Knowledge Management in Developing Countries: understanding an interpretivist approach

Manuel Rincon
Instituto de Empresa

Alejandro Orero
Universidad Politecnica de Madrid
Knowledge Management in Developing Countries: understanding an interpretivist approach

Manuel Rincon
Instituto de Empresa
manuel.rincon@ie.edu

Alejandro Orero
Universidad Politecnica de Madrid
aorero@gio.etsit.upm.es

ABSTRACT
If strategically managed, knowledge can be implemented to generate development. Knowledge management has been proven successful in industrialized economies. This study explores the more complex interaction between knowledge management and national culture. It uses empirical testing under the interpretivist paradigm to include a case study from the Arab world. Does knowledge management add value when directly exported to the Arab countries? Which elements in the system require customization to a specific target culture? Grounded theory methodology has been applied within resources-based theory and knowledge-based view of the firm. The study looks at the processes of creation, organization, sharing and application of knowledge in an Arab company. It compares these elements with descriptions of other successful practices in world literature. Through the comparison, it establishes the degree of dependence between knowledge management and national culture. Conclusions are limited by only one case study in one country.

Keywords
Knowledge Management, Information Systems, Interpretivist paradigm, case study, Arab culture

INTRODUCTION
Knowledge is a resource that can be used for the economic and social development of the countries. However, some academics have observed that the impact of its management is limited as it was designed with a cultural bias, mostly North American (Nonaka, 1995).

Knowledge Management is defined as all activities necessary to transform intellectual assets into a competitive advantage. Culture could be a significant factor in determining outcomes. Extensive literature exists about the impact of culture on knowledge management capabilities, especially the human component. The literature shows multiple evidence of the national culture impact on learning, making decisions and other main activities of knowledge management.

On the other hand, the literature often insists that organizational structures are as universal as they are rational. Case studies in the literature mostly mention the correlation between culture management and the success of the project, but very seldom mention the impact of national culture. One of the very few case studies is on Buckman Laboratories, which mentions the existence of several languages and several ethnic backgrounds. Other case studies only promote the standardization of formats, schemes and languages. This could be interpreted as a widespread adoption of the hypothesis of a KM free of culture.

Such inconsistency calls for further investigation and is addressed in this paper.

KNOWLEDGE MANAGEMENT
Knowledge management can be understood as an audit of intellectual assets with emphasis on unique resources and their essential functions. The audit process adds intelligence, value and flexibility to intellectual assets, protects them from decay and makes it possible to seek opportunities and improve decisions, services and products. It can also be understood as the identification of latent points of congestion obstructing the flow of knowledge towards decision and action.

In practice, knowledge management involves the identification and mapping of intellectual assets within an organization, the creation of knowledge for competitive advantage, the conversion of vast amounts of available corporate data into accessible information and the distribution of best practices, in addition to the implementation of IT applications that enable all of these aspects of knowledge management.
Academic studies and private initiatives have proven that when explicit knowledge is managed well, whether deliberately or not, the time needed in order to complete tasks is reduced and duplication is avoided. Also, effective management of tacit knowledge boosts the creation of new knowledge in a way that cannot be accomplished by explicit knowledge.

There are, therefore, two main aspects of knowledge management:

1. Information management (explicit), which involves the management of knowledge associated with objects that information systems can identify and handle.

2. People management (tacit), which involves the management of knowledge that exists alongside organizational processes and an intricate set of dynamic skills, know-how and other knowledge-related capabilities.

Any knowledge management initiative consists of two main components, namely:

1. The knowledge element in all activities in an organization that is of immediate concern and has to be reflected in strategy, policy and practice at all levels.

2. The explicit and tacit intellectual assets that are directly related to the outcome.

Not all organizations with knowledge management systems in place are conscious that they have such systems and not all recognize them as knowledge management systems. Most organizations enjoy some kind of system, whether rudimentary or complex, for the management of explicit knowledge although they may not identify this as a knowledge management system. Tacit knowledge management, however, is not common and the prevailing concept of IT-based knowledge management has not to date resulted in a method for the extraction of tacit knowledge. Efforts to do so are hampered by the fact that although tacit knowledge lies at the heart of organizational knowledge, its personalized nature renders it difficult to formalize and communicate.

