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Knowledge Management in Nonprofit Organizations: Concept and Opportunities

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ABSTRACT

Knowledge Management (KM) has been defined as "…the process by which an organization creates, captures, acquires, and uses knowledge to support and improve the performance of the organization. KM processes can be broadly characterized as consisting of knowledge creation activities and knowledge transfer activities. Interest in KM has grown because of the belief that the creation and transfer of knowledge is essential to long-term organizational effectiveness.

In non-profit companies, historically, stakeholders have been lenient in their tolerance for poor KM processes. Stakeholders are often more interested in "touchy-feely" returns on their investment. This paper is an attempt to explore the theory of Knowledge Management and the important role it can play in organizational and individual effectiveness for non-profit organisations.

KEYWORDS : KM, Learning organisation, non-profit organisation, organisational effectiveness.

Introduction

KM has been discussed in several key articles (Alavi and Leidner, 2001; Nonaka, Toyama, and Konno, 2001; and Grant, 2001). KM processes can be broadly characterized as consisting of knowledge creation activities and knowledge transfer activities. Interest in KM has grown because of the belief that the creation and transfer of knowledge is essential to long-term organizational effectiveness.

For-profit organizations have many reasons to practice sound KM processes. Stakeholder interests such as profitability and return-on-investment require them. In most circumstances, given a competitive environment, if a company has poor KM processes, it will be inefficient and ultimately its products will become obsolete and competitors will absorb its market share.

In non-profit companies, historically, stakeholders have been lenient in their tolerance for poor KM processes. Stakeholders are often more interested in "touchy-feely" returns on their investment. For example, society wants non-profits to feed and shelter the homeless. They also want them to educate their poor children as well as hospice their elders. Society, in general, doesn't want the "customers" of the nonprofits to be seen or heard…they just want them to go away. Employees of nonprofits are usually educated and eager to help. In many instances, they are social workers, psychologists, and counselors. Although employees are concerned about their customers, they have little information about KM and the important role it can play in organizational and individual effectiveness.

For-profit organizations have, for many years, pursued a strategy of replicating successful business practices in different communities. This process is known as franchising. Franchising has been successful in international markets. McDonalds, for example, has successful franchises in 119 different countries (McDonalds, 2003). The restaurants do not all have identical menus but they do have the same mission and accomplish this mission by employing standard processes and methods. These processes and methods have been developed, evaluated, documented, and shared with all employees and franchise owners. Even though the menus may differ, the business practices are the same.

Just as there is a demand for fast food in most communities, so there is a demand for specific social programs in most communities. Nonprofit organizations usually operate in neighborhoods or communities. Each community organization spends "…large amounts of time, funds and imagination…reinventing the wheel, while the potential of programs that have already proven their effectiveness remains sadly underdeveloped. This, in many instances, represents a substantial loss to society overall. The objective is to replicate the successful program's results, not to recreate every one of its features (Bradach, 2003:19)."

The difficulty in replicating programs is multi-faceted, but the nonprofit sector's failure to replicate successful programs is only a symptom of a more important problem: *nonprofit organizations lack the critical processes needed to help them develop, evaluate, document, and share successful programs*. Similar to for-profit organizations, it is critical that nonprofit organizations perform essential knowledge creation and transfer functions so that they, as well as others, can replicate successful programs or program features when and where appropriate.

Knowledge Management: A Theoretical Review

In an article, Capozzi (2003: 89) suggests, "philanthropic foundations are knowledge-intensive bodies". However, the importance of KM doesn't stop with the funding agencies – most other nonprofit organizations are also knowledge-intensive bodies. In order to improve organizational and program effectiveness, nonprofit organizations must capture their own knowledge and then use this knowledge to improve current programs and develop new ones. Organizations must then share their knowledge with the nonprofit community so that successful programs can be replicated. Philanthropic foundations play an integral role in this KM-process partnership.

