value perception of knowledge management among lawyers and staff from among the top ten global law firms.

Design/methodology/approach – Interviews were conducted with lawyers as well as knowledge management (KM) service providers within the selected law firms. The results were then analysed by statistical means and compared to previous findings in literature. The methodology is inspired and broadly based on a research paper into the value perception of information by Broady-Preston and Williams.

Findings – The findings are that respondents showed strong support for the value of KM to law firm success through concepts such as improved efficiency, quality and other drivers for better performance.

Research limitations/implications – The survey in the paper itself was limited to the top ten global law firms and is therefore not representative of the entire professional service sector or the law firm sector.

Practical implications – The results in the paper indicate strong support from the internal customer side for the notion of KM adding value to the business of a law firm.

Originality/value – Prior to this paper there has been little research into the value perception of knowledge management within the professional service environment.

Keywords Value added, Knowledge management, Lawyers, Legal profession, Professional services

Paper type Research paper

Introduction

Knowledge management (KM) as a source of competitive advantage has been widely recognized for more than a decade (Nonaka, 1991; Davis and Botkin, 1994). Several scholars have highlighted the importance of knowledge and information management in an increasingly globalised, service oriented environment (Davenport and Probst, 2001; Wright et al., 2001) and some have created models to link knowledge management to better performance (Edvinsson, 1997; Marr et al., 2004). However, very few have attempted to show an empirical link between KM and performance aside from theoretical models.

Lee and Choi (2003) as well as Hunter et al. (2002) state that no relationship between KM and performance has been empirically researched so far and a review of literature since these publications suggests that this is still true. Broady-Preston and Williams (2004) however have published a case study linking the use of information to increased performance, a case study that influenced the authors of this paper in the design and delivery of this research project focussed on knowledge rather than information.

Carrion et al. (2004) see consulting, software engineering, law firms and health care as examples for knowledge-intensive service organisations, where KM is likely to make a difference, with some researchers arguing that law firms are among the prime examples for the use of KM to improve performance because "professional expertise and knowledge are both inputs and outputs in this sector" (Hunter et al., 2002, p. 8). Knowledge input in the form of individual know-how and collective routines provide the basis for service provision to clients and as a knowledge-based business, the legal profession faces great challenges as lawyers are constantly in need of new information and knowledge: "Lawyers are knowledge workers" (Schulz and Klugmann, 2005), who have gained their knowledge through formal education and work experience (Gottschalk et al., 2005). Technological advances have also played an important role in changing the pace of progress, Scott and Christensen (2004) relate how international publishing firms such as Wolters Kluwer, Reed-Elsevier or Thompson have turned what Scott and Christensen (2004) call "the once sleepy law library" into a \$15 billion a year industry with a tendency to grow beyond that with new products and technologies. This is just one measurable aspect of the increased investment by law firms into KM: investment figures into internal KM are mostly unknown, but one number does underline the new emphasis placed on KM. In a study into the KM behaviour of European law firms, Disterer (2005) found that for every 25 lawyers employed in a law firm in Europe, there is now on average one knowledge management professional supporting them.

Law firms can be seen as early and capital intense adapters of the practices of knowledge management (Forstenlechner, 2005) partly due the highly knowledge intensive work as well as several other factors such as higher efficiency gains from specialisation compared to other sectors (Scott and Christensen, 2004) or the high risk involved in knowledge loss through turnover (Stovel and Bontis, 2002). Still, there is little evidence about success or failure of knowledge management efforts among large professional service firms, even though law firms are not the only ones investing heavily in KM (Ardichvili et al., 2003). Broady-Preston and Williams (2004, p. 9) emphasise that "Law is an information-intensive profession, in which there has traditionally been great reliance on external information. Currently, however, greater focus is placed on internally generated information and expertise; in harnessing such knowledge, the legal sector exemplifies means by which information may create business value for organisations".

Knowledge management in the professional services sector

"The only product sold in law is intellectual capital" (Chatzkel, 1999, p. 6) is not only true for the legal sector but also for most other professional service firms such as consultancies or accountancies. The key to any service provided is the input in the form of knowledge the organisation has received and the output it can deliver based on this (Hunter et al., 2002). The growth of specialisation as outlined by Scott and Christensen (2004, p. 3) identifies the increasing need to more efficiently deal with knowledge within professional service firms:

The growth of specialization means that most corporate legal work does not involve complex problem-solving. With the right experience, specialists can easily recognise patterns and apply familiar tools so that they do not need to "reinvent the wheel".