Although organizations recognize that both kinds of knowledge need to be managed, the full potential of knowledge management remains to be realized.

Early knowledge management initiatives aimed to make organizational knowledge more productive and produced significantly greater benefits than those envisioned. Knowledge management offers a golden opportunity to adopt previously impossible business strategies, creates an unlimited network and enhance customer, supplier and alliance relationships. The terms “knowledge-based products,” “knowledge-based services” and “knowledge-intensive organizations” are becoming popular. An example of the benefits of knowledge management can be found in customer management. In this field, knowledge assets consist of customer demographics and data such as location, contact names, and contract and sales records, through which new issues and opportunities can be discovered.

SPECIFICITIES OF THE ARAB COUNTRIES

The Arab countries and the Arab environment have some specific circumstances that could influence the implementation of knowledge management, positively and negatively. Generally speaking, it is considered that acquiring and applying IT and information systems to the Arab countries can boost development. It is widely understood that economic development is achieved through industrialization, through capital accumulation and through infrastructure development. Thus, it is indispensable to import modern technology and managerial practices.

Empirical evidence says, however, that, after some decades of transferring technology and operational management, the improvement in economic and social conditions is less than expected. Learning from past disappointing experiences as well as from successful ones is central for future initiatives to be more effective and stimulating.

BACKGROUND THEORY

The theory framework in this paper is resource-based theory of the firm, which is understood together with knowledge-based view of the firm. Resource based theory was first introduced by Penrose in 1959 and is very explicative of phenomena in the dynamic economic environment. It also explains very well the needs for innovative capabilities to sustain competitive advantage (Galunic and Rodan, 1998; Franke, 2000).

---

1 Impact can be negative or positive. In fact, some authors demonstrate high development of knowledge management in the Arab countries due to the availability of skilled managers.
According to this theory, organizations possess resources, such as human, physical (computers or buildings) or intellectual resources (repositories) resources (Bharadwaj, 2000). Those are used through designing and developing social and organizational formal and informal processes (Majumdar, 1998). Resources become core and generate competitive advantage when they are valuable, rare and cannot be copied, depending on the market demand stability, the ease of replication within the organization and the possibility of imitation by competitors (Teece, Pisano and Shuen, 1997).

In 1988, Peter Drucker introduced the knowledge-based view of the firm, considering knowledge as a resource that organizations can use to acquire competitive advantage (Grant, 1996; Spender, 1996). It is a very solid base that allows interrelating information technologies, information systems, culture, measurement, processes and strategy (Kogut and Zander, 1992). According to this vision, knowledge is not itself source of competitive advantage, but the source is creation, organization, sharing and application of knowledge (Alavi, 2001).

Kogut and Zander (1992) see knowledge in individuals, but also in organizational structures. Grant (1996) introduces tacit knowledge as the most strategic resource. In this vision, absorptive capacity is defined as the organizational capacity to detect value in information (Tasi, 2001). Nonaka and Takeuchi (1995) add that middle managers play the role of knowledge innovation. Polanyi (1962) observes that decisions are dependant on the tacit knowledge.

Diversity in definitions and concepts, such as capabilities (Gold, Malhotra and Segars, 2001), core competencies or dynamic capabilities (Helfat, 1997), suggests a phase of a pre-paradigmatic development of the knowledge-based view of the firm (Kuhn, 1962). Today, it must be considered as a view and not a theory, but soon this theory will emerge and will answer the crucial question posed by Ronald Coase in 1937: “why does the firm exist?” That will be the birth of the knowledge-based theory of the firm.

**METHODOLOGY**

This paper adopts the interpretive paradigm to explain the relationship between knowledge management and national culture in the Arab world. The case study includes interviews with eight executives of one of the main telecom operators in the region.

The three dominant paradigms in the discipline of Information Systems are the positivist, the interpretivist (Lee, 1991) and the more alternative critical pragmatic paradigm, which is based on research that includes social and political aspects. The interpretive paradigm, case studies and qualitative methods provide a powerful framework to understand the Arab cultural specificities in the field of KM. The goal of this paradigm is to understand and explain technological and knowledge environment within their socio-cultural dimension.

