

Sticky knowledge and the role of Human Resource management in facilitating the knowledge transfer process

Nawaf Alshabari, Tayyab Maqsood, Malik Khalfan, Farshid Rahmani
Royal Melbourne Institute of Technology (RMIT) university, Melbourne, Victoria, Australia
nawaf.alshabari@rmit.edu.au, tayyab.maqsood@rmit.edu.au, malik.khalfan@rmit.edu.au,
farshid.rahmani@rmit.edu.au

Muhammad Ali Noor
University of Peshawar, Peshawar, Pakistan
m.ali.noor@hotmail.com

Abstract

This paper presents a brief literature review of sticky knowledge and both Knowledge Management (KM) and Human Resource Management (HRM). It also presents the link between these two concepts. The paper also explores the role of KM and HRM both in sustaining Intellectual Capital (IC) within an organisation, particularly in the case of hiring for employees' replacement. Further, it also explains the relationship of HRM's main domains such as: selection, training, appraisal and rewards with KM in detail and their roles in the effective installation of KM system. Based on the literature review, it argues that a new worker could be transformed to a knowledge-worker if appropriate transition processes were in place for knowledge retention and captured from out-going employee. This paper also confirms that the learning organizational structure provides conducive environment for employees to realise his/her potentials.

Keywords

Knowledge Management, Human Resource Management, Intellectual Capital, Sticky Knowledge

1. Sticky Knowledge and the Organisational Challenges of Knowledge Transfer

Knowledge has two widely known formats, explicit and tacit, as defined by Polanyi (1964). Explicit knowledge and tacit knowledge are differentiated by the degree to which they are quantifiable (with explicit knowledge generally being more quantitative, and tacit more qualitative) and by their ease of transfer from one person or group to another. Explicit knowledge can be expressed in words and numbers and is presented in a format that can be easily shared and transferred between people in many forms, such as data, specifications, manuals, and so forth. On the other hand, tacit knowledge, which is often difficult to share or transfer, comes in forms such as insights, intuitions, and hunches. Tacit knowledge must be somehow converted into a form that can be understood explicitly in order to be transferred. Nonaka (1994) identified four potential methods of knowledge transfer: socialization (from tacit to tacit); externalization (from tacit to explicit); internalization (from explicit to tacit) and combination (from explicit to explicit). Nonaka (1994) defined externalization as a way of converting tacit knowledge into words or visual concepts to make it easier to understand.

In human resources management (HRM), one of the primary challenges is to facilitate the transfer of knowledge between employees (and from management to those who work for them) via use of any of

these aforementioned means. Szulanski (2003) has described the issue of why knowledge does not flow within organisations: in effect, people “stick” to their knowledge, and are unwilling to either reconsider their positions or share what they know with others. In response to this phenomenon, HR managers could help management adopt a broader organisational perspective with an eye toward emphasising the importance of knowledge retention. Knowledge retention is supported by the key element that will spur thriving organisations in the future: the ability to train and then retain top-flight talent. Accordingly, this paper confronts the challenge of knowledge transfer, with the term “sticky knowledge” used to describe knowledge that is difficult to transfer, either for some reason related to the method of transfer or due to organisational challenges. It’s the role of HRM to help surmount these challenges.

2. Defining “Sticky Knowledge” In Depth

Eric von Hippel (1994) defined stickiness of information as the “incremental cost of transferring a given unit of information in a form usable by the recipient”. Sticky knowledge is also defined as knowledge that is hard to move or costly to transfer. Knowledge transfer has been defined as an activity that facilitates knowledge movement in any organisation (Bou-Llusar *et al.*, 2006).

Knowledge stickiness negatively affects an organisation’s performance and has far reaching effects on organisational decision-making, organisational memory, and administrative services. Accordingly, ease of knowledge transfer can be expected to lead to improvements in an organisation’s decision-making capabilities and administrative services. Organisational memory is also better preserved in an environment that promotes knowledge transfer, partly because staff turnover is mitigated by environments that facilitate knowledge preservation. In the end, all of these are important because product development cycle time and competitive capacity improves with staff retention. Furthermore, employee satisfaction has been shown to be related to positive communication, knowledge sharing, and knowledge transparency and retention within an organisation. (Kidwell *et al.*, 2000, Jennex *et al.*, 2009, Maqsood, 2006).

