KNOWLEDGE TRANSFUSION FROM EXTERNAL SOURCES TO SMALL AND MEDIUM-SIZED COMPANIES

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Abstract:
This article addresses the issues of knowledge management (KM) from the point of view of external knowledge. Knowledge has been raised as a key success factor or key resource for organizations of all sizes. Knowledge worker, knowledge intensive business services, and knowledge society are commonly used nowadays. Nevertheless, it is hard to imagine that every organization could possess all the necessary knowledge to guarantee successful operations. External knowledge and its effective use can help an organization overcome many difficulties at various stages of its life cycle. The underlying challenge is to define what shape or form of external knowledge an organization should use to improve the likelihood of business success. The initial findings and conclusion indicate the tendency for start-up companies to emphasize tacit knowledge more in order to help overcome business barriers. An interesting research question is how companies can value external knowledge and how they can pay for it. Small and medium-sized enterprises (SMEs) are typically short of financial resources. Their cash flow does not necessarily allow room for large investments in external knowledge projects. This paper utilizes the previously developed taxonomy of external knowledge, and studies the various options for compensating the knowledge acquired for improving the business performance of SMEs. The research utilizes multiple case studies and proposes a wider international quantitative study to draw a richer picture of the issue.

Keywords: knowledge management, external knowledge, company life cycle

1. INTRODUCTION

Knowledge and KM have been cited as one of the key elements of a successful business. They have also been considered to be an emerging aspect of the management paradigm in the 21st century (Hitt, 2000; Dess & Picken, 2000). However, there has been (and still is) a lot of conceptual confusion (de Long & Seemann, 2000) about KM. “Whenever two people are talking about ‘knowledge management’ the breadth and complexity of the subject make it likely that the discussion is built on untested assumptions, different levels of analysis, varying levels of experience and different objectives” (de Long & Seemann, 2000). The management disciplines and practices in the area of KM have developed significantly in the past decades. Pfeffer (1981) proposed that the organization itself should have within it the knowledge and the expertise necessary to solve its own problems. On the other hand, he admits that there is room for outside experts and subsequently added the following:

- the outside expert can permit power to be used to affect decisions in a somewhat less visible way,
- the outside expertise can serve to legitimatize the decision reached and to provide an aura of rationality to the decision process.

KM caters to the critical issues of organizational adaptation, survival, and competence in the face of increasingly discontinuous environmental change. Essentially, it embodies organizational processes that seek a synergistic combination of data and the information processing capacity of information technologies, and the creative and innovative capacity of human beings (Malhotra, 1997). This is a strategic view of KM that considers the synergy between technological and behavioral issues as necessary for survival in ‘wicked environments.’ The need for the synergy of technological and human capabilities is based on the distinction between the ‘old world of business’ and the ‘new world of business.’ Within this view, the old world of business is characterized by predictable environments in which the focus is on prediction and optimization based efficiencies. This is the world of competence based on ‘information’ as the strategic asset and the emphasis is on controlling the behavior of organizational agents toward fulfillment of pre-specified organizational goals and objectives. In contrast, the new world of business is characterized by high levels of uncertainty and inability to predict the future. Use of the information and control systems and compliance with pre-defined goals, objectives, and best practices may not necessarily achieve long-term organizational competence. This is the world of ‘re-everything,’ which challenges the assumptions underlying the ‘accepted way of doing things.’ This world needs the capability to understand the problems afresh given the changing environmental conditions. The focus is not only on finding the right answers, but on finding the right questions. This world is contrasted to the old world by its emphasis on ‘doing the right thing’ rather than ‘doing things right.’