Pattern recognition dramatically increases efficiency. Hourly rates assume everything requires complex problem solving. While few industries have experienced greater productivity gains from specialization, the absence of a competitive market enables law firms to hoard cost savings instead of passing them along to corporations".

Knowledge input in the form of individual know-how and collective routines provide the basis for service provision to clients in a very flexible way to meet the different needs of different clients. The professional experience needed to perform this role is based on formal education as well as professional development (codified knowledge) and on the experience of working with clients and more senior professionals (tacit knowledge). Hunter et al. (2002) suggest a high

correlation between the quality of recruits and the quality of the output, which in turn would be reflected in the firm's reputation.

In the law firm sector, the most common structure of firms is a partnership, in which lawyers can become owners of the firm depending on their performance. Rebitzer and Taylor (1999) argue that this can be seen as the prize in a tournament in which the winners forego immediate returns to the value of their knowledge, in order to reap the gains of property rights in the firm in the longer term. Hunter et al. (2002) see the risk in this as the specificity of their knowledge, such as the facet that close relations to a main client involve the risk that the holder of the knowledge might leave the organisation and take the client with him.

Research methodology

This research builds on previous research with 12 additional interviewees added to the initial 12 selected for a preliminary case study.

The method chosen is semi-structured interviews, allowing increased flexibility for the interviews. As Wengraf (2001) defines the semi-structured interview as an interview where a number of questions have been prepared in advance and the interviewer is at liberty to decide during the interview which ones to use and with the opportunity to adapt to the responses of the interviewee. Robson (1993) describes interviews as "a kind of conversation; a conversation with a purpose". Yin (1989) describes variations in interview techniques from being highly structured to free range conversations using closed as well as open-ended questions. The authors decided to adhere to the principles and procedures recommended by Robson (1993) in regards to interview schedule, conduction and analysis. As recommended by Patton (1990), follow up questions were used within the semi-structured interviews to help confirm or discard underlying assumptions and issues that needed clarification. The concept of theoretical saturation (Eisenhardt, 1989; Glaser and Strauss, 1967) guided the number of interviews conducted, which ended when little or no variation was observed in the questions that did not allow free text answers.

Interviews were conducted with the aim of gaining insight into those areas where KM is making a value contribution. The individuals interviewed were selected from among the Top 10 global law firms (based on Legal 500 rankings), which shared the following characteristics:

- comparable in size;
- comparable in revenue;
- geographically dispersed offices;
- history of mergers that created the current organisation;

- comparable client target base;
- good reputation; and
- publicly known KM efforts

Interviews were recorded, typed and analysed for reuse in this research. The interviews sought both qualitative and quantitative input and were analysed accordingly. The author approached interviews in line with Cooper and Schindler (1998): "Content analysis is useful for measuring the semantic content or the what aspect of a message". The resultant content was therefore analysed according to subject area and responses. Questions were coded and analysed on a question by question basis and quotes were tagged for future use, and a log was kept as recommended by Cooper and Schindler (1998) in addition to the general research log recommended by Eisenhardt (1989). The answers to the coded questions were analysed according to subject area – and where appropriate – by their numerical value and summed up.

Findings and implications

Overall, the benefits mentioned by interviewees were:

• Efficiency: 58 per cent.

Quality: 50 per cent.

• Risk management: 33 per cent.

• Long term benefits: 33 per cent.

• Influence on firm culture: 25 per cent.

• Benefits from current awareness: 25 per cent.

• Better and quicker training: 25 per cent.

Efficiency (58 per cent)

In total, 58 percent of respondents mentioned efficiency as a key benefit, which is in line with findings by Disterer (2005), who reports knowledge reuse and the reduction of redundant work as key outcomes of a survey into the benefits of KM as well as Davenport and Probst (2001), who see the essence of KM in efficiency through synergy, increasing the initial value of knowledge to a possibly multiple value by sharing and applying it within the same organisation. Results from the interviews point in the same direction, stating that complex legal work is simply not feasible without KM, as discussed by interviewee E:

It became very important over the last years to be able to produce large quantities of high quality documents in very little time. A loan agreement in London has at least 100 pages. End of the line. No 100 pages, no loan agreement. You can't draft that over night but you will need to present it to the client in the morning anyways.