The study of Information Systems, in the last five years, has shifted attention from technological issues to managerial, organizational and governance issues. Furthermore, the ability to understand phenomena within a social and cultural context increases attention upon the application of qualitative research methods on KM (Myers, 1997). ISR, March 1993 was of the opinion that acceptable articles should include empirical research, either quantitative or qualitative. In March 1993, MISQ, without abandoning the tradition for quantitative methods, showed interest for the interpretivist paradigm and methods such as case studies, textual analysis, ethnography or participative observation.

The term “case study” is used to describe a unit of analysis, e.g., a case study one of the main telecom operators in the Arab countries. Paraphrasing Yin (1994) the scope of this case study can be defined in this way: It investigates the contemporary phenomenon of KM within its real-life context, especially when the boundaries between the KM phenomenon and the organizational context are not clearly defined.

In order to gather the right data, Yin (2003) recommends having a powerful conceptual framework that allows well focused interview scripts, or what he calls the creation of a protocol. He describes it as a kind of strategy that includes whom to interview, what to ask and how to collect the responses using objective techniques. This objectivity is an important goal, since the researcher’s presuppositions and knowledge about the theme tend to affect the gathering of the data. The questions posed to informants largely tend to determine the findings.

Questions included knowledge management activities, their objectives, drivers and strategies, processes of products and knowledge creation, culture of sharing, leadership and championship, role of IT and HR managers, users and barriers and challenges.

In order to analyze the contents, semiotics offers an objective technique, approaching directly the words, signs, and symbols in the text. The words that appear most are called primary conceptual categories and stand for critical aspects (or variables) of the theory to be tested. It is based on the fact that an idea is more critical if it appears more frequently in the text.
Thus, the researcher analyzed the contents, recognizing structures and patterned regularities in the text and made replicable and valid inferences on the basis of these regularities. This process was assisted by Verbi MAXQDA, a Qualitative Data Analysis (QDA) computer application very similar to the very popular NUD*IST (from QSR- Qualitative Solutions & Research International). NUD*IST stands for Non-numerical Unstructured Data: Indexing, Searching and Theorizing.

Put simply, it works with textual documents, and facilitates the indexing of components within these documents; it is able to search for words and phrases very quickly; and it claims to support theorizing through enabling the retrieval of indexed text segments, related memos, and text and index searches. Every paragraph was thoroughly examined and categorized under one or more free nodes that represented the emerging issues. The process of assigning free codes to nodes is known as open coding in the grounded-theory methodology (Strauss and Corbin, 1990). Open coding is a process of reducing the data to a small set of themes that appear to describe the phenomenon under scrutiny.

In essence, the grounded theory methodology guides data analysis and the design of theoretical frameworks to explain the data. It is an analytic strategy designed to overcome the problem of extensive collected data, usually associated with the interpretive paradigm. As data is being collected, it is codified and categorized. Assigned codes allow comparisons among different persons, within one interview or with other incidents.

FINDINGS

The purpose of this case study is to reach a regional perspective through analysis of the implementation of knowledge management initiatives at one of the largest telecommunication operators in the Arab region. The organization is facing deregulation after many years of monopoly and must achieve efficiency and competitiveness in order to confront this challenge. Knowledge management is one of the means whereby it could do so. The present case study is based on interviews with eight executives in 2003, who describe the implementation of knowledge management initiatives. These interviews were recorded and systemically analyzed in order to identify critical success factors.

The main objectives of knowledge management initiatives within the organization, according to one manager, are the improvement of customer satisfaction, revenue growth, efficiency, staff satisfaction and corporate image. These objectives are derived from the business strategy set on an annual basis.

For example, as a formal knowledge management initiative, the data warehousing project aims at gaining a better understanding of customers’ needs and strengthen the relationship with them, rather than merely promoting products and services. It is important to go beyond capturing passive information and seek to predict purchasing behaviors and conduct market research.

It is out of the scope of this article to describe the details of the various knowledge management initiatives, their history, implementation and the specific challenges each one posed. However, out of the analysis of those details, a framework of six interrelated critical success factors can be identified, namely, knowledge strategy, project management, infrastructure technologies, source-data quality, organizational context and knowledge sharing culture. These factors are discussed below.

1. Knowledge strategy

It is hard to maintain strong market position as competition increases. The knowledge management initiatives of the company are in their infancy and are confronted by numerous challenges. In order for the company to thrive in the future, its knowledge management initiatives must mature into concrete efforts based on a clear plan and strategy. Therefore, one critical factor to success is the formulation of an organization-wide formal knowledge management strategy and programmes for learning best practices and developing new knowledge management projects.