Strategic KM focuses on doing the right thing in addition to the more operational view of doing things right. Knowledge management can be seen as a framework within which the organization views all its processes as knowledge processes. In this view, all business processes involve the creation, dissemination, renewal, and application of knowledge toward organizational sustenance and survival. Extensive use of web-based applications and e-learning throughout an organization reflects this argument. This concept embodies a transition from the recently popular concept of ‘information value chain’ to a ‘knowledge value chain’ (Nonaka & Takeuchi, 1995). The knowledge value chain treats human systems as key components that engage in continuous assessment of information archived in the technological systems. In this view, ‘best practices’ are not implemented without active inquiry by the human actors. Human actors engage in an active process of sense making to continuously assess the effectiveness of best practices. The underlying premise is that the best practices of yesterday may not be taken for granted as the best practices of today or tomorrow. Hence, double loop learning, unlearning, and relearning processes need to be designed into the organizational business processes.

It is the role of KM to connect the two components that make up the ‘who’: *knowledge owners* and *knowledge seekers*. The knowledge of one is transferred to the mind of the other, so that a new decision can be made or a situation handled. Knowledge management provides a means to capture and store passing knowledge and broker it to the appropriate individuals. It is also critical to differentiate between different types of knowledge. One way to do so is to divide this term into *tacit* and *explicit knowledge*. Tacit knowledge is more hypothetical, subjective, personal, and substantially more difficult to communicate. Tacit knowledge is the primary focus of many knowledge management initiatives, because it is the repository of an organization’s most strategically valuable knowledge. The primary challenge of addressing explicit knowledge is managing its volume to ensure its relevance. A common deficiency facing organizations is information overload, as the levels of explicit knowledge become so overwhelming that it cannot be appropriately filtered. It is the management of explicit knowledge on which most organizations are focused. However, as organizations make advancements in knowledge management, they realize that managing tacit knowledge is even more strategic. The challenge of managing tacit knowledge is formulating it into a communicable form and distributing it to the *knowledge seeker*.

Nonaka and Takeuchi (1995) point out that human knowledge is created and expanded through social interaction between tacit knowledge and explicit knowledge. This interaction is called knowledge conversion, which finds expression in four different modes: (1) from tacit knowledge to tacit knowledge (socialization), (2) from tacit knowledge to explicit knowledge (externalization), (3) from explicit knowledge to explicit knowledge (combination), and (4) from explicit knowledge to tacit knowledge (internalization). Socialization is a process of sharing experiences and thereby creating tacit knowledge, such as shared mental models and technical skills. It yields what can be called 'sympathized knowledge.' Externalization means a process of articulating tacit knowledge into explicit concepts and combination is a process of systematizing concepts (from different bodies of explicit knowledge) into a knowledge system. So, externalization outputs 'conceptual knowledge' and combination gives 'systemic knowledge.' A process of embodying explicit knowledge into tacit knowledge is internalization. It produces 'operational knowledge.'

The typical knowledge seekers nowadays are the small start-ups, such as high-tech companies. They possess only limited knowledge to ensure a healthy growth. Knowledge and competence even for some key areas of business might be external for long periods of time. The more unknown and turbulent the market, the bigger challenge there is. The problem is very serious for the new high-tech companies, because they have to reach the big and unknown international market at very early stages. On the other hand, the companies that have experienced business cycles (up and down) with various new and modified products/services also need to create, obtain, or acquire – as well as nurture and maintain – the necessary knowledge for future planning and strategies.

2. ORGANIZATIONS AND KNOWLEDGE

The continuously increasing intensity of companies to network has created a new possibility of knowledge sharing. Network is defined (Pikka et al., 2004) as the group of actors who change information and who have a common interest. Companies no longer compete alone as autonomous entities, but rather as part of a network (Lambert et al., 1998; Christopher, 1998). Naturally, one company can be in several networks. Managerial doctrines have emphasized core competencies as a success factor in business. Today, companies focus on their core competencies and by networking they complement their non-core competencies. Especially in the ICT industry, networking has become a widely accepted strategic way of action. Scale, cost, and quality are the paradigms where business is managed (Kolarik, 1999; Pine, 1993; Suri, 1998; Womack & Jones, 1996). According to Harrington (2000), the 21st century is bringing rapid innovation, driven by the continuing high-tech boom and expanding global markets from the last decade. Speed and agility are common requirements, not only for the ICT firms, but also for the traditional industries, like steel products. Besides traditional production, collaboration also covers research and development activities. Business networks, and today an even more interesting phenomenon in the research world, social networks, are important factors in regional development. For example, there is evidence that historical development as well as the particular structure of the social networks in Silicon Valley have fostered relatively higher growth and development in the region (Castilla, 2003).