Seen in a wider context, this also supports Huang et al. (2006), who found that a firm's efficiency is directly correlated with the existence of KM within that organisation. Silvi and Cuganesan (2006) conclude a research paper by stating that, "Linking knowledge specificity to activities and cost provides further insights for cost management and the resource allocation decision-making process. Doing so can make effectiveness and efficiency decisions more visible and easier to evaluate". Explanations for efficiency 150 gains through KM found in the interviews included, but were not limited to:

- the view towards availability of know-how, as it is very helpful to know that documented knowledge is available when needed;
- the efficiency of well trained KM support staff is another point emerging from the interviews; and
- efficiency gains that are understood as simply making the task easier while incurring less cost

A key requirement for increasing efficiency was identified by interviewee E as the constant feedback loop from users of know-how to those maintaining it: "The internal KM system stands or falls with feedback from the lawyers applying the knowledge they get from the system and giving feedback on it. If errors persist, we have achieved the exact opposite of what we set out to do". Interviewee D sees efficiency as well as quality as the two key aspects of value contribution through KM: "The quicker we solve complex issues and the higher the quality of these solutions is , the more likely it is for the client to return and bring more business to the firm. Clients are under immense pressure and this pressure is passed on to us. Without KM it would be difficult to deal with the demand for shorter response times and higher quality at the same time".

Quality (50 per cent)

Robbins (2003) affirms that the benefits of KM can be significant and mentions higher quality of client service as a key benefit. Disterer (2005) reports standardisation as a key step to increase quality as well as the exchange of good practices fostered by KM. More consistent, best-in-industry service to clients builds client loyalty and supports a firm's future client revenue stream (Rusanow, 2005) and Gottschalk et al. (2005) sees another benefit in today's more cost conscious environment the provision of high value services at lower cost, which can help in providing the services that clients

are looking for. This point was also confirmed throughout the interviews, such as by interviewee B:

When I draft contracts for the constantly changing needs of clients, I usually get three or four contracts out of the know-how system that provide useful suggestions for the drafting of at least some clauses. As I am mostly dealing with contracts concerning more than one jurisdiction it is very helpful being able to have a look at contracts drafted in different offices.

Interviewees however agreed on quality as being one of the central issues in need of measurement with two focus areas: measures for the know-how system and for KM staffing. Measures suggested included:

- time needed for drafting standard documents (this can be measured via the time capturing systems usually in place for billing purposes);
- average age of documents in the know-how system; and
- fee earner participation in the review process.

A total of 50 per cent of the interviewees argued that in terms of know-how systems, usage by itself is a generally valid measure of quality. Systems holding little relevant know-how tend not be used, and this is a valid, if not wholly sufficient measure of quality.

In total, 33 percent of interviewees also suggested that experience in the client business, (before moving into full time KM work) is a quality measure for knowledge management Lawyers, which the author considers relevant as it certainly fosters understanding of client work among fee earners. Interviewees also suggested legal experience of researchers (library staff) as a key attribute that should be measured. The discussion focused mainly on the topics of quality, standardisation, the impact of usage and the possible indicators behind it.

Risk management (33 per cent)

Disterer (2005) reported risk management similar to this research, as further down the scale of important contributions by KM, but still on that scale. Well-maintained know-how that is constantly kept updated and refined can significantly lower the risk of providing bad advice. The more time and thought is invested in know-how resources, the less the potential for error. It creates a tool, which reduces risk, as creating documents from scratch would always carry, far more potential for mistakes than reusing honed know-how. Or, as interviewee E put it:

If you look at four different contracts on a similar transaction, you are highly likely to find things in there that you either hadn't thought of yourself

or you find them drafted in a better manner than your own.

The same assumption is made by interviewees for increased collaboration, as collaboration means more brains working on the same task and an increased coverage of combined expertise:

With junior associates KM can make the difference between billable and non-billable hours. If an associate spends ten hours drafting a document from scratch or if he spends ten hours learning from existing know-how and using it to it's full extent, thereby creating a great new document himself, the latter will more likely stand a chance of being work that can actually be billed to a client" (Interviewee E).