Gabriel Szulanski was one of the earliest researchers who studied the nature of sticky knowledge in depth. The nine potential causes for internal knowledge stickiness were elucidated by him as follows (Szulanski, 1996) :

1. Casual ambiguity: Unknown reasons or uncertainty behind successful or failed knowledge transfer are the main causes of causal ambiguity. Szulanski hypothesized that greater causal ambiguity led to greater difficulty in knowledge transfer.
2. Unprovenness: Defining this factor as the lack of a proven record of past usefulness of the knowledge that was selected for transfer, Szulanski hypothesised that without a proven record of utility it is difficult to select the right knowledge to transfer (Szulanski, 1996)
3. Lack of source of knowledge’s motivation: Many people who hold knowledge are unwilling to share it with others due to the fear of losing power or position. One of the most critical factors of knowledge stickiness is caused by the knowledge source’s “unwillingness to share knowledge”. Szulanski linked the lack of motivation of the knowledge holder to share his/her knowledge with knowledge stickiness.
4. Credibility of the source: The knowledge source’s perceived credibility or lack thereof is a factor that might cause knowledge stickiness. Trustworthy sources are more likely to facilitate effective knowledge transfer.
5. Lack of motivation: The person to whom the knowledge is to be transferred may not care to learn. This can halt the transfer of knowledge.
6. Lack of absorptive capacity: Sometimes, a person is willing to receive knowledge, but there are other barriers. The knowledge recipient may not have adequate prior knowledge to make best use of it, or may not recognise sources of support for implementing the knowledge into practice. This

- lack of absorptive capacity can paralyse the transfer and application of new knowledge, increasing costs and delaying completion of knowledge transfer.
7. Lack of retentive capacity: Knowledge retention means “embedding knowledge in a repository so that it exhibits some persistence over time” (Argote *et al.*, 2003). The ability to retain the core details of transferred knowledge is the most effective evidence of successful knowledge transferring (Szulanski, 1996). In this case, the repository can be an individual like a staff member in an organisation, or an information system. Szulanski hypothesized that stickiness would be increased in the absence of this ability.
 8. Barren organisational context: In some cases, the culture or governance of an organisation inhibits knowledge sharing. Szulanski likened the organisation that facilitates knowledge transfer with an eye toward innovation as a fertile land that facilitates the growth of plants. Conversely, organisations that hinder the development of knowledge transfer are said by him to be barren. The issues that can be linked to the organisational context of knowledge transfer include organisational culture, formal structure and systems, and the sources of coordination and expertise (Szulanski, 1996).
 9. Arduous relationship: Transferring knowledge depends on the interactions of two parties. Usually, the human factor plays a major role in these interactions directly or indirectly. When intimacy (in the sense of trust) and an ease of communication exists between the source and the recipient, transferring knowledge is not an issue. An arduous relationship between the source and the recipient (for example, a relationship that’s laborious and distant) might interfere with knowledge transfer.

Szulanski’s findings can be summed up with the observation that each of them has to do with failed relationships of one sort or another. The relationships could be categorised, if one wished, as individual-to-individual relationships (for example, as in the case of arduous relationship), as individual-to-group relationships (for example, in cases where a new employee is requiring that large amounts of knowledge be transferred by a group of other employees and is effectively interacting with the whole organisation), and as group interaction (the role of corporate culture in knowledge transfer).

For HRM, the relevance is that some of these 9 items are more often found to impede knowledge transfer within organisations than are others. Identifying the factors that most often confound knowledge transfer is a necessity to effectively running an organisation, and is therefore vital to HRM. Szulanski performed this work by studying more than 120 “best practices” within 8 firms in order to explore the contributions of the previous factors on knowledge transfer and sticky knowledge. He found that the three largest contributors to sticky knowledge are: lack of absorptive capacity by the recipient; causal ambiguity; and the arduous relationship between the information source and recipient.

The first and last of these three “knowledge barriers” are directly linked to the human factor that informs all communications. In this case, the relationships are between the employees of an organisation (the source(s) and the recipient(s) of the knowledge). This links with the responsibility of HR departments to the extent that HR is responsible to some degree for all employees within an organisation.