To further relate KM needs to typical private companies, one very recent sub-discipline of KM is the so-called KIBS (knowledge-intensive business services). KIBS are expert companies that provide services to other companies and organizations. IT services, R&D services, technical consultancy, legal, financial and management consultancy, and marketing communications are typical KIBS industries. KIBS have aroused broad interest and several studies have indicated that they are active innovators, as well as facilitators and carriers of the innovations of other companies. A futures perspective is essential from the viewpoint of innovation, and the study in hand intends to link this perspective to KIBS research (Toivonen, 2004). One of the latest studies in this area has been the one from Toivonen (2004), and even that one takes the knowledge provided by these KIBS companies without any further categorizing than the list above.

Specifically, there are several ways of classifying external knowledge. Boisot (1998) considers knowledge as a business asset. His classification takes into account three dimensions: codification, abstraction, and diffusion. Ståhle and Grönroos (2000) classify knowledge based on three knowledge environments: mechanistic, organic, and dynamic. Lippitt (1973) was on the same track long before the KM bandwagon really started moving. His classification entails the roles of external experts like Advocate, Expert, Trainer, Alternative Identifier, Collaborator, Process Specialist, Fact-Finder, and Reflector. In addition, Savidge (1994, 2013) defined company external knowledge resources as mentors, coaches, gurus, and angels. These people in their roles support the management of any given company. The companies can utilize their information, skills, expertise, knowledge, or competences to improve the strategic, tactical, and operative performance.

Kess, et al (2008a, 2008b, 2009a, 2009b) have studied the external knowledge of the SMEs and they have extended the model from Savidge and defined external knowledge resources as:

- **The Mentor**, who typically has a long and extensive experience of successful business as is willing to share his/her knowledge with younger and less experienced entrepreneurs and managers.
- **The Coach**, who is a professional with expertise especially in business processes and in their improvement and development.
- **The Angel** has some financial resources or at least knows where to get these resources for the company. The Angel also knows how to utilize the financial resources that are already within the company.
- **The Guru,** who has very deep understanding and has very professional knowledge of some specific area of expertise. This expertise can be used to products, production, marketing or any other processes of the company.
- **The Politician**, who has knowledge about local, national and even international politics that is relevant to the business operations.
- **The Father,** who represents the historical background of the family business. In this role the knowledge is strongly combined with the shared family values.

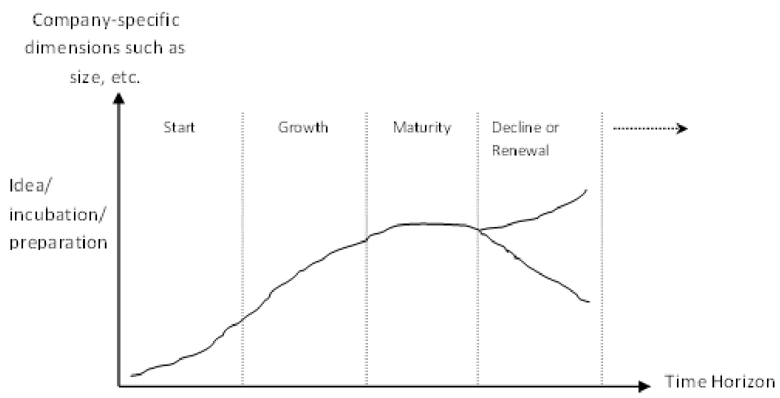
3. RESEARCH OBJECTIVES

The overall goal of this research has been to conceptualize and define the external knowledge necessary, useful, and applicable for all companies during their different stages in the life cycle. Another objective has been to make a definition that is applicable for various needs including, but not limited to

- defining the knowledge not available inside the company, but possibly available externally;
- defining the methods for the external knowledge acquisition;
- valuing the external knowledge assets.