Evans and Dean (2003) describe the Deming Cycle as a methodology for improvement based on the premise that improvement comes from the application of knowledge. This model (Figure 1) shows how the process for improving products (and services) is continuous – one in which employees are constantly studying, reviewing, and modifying work-flow-processes based on information collected from all aspects of the organization as well as its customers and suppliers. This Total Quality Management philosophy has been used in the United States since the 1970s and in Japan since the end of World War II (Evans and Dean, 2003). The concept of continuous improvement has made such an impact in the United States that the Malcolm Baldridge Award was established in 1987 to reward organizations that demonstrate the incorporation of this philosophy at very high levels. Since its original inception as an award for manufacturing firms, the award has been expanded to include service, education, and healthcare organizations. Although there is currently no award for the nonprofit sector (other than healthcare and education), these concepts are just as important to this sector as the for-profit sector.

One model of knowledge defines knowledge as either explicit or tacit (Polanyi, 1966). Explicit knowledge can be expressed in numbers and words. These are then easily shared formally and systematically in the form of data, specifications, manuals, etc. Tacit knowledge, on the other hand, includes insights, intuition, and hunches – which are often difficult to formalize and share. Explicit-knowledge transfer is a relatively common occurrence. Employees share reports, financial budgets, policies, etc. Tacit knowledge, however, needs to be converted into explicit knowledge in order for this sharing to take place. This needs to be done without losing critical parts of the tacit knowledge. Nonaka (1994) identifies four possible methods for tacit knowledge to become explicit knowledge: socialization, externalization, internalization, and combination.

- **Socialization** is the sharing of tacit knowledge between individuals, usually through joint activities rather than written or verbal instructions. This is one of the primary teaching methods underlying the concept of apprenticeships and mentorships. Both apprenticeships and mentorships allow newcomers to see the way others think (Becerra-Fernandez and Sabherwal, 2001).
- **Externalization** involves the expression of tacit knowledge and its conversion into comprehensible forms that are easier to understand (Becerra-Fernandez and Sabherwal, 2001). Externalization involves techniques that help to express ideas or images as words or visual concepts (Nonaka, 1994). For example, conventional learning methodologies require the externalization of the professor's knowledge as the initial step in the student's learning process (Raelin, 1997).
- **Internalization** is the conversion of explicit knowledge into tacit knowledge. This requires the individual to identify relevant knowledge within the organization's explicit knowledge, embrace it as their own, and incorporate it into their own knowledge base. This is the learning theory behind "on-the-job training" and "learning by doing" (Nonaka, 1994).
- **Combination** involves the conversion of explicit knowledge into more complex sets of explicit knowledge. Focusing on communication, diffusion, integration, and systemization of knowledge, combination contributes to knowledge at the group level as well as at the organizational level.

Incorporating and implementing KM processes requires an organizational culture that encourages the development and sharing of tacit knowledge and documenting and sharing explicit knowledge. In addition, it requires a compensation system that rewards this behavior and an organizational structure that permits it to happen easily and often.

For the most part, it is also assumed that technology plays a key role in the processes involved in KM. A broader view looks at KM requirements from three perspectives (Alavi and Leidner, 2001):

- Information-based,
- Technology-based, and
- Culture-based.

The last of these perspectives highlights the importance of organizational culture in the KM process. Not all KM processes require high investment in technology. More importantly, successful use of the technology is often dependent on the incorporation of KM behavior into the organizational culture. Without the benefit of a culture that recognizes, encourages, and rewards KM activities, consistent performance of KM activities simply won't occur.

Lack of technology does not prevent KM activity – it just means that KM activity has to be accomplished in different ways. Bartol (2002), for example, compares KM databases to conventional employee suggestion programs. Employee suggestion programs are often developed using traditional methods (i.e., methods not involving information technology). Most nonprofit organizations have sufficient technology to assist them in developing and evaluating programs as well as sharing and documenting knowledge. Sophisticated database applications may help but are certainly not a requirement. Organized processes are more important. These processes require that organizations value, encourage, and reward KM behavior. Nonaka (1994) suggests that the interaction between explicit and tacit knowledge leads to the creation of new knowledge and this new knowledge, in turn, leads to the creation of new products and services. The processes may differ from one organization to another but can be reduced to common elements – elements requiring that, somehow, tacit knowledge be transferred into explicit knowledge.

Successful implementation of KM practices may require significant organizational change. Leavitt's (1965) model of organizational change suggests that KM effectiveness can only be achieved through a balance of four organizational subsystems: technology, structure, tasks and people. The model shown in Figure 2 emphasizes how all four of these items are interrelated. Leavitt's model suggests that all four subsystems must be coordinated and balanced to create an effective KM organization. In particular, it suggests that organizational culture and structure are key factors in effective KM.