3. The role of Human Resource management (HRM) in facilitating knowledge transfer

As was described earlier, Szulanski (2003) states that, one of the main reasons knowledge does not flow within organisations is that people “stick” to their knowledge. HRM has a major role in facilitating knowledge transfer, then, through the management of people. Butler & Roch-Tarry (2002) mentioned that facilitating knowledge flow amongst employees in order to avoid knowledge loss could be considered a key issue for succession planning. HR departments will not be responsible for the establishment of KM in organisations; their role is to facilitate the movement of knowledge and assist in the transformational process of knowledge transfer by performing their regular activities. However, HR managers should look

differently at their job responsibilities and keep an eye on the big picture of knowledge retention in order to act as a strategic partner for organisations.

The general role and responsibilities of an HR department have been shown to be flexible enough to assist in knowledge transfer and, accordingly, in maintaining the competitive advantage of an organisation. According to Storey (1989), the traditional HRM domains revolve around selection, training, appraisal, rewards, and performance management systems. These HRM domains take a “different colour” when they contribute to organisational knowledge assets (Narasimha, 2000). According to Storey and Quintas (2001), HR professionals confront five key challenges in dealing with knowledge: developing and sustaining the knowledge culture within an organisation, accessing employees’ tacit knowledge, securing trust and commitment between employees, handling non-traditional employees such as knowledge workers, and “handling the organisational vulnerabilities arising out of a heavy dependence on key knowledge workers” (Afiouni, 2007). Gourlay (2001) suggested that HR departments have to play “the leading role” in facilitating knowledge management and transfer in an organisation to enable the organisation to maximise the benefit of this knowledge.

Thite (2004) argued that HR management functions need a transformation in dealing with employees in order to achieve a sustainability of intellectual capital (IC). He also considered IC as a competitive advantage in the knowledge economy.

As mentioned before, most of the factors that cause knowledge stickiness are directly related to the knowledge source and recipient. As described by Phaladi (2011), some employees are scared to share their knowledge because of “the fear of a reduced ability to perform and value to the organisation”. Accordingly, retaining needed knowledge from departing employees requires a holistic approach. HR departments must create the needed infrastructure for knowledge retention.

All the discussion thus far highlights issues related to employees more than knowledge systems, and suggests that HRM strategies need to be equipped with knowledge processes in order to achieve effective knowledge management. The next few sections evaluate HRM domains and their effects on knowledge management.

3.1 Recruitment and selecting

Recruitment can be considered as “a knowledge acquisition technique” that involves the determination of requirements related to organisational knowledge and the selection and hiring of individuals deemed to possess such knowledge. Consideration of the requirements of organisational knowledge in the recruitment and selection of hires was recommended as an organisational best practice by DeLong (2008). Many organisations adopt highly advanced and complex methods of selecting and recruiting employees to attract the best talent in the market. However, this is not the best way for facilitating knowledge management. Many studies have shown that selecting the best talent in the market cannot guarantee knowledge sharing. Rather, gaining commitment from both the source and recipient of knowledge in a knowledge sharing arrangement should be the focus (Narasimha, 2000, Argote *et al.*, 2000, DeLong, 2008). Furthermore, the social skill of having the propensity to share and develop is another important issue behind effective knowledge transfer and management.

The selection of individuals with competent skills and the right attitude is essential for creating knowledgeable teams (or a knowledge repository). Highly innovative selection processes have been introduced that are technologically sound and efficient (Scarborough, 2003). Selection processes are highly customised to the job descriptions and corresponding skills and competencies that ensure the right candidates are hired for the job. However, such customized selection processes can conceal certain employee behaviours (Narasimha, 2000). Another implication for appropriate selection is the person-organisation (PO) fit, which intends to ensure that the perceived values of the new staff are similar to the

organisational values or, at least, can be adjusted according to the organisational culture. Such non-job-related criteria are usually assessed through face-to-face interviews, which do not possess absolute predictive validity (Chatman, 1991). Moreover, such selective hiring procedures can slow down or even obstruct knowledge sharing between individuals from different departments (Currie & Kerrin, 2003). However, certain job descriptions have to adhere to specific skills. In such cases, codified knowledge can be of great assistance in knowledge transfer to individuals from other functions.