To better understand the life cycle stages in a typical business firm, the business growth model (Churchill & Lewis, 1983) has been applied (see Figure 1).

Figure 1: Business growth model (adapted from Churchill and Lewis, 1983)

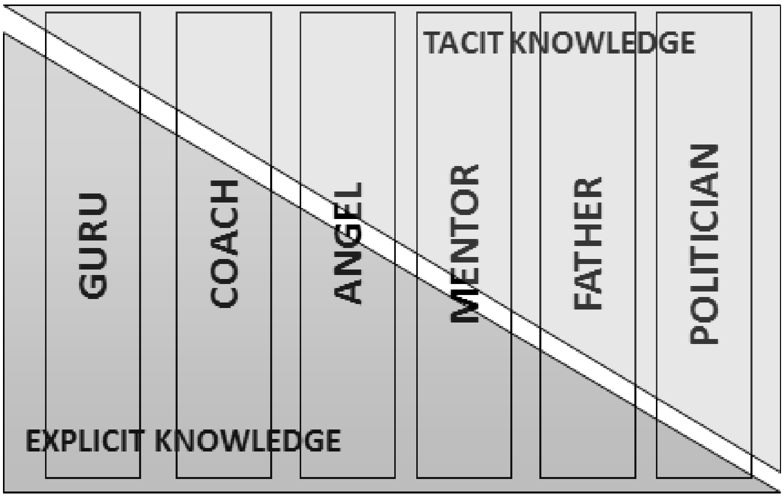


Source: Churchill and Lewis, 1983.

This research has also integrated Savidge's (1994, 2013) external knowledge model with tacit and explicit knowledge (typically used to describe knowledge within the context of KM) (see Figure 2). Savidge's model helps explain a good part of the knowledge space at the highest level of abstraction. However, a new subset was identified: politician. This describes the knowledge typically needed to deal with local, regional, national, and even at the broader level of public sector authorities and politicians. This kind of knowledge in practice is useful in

- finding the most affordable site for business;
- finding the least red tape in any business operation;
- finding the way through the labyrinths of various services that should help the business.

