

The Business Value of Knowledge Management

Sherry Ryan

University of North Texas, Denton, TX, United States., sherry.ryan@unt.edu

Gina Harden

University of North Texas, Denton, TX, United States., gina.harden@unt.edu

Bashorat Ibragimova

University of North Texas, Denton, TX, United States., dr.bashorat.ibragimova@gmail.com

John Windsor

University of North Texas, Denton, TX, United States., john.windsor@unt.edu

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Sherry D. Ryan

University of North Texas

sherry.ryan@unt.edu

Bashorat Ibragimova

University of North Texas

dr.bashorat.ibragimova@gmail.com

Gina Harden

University of North Texas

gina.harden@unt.edu

John C. Windsor

University of North Texas

john.windsor@unt.edu

ABSTRACT

Knowledge has been recognized as a critical competitive asset and research about knowledge management (KM) has received increasing attention. However, knowledge has also been viewed not only as an asset, but as a process that includes acquiring, organizing, and communicating the knowledge of organizational members. Additionally, organizational culture has been shown to influence the behaviors central to knowledge creation and transfer, and therefore it is proposed that these two contextual factors will have a positive relationship to business value. Using a survey of IT executives, this study empirically tests these relationships and shows a significant relationship exists between KM process implementation and business value as well as between organizational culture and business value. Practical and research implications are discussed.

Keywords

Knowledge Management, Business Value, Competitive Value, Business Processes

INTRODUCTION

Knowledge is universally recognized as a critical competitive asset, and interest in knowledge management has therefore increased in most companies. Some researchers advocate the view of knowledge as a process rather than an asset (Ruppel and Harrington, 2001). Efforts to transfer knowledge efficiently and effectively continue to be the focus of organizations. As such, to maximize the value of knowledge, organizations need to create an appropriate system to support the flow of knowledge in KM initiatives. Knowledge management is the systematic process of acquiring, organizing, and communicating the knowledge of organizational members so that others can make use of it to be more efficient and productive (Alavi and Leidner, 2001). Organizations are implementing a range of initiatives to identify, share, and exploit their knowledge assets in accordance with a knowledge-based view of the firm in which knowledge is recognized as a key competitive asset (Kogut and Zander, 1992).

Many organizations are launching knowledge management initiatives with a view to improve their business processes, gain financial savings, and generate greater revenue (Chua and Lam, 2005). However, organizations that embark on KM initiatives must account for the varying conditions such as corporate culture (Yeh et al., 2006). The goal of this study is to provide empirical support for the relationships between knowledge management process implementation, organizational culture, and the business value of knowledge management. The paper is organized as follows: theoretical background precedes methodology development and results, followed by the discussion of implications and future directions for research.

THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Business Value

Kaplan and Norton (1996) asserted that traditional financial accounting measures (e.g. ROI, EPS) can be too restrictive, giving misleading signals about continuous improvement and innovation. Fliaster (2004) argued that the strong orientation of the executive culture towards short-term financial performance measures and its ignorance of people issues are supported by current remuneration systems. This implies that financial measures that are based on traditional accounting practices, with an emphasis on short-term indicators such as profit, turnover, cash flow and share prices, are not fully suitable for measuring corporate performance. Cotoră (2007) indicated that it is not possible for a performance measurement system to measure

corporate performance or to analyze the pattern of value creation without identifying the inter-relationships and the conversion process among situations, contexts, and intangible values such as knowledge, competencies, and partnerships.

The value of KM has been investigated in the IT literature by investigating KM success (Jennex et al., 2009). These authors proposed a definition of KM success based on the premise of KM success being a multidimensional construct with both process and outcome measures. Therefore, it is expected that KM Business Process Implementation will be a key determinant when measuring Business Value. Since knowledge management is an activity performed in the social context, management scholars have recognized the context-dependent nature of knowledge management activities when assessing innovations and business value (Argote and Ingram, 2000; Kostova and Roth, 2002). Business processes and organizational culture are important social contextual factors that may affect the relationship. While we realize that there are other salient factors affecting the business value of KM such as management support and level of collaboration, due to space limitations, those factors are outside the scope of this research. We therefore propose a research model that investigates the relationships between KM Process Implementation, Organizational Culture, and Business Value (see Figure 1).

