



INVESTIGATING THE FACTORS AFFECTING KNOWLEDGE MANAGEMENT APPLICATION IN NEW VENTURES

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ABSTRACT

Knowledge management is extensively used in large, medium and small firms. However, the larger the scale, the more knowledge management practices might be used in organizations. Unfortunately, application of knowledge management in new ventures is not sufficiently discussed in the extant literature. Thus this paper attempts to concentrate on this issue. Therefore, environmental, organizational and individual factors are enumerated and their effect on application of knowledge management in new ventures is examined. Findings revealed that all these factors significantly affect knowledge management application in new ventures.

Keywords: Knowledge management application, Entrepreneurship, New ventures, Iran



1. INTRODUCTION

Knowledge Management (KM) in organizations has already been recognized as an important factor of the competitiveness of an enterprise. One of the advantages it brings is speeding up the innovative process by accessing the right knowledge at the right time (EL-KORANY, 2007).

Some indicators, which act as a predictor to the current level of knowledge management application, could be used by firms to take appropriate actions to increase the level of KM application (MOHAYIDIN et al., 2007). In fact, KM is an emerging field that has commanded attention and support from the industrial community (RUBENSTEIN-MONTANO et al., 2001).

The purpose of KM is to enhance organizational performance by explicitly designing and implementing tools, processes, systems, structures, and cultures to improve the creation, sharing, and use of all three types of knowledge that are critical for decision making (DAVID; FAHEY, 2000). There is a general recognition among academics that KM is a cross-functional and multifaceted discipline (LEE; CHOI, 2003).

The power of KM is in explicitly enabling and enhancing the productivity of organizational activities and in leveraging their value for the group as well as for the individual (RUGGLES, 2007). On the other hand, in some firms, KM is a firm-wide initiative involving upgrading the technical infrastructure, deploying workstations to professional staff desktops (ALAVI; LEIDNER, 1999).

It is the systematic underpinning, observatism, measurement and optimization of the company's knowledge economies (DEMAREST, 1997). In practice, what companies actually manage under the banner of KM is a mix of knowledge, information, and unrefined data—in short, whatever anyone finds that is useful and easy to store in an electronic repository (VARUN GROVER, 2001).

Now that KM is widely known and practiced in many large organizations, it might be useful to look back a bit and try to give some perspective on how this old but new subject developed and, in particular, how some of the specific antecedents of today's KM work (PRUSAK, 2001).

It means that the topic is old in nature, but as an academic field, its age is less than a decade. An overarching theory of KM has yet to emerge, perhaps because



the practices associated with managing knowledge have their roots in a variety of disciplines and domains (BARCLAY; MURRAY, 1997).

In sum, KM is a management function that creates or locates knowledge, manages the flow of knowledge and ensures that knowledge is used effectively and efficiently for the long-term benefit of the organization (DU PLESSIS, 2007; SALAMZADEH et al., 2011). The present paper enables a more nuanced understanding of the usage of what is increasingly becoming a ubiquitous KM application in new ventures.

2. KNOWLEDGE MANAGEMENT IN NEW VENTURES

New ventures are young organizations which need more attention in their early stages. These entities are normally uncertain and unstable that they often have no choice but to be market-driven and market-based in all aspects of their business, including their approach to employees, strategic issues and KM (CARDON, 2003).

These firms face different problems (SALAMZADEH, 2015a). For instance, because the new ventures are so small to begin with, and because the new products are so unique, it is very difficult for investors to find evidence or data on the tiny new ventures to plug into their mental road maps (VASS, 2008). New ventures usually have organic structures that permit speedy and effective flow of knowledge and its subsequent use in new product development activities (ZAHRA et al., 2000).

Given that new ventures usually face severe internal knowledge shortages, they can overcome this by gaining access to different sources of knowledge in their industry and elsewhere (LARRAÑETA et al., 2012). Typically, the managerial decisions about KM and renewal are laden with various competing risks as well (BRUTON et al., 2007). However, to some scholars KM in new ventures has merely one purpose, namely the creation of more innovation (DURST; WILHELM, 2011).

