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Issues involved in Implementing Knowledge Management in Academics

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ABSTRACT

The ability to acquire, share, and utilize knowledge has become a critical organizational capability as businesses attempt to cope with a rapidly changing environment. Business schools, the critical suppliers of future business managers, are not immune to such environmental changes. As such, many academics have come to realize that they must adopt cultures that embrace continuous learning so that college programs can be periodically updated to meet changing demands. Unfortunately, given the nature of academia, the implementation of many knowledge management (KM) processes is often difficult. To address such difficulties, this paper first identifies several barriers that inhibit KM within the college context and then presents a multi-step framework that can be used to identify the boundaries of a college's knowledge base so that it can be reconciled with the body of knowledge and skills currently needed in industry. The paper also offers some general concluding remarks as to the importance of KM and its role in helping business schools remain relevant in the educational supply chain.

Keywords

Knowledge management, Organizational culture, Colleges, Business schools, Skills training

Introduction

The university environment is essentially a collection of individual experts who constitute an accepted body of knowledge for many degree-granting areas. As such, universities have traditionally been utilized as transfer mechanisms for providing students with a knowledge base that will enable the students to function and thrive on graduation. However, the success of this model is contingent on the critical assumption that universities possess relevant expertise and are up-to-date with regard to the knowledge and skills that students will need. Such is the problem specifically facing business schools today. As critical members of the management education supply chain, business schools, at least in part, are tasked with the role of teaching currently accepted and relevant business doctrine and practices. In order to do so, business schools must first be able to identify what is accepted and relevant, and then take the necessary steps needed to ensure that faculty members and instructional staff possess the appropriate knowledge and expertise. However, distinguishing what is relevant from the many ``fads" that frequently gain short-term popularity is often difficult. Complicating matters is the fact that the rate of knowledge creation is accelerating (Brooking, 1996), which means that colleges must not only periodically retool segments of their programs, but must do so at a much quicker pace. Thus, in a manner similar to business organizations, it is reasonable to expect that business schools can benefit greatly from the development and application of certain knowledge management (KM) mechanism that assist in identifying not only what is known, but also what must be known.

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Fortunately, the concepts related to KM, as well as the mechanisms used to manage organizational knowledge, are well known to many in academia. Whether taught in the classroom or the focus of primary research, the concept of KM and its implications for a wide variety of organizations continues to receive considerable attention on the college campus. However, while academics have become astute at teaching and conducting research related to KM, they have been much slower at adopting the concept. Given many of the unique characteristics associated with business schools, it should not be surprising that many of the business principles taught in the classroom are not always adhered to in the educational context. For example, a central premise of KM concerns the importance of sharing knowledge within the organization. Knowledge that has been acquired or developed by organizational members often increases in value when shared with other organizational members. However, in many organizations, physical and psychological barriers often exist and hinder the effective transfer of knowledge within the so-called functional silos, as well as across the organization as a whole. Business schools are not immune to this problem because they are often organized as functional areas (e.g. marketing, finance, etc.) that operate somewhat independently. Thus, as in a business context, functional areas within many business schools often fail to share knowledge that can lead to the establishment of a higher standard to education.

It is important to note that any KM process initiated by a business school for the purpose of ensuring continued relevancy must begin with an initial assessment of current intellectual capital as it relates to teaching, research, and service (i.e. the traditional units for which performance measures are evaluated). In addition, since most business schools operate at several distinct levels (i.e. individuals, departments, the college as a whole), a critical assessment is necessary for each component, as well. Only after knowledge boundaries have been identified can mechanisms be implemented to ensure that business schools are keeping pace with the changing environment. This presumes, of course, a level of understanding of both individual and organizational capability in terms of KM and learning capabilities. Regardless of the level at which KM is applied, the main goal remains the identification of existing skills and expertise so that they can be matched with current needs. Once this is done, any gaps or deficiencies in the college's knowledge base can be identified and remedied.

The basics of KM

Knowledge can be defined as information that is relevant, actionable, and linked to meaningful behavior and is characterized by its tacit elements that are derived from first-hand experience. It is also generally accepted that knowledge, or intellectual capital, has become an important source for wealth creation and may provide organizations with the only lasting basis for a sustainable competitive advantage (e.g. Cohen, 1998; Drucker, 1999; Laszlo and Laszlo, 2002). The management of an organization's knowledge has been closely linked to the organizational learning (OL) process (Loermans, 2002). Consisting of information acquisition, information dissemination, and the development of shared interpretation (e.g. Sinkula, 1994; Slater and Narver, 1995), OL is considered to be more than just the collective learning that occurs among individual organizational members. In fact, OL is said to be manifest in organizational systems, structures, and procedures that exist independently of individuals (e.g. Easterby- Smith et al., 2000). The value of the knowledge that results from the OL process is derived from an organization's ability to tap into current member knowledge and experience, as well as knowledge obtained from external sources, in order to continually harvest a crop of innovative solutions and creative applications (Lowrie, 1998). Consequently, sources of knowledge must first be identified, both inside and outside the organization,

so that organizations can determine how best to organize, evaluate, share, and dispose of specific knowledge assets.