Ultimately, the main idea behind a selection process that keeps knowledge management in mind is that the value perception of the hired individuals should fit with the organisation's values. This requires highly selective hiring, which will also aid in higher level of knowledge management, as hypothesised by Har *et al.* (2010). With this in mind, HR managers must keep many questions top of mind when selecting new team members for an organisation. What about the commitment of the new team member to sharing their knowledge when they leave the organisation? What is the ability of the new team member to absorb knowledge? The management and other important personnel involved with the hiring of the new team member must also be sensitive to these issues. The intellectual and the personal compatibility between the new and the old employees play a significant role in facilitating the transfer of sticky knowledge.

3.2 Training and development

Training is a process that directly connects HR personnel with other employees in order to source knowledge transfer, which stands at the core of any knowledge management process. Training plays an important role in the development of the three dimensions of organisational knowledge: breadth/depth of knowledge, competence, and exploratory/exploitative knowledge (Narasimha, 2000). Training provides an opportunity to improve employee performance through work-related knowledge and skill-development (Swanson, 1999). Tacit and explicit knowledge related to skill-specific work can be transferred through systematic and frequent training (Robertson and Hammersley, 2000). Har *et al.* (2010) hypothesised that training leads to higher knowledge transfer. Frequent training that supplements organisational knowledge can be accomplished by creating a learning culture and improves competitiveness, enhances technical and social learning, results in knowledge acquisition outside one's main domain, and improves overall business performance. Training on documentation is a great way to transfer knowledge.

3.3 Performance management

Performance management processes can make an important contribution to knowledge management by setting behavioural expectations related to knowledge-sharing, ensuring that actual behaviours are reviewed and establishing appropriate financial or non-financial rewards (Armstrong, 2006). Performance appraisals are a key employee performance assessment process and aim to provide role and goal clarity to individuals. Soliman and Spooner (2000) posited that employee performance evaluations can help drive knowledge management by providing feedback for leadership, enhancing the decision making capabilities of individuals, creating interpersonal relationships, minimizing high turnover and absenteeism, and clarifying roles and goals. Performance appraisals should be designed to evaluate the degree to which certain competencies are used; this can help drive the proper direction for further training and development (Narasimha, 2000).

Armstrong (2006) explains that performance management processes by HR can make an important contribution to knowledge management by providing definitions of behavioural expectations related to knowledge management, and by ensuring that actual behaviours are reviewed and, where appropriate, rewarded by financial or non-financial means.

Performance appraisals can also be used to evaluate knowledge sharing practices of employees. Moreover, a good performance appraisal system can help align individual actions and knowledge to organisational strategies (Burkland, 2009). Strategies of employee selection and training assist in

acquisition and development of individual knowledge and experiences for the organisation, which can be moulded to match the organisational strategies through performance management systems. Performance management also helps in the effective review of the selection of (and requirements for) training strategies (Burkland, 2009). Therefore, an effective performance appraisal system enhances the knowledge creation and sharing process, which can result in a higher level of knowledge management (Har *et al.*, 2010).

3.4 Rewards and Knowledge Management

Employees must be motivated to improve knowledge sharing, and rewards and recognition must improve employee motivation and commitment. Numerous researchers have emphasised that reward structures are necessary to recognise optimal learning and knowledge sharing behaviours in order to motivate people to communicate and share knowledge (Har *et al.*, 2010, Bartol and Srivastava, 2002, Storey and Quintas, 2001). Motivation by rewards and recognitions will assist in encouraging innovation in different aspects such as products, services, or communication style between staff. Knowledge sharing that is backed by a reward system is an excellent tool to install knowledge management in an organisational culture through group performance, knowledge sharing, and innovative thinking (Yahya and Goh, 2002). HR departments have to assess the ability of each departing staff member to transfer their knowledge to remaining workers, and moreover must assess their level of motivation to do so, as motivation is critical in any strong knowledge management culture (Gold *et al.*, 2001).