2. Project management

The experience has shown that knowledge management initiatives should be based on market needs rather than driven by technology. The case study demonstrates that a technological solution is insufficient to achieve business objectives. Business concerns should drive the implementation of knowledge management projects whereas IT should enable such projects. For this reason, business managers are the best champions of such projects. Business managers and their staff are the users of knowledge management systems. The active involvement, support and participation of senior management levels and IT managers are also essential to the successful implementation of knowledge management projects.

---

2 Initiatives started in the company in 1998, five years before deregulation.
Selected knowledge management users also need to be involved in the design and development of data warehouses as they will subsequently be responsible for generating knowledge including that about competitors, external markets and products. In the case study, users involved came from the sales or marketing divisions, although users could have also come from other departments such as product development, business development, operations and logistics.

3. Infrastructure technologies

A variety of technological options existed for the implementation of knowledge management projects. The hardware, software applications and databases adopted for knowledge management initiatives needed to be compatible and operable with existing systems. Moreover, the IT infrastructure selected needed to integrate well with other systems within the organization. One manager described the selection process for the different elements of the technological infrastructure as follows: “Suppliers try to push their new products and then there is a stage of filtering, studying and analyzing, where there are subjectivities and different opinions.”

Therefore it is a critical success factor to choose the right solutions, making appropriate adjustments in order to maintain equilibrium between systems requirements and functionality on the one hand and, on the other hand, the flow of business processes.

4. Source-data quality

The greatest challenge that faced the data-warehousing project was the determination of corporate business requirements and knowledge strategy. Consensus was lacking with regard to the definition of business requirements and goals within business units. Across business units, there was a lack of homogeneity in the definition of data elements such as those that identify a good or bad customer.

Once business needs had been identified and a definition of data elements agreed, data cleansing should have been conducted before launching knowledge management initiatives. Poor data quality was the result of accumulated data inaccuracies over years and, consequently, an urgent need exists to clean these data.

The capabilities of the data warehouse appeared to hold considerable promise but delivered less than anticipated. The system fell short of expectations because it was hard to use in the provision of replies to basic queries, due to the unavailability of some data elements in the existing system and poor quality of data, some of which were inaccurate and some incomplete.

Moreover, some users were disappointed to discover that the data warehousing system would not in fact do everything for them, as they had believed it would. This experience showed that it is also important to manage the expectations of users by communicating the real limitations and benefits of the system.

5. Organizational context

Knowledge management is an intricate, cross-divisional and cross-functional endeavour. The organizational structure should reflect needs for better knowledge management. Knowledge management technology alone is not sufficient for the creation of a competitive advantage. Such technology should be coupled with the necessary organizational transformation to a process-based structure, in particular with regard to front-end business operations. In addition, such technology should capitalize on the power of the intellectual assets of people working in the organization.

The type of organizational structure, described as a ‘stovepipe’ or ‘silo’, that had been characteristic at the organization hindered organizational learning across business units, led to the fragmentation of activities between departments and resulted in the creation of physical and psychological walls separating business functions. For example, information on mobile telephones appeared to be independent from that on fixed-line telephones. The functional perspective in the company’s structure was over-emphasized at the expense of knowledge sharing across departments and, in particular, the customer service department the nature of which is cross functional.

In the case study, for instance, a special business unit, or cross-unit task force or team, needs to be established in order to foster a formal and holistic approach to the concept of knowledge management. The role of CKO needs to be better understood before it is widely accepted. This role must be accurately described in terms of responsibilities, tasks and measurable objectives. Such a structural change would allow improvement in the performance of existing initiatives and
promote new initiatives that might be needed, such as the establishment of an electronic library, ‘Yellow Pages’; knowledge fairs, open forums or talk rooms that could facilitate the flow of knowledge within the company.

6. Knowledge sharing culture

Corporate cultures in which levels of trust are low constrain flows of knowledge. Companies that have conducted organizational transformation or downsizing face particular difficulties in this regard as they must rebuild trust levels within the organization before individuals can be expected to share expertise freely without fearing the impact of doing so on their own value to the company. This process involves paying considerable attention to the supporting norms and behavioral practices that manifest trust as an important organizational value.

