

Evaluation of Factors Affecting the Efficiency of Knowledge Management Processes within Organizations

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Abstract: *Knowledge management has been recognized by many researchers as a major influence on the organizations' performance. Thus, organizations started implementing knowledge management processes in order to gain competitive advantages in the current complex market. The scientists analyze many factors that affect the knowledge management processes but it is still not clear which factors are the most important for organizations to consider for efficiently applying the knowledge management processes. This study focuses on identifying and classifying the main factors that influence the efficiency of knowledge management processes based on previous studies.*

Index Terms: *Factors, Knowledge, Knowledge Management, Knowledge Management Processes, Efficiency*

I. INTRODUCTION

Facing the increased competition, organizations are trying to find the best ways of operations in order to achieve an efficient performance and reach their goals. Knowledge management has been recognized by many researchers (Acharya and Mishra 2017, Archer-brown and Kietsmann 2018, Hashemi et al. 2018, Raudeliuniene and Szarcki 2019) as one of the elements that contribute to the enhancement of the organizations' performance. Thus, organizations started applying knowledge management processes, which are affected by many factors. These factors have been classified mainly as human, organizational and technological factors. Organizations need to recognize the most important factors and consider them in order to apply efficiently the knowledge management processes, which will lead to improving the overall organizations' performance.

II. THEORETICAL FRAMEWORK

Knowledge is the organizations' asset that contributes to increasing the organizations' performance if it is utilized properly. Knowledge is considered as skills associated with experiences, analyses and reflections. It is a source of uniqueness for the organizations (Archer-brown and Kietsmann 2018). Knowledge is a strategic resource which organizations should properly manage in order to achieve a competitive performance (Mahdi et al. 2019). Knowledge management is considered as an organized and purposeful management of processes and techniques and a proper utilization of knowledge in order to set strategic goals and make appropriate decisions that benefit the organizations performance (Hashemi et al. 2018, Raudeliuniene and Szarcki 2019). Knowledge management consists of knowledge processes that maintain organizational processes such as innovation, individual learning, collective learning and collaborative decision-making (Acharya and Mishra 2017). The main knowledge management processes recognized by Kordab and Raudelliuniene (2018) are: knowledge creation, acquisition, storage, sharing and application.

Knowledge creation: Mahdi et al. (2019) considered knowledge creation as the process of generating new ideas and new solutions related to many organizational activities. It is the instrument that contributes to the development of knowledge and methods. Shujahat et al. (2019) defined knowledge creation as the result of four organizational processes which are internationalization, externalization, combination and socialization. The organizations must apply these processes to assure knowledge creation. As per Ceptureanu et al. (2018), knowledge creation is the generation of new knowledge through innovation, research and development. Claver-cortez et al. (2018) noticed that knowledge creation is intended to generate new knowledge and to control available resources. Knowledge creation results in new processes of work or new products and services that allow organizations to maintain competitive advantage and to face the changes in the market. Kaba and Ramaiah (2017) described knowledge creation as a growing procedure which is affected by the inspiration and motivation. It is considered as the first step in the knowledge management cycle.

Knowledge acquisition: Dang and McKelvey (2016) indicated that knowledge acquisition sources can be from individuals experiences in different firms, from suppliers, customers or other collaborations. organization's main goals and the knowledge needed to reach these goals. As per Liu and Deng (2015) knowledge capture takes place when relevant and important knowledge is recognized. Knowledge capture has different sources such as: hiring new employees and consultants, examining economic and social trends, attending conferences, building alliances and knowledge links with partners.

Knowledge storage: Mahdi et al. (2019) considered knowledge storage as the process of categorizing knowledge and saving it in the organization's database in order to be accessed when needed. As per Ceptureanu et al. (2018), knowledge storage is the accumulation of knowledge over time in the appropriate repositories. Acharya and Mishra (2017), knowledge storage and codification represent the processes required to transform tacit knowledge into explicit knowledge, to accumulate documented knowledge and supply this knowledge when needed. It depends on the accessibility of adequate networks and information technology devices, systems and processes, along with the people's skills and experiences, to benefit from the knowledge and store it for future use.

Knowledge sharing: Mahdi et al. (2019) described knowledge sharing as the social exchange within the organization where employees share ideas and expertise. Shujahat et al. (2019) defined knowledge sharing as collecting and donating knowledge inside the organization when the employees exchange their ideas. Knowledge sharing could occur formally or informally. Knowledge sharing is more important than knowledge creation because knowledge cannot be of benefit unless it is shared or used. Dang and McKelvey (2016) and Henttonen et al. (2016) recognized that knowledge sharing enable the access to information within and between companies. Le and Lei (2018); Rafique et al. (2018) considered knowledge sharing as a main factor that has a clear and positive impact on the successful performance of the companies. Thus, knowledge sharing process is affected by the support of leadership which is essential and required for encouraging and motivating the employees to participate in the knowledge sharing process.