Knowledge Management: Culture, Rewards, and Structure

Organizational Culture

Organizational culture has been identified as a major catalyst or a major hindrance to knowledge creation and sharing (Alavi and Leidner, 2001). A knowledge-friendly organizational culture is one of the most important conditions leading to the success of KM initiatives in organizations (Davenport and Prusak, 1998). The development and incorporation of KM processes throughout an organization usually requires a major cultural change. This is due mainly to the fact that organizations have traditionally rewarded employees based on individual performance. Specifically, cultural barriers to KM (e.g., cultural norms that promote and encourage knowledge hoarding) must be replaced by an organizational culture that promotes and encourages knowledge sharing. It is important that the new culture promote attitudes and behaviors that encourage, allow, and reward employees to share their knowledge and insights. An employee must not perceive that his or her value to the organization is worth more if important knowledge is withheld (i.e., knowledge hoarding).

Group members must understand that the viability of their group depends on their contribution and commitment. If this understanding does not exist, the group will not survive. Each time someone contributes to knowledge sharing, the outcome not only increases the common knowledge base, but also increases the trust among group members (Hall, 2001). Tacit knowledge is exchanged through joint activities rather than through written or verbal instructions (Nonaka, 1994). Brown and Duguid (1998) suggest that knowledge creation is best served by close ties in a "Community of Practice", since these individuals would share a common language and be more at ease when discussing ideas openly and challenging the ideas of others. They suggest that this encourages a shared understanding or a "collective-knowledge base."

Rewards

Van Krogh (1998) suggests that when employees' futures with the company depend on the expertise they demonstrate and not on the extent to which they help others, individuals will attempt to build up and defend their own knowledge bases. This leads to the belief that sharing more information than necessary will lead to reduced power and influence. Employees will only share the amount of information that they perceive as favorable to themselves. Incentive systems are essential to creating a culture in which knowledge sharing is the norm (Szulanski, 1996). Rewards must motivate knowledge development and sharing.

Nowak and Sigmund (2000) suggest two classifications for rewards – direct and indirect. Direct rewards are received when two individuals associate long enough for each to play the roles of receiver and giver of favors. Indirect rewards occur when a third party donates favors without the expectation of return from the receiver. Third party donors, while not anticipating immediate compensation for favors granted, tend to anticipate repayment at a later date in the form of a favor of another third party (Hall, 2001). There must be an exchange at some point or donors will withdraw their participation – they will not support "free-riders" (Dyer and Nobeoka, 2000). Since knowledge can only be volunteered, individuals and teams decide whether any reward that is offered matches the value of knowledge sharing. People's time and energy are limited and they will choose to do what they believe will give them a worthwhile return on their investment (Hall, 2001).

Organizational Structure

Several models have been proposed as an attempt to depict organizational relationships. Mintzberg (1979:2) notes, "The structure of an organization can be defined simply as the sum total of the ways in which it divides labor into distinct tasks and then achieves coordination among them." Nadler and Thompson (1988) proposed four ways to organize work: by activity, by customer served, by output, or by focus. Additionally, Thompson (1967) identifies three types of interdependencies among work units -- pooled, sequential, and reciprocal -- and the demand for coordination that each creates (Figure 3). Pooled interdependence exists when departments work independently of each other to provide products or services to their clients. The relationship between branches of a bank would be an example of pooled interdependence. Sequential interdependence exists when departments work together in an assembly-line fashion to provide a product or service to a client (e.g., an automobile manufacturer). Reciprocal interdependence describes the relationship found when departments work together simultaneously, adjusting to the needs and actions of each other, as they provide a product or service to a client. Hospitals and other nonprofit service providers, with the coordinated services that they provide to patients and clients, are examples of reciprocal interdependence.

Coordination mechanisms required in organizations depend on the departments' degree of interdependence. For pooled interdependence, a common set of rules and plans may be sufficient for coordinating departments' activities. For sequential interdependence, greater feedback and adjustment may be necessary, so vertical communication (up and down the hierarchy), scheduled meetings and committee work are recommended. Reciprocal interdependence requires more frequent adjustment by departments in order to deal with the complex, nonroutine situations they encounter. Coordination mechanisms appropriate to reciprocal interdependence include unscheduled meetings, face-to-face communication, and the formation of departmental teams (Thompson, 1967; Van de Ven, Delbecq and Koenig, 1976; Daft, 1995).