For instance, a key aspect of knowledge management in firms is the role of knowledge spillovers (MUDAMBI; SWIFT, 2009). Moreover, research suggests appropriate investments in KM initiatives can enhance organizational performance (MILLS; SMITH, 2011). In fact, in business, there has been an upsurge of interest, among scholars, in KM in firms for the last decade (TIEP, 2007).



In case of new ventures, the challenges of KM in firms that are in the process of building up their first core capabilities require a more specific analysis (LORENTZEN, 2009). The development of works on KM in firms and organizations is linked to a widely shared belief that knowledge has become a critical resource that can provide a competitive advantage if it is explicitly integrated into a strategy and managed effectively (PONS; VAN ZANTEN, 2007).

Lack of appropriate mechanisms of KM in new ventures hampers or even disables effective creation and dissemination of market knowledge and consequently appropriate reaction on this knowledge (KMIECIAK; MICHNA, 2012). The process of knowledge accumulation and utilization in the new venture creation process in different industries seems to be almost identical to the processes observed in general industries (BLOMSTERMO; SHARMA, 2004).

Within this context, over the last decades there has been an upsurge of interest among scholars on the importance of KM in new ventures as a crucial source of strategic competitive advantage (PISCITELLO; RABBIOSI, 2003). KM research is more focused on large firms (PILLANIA, 2008).

New ventures do not manage knowledge in the same way as larger organizations. Viewing new venture KM practices as scaled-down versions of the practices found in larger organizations is incorrect. New ventures have understandable resource constraints, and hence have to be creative in working around these limitations in order to manage knowledge (DESOUZA; AWAZU, 2006).

There is established evidence to suggest that new ventures face different KM challenges than those encountered by large firms (SPARROW, 2005). Potential competitive advantage of KM may be more profound in a new venture. KM is essential for new ventures due to several reasons.

First, knowledge creation became one of the important outcomes of KM in organizations, and this is of more importance when it comes to new ventures. In fact, new ventures gain a whale of information and tacit knowledge. Thus, it is inevitable for them to handle such knowledge. Therefore, new ventures must take advantage of an appropriate system to manage knowledge (NONAKA; VON KROGH, 2009).

Second, firms might promote new venture creation by implementing organizational learning as well as KM practices and procedures (LUMPKIN;



LICHTENSTEIN, 2005). Issues related to new ventures are mostly ignored or marginalized (PILLANIA, 2008).

Affecting factors on implementing KM in new ventures have not been systematically investigated (WONG, 2005). There is a lack of research on main issues in the KM in new ventures context in general, and in Iranian new ventures in particular (KAWAMORITA KESIM et al., 2013; SALAMZADEH, 2015B; SALAMZADEH; KAWAMORITA KESIM, 2015). This paper makes an attempt to fill this research gap.

3. RESEARCH METHODOLOGY

A meta-analysis is considered to elaborate the findings. In the meta-analysis, the main factors affecting knowledge management application in new ventures are identified through systematically reviewing and synthesizing the relevant published research. Meta-analysis is a methodology employed to synthesize the outcomes of various studies related to the same topic or outcome measure (HUNTER et al. 1982).

It is typically conducted as a quantitative procedure geared toward the comparison of effect sizes across a variety of research studies. Qualitative meta-analysis, also referred to as meta-synthesis, follows the same replicable procedures of a quantitative meta-analysis; however, it is interpretive rather than aggregative (PATERSON et al. 2001).

Thus, different databases (Scopus, Web of Science, Ebsco, ProQuest, and Google scholar) were initially searched to identify relevant research on factors affecting knowledge management application in new ventures. Not surprisingly, most papers in this domain were published after 1990, when knowledge management in new ventures was in its early stages of its emergence. The papers were further categorized based on the factors affecting knowledge management application in new ventures (OSTERWALDER; PIGNEUR, 2013).