However, while many basic concepts related to KM are widely agreed on, opposing

KM perspectives have recently been advanced in the literature. For example, the information processing model of KM tends to focus on the processes related to acquiring, codifying, distributing, and utilizing knowledge. This view places a premium on the ability to measure economic returns (often short-term returns) related to KM and typically includes some mention of how information technology (e.g. intranets) can be used to achieve knowledge-derived gains. Conversely, the human-centric model of KM focuses on the social aspects that facilitate knowledge creation and sharing (e.g. Davenport, 1994; Davis, 1998). Here the goal is to understand how social interactions between "individual knower" help to not only transfer tacit knowledge from one person to another, but also how such interactions lead to the creation of new knowledge. Fortunately, while the competing KM models differ in terms of the processes associated with managing an organization's knowledge base and the organizational characteristics that are most relevant, each seeks to achieve the same basic objective. That is, implicit in each model is the desire to understand knowledge and how it might be leveraged so that organizations can realize both short- and long-term advantages. Stated more practically, the competing models each attempts to provide insights concerning what organizations currently know, how they came to know it, and what they might know in the future.

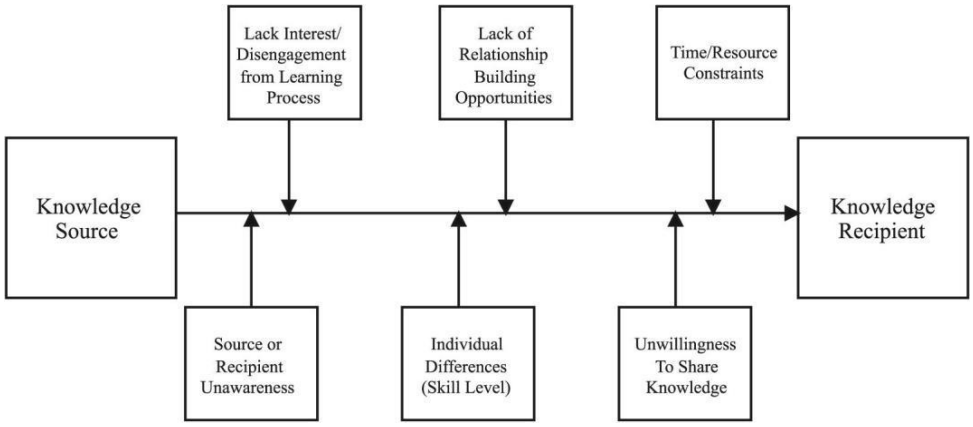
As expected, in much the same way that business organizations are attempting to cope with change by relying on KM and OL processes and structures, business schools might also benefit from periodically reevaluating their sources of knowledge and expertise. To do so, however, requires that a business school be willing to make the necessary resource and cultural investments needed to facilitate shared learning. In short, a business school must be willing to determine what is known and what is not known so that it can improve performance and remain a viable link in the employee supply chain. Unfortunately, however, necessary change does not always occur quickly within academia for a variety of reasons.

Factors affecting KM within the academic setting

Effective KM is difficult to achieve in any organization. In fact, organizations are often characterized as being resistant to learning and regularly fail to learn from past experiences. Researchers have found that even in firms that embrace innovation and recognize the importance of managing knowledge, some "best practices" still take many months, or even years, to be shared and adopted throughout other parts of the organization (e.g. Szulanski, 1996). Within the college setting, KM is often difficult because of existing cultural and bureaucratic factors that act as barriers to the KM process.

For example, instead of considering knowledge as an asset that increases in value when shared, many faculty members consider knowledge as proprietary and something that is not shared freely (Wind and Main, 1999). Given the nature of academia and the emphasis placed on conducting primary research, it is not surprising that some faculty members view knowledge as a possible source of differentiation, and thus defer sharing certain aspects of their knowledge. Unfortunately, however, when knowledge is viewed as a source of power it acts as a "separator" between the haves and the have-nots (Wiig, 1999).