Another important contribution to the structure literature is the concept of contingency. Galbraith (1973) suggests that there is not one best way to manage, but that the most appropriate method depends on the contingency factors. These contingency factors have been identified as environmental complexity (Lawrence and Lorsch, 1967), organization strategy (Child, 1972), technology (Thompson, 1967) and size (Hickson, Pugh and Pheysey, 1969).

Each of these models offers suggestions about how to view organizational processes and the importance of their coordination. They also provide insight into developing the most effective structure in specific situations. These situations are based primarily on environment, strategy, and the interrelatedness of work processes, people, tasks, and technology.

KM Strategies and Roles
Hanson, Nohria, and Tjernay (1999) present a taxonomy of approaches to KM implementation, which includes:

1. *A Codification strategy* – Where knowledge is carefully codified and stored in databases so that it can be accessed and easily used by anyone in the company.
2. *A Personalization strategy* – Where knowledge is closely tied to the person who developed it and is shared mainly through direct person-to-person contact. The chief purpose of computers at such companies is to help people communicate knowledge, not to store it.

Earl (2001) also recognizes the importance of codification (describing it as a contribution of knowledge to databases) and expands the "personalization strategy" component to include the formal and informal sharing of knowledge within or among workgroups and individuals as well as the sharing of information within a "Community of Practice." "Communities of Practice" (COP) represent voluntary forums of employees around a topic of interest. These taxonomies will be used to consider the roles played by nonprofit service providers and the funding community in the furtherance of KM processes.

Codification Strategy (or a Contribution of Knowledge to Databases)

A vast majority of nonprofit, service-provider organizations employ many professional-level employees. These employees may be counselors, psychologists, program facilitators, therapists, social workers, etc. What these employees do and how they do it (i.e., develop and run programs) requires important information – information that can usually be categorized as tacit knowledge. One of the keys to an effective nonprofit organization is the transfer of this tacit knowledge into explicit knowledge. By combining and documenting the explicit knowledge learned from program development, management, and program evaluation, these "best practices" can be stored for use by themselves and other nonprofit organizations. This process will allow the best elements of old programs to be modified, replicated, and incorporated into new programs – the result being better programs and more efficient and effective organizations. This process is the backbone of the Deming model. These programs (or appropriate parts of these programs) may be introduced to local organizations and other communities. This is exactly what franchises do and why they are usually less risky and more successful than other types of businesses.

Nonprofit organizations, in reality, are not encouraged to manage their knowledge. There is no motivation…no extra funding…no contract mandates…or funding constraints. While for-profit organizations are motivated to manage their knowledge through increased profits, return-on-investment, and market share, nonprofits are not motivated through any of these traditional methods. The motivation for KM must come from the funding community. Funding agencies see themselves as the customer and expect "customer-driven excellence." They must demand more than measures of process and effectiveness. They must demand knowledge documentation and sharing across organizations. In other words, they need to ask questions such as

- What types of programs were implemented?
- What were the demographic characteristics of clients?
- How was the program marketed?
- How was the program funded?
- How was the program evaluated?
- Who were collaborating agencies?
- What was the budget?
- How many staff implemented the program?
- What lessons were learned (i.e., if you had to do it over again, what changes would you implement)?

The funding community must then collect and compile this information and make it available to the nonprofit community – perhaps through a database clearing-house. Essentially, nonprofit organizations become part of the KM process – in partnership with foundations and other funding agencies. Organizations are encouraged to become members of this KM community and in turn are rewarded for their contribution of knowledge by an increase in their own knowledge. These member-organizations will be open to a variety of collaborations because each will become a knowledge-intensive organization that will gain from these types of partnerships. Funders also become valuable partners in this KM process. They are rewarded by developing a more effective use of their resources, helping to develop effective programs in areas that are specified in their missions, while also becoming responsible members of their communities.

Personalization Strategy (or Formal and Informal Sharing and COP)
The role of the nonprofit organization is to establish and encourage an organizational culture that values and rewards the transferring of tacit knowledge to explicit knowledge among employees and workgroups. This formal and informal sharing of information or knowledge among employees can be accomplished by structural, cultural, and reward-system changes.