Several steps were followed in the process of synthesizing the facts presented in the various studies. First, the main factors used in the studies were extracted from the text of the papers. Second, the factors were pre-sorted based on their title only. As a next step, the factor descriptions as provided in the papers were reviewed and concepts were re-sorted. Finally, some hypotheses are proposed and tested.

A sample of 97 new ventures was randomly selected from the list of startups which were established after 2011 and registered in the legal database of the Ministry of Cooperatives Labour and Social Welfare. Response rate were 92% after 2 follow ups. Respondents were founders of the surveyed new ventures. Cronbach's alpha was 0.73 which is higher than 0.7. Moreover, face validity was checked by experts of new venture creation and entrepreneurship.

4. FINDINGS

As mentioned earlier, this paper intends to investigate the factors affecting knowledge management application in new ventures. To do so, the factors are categorized in three main categories- based on a qualitative meta-analysis according to Gartner's (1985) conceptualization of new venture creation, which are:

(i) Environmental factors

Generally speaking, environmental factors are defined as physical or social dimensions that determine a society's organization and context (FOUGEYROLLAS et al., 2002). Current KM research argues that environmental factors affect learning outcomes in firms (ARGOTE et al., 2003).

KM initiatives directly result from the environmental context in which a firm operates and environmental factors are inseparable considerations in new ventures' strategic decisions (CUI et al., 2006). Prior research suggests that external environmental factors are important exogenous variables (CHEN et al., 2014). Some of the main environmental factors are competitor pressure, customer satisfaction, and marketing approach (PARK; CHEN, 2007).

In new ventures, furthermore, organizational supportive environmental factors are core catalysts for the promotion of an effective learning process which leads to successful KM (SONG; CHERMACK, 2008). Generally speaking, environmental factors are those changes in the environment that present both constraints on and opportunities for technological innovations, such factors encompass competitive intensity, information intensity, and governmental support (LEE; KIM, 2007). Indeed, these factors are expected to vary the effects of knowledge evolution on firm performance (CHEN; LIANG, 2011). The following hypotheses are proposed based on the qualitative meta-analysis:

- **Pa₁**: There is a positive relationship between competitor pressure and successful application of KM in new ventures.
- **Pa₂**: There is a positive relationship between customer satisfaction and successful application of KM in new ventures.
- **Pa₃**: There is a positive relationship between marketing approach and successful application of KM in new ventures.

(ii) Organizational factors

Organizational factors are defined as all of the hardware, knowledge, attitudes, and skills that exist within the organization in which the innovation is to be implemented; they can be sub- divided into “physical environment” and “support environment” (FARQUHAR; SURRY, 1994; SALAMZADEH et al., 2014). Recent years has seen increased attention being given to organizational factors in KM (HUANG et al., 2014).

In basic terms, KM comprises a set of processes through which knowledge is acquired, developed, gathered, shared, applied and protected by the firm in order to improve organizational performance. Organizational factors such as cultural values, leadership and human resource (HR) practices influence knowledge exploration and exploitation practices and innovation in new ventures (DONATE; GUADAMILLAS, 2011). The following hypotheses are proposed based on the qualitative meta-analysis:

- **P_{b1}**: There is a positive relationship between physical environment and successful application of KM in new ventures.
- **P_{b2}**: There is a positive relationship between support environment and successful application of KM in new ventures.

(iii) Individual factors

Individual factors are those that influence the ability to learn, such as the absorptive capabilities of the individual, thus they indirectly determine the knowledge and competence an individual acquires as a result of the learning process (LAM; SORENSEN, 2010).

Individual factors are also among those key elements that need to be considered while studying KM behavior (TOHIDINIA; MOSAKHANI, 2010). Training and education, knowledge sharing culture, and knowledge sharing motivation are the most important factors mentioned in the extant literature (Khalifa & Jamaluddin, 2012). The following hypotheses are proposed based on the qualitative meta-analysis:

- **P_{c1}**: There is a positive relationship between training and education and successful application of KM in new ventures.
- **P_{c2}**: There is a positive relationship between knowledge sharing culture and successful application of KM in new ventures.
- **P_{c3}**: There is a positive relationship between knowledge sharing motivation and successful application of KM in new ventures.