Figure -1 Factors that affect knowledge sharing within the academic context



Another barrier to knowledge sharing and creation can be attributed to a simple lack of interest among some faculty members. For a variety of reasons, some faculty members have become complacent and have disengaged from the learning process. While certainly not in the majority, such faculty members still act as a drag on the college because they absorb scarce resources, but do not contribute to the advancement of the KM process. The negative impact of non- performing faculty members is further intensified by the fact that they not only fail to expand the college's knowledge base, but they also preclude the recruitment of other faculty members who might make positive contributions. Paradoxically, the system of tenure, meant in part to protect a faculty member's freedom to create and advance knowledge in unique and sometimes controversial manners, is the same system that may also help to shield those who have lost interest in knowledge formation and knowledge sharing.

Individual differences among faculty members in terms of the ability to grasp certain types of knowledge can also interfere with the KM process. Faculty members from varied backgrounds often possess different levels of knowledge stores and capabilities. For example, due to more industry experience, educational opportunities, or personal application, one faculty member may possess knowledge and expertise about advanced statistical techniques that are well beyond the comprehension of a fellow faculty member. While the former may be willing to explain the statistical technique to the latter, the latter may not be sufficiently grounded in the basics of statistics to fully understand the explanation. While this example demonstrates a positive aspect of the KM process (i.e. a willingness to share knowledge), it also illustrates the need for knowledge-seeking faculty members to make a significant commitment to the learning process, a commitment that some are not willing to make.

Another barrier that inhibits the transfer of knowledge among faculty members can be traced to the lack of relationship building within many business schools. Given that a growing number of faculty members choose to fulfill many of their obligations from a location other than their college offices (e.g. home offices), the relationships that evolve from regular personal interactions often fail to materialize. Because so many faculty members are not in regular face-to- face contact, opportunities for serendipitous knowledge exchanges (e.g. hall talk) are eliminated or severely reduced. And, as suggested by Szulanski (1996), the lack of

intra-organizational relationships often leads to the failure of the communication process. In other words, the social network that supports the formal and informal mechanisms that are needed for knowledge sharing to occur, often fail to evolve within the organization.

Simple unawareness on both ends of the transfer is yet another barrier to the transfer of knowledge. Just as in large business organizations, knowledge transfer within business schools is often inhibited because neither the source nor the recipient knows where or from whom to seek certain types of knowledge. While efforts have been made to help keep faculty members informed and engaged in the knowledge-sharing process, such efforts often fall short. For example, regularly scheduled brown-bag research seminars provide an effective forum for sharing ideas; however, the seminars are often, but not always, promoted within specific functional areas and may not be well-attended by faculty members from outside the sponsoring department. In addition, many business schools have come to rely on the development of intranets to help keep faculty members informed concerning available knowledge resources. However, as with many corporate intranets, college intranets are often difficult to keep current and tend to be underutilized.

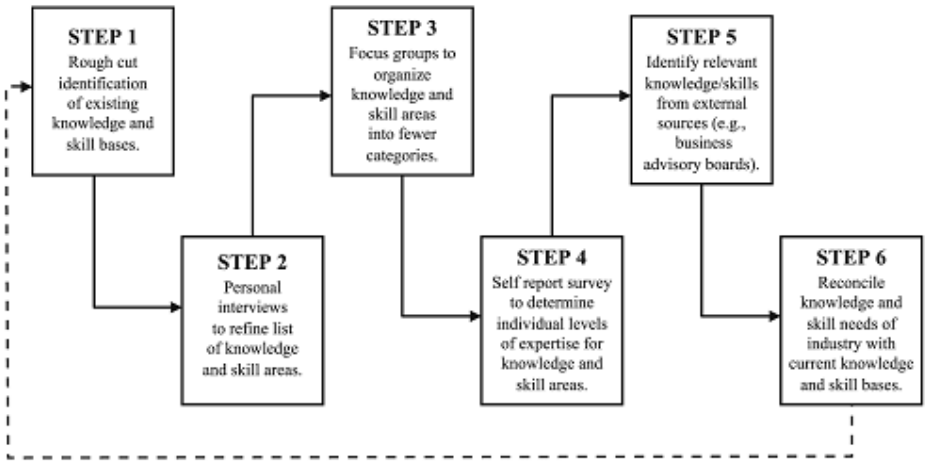
Finally, time and resource constraints also disrupt the KM process. Even when a knowledge source has been identified and is readily available, faculty members often lack sufficient time to take advantage of learning opportunities. Teaching commitments, committee meetings, service load, and office hours all demand a significant amount of faculty members' time. Add to this, research activities, conference presentations, and consulting activities, and the time available for formal and informal knowledge sharing is severely restricted. Thus, given the many teaching, service, and research demands that faculty members must contend with, allocating additional time to knowledge- sharing activities is often difficult or impractical. As with time constraints, resource constraints often inhibit faculty members from taking advantage of knowledge development and sharing activities. Especially during periods when budgets are being scaled back, funds needed to attend conferences, purchase specialized databases, and invite guest speakers to present research seminars tend to be significantly curtailed.