Although the role of the service provider is to encourage KM processes *within* the organization, it is the funding agencies' role to encourage, value, and reward the documentation and sharing of knowledge *among* organizations. This can happen through the encouragement of communities of practice (COP). COPs can provide opportunities to meet and discuss "best practices" and "lessons learned" with people of similar background and job experience. This can be done via traditional professional meetings or through topic-specific listserves that are moderated by the funding agencies. Most program directors in foundations are experts in their field; they know what programs are being funded and implemented and are responsible, in part, for overseeing the programs that are funded by their organizations. These professionals are ideal candidates to act as moderators of these forums. Information from these listserves can be coded to become part of the industry database. Funding agencies would become responsible for coordinating knowledge among nonprofit organizations and within the nonprofit community – locally, regionally, and nationally.

Conclusion and Suggestions for Further Research

The evolution of the nonprofit industry has led to an inefficient process for program development and deployment. Nonprofit organizations routinely create programs from scratch instead of drawing on "best practices" developed by another organization. Furthermore, many nonprofit organizations do not rely on their own knowledge to improve existing programs or develop new ones. Franchises, such as McDonalds, rely on this type of knowledge base for their success. They are constantly documenting knowledge from company operations.

Motivation in the for-profit organization for incorporating existing knowledge new products or services is based on established financial indicators of success. Motivation for this behavior is nonexistent in the nonprofit industry. Nonprofit organizations need to incorporate knowledge management into their regular operating procedures. For this to happen, organizations need to implement an incentive system that rewards cooperation among groups instead of competition as well as rewarding knowledge sharing, such as communities of practice, instead of knowledge hoarding. These changes will influence organizational culture and this new culture must encourage knowledge sharing, acquisition, and utilization. Organizational structure must also be redesigned to include a system that recognizes the importance of reciprocal interdependence among work groups and departments. This could be accomplished through cross-functional work-teams. These cross-functional work-teams would be formed for specific grants and/or programs but each team member would also be a part of a functional department (i.e., counseling).

Levitt's (1965) model illustrates the importance of aligning task, people, technology, and structure in order to effectively affect change. It also provides a basic framework for managers and researchers to start thinking about how to fit these components together in order to best manage their knowledge. Traditionally, KM has been perceived as a theory that is derived from and relies on high levels of technology. However, in most instances, the necessary cultural shift is more difficult to accomplish and often overlooked.

Nonprofit service providers do not operate under the same market conditions as their for-profit counterparts. Foundations and other funding agencies act both as a supplier and customer. Because of this, foundations need to take an active role in the KM process. With few resources available to nonprofit service providers, they are often unable to share knowledge with other professionals within or across the industry. Foundations need to provide opportunities for the development of "Communities of Practice" and provide technology resources for industry-wide knowledge bases. This would ultimately improve the services provided to local communities and would allow for a more effective use of foundation resources.

Future research should examine the ways in which task characteristics, organizational structure (e.g., rewards and coordination mechanisms), organizational culture and technology interact to encourage or impede creation and sharing of knowledge – particularly in the nonprofit sector. It would also be useful to look at the organizational conditions that lead to emphasizing codification and personalization strategies in the implementation of knowledge management.