Knowledge Application: Mahdi et al. (2019) assumed that after knowledge is shared, the target is to use it. Knowledge application is the process of combining knowledge and practices. Shujahat et al. (2019) recognized that knowledge application or utilization is part of the overall organizational activities that lead to solve problems and take decisions. As per Ceptureanu et al. (2018), knowledge application consists of using the stored knowledge to make decisions, solve problems and enhance the

overall organizational performance. Liu and Deng (2015) described knowledge application as utilizing knowledge in basic leadership and critical thinking forms.

Each of the knowledge management processes; creation, acquisition, storage, sharing and application, has a role in helping the organization to benefit from the knowledge available and utilize it for enhancing its performance.

III. FACTORS AFFECTING KNOWLEDGE MANAGEMENT PROCESSES

Many researchers have classified the factors affecting knowledge management processes into three main categories: human factors, organizational factors, and technological factors.

Table 1. The spectrum of factors affecting knowledge management processes (source: created by the author)

| Authors, Years | Human Factors | Organizational Factors | Technological Factor |
|------------------------------|---------------|------------------------|----------------------|
| Ho et al., 2014 | X | | |
| Peralta and Saldanha, 2014 | X | | |
| Ma et al., 2014 | | X | |
| Rusly et al., 2014 | | X | |
| Wu and Chen, 2014 | | X | |
| Rathi et al., 2014 | | | X |
| Ranucci & Souder, 2015 | X | | |
| Cavaliere and Lombardi, 2015 | | X | |
| Iskoujina and Roberts, 2015 | | X | |
| Israilidis et al., 2015 | | X | |
| Moreno and Cavazotte, 2015 | | | X |
| Henttonen et al., 2016 | X | | |
| Rutten et al., 2016 | X | | |
| Dijk et al., 2016 | X | | |
| Naim and Lenka, 2017 | X | | |
| Youssef et al., 2017 | X | | |
| Acharya and Mishra, 2017 | | X | |
| Kaba and Ramaiah, 2017 | | X | X |
| Xiao et al., 2017 | | X | |
| Tho, 2017 | | X | |
| Chen et al., 2018 | X | X | |
| Le and Lei, 2018 | X | | |
| Mirzaee and Ghaffari, 2018 | X | | |
| Singh et al., 2018 | X | | |

A. Human factors affecting knowledge management processes.

Individuals inside and outside the organizations can affect the knowledge management processes in different ways. Ho et al. (2014) believed that trust and collaboration among employees leads to increasing knowledge sharing. According to Peralta and Saldanha (2014), trust plays a significant role in knowledge sharing. Trust influences how employees perceive the knowledge creation strategy

in the organization and improve knowledge sharing because employees in a trustworthy environment, employees are more willing to share knowledge in order to reach the organizational goals. When trust is available, people who share knowledge will be certain that knowledge will be used properly (Ranucci & Souder, 2015). Henttonen et al. (2016) recognized that confidence and self-efficacy could affect knowledge sharing since individuals tend to perform the activities in which they feel more competent and avoid the tasks that they have low skills to do. Confidence leads people to provide valuable knowledge to others. Rutten et al. (2016) recognized trust as a factor affecting knowledge sharing where individuals will share knowledge mainly with their colleagues who have good reputation. Dijk et al. (2016) considered trust as a main factor influencing knowledge creation and sharing. Trust depends on social judgments, and on the appraisal of the risk that the other individuals could be unfaithful. It is known that people are willing to exchange knowledge when they trust each other. As per Naim and Lenka (2017), knowledge donating which is the willingness of individuals to disseminate their skills, expertise or knowledge, affects knowledge sharing. As suggested by Youssef et al. (2017), individuals' openness and willingness to acquire new knowledge, tend to be more engaged in new learning experiences and knowledge sharing. Also, top management support affects the willingness of employees and encourages them to share knowledge. According to Chen et al. (2018), knowledge sharing is influenced by the willingness of people to interact with others and to share their knowledge which lead to improving organizational strategies and behavior. Le and Lei (2018) viewed trust as a mutual understanding between individuals, which lead them to rely on each other and share their important knowledge, skills and expertise. Mirzaee and Ghaffari (2018) believed that trust leads to cooperation and knowledge sharing between individuals. Accordingly trust can be considered as a prerequisite for knowledge sharing. The receiver of knowledge must be confident about the accuracy of information and the trustworthiness of its source and the sender must be confident about the proper usage of the information he shared. Singh et al. (2018) realized that trust is important between individuals who are dependent on each other's specially when working in a team where trust affects their behaviors and their tendency to seek and share knowledge between them. Accordingly the lack of trust prevents knowledge sharing. It could be concluded that human factors such as trust, interaction and self-efficacy constitute a main influence on the efficiency of knowledge management processes.