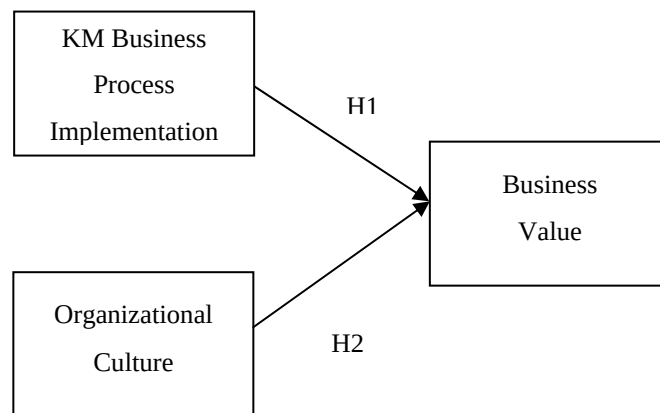


Figure 1. Research Model

KM Process Implementation

The knowledge-based view of the firm focuses on knowledge as the foundation of a firm's competitive advantage and one of the key drivers of the firm's value (Bock et al., 2005; Gold et al., 2001; Grant 1996). The value of knowledge increases when it is stored, networked, reused and integrated into business processes (Douglas, 2002). KM success has been defined as "reusing knowledge to improve organizational effectiveness by providing the appropriate knowledge to those that need it when it is needed" (Jennex et al. 2009, p. 185). Knowledge becomes a valuable corporate asset only when it is stored and shared (Davenport et al., 1998). Once knowledge is created, it can be used repeatedly by many others in the organization and once shared, creates the stimulation of new knowledge which adds even greater organizational value (Alavi and Leidner, 2001; Ryan et al., 2010). It follows then, that knowledge management literature has focused on the development of structures and systematic processes to improve the connections between individuals in the organization who need certain knowledge and those who have it.

The knowledge management process model is based on organizational learning and memory perspectives (Walsh and Ungson, 1991) that includes the stages of acquisition, storage, and retrieval. Knowledge sharing occurs between individuals, from individuals to groups, across groups, and from the group to the organization (Alavi and Leidner, 2001). The stored knowledge serves as a source of competitive advantage only if it can be reused. Thus, we argue that knowledge management processes are critical to creating business value and thus we propose:

H1: *There is a positive relationship between KM business process implementation and business value.*

Culture

Organizational culture has been defined as the "system of meanings that accompany behaviors and practices recognized as a distinct way of life" (Gregory, 1983). It is the shared beliefs, ideologies, rituals, myths, and norms that influence organizational actions or behavior (Schein, 1996). Culture consists of "stories, special language, and other important cultural cues" (Wilkins and Ouchi, 1983) about group values embedded in shared images (Broms and Gahmberg, 1983). It evolves

over time as the glue that holds the organization together. Hofstede (1994) defined culture as a collective programming of mind that differentiates members of one group from other.

Many academics and practitioners argue that the performance of an organization is dependent on the degree to which the values of the culture are widely shared (Knapp, 1998). Generally, organizational culture serves three functions: legitimization, motivation, and integration (Lee and Barnett, 1997). First, it provides members of the organization with socially legitimate patterns of interpretation and behavior for dealing with the organization's problems. Second, it provides members of the organization with a hierarchical motivational structure that links their identity to relevant roles and values. Third, it provides members of the organization with a symbolically integrated framework that regulates social interaction and goal attainment through the creation of meanings (Lee and Barnett, 1997). In the present study organizational culture is defined as the pattern of shared values of the group which lead people in the group to think and act similarly (Steinwachs, 1999), and it is a system of perceptions, meanings, values and beliefs which facilitates individuals and groups to share their common experiences. It emerges from the social interaction of organizational members and is the product of shared symbols and meanings.

Organizational culture provides an integrated framework that regulates the context for social interaction and goal accomplishment through creation of meaning and it is a major factor in leveraging knowledge (Gupta and Govindarajan, 2000), especially since it influences the behaviors central to knowledge creation and transfer (DeLong and Fahey, 2000). Organizational culture shapes assumptions about which knowledge is worth creating and how knowledge is transferred and utilized within the organization (Abou-Zeid, 2002). Organizational culture forms a bridge between individual learning and growth and organizational learning and growth (DeLoo, 2002). Thus we propose:

H2: There is a positive relationship between organizational culture and business value.

METHODOLOGY

Instrument Development

We reviewed the literature to develop relevant measures. All items were measured on a 7-point Likert scale ranging from Strongly Agree to Strongly Disagree. Business Value is assessed with the following four questions: "Our business is well positioned to compete in the changing market space," "Our company achieves competitive advantage through our information and knowledge management capabilities," "Our business has the short and long term strategy in place to maintain market and customer share," and "Our business structure is flexible and adequate to execute organizational and regulatory changes." KM Process Implementation was measured by the following four items: "Our company uses an effective process for managing the creation, storage, and retrieval of important business documents," "We have a clearly defined source of record for all core business data," "We have clearly identified business managers who are responsible for the integrity and timeliness of all company data," and "We have clearly defined and well-followed policies for information creation, update, access, and management." Culture was measured by the following three items, "Employees are trained on how to locate the knowledge and expertise they need to do their jobs more effectively," "People are ready and willing to share information at any time," and "Our company's incentives and reward system encourages the sharing of knowledge and expertise in the organization."

The written survey instrument was refined through several iterations. First, several academicians with information systems survey research expertise reviewed the survey. Modifications were made based on the comments of these experts. Next, to ensure that the survey items corresponded to the theoretical constructs, we received input from twelve information technology executives from large companies located in the southwestern United States. Modifications were made based upon their comments. Subsequently, a pilot study was conducted in which seventy IT executives answered the survey electronically. Satisfied with the responses, content, and clarity of the survey, the final instrument was created.