References

- Alavi, Maryam and Dorothy E. Leidner (2001). Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and Research Issues, MIS Quarterly, Vol. 25(1), pp. 107-136.
- Bartol, Katherine M. and Abhishek, Srivastava (2002). Encouraging Knowledge Sharing: The Role of Organizational Reward Systems, Journal of Leadership and Organization Studies, Vol. 9 (1), pp. 64-76.
- Becerra-Fernandez, Irma and Rajiv Sabherwal (2001). Organizational Knowledge Management: A Contingency Perspective, Journal of Information Systems, Vol. 18(1), pp. 23-55.
- Beer, Michael; Nohria, Nitin (2000). Cracking the Code of Change, Harvard Business Review, Vol. 78 (3), pp.133-136.
- Bradach, Jeffrey (2001). Going to Scale: The Challenge of Replicating Social Programs, Stanford Social Innovation Review, Spring, pp. 19-23.
- Brown, John Seely and Paul Duguid (1998). Knowledge and Organization: A Social-Practice Perspective, Organization Science, Vol.12 (2), pp.198-213.
- Capozzi, Marla M., Stephanie M. Lowell, and Les Silverman (2003). Knowledge management comes to philanthropy, The McKinsey Quarterly, Vol. 2, pp.89.
- Child, J. 1972. Organization structure, environment and performance: The role of strategic choice. Sociology, Vol.6, pp.1–22.
- Daft, Richard L. (1995). Organization Theory and Design, 5th edition, Minneapolis/St. Paul: West.
- Davenport, Thomas H. and Laurence Prusak (1998). Working Knowledge: How Organizations Manage What They Know. Boston, Harvard Business School Press.
- Dyer, Jeffrey H. and Kentaro Nobeoka (2000). Creating and managing a high-performance knowledge-sharing network: The Toyota case, Strategic Management Journal, Vol. 21 (3), pp. 345.
- Earl, Michael (2000). Knowledge Management Strategies: Toward a Taxonomy, Journal of Management Information Systems, Vol. 18 (1), pp. 221-233.
- Evans James R. and James W. Dean (2003). Total Quality: Management, Organization, and Strategy, South-Western, a division of Thomson Learning.
- Galbraith, Jane. (1973). Designing Complex Organizations, Addison-Wesley, Reading, MA.
- Grant, Robert M. (2001). Knowledge and Organization, in Managing Industrial Knowledge: Creation, Transfer and Utilization, Ikujiro Nonaka and David Teece (eds.), London: Sage Publications, pp. 145-169.
- Hall, Hazel (2001). Input-friendliness: motivating knowledge sharing across intranets, Journal of Information Science, Vol. 27(2), pp.139-146.
- Hanson, Morten T., Nitin Nohria and Thomas Tierney (1999), What's Your Strategy for Managing Knowledge? Harvard Business Review, March-April, 106-116.
- Hickson, D., D. S. Pugh, D. Pheysey. 1969. Operations technology and organization structure: An empirical reappraisal. Administrative Science Quarterly, Vol. 14, pp. 378–98.
- Kinney, Thomas (1999). Knowledge management, intellectual capital and adult learning Adult Learning, Vol. 10 (2), pp. 2.
- Lawrence, P., J. Lorsch. 1967. Organization and Environment: Managing Differentiation and Integration. Harvard University, Boston, MA.
- Leavitt, Harold J. (1965). Applying organizational change in industry: Structural, technological, and humanistic approaches. In Handbook of Organizations, edited by James G. March. Chicago: Rand McNally.
- McDonalds (2002). http://www.mcdonalds.com/countries/usa/corporate/info/faq/index.html#14
- Mintzberg, Henry (1979). The Structuring of Organizations, Englewood Cliffs, NJ: Prentice-Hall.
- Nadler David A. and Michael L. Tushman (1988). Strategic Organization Design, New York: HarperCollins.
- Nonaka, Ikujiro (1994). A Dynamic Theory of Organizational Knowledge Creation, Organization Science, Vol. 5(1), pp. 14-37.
- Nonaka, Ikujiro, Ryoko Toyama and Noboru Konno (2001). SECI, Ba and Leadership: a Unified Model of Dynamic Knowledge Creation, in Managing Industrial Knowledge: Creation, Transfer and Utilization, Ikujiro Nonaka and David Teece (eds.), London: Sage Publications, pp. 13-43.
- Nowak, Martin A. and Karl Sigmund (2000). Shrewd investments, Science, Vol. 288 (5467) pp. 819-820.
- Polanyi, Michael (1959). The Study of Man, Chicago: University of Chicago Press.
- Raelin, J. (1997). A Model of Work-based Learning. Organization Science, Vol. 8 (6), pp. 563-578.
- Szulanski, Gabriel (1996). Exploring Internal Stickiness: Impediments to the Transfer of Best Practice Within the Firm, Strategic Management Journal, Vol. 17, Special Issue: Knowledge and the Firm. (Winter) pp. 27-43.
- Thompson, James D. (1967). Organizations in Action, New York: McGraw-Hill.
- Van de Ven, Andrew H., Andre Delbecq, and Richard Koenig (1976). Determinants of communication modes within organizations, American Sociological Review, 41, pp. 300-338.
- Van Krogh, Georg (1998). Care in Knowledge Creation, California Management Review, Vol. 40 (3), pp. 133-153.