Table 1 summarizes the results of our survey that all of hypotheses are accepted with level of confidence %95 and coefficient of correlation (cc) between 0.32 for H5 to 0.802 for H1. The contribution of the study is to determine which factors successfully contribute to application of KM in new ventures. In fact, although the topic seems to be studied, it is not studied earlier as is.

It means that we used Gartner's (1985) approach, as an extensively accepted approach, to conduct a qualitative meta-analysis. Thus, we used this lens to shed more light on the importance of KM in new ventures. It should be noted that in past most of the scholars used to believe that KM is just good for mature organizations; however, this study shows that KM could be applied in new ventures.

Table 1: Summary of results

Category	Hypothesis	Sig	cc	Results
Environmental	Pa₁ : There is a positive relationship between competitor pressure and successful application of KM in new ventures.	0.00	0.802	accepted
	Pa₂ : There is a positive relationship between customer satisfaction and successful application of KM in new ventures.	0.00	0.4	accepted
	Pa₃ : There is a positive relationship between marketing approach and successful application of KM in new ventures.	0.00	0.378	accepted
Organizational	P_{b1} : There is a positive relationship between physical environment and successful application of KM in new ventures.	0.00	0.71	accepted
	P_{b2} : There is a positive relationship between support environment and successful application of KM in new ventures.	0.00	0.32	accepted
Individual	P_{c1} : There is a positive relationship between training and education and successful application of KM in new ventures.	0.00	0.73	accepted
	P_{c2} : There is a positive relationship between knowledge sharing culture and successful application of KM in new ventures.	0.00	0.434	accepted
	P_{c3} : There is a positive relationship between knowledge sharing motivation and successful application of KM in new ventures.	0.00	0.581	accepted

5. CONCLUSION

As mentioned earlier, KM is a critical issue, especially in established companies. Large companies take advantage of KM practices to improve their status; however, less attention has been drawn to application of KM in new ventures. Maybe this is due to dominant belief regarding the application of KM in large companies instead of small ones. Yet, there are several advantages associated with such applications (ZAHRA et al., 2000; SALAMZADEH, 2015a).

There are several factors which affect KM application, which could be categorized as follows: (i) environmental, (ii) organizational, and (iii) individual factors. These factors are enumerated in this paper and some hypotheses are proposed accordingly. Results showed that the hypotheses were accepted, and thus these factors were considered as effective factors on KM application. Our findings are consistent with prior research (e.g. see FARQUHAR; SURRY, 1994; CUI et al., 2006; PARK; CHEN, 2007; TOHIDINIA; MOSAKHANI, 2010; CHEN; LIANG, 2011; DONATE; GUADAMILLAS, 2011; KHALIFA; JAMALUDDIN, 2012).



But the most important theoretical and practical contributions of the paper were to investigate the relationship per se, as well as considering the Iranian context. Since "new venture creation and startup atmosphere" is growing in the country (TANHA et al., 2011; SALAMZADEH, 2015b), startup teams and founders might take advantage of KM practices. To do so, they might concentrate on the factors which are important in such applications. Moreover, the findings draw the attention of scholars of KM to study different dimensions of these practices in new ventures.

There were some limitations in this research, such as lack of access to comprehensive databases of new ventures. This was solved by using the legal database of the Ministry of Cooperatives Labour and Social Welfare. Also, data gathering phase was a little bit hard, but hopefully with two follow ups, enough data was gathered. Future researchers might expand the factors individually and investigate those factors more deeply. Also, scenario analysis and cross impact analysis might be used to shed more light on different aspects of the topic. Finally, policy makers might use the findings to devise appropriate policies for improving KM application in new ventures.

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