Long term benefits (33 percent)

Stovel and Bontis (2002) researched the influence of voluntary turnover on the Canadian financial services industry and came to the conclusion that knowledge management can reduce the risk posed by high potentials leaving a firm for the competition. Two kinds of long-term benefits were identified by the interviewees, one as a differentiator from the competition, and the other the long term influence on productivity. Efficient KM can become a "credible and ownable distinction" (Interviewee H) for a firm to stand above the competition for recruitment as well as daily operations.

London (2005) quotes a partner at a major law firm giving additional long term reasons for KM; client demands (more prospective clients are demanding law firm KM descriptions), recruitment (law school recruits are asking firms about KM systems), low retention rates among lawyers (as lateral hires increase, the brain drain can be enormous) and insurance (liability insurers may require documentation of law firm KM systems).

Influence on firm culture (25 per cent)

Cultural change can be an enabler as well as a result of KM, and while several researchers have discussed the enabling aspect of KM (Schulz and Klugmann (2005), Rusanow (2005), Disterer (2005) and Chourides et al. (2003) and have identified several pre-requisites for the successful introduction of KM, the interviewees mostly focussed on aspects where KM can bring about positive cultural change improving firm performance. Three main aspects were identified by interviewees: Fostering of collaboration, better consistency and the notion of global law firms being "one firm".

Collaboration can be improved and therefore knowledge harvested more effectively by talking informally to colleagues and asking for advice, which helps to establish relationships among people, especially when it comes to collaboration across business units and national borders. Interviewee K sees collaboration from the drafting stage of documents onwards as a key benefit:

I have submitted a not entirely ready clause for discussion and I received not only suggestions for improvement, but also positive feedback for the basic work I had done and that others could reuse. It helps me getting recognition of my knowledge in the field and furthers my career.

Consistency is seen as being achievable through the reuse of high quality standard forms ensures a common approach across a firm and helps in setting the level for consistent advice to clients. Know how documents can allow new joiners to quickly familiarise themselves with the "house style" of documents and "the way we do things around here" as Deal and Kennedy (1982), p. 4) define culture.

In today's global environment, the two points mentioned above make it easier to live up to the idea of being one firm, rather than a multitude of dispersed, loosely connected people across many countries. KM can play a significant role in fostering a common culture and the feeling of a collective effort across offices and nationalities.

Current awareness (25 per cent)

Practice specific newsletters were seen as a key contribution of KM as they save a considerable amount of time, which can be explained by a simple calculation: if a KML is working for a group of 25 lawyers and keeps them updated on legal news relevant to their practice, this will save every single one of the 25 lawyers the time to look up these changes themselves. At the same time, the KML researching these newsletters will become more efficient at finding the relevant material and recognising what is relevant and what is not.

Training (25 per cent)

Higher quality know-how makes it easier for junior fee earners to learn and develop their skills. This point was also confirmed throughout the interviews, such as by interviewee F: "When you are new to a firm there is a lot you can learn by just browsing through know-how. I learned a lot this way". Delegating work to junior staff allows partners and senior lawyers to concentrate on high quality work and charge premium rates (Rusanow, 2005). If knowledge is made available, it is easier for more junior lawyers to do higher value work. This point was also confirmed throughout the interviews. The billing rates of lawyers are usually determined by their value to clients and their experience. If they can be developed quicker and become more valuable in a shorter time, their billing rate can increase.

Observations and conclusions

Some of the issues identified in the interview process were by no means expected by the authors of this study, such as interviewee J explaining why some

lawyers do not need KM at all:

We have two types of lawyers, one type goes into a business, solves problems, and gets out having done good legal work. The second type, bringing in just the same amount of fees or probably even more are what I consider to be therapists. They develop relationships with the clients that are more like those of business consultants and therapists for CEOs who want to have top lawyers around for board meetings and playing golf. Of course the latter do not need KM to the same extent the problem solvers do and do not wish to pay for it. They need great tailors and subscriptions to lifestyle magazines. But they form a surprisingly big part of the organisation.

This is of course an audience that the average knowledge management programme cannot cater for.

Another aspect found with several interviewees was the aspect of KM becoming important in terms of choosing the law firm to work for, something that was also mentioned by London (2005) and – in this case – supported by interviewee K:

It is the old saying, you never know what you have until it is gone. I used to draw a lot of my work from our know-how database, which was kind of difficult to use but still time efficient compared to redrafting entire contracts. When I started my new role, I realised there was nothing much available KM wise and I had a horrible first six months building myself a basic portfolio of standard forms for reuse.