Data Collection

The questionnaire was mailed to 2,450 IT executives in the United States, with 142 undeliverable. Three weeks after distribution, an electronic reminder was sent to the executives. This yielded 268 responses, a 12% response rate. This is a slightly higher response rate than other published research that surveyed SIM executives (Ferratt, Agarwal, Brown, and Moore, 2005). Non-response bias was assessed by the commonly used method of treating responses received after the deadline given (three weeks after the survey was mailed to the respondents) as being representative of non-respondents bias

(Kerlinger and Lee, 2000). T-tests on key constructs and demographic variables showed no significant differences between respondents and non-respondents. Responses were received from firms in twenty-two states.

PRELIMINARY RESULTS

Assessment of the Measurement Model

The adequacy of the measurement model is determined by examining reliability and convergent and discriminant validities (Hulland, 1999). The reliability of all the constructs falls within the range from .75 to .78, greater than the generally accepted threshold of .70 (Hair, Black, Babin, Anderson, and Tatham, 2006). Convergent validity provides a measure of the variance shared between a construct and its indicators. It is gauged by examining whether items load with significant *t*-values on its construct and the significance level of .05 or higher is desired (Gefen and Straub, 2005). This is the case in our data. Convergent validity also is demonstrated by the square root of the average variance extracted (AVE) higher than .50 (Fornell and Larcker, 1981). In our study, the AVEs are between .60 and .66. To establish discriminant validity, the square roots of the AVEs should be higher than all of the correlations between any two constructs (i.e., the off-diagonal correlations) (Chin, 1998; Gefen and Straub, 2005). As shown in Table 1, the square-roots of the AVE values reported above are higher than all inter-construct correlations. In summary, our measurement model appears to be valid, in terms of reliability and convergent and discriminant validity. This strong construct validity supports proceeding with the testing of the structural model.

	Business Value	Culture	KM Processes	AVE
Business Value	0.777			0.60
Culture	0.530	0.815		0.66
KM Processes	0.552	0.662	0.773	0.60

Table 1 – Item Correlations and AVE Measures*

*Values on the diagonal are the square root of AVE measures.

Assessing the Structural Model

The next step of the analysis involved testing the structural model to determine what evidence exists in the data to support the hypotheses. The data were analyzed using the Partial Least Squares (PLS) statistical software tool. The R-square for the research model is 35.4% when KM Process Implementation and Culture are used to predict Business Value. The path coefficient between KM Process Implementation and Business Value is 0.36, which is significant at the 0.01 level. Thus, H1 is supported. The path coefficient between Culture and Business Value is 0.29, which is significant at the 0.01 level. Thus, H2 is also supported.

DISCUSSION

This research proposed and tested two important social contextual factors, KM Process Implementation and Organizational Culture, as key antecedents of the Business Value achieved through knowledge management efforts. The data empirically validate the relationship of these factors and reveal that there is a significant positive relationship between KM Process Implementation and Business Value. Therefore, as organizations continue to search for a competitive advantage, it is important to realize the benefit of implementing KM business processes that can enhance the communication, storage, and retrieval of valuable organizational knowledge.

Additionally, the data show a significant positive relationship between Organizational Culture and Business Value. As organizational culture has been shown to influence the behaviors central to knowledge creation and transfer (DeLong and Fahey, 2000), it is incumbent upon the organization to realize that their culture is actually constructing the framework that will regulate the context for its employees' social interactions and goal accomplishments. Therefore, a culture that provides employees with a consistent pattern of shared values about which knowledge is worth creating and how knowledge is transferred and utilized within the organization can foster greater business value.

Limitations of this study include the exclusion of other factors that were beyond the scope of this present study such as top management support or the impact of organizational structure. Future research should investigate these issues. A second limitation is that there was only one respondent per organization. While the use of the senior IT executive as a “key informant” is a well-established approach used in empirical IS studies (e.g., Segars and Grover, 1998), future research might incorporate responses from other organizational executives. This study was also conducted in the United States. Cross cultural influences might also affect the results.

CONCLUSION

This study investigates the following research question: Are KM Process Implementation and Organizational Culture important social contextual factors that have a positive relationship with Business Value? Prior research has utilized various methods to assess the business value of KM efforts, but financial measures that are based on traditional accounting practices are not fully suitable for measuring corporate performance impacts of KM initiatives. While many organizations are launching knowledge management initiatives in an attempt to improve their business processes, gain financial savings, and generate greater revenue, there is a lack of empirical evidence showing the impact of these social contextual factors on the business value added to the organization as a result of KM initiatives.

To assess this research question, we reviewed the knowledge management and organizational culture literature to frame the proposed model and hypotheses. We then empirically tested the model with data from IT executives in the United States. The results of this study suggest that for a more complete assessment of business value to emerge, non-financial measures such as the value of KM Process Implementation and Organizational Culture need to be assessed. This study contributes to the literature by providing a basis to evaluate these social contextual factors when researching the business value of KM initiatives. The study contributes to practice by demonstrating to organizations how their KM processes, along with the organizational culture that is fostered, can affect the successful implementation of such initiatives.

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