Mapping knowledge in the academic setting

Before knowledge can be shared within an organization, it must first be identified (see Figure 2). However, experience has shown that mapping knowledge within organizations that have well-established hierarchical structures and that have clearly-defined job descriptions is extremely difficult (Wexler, 2001). Doing so within business schools, where many faculty members more closely resemble independent contractors and where research, teaching, and service interests vary widely, is even more challenging. Compounding the problem of identification is the fact that while many faculty members choose to focus their attentions on a fairly narrow topic area in terms of teaching and research, and develop a deep understanding (i.e. expertise) of the area, many other faculty members pursue a much wider range of research and teaching interest. In addition, there are the issues related to measuring actual knowledge or expertise. While industry experience and formal education help to ensure that faculty members are theoretically and methodologically well-grounded in their given functional areas, some balance must be attained between familiarity with a subject and true expertise (i.e. tacit knowledge).

That is, while most faculty members may have a "passing" knowledge of many different areas, and many faculty members have developed a deep understanding of a given area, very few faculty members can claim to have expertise in every area. Thus, given such difficulties, any efforts to determine the boundaries of a knowledge base, so that gaps in knowledge can be identified and obsolete knowledge can be retired, should involve a multi-method approach to data collection and must have the support of the entire college faculty and administration. The following six-step process is meant to provide a framework for identifying knowledge, organizing it into manageable units, ensuring that it is relevant, and distributing it to others within the organization.

Figure: 2 Mapping knowledge within the academic setting



Step one represents a rough cut for identifying the boundaries of a college's knowledge base and involves the evaluation of current curriculum vitae/resumes for each faculty member. This step helps to establish a preliminary list of self-reported areas of knowledge and expertise as reflected by past industry experience and current research publications/work-in-progress, teaching responsibilities, service and consulting activities. For example, an inventory of journal publications and conference proceedings should help to provide some insights concerning specific areas in which a faculty member has had at least some exposure to a certain knowledge domain. Likewise, information related to classes currently being taught or taught in the past also provides a general indication of a faculty member's exposure to specific areas of knowledge.

Once an inventory of knowledge domains has been developed for each faculty member, the second step of the data collection process begins by conducting semi-structured personal interviews with each faculty member in order to refine the list of knowledge areas. By doing so, faculty members can elaborate on the approximate level of expertise that they possess, as well as make additions and deletions to the list of general areas of knowledge. The end result of the personal interviews stage should be a more refined list of knowledge areas, as well as a general reporting of the level of expertise for each knowledge area. It should be noted that the convention utilized for determining the approximate level of expertise (i.e. knowledge level) is less important than the requirement that it be applied consistently across all faculty members. That is, whether the levels of knowledge are defined as very high, high, medium, low, or very low, or whether some other scale is utilized is inconsequential as long as the scale is set and linked to a reasonable baseline approximation. For example, within a business

school there may be one individual who stands out from all others with regard to knowledge relating to how and when to employ an experimental design methodology. This individual may teach an experimental design methods class, may use experimental design in all his or her research projects, and may even act as a consultant to businesses who rely on applied statistics to conduct market research. In short, this individual is acknowledged both within and outside the college as the ``resident" expert in experimental design. Once identified, such an individual can act as a benchmark and can be used to set the scale for a specific area of knowledge (i.e. experimental design). The approximate knowledge levels for all others within the college can then be set relative to the benchmarked individual.

The third step of data collection involves using small focus groups to reduce the number of knowledge areas to a more manageable number by identifying closely related areas that can be clustered together. Similar to measuring a latent construct by relying on a sample of measures from the construct domain, here master knowledge areas are identified as encompassing many discrete fragments of knowledge. Building on the experimental design example, it may be possible to distill several distinct areas of knowledge into a more general category, such as statistics or quantitative analysis. By reducing the number of discrete knowledge areas down to fewer master categories, the KM process becomes much more manageable and, hence, is more likely to continue as a prescriptive tool for helping business schools remain relevant. The risk here, of course, is that too much aggregation occur in which too many specific areas are combined into only a few master knowledge areas; thus, resulting in the loss of important details. Further, it is during stage three that coalitions of knowledge areas should begin to emerge as individuals within and across the different functional areas are identified as possessing similar levels and stores of knowledge. Similar to the nomological networks of knowledge that emerge over time in various research streams, the knowledge network that emerges within a business school can help to identify gaps in the knowledge base (i.e. lack of expertise), as well as areas where collaboration and synergy can be developed among faculty members.