B. Organizational factors affecting knowledge management processes

The organizations' processes, policies and procedures constitute the basis for the knowledge management processes and affect their efficiency. As per Ma et al. (2014), knowledge sharing is affecting by employees motivation through the recognition of their work and specially by using a rewarding system. Also a trustworthy organizational environment encourages employees to share knowledge. Rusly et al. (2014) considered motivation as a crucial influence on knowledge sharing because it creates a positive attitude towards the sharing process which needs to be supported by the organizational environment that facilitates this process. Wu and Chen (2014) believed that organizational leaning is an important way for improving knowledge creation and usage because it plays the role of a moderator between knowledge resources and business processes. As per Cavaliere and Lombardi (2015), knowledge sharing is affected by the organizational culture and specially the innovative culture which highlights entrepreneurship and creativity. Innovation requires finding solutions and creating products which is influenced by the social interaction and the knowledge sharing between employees. When the organizational culture and the top management support knowledge sharing, employees tend to be more involved in the innovative ideas exchange process. Iskoujina and Roberts (2015) identified different factors that affect knowledge sharing such as the rewards resulting from the sharing of knowledge and the trust between employees and management as

well between each others because individuals tend not to share knowledge if they distrust someone. Israilidis et al (2015) considered the effect of rewards and compensations on the knowledge sharing between employees where expected rewards affect positively the intent of individuals to share knowledge. Acharya and Mishra (2017) suggested that the organizational structure affects knowledge management which involves the set of activities and processes from knowledge creation to knowledge dissemination, through social interaction inside the firm. According to Kaba and Ramaiah (2017), teamwork and cooperation influence knowledge creation. Xiao et al. (2017) considered transformational leadership as a factor affecting knowledge sharing because it leads to motivation which helps accomplishing the firm's goal. Tho (2017) considered job autonomy as a factor that affects knowledge application within an organization where employees will be given the opportunity to do their tasks in their own way and to use new knowledge gained from external sources in their jobs. According to Chen et al (2018), knowledge sharing is affected by the organizational culture and specially the social interaction culture that enables the exchange of knowledge, skills and expertise between employees over different departments. It could be concluded that teamwork, motivation, rewards, organizational structure and culture are considered as factors affecting the efficiency of knowledge management processes.

C. Technological factors affecting knowledge management processes

The development of technology has influenced the different aspects of the businesses and specially the business processes. Rathi et al. (2014) suggested that information technology contribute to knowledge implementation and minimize time and space barriers. Examples include the internet, intranet, email and groupware that constitute the systems for managing knowledge and supporting inter-organizational collaboration and activities. Moreno and Cavazotte (2015) recognized three main appliances of information technology in knowledge management processes: sharing of expertise, designing corporate catalogues, and developing knowledge. While companies may face some challenges to find and retrieve knowledge available inside them, applying IT will help improving knowledge capture, storage and sharing in either formal or informal ways. It was noticed that some companies do not face a lack of information but they fail to use this information effectively. Kaba and Ramaiah (2017) believed that knowledge creation is also affected by information technology, especially social media where the interactive software encourages the team members to create knowledge. Data mining also helps knowledge creation by facilitating the extraction of knowledge from databases.

Thus, technological factors, mainly information technology and social networks are recognized as influences on the efficiency of knowledge management processes.

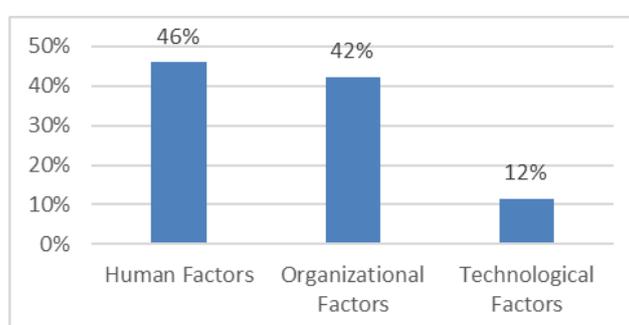


Fig. I. Distribution of factors affecting knowledge management processes (source: created by the author)

Summarizing the factors studied by Ho et al., 2014; Peralta and Saldanha, 2014; Ma et al., 2014;

Rusly et al., 2014; Wu and Chen, 2014; Rathi et al., 2014; Ranucci & Souder, 2015; Cavaliere and Lombardi, 2015; Iskoujina and Roberts, 2015; Israilidis et al., 2015; Moreno and Cavazotte, 2015; Henttonen et al., 2016; Rutten et al., 2016; Van Dijk et al., 2016; Naim and Lenka, 2017; Youssef et al., 2017; Acharya and Mishra, 2017; Kaba and Ramaiah, 2017; Xiao et al., 2017; Tho, 2017; Chen et al., 2018; Le and Lei, 2018; Mirzaee and Ghaffari, 2018; Singh et al., 2018, it was noticed that the most analysed factors are human factors (46%), then organizational factors (42%) and lastly the technological factors (12%). Accordingly, human factors should be considered the most by the organizations that are trying to efficiently implement knowledge management processes.

CONCLUSION

As knowledge management has been recognized as an important contribution to the improvement of the organizations' performance, it became necessary to find the most important factors that affect the implementation of knowledge management processes within organizations. This study has identified human factors as the most influential factors to consider in order to efficiently implementing knowledge management processes, through a theoretical research. Further researches could include studying the effect of specific factors on specific organizations by demonstrating related hypotheses.

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