4. Talent Management and Learning Organisation

Talent management is one of the most burning concepts in contemporary management, who is pressured by globalisation issues, immense competition in the labour market, vast advancements in information and technology, and the enormous struggle to compete in businesses. According to Serrat (2010), talent management refers to “the additional processes and opportunities that an organisation makes available strategically to a pool of people who are deemed to have talent”. If talent is not identified and managed by the entire management team, not only the human resources management unit, talent may just as well be defined as a dormant or untapped quality to be accessed in the future, either in an individual or in the collective. These statements drive home the significance of talent management, which is equivalent to knowledge management.

Drucker (2007) refers to knowledge workers, as assets and capital, not labour. Employees with specific skills and talents can use their ideas and expertise during turbulent times, which can add great value to organisations during such challenging situations (Lawler, 2008).

“Knowledge work requires continuous learning, and continuous teaching by the knowledge worker” (Drucker, 2007).

Talent management of knowledge workers is highly essential as it creates value for their knowledge; it creates systems and procedures that track and manage talented personnel. Bano and colleagues (2010) assert that “the organisation which is dealing with the management of talent strategically and purposefully explains that how they attract, source, select, develop them by training, and ultimately retain them by promoting and rotating them throughout the organisation” (Bano *et al.*, 2010). Knowledge workers’ turnover is a major challenge to firms because when the knowledge workers leave, they take along their tacit knowledge. Even if firms develop highly sophisticated codification processes to tap employee knowledge, these processes cannot capture the employees’ willingness, attitude, and passion for knowledge. Hence, the focus of HR towards talent management of knowledgeable workers should constitute appropriate selection, rewards, retention, and knowledge management processes. The knowledge workers form the human capital that is developed through continuous learning and innovation.

A learning atmosphere that provides flexibility and a holistic learning opportunity for knowledge creation and sharing is most favourable for knowledge workers (Storey and Quintas, 2001).

A learning organisation instils learning behaviour in their culture; they have a supportive and encouraging leadership; strong information and technology base; strategically aligned rewards and performance management systems; and constantly strive for employee retention (Nelson and McCann, 2010). Organisational culture influences the behaviours required for knowledge management in four ways. Firstly, it educates people about knowledge management and highlights the critical aspects about which employees should be informed or knowledgeable. Secondly, it establishes a relationship between individual and organisational knowledge. Thirdly, it creates a framework for network processes that foster knowledge sharing and usage. Lastly, it shapes processes for creation, sharing, and usage of new knowledge (Long and Fahey, 2000).

5. Conclusion

Recognising the threat of losing knowledge as caused by the need to replace employees to organisations is a critical first step in addressing this phenomenon. Retaining the needed knowledge in organisations relies on people and the ability of HR departments to modify human behaviour; in turn, the success of this endeavour depends on the commitment of all HR managers as they collaborate with the departing employees as well as with the staff that is replacing them. As was discussed earlier in this paper, the HR Department should act as a strategic partner for organisations to facilitate knowledge between employees. The effectiveness of HRM in facilitating the movement of sticky knowledge, and the role of both knowledge management and HRM in supporting employee replacement processes, are parts of a PhD study that aims to investigate the Saudi Arabia's new localisation program "Nitaqat" that aims to replace foreign employees in the country with locals "Saudi citizen". The research will further examine these strategies in order to understand the impact of both knowledge management and HRM strategies on organisational effectiveness to avoid losing knowledge while maintaining the competitive advantage of Intellectual capital. Furthermore, the study will suggest a mechanism to transfer needed knowledge to new employees.