Yet another interviewee was very frustrated with the culture in his new firm:

It simply annoys me, not having access to the know-how I need while knowing it sits on a shelf next door, which is just as inaccessible for me as for any lawyer from working for the competition. I was naïve and one thing I know for sure is that my next job interview will include a look at their know-how system. Here I was called a communist by a partner I was talking to about knowledge sharing.

Knowledge management in a law firm is a "permanent construction site" (Interviewee L) and has yet to be defined in terms of scope and purpose in many law firms. While it means different things to different people the benefits can be identified by both the customers or users of KM – although the definition differs from firm to firm whether a lawyer is a customer of the KM function or a user of KM services provided. These customers or users have clear expectations and a concise idea of benefits KM should provide. While previous research has focussed on the perception of KM staff (Disterer, 2005) or the creation of a KM service line from scratch (Rusanow, 2005) the expectations of customers or users need to be taken into account when "doing KM" in a law firm.

This paper purposely avoids discussing the value contribution in monetary terms, as this needs to be a separate step in the process of quantifying value contribution in the language universally spoken by law firm owners and managers – money. Instead, this paper focuses on anecdotal evidence presenting results in subject areas with a high likelihood of influencing financial performance, such as efficiency or quality of work.

This series of interviews further confirms the validity of the assumption that KM contributes value in those areas outlined on the previous pages.

References

- Ardichvili, A., Page, V. and Wentling, T. (2003), "Motivation and barriers to participation in virtual knowledge-sharing communities of practice", Journal of Knowledge Management, Vol. 7 No. 1, pp. 64-77.
- Broady-Preston, J. and Williams, T. (2004), "Using information to create business value: City of London legal firms, a case study", Performance Measurement and Metrics, Vol. 5 No. 1, pp. 5-10.
- Carrion, G., Galan, J. and Gonzalez, A. (2004), "Identifying key knowledge area in the professional services industry: a case study", Journal of Knowledge Management, Vol. 8 No. 6, p. 131.
- Chatzkel, J. (1999), "20th Anniversary McMaster Business Conference", paper presented at the 3rd World Conference on the Management of Intellectual Capital and Innovation, available at: www.progressivepractices.com/articles/mint_conf_review_2.pdf (accessed February 8, 2004).
- Chourides, P., Longbottom, D. and Murphy, W. (2003), "Excellence in knowledge management: an empirical study to identify critical factors and performance measures", Measuring Business Excellence, Vol. 7 No. 2, pp. 29-45.
- Cooper, R.D. and Schindler, P.S. (1998), Business Research Methods, McGraw Hill, New York, NY.
- Davenport, T. and Probst, G. (2001), Knowledge Management Case Book, MCD Verlag and Wiley and Sons, Berlin.
- Davis, S. and Botkin, J. (1994), "The coming of knowledge-based business", Harvard Business Review, September/October.
- Deal, T.E. and Kennedy, A.A. (1982), Corporate Cultures: The Rites and Rituals of Corporate Life, Addison-Wesley, Reading, MA.
- Disterer, G. (2005), "Knowledge management in large law firms: empirical study of the state of practice", Working Paper 96/2005, Centre of knowledge Management, Department of Business, Fachhochschule, Hannover.
- Edvinsson, L. (1997), "Developing intellectual capital at Skandia", Long Range Planning, Vol. 30, June.