The ability, willingness and readiness to create, share and transfer ideas is heavily dependent on corporate culture and poses a challenge to human resources-based knowledge management initiatives. However, a tremendous amount of effort and persistence is required in order to bring about real change in the people culture of an organization.

The corporate culture constituted a major barrier to the creation and leveraging of knowledge assets.

CONCLUSIONS

The aim of the article is to understand an empirical approach that explores the relationship between knowledge management and national culture. As a departure point, the authors assume that knowledge management is useful in generating development in industrialized economies. The broader question remains whether the formula can be applied universally. If not, the paper seeks to identify which elements require customization.

A case study, with some limitations, offers some conclusions. Among other critical success factors implementing knowledge management in developing countries, there is a need to develop a clear strategic plan. Also, the design and implementation must be lead by business managers who know the specific needs, while information systems managers should play the role of catalyzing core business activities. Information system users must be involved in designing and developing knowledge management. Integration with legacy systems and data cleansing in the transfer process are also core.

User expectations must be managed through proper communication plans that should include limitations and real benefits of knowledge management. Furthermore, borders between business functions must be blurred in order to allow stronger communication. Finally, trust levels between collaborators must be kept high, allowing knowledge to flow.

The case study has detected two main reasons for these issues. One is about technology transfer. Related to the evidence of high rate of failed projects in developing countries, a trend was found to overemphasize the role of technology, not putting enough attention to developing strategic plans, deciding the right leadership, involving users and preparing data. Second, the case study shows a corporate culture based on seniority, age and vertical hierarchy. Close borders between business functions and low levels of trust were a major concern. The six critical factors, though also present in industrialized economies, are considered of especial relevance in organizations similar to the one studied.

Global knowledge management models (Scarborough, Swan and Preston, 1999; Holsapple and Joshi, 2002; Holsapple and Joshi, 2000; Nevis, Dibella and Gould, 1997; O’Dell, 1998; Ruggles, 1997; Brooking and Motta, 1996; Powell and Dent-Micallef, 1997; Borghoff and Pareschi, 1998; Cabisano et al., 1999; Grover and Davenport, 2001; Gupta and McDaniel, 2002) seem to have implicitly adopted an approach to knowledge management that is independent of national culture. Their underlying approach is that design and organizational structures are universal. Organizations act as micro-social entities without a direct reference to their social environment. The practices of knowledge management therefore tend to ignore the value inherent in cultural differences.

In the study, knowledge management is shown to be an emerging discipline with concepts that are still in evolution. Research regarding the application of knowledge management in culturally diverse contexts requires fine-tuning and the adaptation of

---

3 Electronic Yellow Pages serve as pointers to expertise, using the intranet platform to lead researchers to the individuals who possess actual knowledge.

4 Knowledge fairs allow different groups within an organization to showcase their knowledge management efforts in a public forum. This increases the visibility of knowledge management projects and generates enthusiasm and motivation.

5 The concept of corporate culture is understood as independent to national culture in this study in order to simplify the phenomenon.
its general models. The study indicates that a more culturally sensitive platform for management ideas would benefit organizations.

The transfer of structural components results in productivity gains and more competitiveness for organizations in Arab countries. However, knowledge management is based on structures and people. Structures can be universal, but the people component will always remain local. For this reason, local culture is a critical factor. Knowledge management should be customized to the environment in which it is being applied.

LIMITATIONS

The interpretivist paradigm also brings several limitations. Research is limited by its context (Lee, 1989). Findings and conclusions are only true within the particular characteristics of the case. Findings cannot be generalized, though it is intuitive that similar organizations in the developing countries have same problems. All these organizations have the common task of transferring best practices from other countries.

The research is also limited by not considering SMEs as target organizations, especially given that those are a big chunk of the developing economies.

Finally, this paper does not include a summary of the most relevant problems in epistemology and ignores the philosophical basement and the history of the KM concept.

FURTHER RESEARCH

Relevant research includes enriching the analysis of the case study with a critical paradigm methodology, as an extension to the grounded theory methodology used in this case study. This means to analyze the interviews as if they were speeches and, therefore, from a semantic level, analyzing how stories are generated and told within the organization and how the KM concept appears as a reality.

REFERENCES