6. References

- Afiouni, F. 2007. Human Resource Management and Knowledge Management: A Road Map towards improving organisational performance. *The Journal of American Academy of Business*, Cambridge, 11, 124-130.
- Argote, L., Ingram, P., Levine, J. M. and Moreland, R. L. 2000. Knowledge transfer in organisations: Learning from the experience of others. *Organisational Behavior and Human Decision Processes*, 82, 1-8.
- Argote, L., Mcevily, B. and Regans, R. 2003. Managing knowledge in organisations: An integrative framework and review of emerging themes. *Management Science*, 49, 571-582.
- Bano, S., Khan, M. A., Rehman, Q. H. U. and Humayoun, A. A. 2010. Schematizing talent management: a core business issue. *Far East Journal of Psychology and Business*, 2, 4-16.
- Bou-llusar, J. C. and Segarra S, M. 2006. Strategic knowledge transfer and its implications for competitive advantage: an integrative conceptual framework. *Journal of Knowledge Management*, 10, 100-112.
- Butler, K. and Roche-tarry, D. E. 2002. Succession planning: Putting an organisation's knowledge to work. *Nature Biotechnology*, 20, 201-202.
- Delong, D. 2008. Knowledge Loss Prevention: Five keys to decisions vis-à-vis an ageing workforce. *Inside Knowledge*, 11, 15-19.
- Drucker, P. F. 2007. *Management Challenges for the 21st Century*, Elsevier.

- Gold, A. H., Malhotra, A. and Segars, A. H. 2001. Knowledge Management: An organisational capabilities perspective. *Journal of Management Information Systems*, 18, 185-214.
- Gourlay, S. 2001. Knowledge Management and HRD. *Human Resource Development International*, 4, 27-46.
- Har, W. C., Inn, T. B., Phaik, L. S. and Hsien, L. V. 2010. The Impact of HRM Practices on KM: A Conceptual Model. *Australian Journal of Basic and Applied Sciences*, 4, 6281-6291.
- Hippel, E. V. 1994. "Sticky Information" and the locus of problem solving: implications for innovation. *Management Science*, 40, 429-439.
- Jennex, M. E., Smolnik, S. and Croasdell, D. T. 2009. Towards a consensus knowledge management success definition. *VINE*, 39, 174-188.
- Kidwell, J. J., Linde, K. M. V. and Johnson, S. L. 2000. Applying corporate knowledge management practices in higher education. *Educause Quarterly*, 23, 28-33.
- Long, D. W. D. and Fahey, L. 2000. Diagnosing cultural barriers to knowledge management. *The Academy of Management Executive* (1993-2005), 14, 113-127.
- Maqsood, T. 2006. "The role of knowledge management in supporting innovation and learning in construction". PhD Thesis. Doctor of Philosophy, Royal Melbourne Institute of Technology University. Melbourne, Australia
- Narasimha, S. 2000. Organisational knowledge, human resource management, and sustained competitive advantage: toward a framework. *Competitiveness Review: An International Business Journal incorporating Journal of Global Competitiveness*, 10, 123-135.
- Nelson, K. and Mccann, J. E. 2010. Designing for knowledge worker retention and organisation performance. *Journal of Management and Marketing Research*, 1, 1-18.
- Nonaka, I. 1994. A dynamic theory of organisational knowledge creation. *Organisation Science*, 5, 14-37.
- Phaladi, M. P. 2011. "Knowledge transfer and retention: the case of a public water utility in South Africa". Master of Philosophy in Information and Knowledge Management, University of Stellenbosch, Stellenbosch, South Africa.
- Polanyi, M. 1964. *Personal knowledge: Towards a post-critical philosophy*, Harper & Row.
- Robertson, M. and Hammersley, G. O. M. 2000. Knowledge management practices within a knowledge-intensive firm: the significance of the people management dimension. *Journal of European Industrial Training*, 24, 241-253.
- Serrat, O. 2010. *A Primer on Talent Management. Knowledge Solutions*. Asian Development Bank. .
- Storey, J. 1989. *Introduction: from personnel management to human resource management*. In: Storey, J. (ed.) *New perspectives on human resource management*. London: Routledge.
- Storey, J. and Quintas, P. 2001. *Knowledge management and HRM*. In: Storey, J. (ed.) *Human Resource Management: A Critical Text*. London: Thomson Learning.
- Swanson, R. A. 1999. HRD theory, real or imagined? *Human Resource Development International*, 2, 2-5.
- Szulanski, G. 1996. Exploring internal stickiness: impediments to the transfer of best practice within the firm. *Strategic Management Journal*, 17, 27-43.
- Szulanski, G. 2003. *Sticky Knowledge: Barriers to Knowing in the Firm*, SAGE Publications.
- Thite, M. 2004. Strategic positioning of HRM in knowledge-based organisations. *The Learning Organisation*, 11, 28-44.