- Eisenhardt, K. (1989), "Building theory from case study research", Academy of Management Review, Vol. 14 No.4, pp. 532-50.
- Forstenlechner, I. (2005), "The impact of knowledge management on law firm performance", PhD thesis, Cranfield University, Cranfield.
- Glaser, B.G. and Strauss, A.L. (1967), The Discovery of Grounded Theory: Strategies for Qualitative Research, Aldine, Chicago, IL.
- Gottschalk, P., Brekke, K. and Pederson, H.C. (2005), "Knowledge sharing through information technology in law firms", Virtual Law Journal, available at: www.virtuallawjournal.net/?nodeid 1/4 32&lang 1/4 en (accessed June 23).
- Huang, H.W., Shih, H.Y., Huang, H.W. and Liu, C.H. (2006), "Can knowledge management create firm value? Empirical evidence from the United States and Taiwan", The Business Review, Vol. 5 No. 1, September, p. 178.
- Hunter, L., Beaumont, P. and Lee, M. (2002), "Knowledge management practice in Scottish law firms", Human Resource Management Journal, Vol. 12 No. 2, pp. 4-21. Lee, H. and Choi, B. (2003), "Knowledge management enablers, processes and organisational performance: an integrative view and empirical examination", Journal of Management Information Systems, Vol. 20 No. 1, pp. 179-94.
- Marr, B., Schiuma, G. and Neely, A. (2004), "The dynamics of value creation: mpping your intellectual performance drivers", Journal of Intellectual Capital, Vol. 5 No. 2, pp. 312-25.
- Nonaka, I. (1991), "The knowledge-creating company", Harvard Business Review, Vol. 69 No. 6, pp. 96-104.
- Patton, M. (1990), Qualitative Evaluation and Research Methods, 2nd ed., Sage, Thousand Oaks, CA.
- Rebitzer, J.B. and Taylor, L.J. (1999), When Knowledge is an Asset:Explaining the Organisational Structure of Large Law Firms, Case Western Reserve University/Carnegie Mellon University, New York, NY.
- Robbins, R. (2003), "Harnessing group memory to build a knowledge-sharing culture", Of Counsel, Vol. 22 No. 6, June, p. 7.
- Robson, C. (1993), Real World Research, Blackwell Publishers, Oxford.
- Rusanow, G. (2005), Knowledge Management and the Smarter Lawyer, ALM Publishing, New York, NY.
- Schulz, M. and Klugmann, M. (2005), "Creating a culture of knowledge sharing in law firms", in Althoff et al. (Eds), Professional Knowledge Management, Lecture Notes Artificial Intelligence (LNAI) Series, Springer Verlag, Berlin.
- Scott, D.A. and Christensen, C. (2004), eLawForum:Transforming Legal Services, available at:

- www.innosight.com/research.php#http://www.innosight.com/documents/elawforum.pdf (accessed June 2, 2005).
- Silvi, R. and Cuganesan, S. (2006), "Investigating the management of knowledge for competitive advantage: a strategic cost management perspective", Journal of Intellectual Capital, Vol.7 No. 3, p. 309.
- Stovel, M. and Bontis, N. (2002), "Voluntary turnover: knowledge management friend or foe?", Journal of Intellectual Capital, Vol. 3 No. 3, pp. 303-23.
- Wengraf, T. (2001), Qualitative Research Interviewing: Biographic Narrative and Semi-structured Method, Sage, London.
- Wright, P.M., Dunford, B. and Snell, S.A. (2001), "Human resources and the resource based view of the firm", Journal of Management, Vol. 27, pp. 701-27.
- Yin, R.K. (1989), Case Study Research: Design and Methods, Sage, Thousand Oaks, CA. Further reading
- Connell, N., Klein, J. and Powell, P. (2003), "It's tacit knowledge but not as we know it: redirecting the search for knowledge", The Journal of the Operational Research Society, Vol. 54 No.2, February, pp. 140-52.
- Kalling, T. (2003), "Organization-internal transfer of knowledge and the role of motivation: a qualitative case study", Knowledge and Process Management, April/June, Vol. 10 No. 2, p. 115.
- Khandelwal, V. and Gottschalk, P. (2003), "Information technology support for interorganisational knowledge transfer: an empirical study of law firms in Norway", Management Journal, Vol. 16 No. 1, pp. 14-30.
- Muir, F. (2005), "Barriers to knowledge sharing in law firms", dissertation, The Robert Gordon University Aberdeen Business School, Aberdeen.
- Stein, J. and Ridderstrale, J. (2001), "Managing the dissemination of competencies", in Sanchez, R. (Ed.), Knowledge Management and Organisational Competence, Oxford University Press, Oxford.
- Szulanski, G. (1996), "Exploring internal stickiness: impediments to the transfer of best practice within the firm", Strategic Management Journal, Vol. 7 No. 2, pp. 9-27.
- Wasko, M.M. and Faraj, S. (2005), "Why should I share? Examining social capital and knowledge 1 contribution in electronic networks of practice", MIS Quarterly, Vol. 29 No. 1, pp. 35-57.
- Wright, P. (2002), "Finding clarity in the measurement process", KM Review, May/June, p. 2002.