Step four of the process involves developing a self-report survey that seeks to measure the levels of expertise that each individual faculty member has in terms of the master knowledge areas. Two important tasks are accomplished with this step. First, individuals get an opportunity to report their levels of knowledge within the context of the new master areas of knowledge. For example, a faculty member may self-report that he or she knows a great deal about quantitative statistical techniques, but very little about qualitative techniques. The second task accomplished with this step concerns the validation of data collected in step two, as well as the merging process in step three. Assuming that the master knowledge areas have been carefully constructed, the patterns of faculty self-reports for specific knowledge domains should closely resemble those obtained in step two. In addition, the rationale for combining individual knowledge areas into a smaller subset of master areas is also validated in this step if they elicit approximately the same response pattern from faculty members. Thus, given the complexity associated with mapping an organization's knowledge base, step four provides a much needed validity check to ensure that what is purportedly being measured is in fact being measured.

Moving outside the business school, step five involves tapping into external sources of information in order to determine the body of knowledge and skills that business school students should possess on graduation. One possible source of such information comes from analyzing other business schools. By identifying college programs that are considered

forward thinking, cutting edge, and innovative, and that correspondingly rank well in terms of graduate recruitment and placement, many insights can be gained about what businesses are seeking from new college graduates. Such benchmarking activities would be fairly easy to conduct given the amount of program-related information that many colleges freely share online. Another, possibly more useful source of information comes from those organizations that hire a college's business students. Whether relying on recruiter surveys, alumni surveys, or business advisory groups, seeking information directly from those who make the hiring decisions can be critical. However, it is important to avoid becoming too focused on the knowledge and skills associated with any one industry or company. That is, while consideration and input should be sought from a wide range of industries and businesses, and adjustments to existing programs should be made whenever warranted, faculty and administrators should not lose site of the fact that business schools are not trade schools and are not responsible for providing company or industry-specific training.

Once a reasonably complete picture of a college's knowledge base is developed and information concerning the knowledge and skills needed by students has been compiled, the two must be reconciled. Thus, the final step of the KM process entails gaining insights about what areas of a college's knowledge base are relevant, what areas are obsolete, and what areas are deficient. Once such information is formalized and distributed throughout the college, faculty and administrators will be able to gain a better understanding of the extent to which a college possesses specific knowledge assets, as well as gain additional insights about those knowledge assets that may be lacking. In addition, the above KM process should also help to facilitate knowledge sharing, since faculty members will now have reliable information pertaining to who is teaching, conducting research, providing service, and consulting in the various knowledge areas.

Ultimately, decisions relating to faculty development, recruitment, and tenure, among others, should be made in conjunction with knowledge mapping process. That is, such decisions should be guided in part by the KM process and should directly address the knowledge gaps or deficiencies that are identified.

Conclusion

While the concept of KM has been examined extensively within the business context, very little is known about how the KM process may benefit educational institutions. It is important to understand how KM initiatives may affect business schools specifically, since business schools fulfill such an important role in the education process of future organizational managers. Thus, the same insights gained from studying how KM can lead to strategic, tactical, and operational benefits within a wide variety of enterprises (Wiig, 1999), may also be applicable to the academic context. As such, this paper extends the existing KM literature by including educational organizations as potential benefactors of the KM process.

A major objective of this paper is to develop a useful framework for cataloging the knowledge (i.e. expertise) possessed by an educational unit. By systematically mapping a college's knowledge base, faculty and administrators will be in a position to promote knowledge sharing, identify gaps in the current knowledge base, retire obsolete knowledge, and help to ensure that business graduates are well prepared to meet the challenges that lay ahead. While time consuming and difficult to implement, the KM process can lead to the development of in-house training programs that can be used to provide additional training and educational opportunities to existing faculty. Also, a formal, ongoing KM process as

described above can be instrumental in helping a college identify knowledge areas that are critical and that are best dealt with by recruiting additional faculty or staff who can immediately bring such knowledge into the business school. Thus, despite the difficulties associated with implementing the KM process, the benefits derived from doing so should prove beneficial and help to ensure that business schools remain an important part of the educational supply chain.

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