Figure 2: External knowledge model

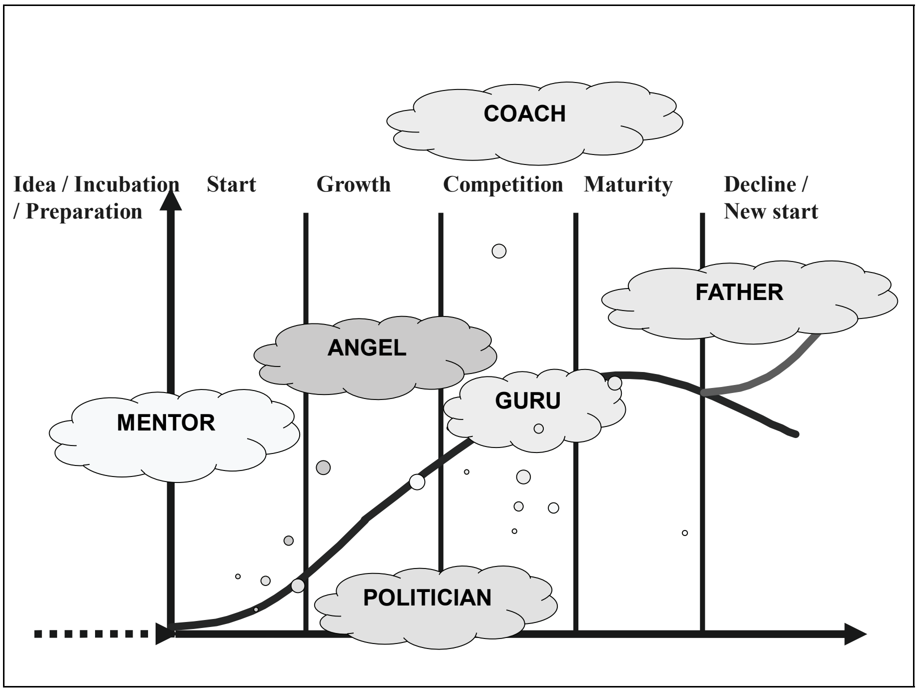


4. ANALYSIS AND DISCUSSION

Initially, the research findings indicated the tendency for start-up companies to emphasize tacit knowledge more – use of mentor and politician – in order to help overcome business barriers. These barriers take place at the entry stage of a business unit, including regulatory requirements, competition, labor markets, supplier capability, consumer behavior, etcetera. This knowledge is quite critical since most start-up companies fail within six months of operation. On the other hand, as a company progresses throughout its life cycle, it appeared to rely on its external knowledge in terms of guru and coach. This implied more explicit knowledge so that they could likely sustain their business success, and possibly continue to grow in the future. This may include the market and technology trends, the consumers' future spending powers, the political climate on free trades, etcetera. Knowledge on possible spin-off businesses or joint venture capital with prospective partners is valuable and is likely to be obtained through guru and coach (and less likely from mentor or politician). Included in the need to have either coach or guru is knowledge on the existing and future culture of an organization. In addition, both coach and guru are likely to inspire confidence and trust.

The potential benefit of the proposed framework is to help firms prepare by identifying which source of external knowledge is needed or required. See Figure 3 for the proposed framework for managing external knowledge.

Figure 2: Proposed framework for external KM



The value of the external knowledge is difficult to assess. When it comes to doing business with knowledge, like with the KIBS, the right price is achieved when the seller is willing to sell and the buyer is willing to buy.

With the developed external knowledge taxonomy, the ways in which the external knowledge is valued and compensated can vary significantly, as presented in Table 1.

Table 1: Proposed framework for compensating external knowledge

External knowledge class	Compensation mechanisms
Mentor	• Work with the protégé on a daily basis and remunerate accordingly • Work with the management team/board on a daily basis and remunerate accordingly • Work as a board member and compensation as shares or stock options and the real compensation comes with the increased value of the business • Some mentors work as volunteers and do not expect any remuneration
Coach	• Fixed price projects • Work with the company/management team/board on a daily basis and remunerate accordingly • Pay per performance i.e., the payment is dependent on the results achieved with the help from the coach
Guru	• Fixed price projects • Work with the management team/board on a daily basis and remunerate accordingly • Pay per performance i.e., the payment is dependent on the results achieved with the help from the guru
Angel	• Interest on the money • Work as a board member and compensation as shares or stock options and the real compensation comes with the increased value of the business
Politician	• Rarely is there such a relation that requires formal payments – politicians tend to build networks where everybody at a time is giving and receiving some valuable information or knowledge
Father	• Some family members work as volunteers and do not expect any remuneration • The joy of the success of the family member is often enough • Work as a board member and compensation as shares or stock options and the real compensation comes with the increased value of the business

5. CONCLUSIONS AND FURTHER STUDIES

In conclusion, the paper presents a proposed framework to help manage external knowledge. It includes the external knowledge categories of politician, mentor, angel, coach, father, and guru.

The continuation of the research work means this approach will later be enhanced with further data from Asia, which still has a minority role. The first interviews in Thailand indicate that family ownership and family traditions are much stronger in Thai business culture than in Finnish business culture. This even created a new dimension – the father – to the earlier version of the external knowledge taxonomy. With the developed model, it is possible to launch comparative studies on how successful and less successful companies have used external knowledge, and how the collaboration between the knowledge owners and knowledge seekers can be beneficial in various phases of a new business. Future research can also shed light on the question of whether entrepreneurs and managers in various countries – and in our case especially in Finland, the US, and Thailand – can learn from each other about using external knowledge for business benefits.

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