European Economic Letters
ISSN 2323-5233
Vol 13, Issue 1 (2023)
https://doi.org/10.52783/eel.v13i1.168
http://eelet.org.uk

Impact of Technology on Effectiveness of Knowledge Management: An Empirical Study

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Abstract

The importance of knowledge management in today's world has been the topic of considerable discussion from the years ago. The development of knowledge management emphasizes its significance and need for organizational survival and the protection of competitive power. Organizations need to be effective at maintaining, expanding, managing, and utilizing the skills of their people if they want to stay on top. To achieve great success Knowledge should be the main focus. It is emphasized that KM knowledge Management and associated approach principles are crucial and essential for firms to thrive and sustain their competitive edge. In the innovative and technological era, Knowledge Management plays an important role and hence addressing it has become crucial for leaders and managers. This will help the mangers and top leaders in many ways. This paper will discuss the positive and negative impact of technology on the effectiveness of Knowledge Management.

Keywords*:* Knowledge Management, Impact of Technology, Knowledge Sharing, Organizational Knowledge, Knowledge Management Process

Introduction

The onerous task of leading the businesses towards the accomplishment of objectives and desired outcomes lies on administrators. This necessitates not only skill and flexibility, but also improved knowledge management and better decision-making. Contextual information, framed experience, specialized knowledge and expertise, and value are all components of knowledge, which together lead to innovation and flawless experiences. When knowledge is activated via creative processes for application, replenishment, and sharing, it may provide outstanding achievements even when knowledge is less beneficial in its original state. Knowledge management is the process of reactivating passive knowledge for commercial benefits and to gain a competitive edge. A rigorous approach to optimizing a company's knowledge economy is knowledge management. It incorporates a variety of elements, such as the business culture, institutional structure, and HRM practices. Knowledge management is the meticulous collection, organization, management, and interchange of knowledge inside an organization with the goal of enhancing performance, such as reducing the cost of rework, speeding up work, and implementing best practices. It is noted that Knowledge Management is a wide process and in today's world where businesses are expanded all over the world it is very important for the executors to involve technology for proper, creation, distribution and understanding of Knowledge Management (Iskandar, Jambak, Kosala, & Prabowo, 2017, Edosio, 2014 and Verma 2012).

With the furious change in technology and innovation the business are adapting themselves to it with the pace. Where knowledge management is considered as an important aspect for the growth of the organization at the same place implementing technological concept in it is also crucial. As far as technology is concerned it includes five steps: Internet of Things, Sensors, Big Data, Automation and Cloud Computing. Internet of Things or IoT means the establishment of a network of interconnected devices of various types. Devices can interact and exchange data and information about the tasks they carry out through the link. Sensor means several sensing devices may be used on machines and gadgets to collect various types of data. Data collection may be utilized for knowledge processing and huge data construction. Big Data means databases that store the information system or sensor data that an organization has collected. Big data may be used to hold a variety of types of data, including details concerning clients, goods, sales,

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etc. Automation can be defined as the use of machines and other devices that allow autonomous performance of tasks connected to product manufacturing or service provision without significant human interaction. At last Cloud Computing means establishing virtual businesses where all staff members have access to cloud storage. Less requirement for people to be physically present at work is one advantage of cloud computing (Kovacic, , Mutavdzija, Buntak, Pus, 2022).

Literature Review

In a study it was concluded that Knowledge Management assimilates five main steps. The Knowledge Creation process is the initial phase. It is a challenging, unpredictable, and changing process. It is the ability of the organization to produce knowledge for its systems, services, and products. The effective, consistent development and utilization of information inside an organization is vital to its success. A framework outlining the components of knowledge production is suggested in order to fully understand the movement of knowledge creation in companies. Second step is knowledge capture process which means the act of creating original material and replacing outdated ones is known as knowledge capture. Organizations must record both known and unknown knowledge. For intra-organizational research, active or passive methods of information acquisition, including such employee information and experiences, test procedures, and/or learn through doing, can be used. Moreover, to collect information, both conventional approaches and emerging technology like virtual meetings, speech recognition software, and data mining are needed. Third step is knowledge organization process: This term refers to the structure, listing, and modeling of knowledge as well as the process of knowledge exchange. Knowledge organization involves three stages: identification and assessment, organization, and re-selection. Moreover, because information must be continually updated and reevaluated, selection and assessment are ongoing processes. Fourth step involves Knowledge Storage Process: It is more vital to have a system in place to store and retrieve knowledge when it is needed, rather than just producing new knowledge. This gave birth to the idea of "organization memory," which essentially refers to the availability of information in a variety of forms and formats, including codified knowledge, individual and team tacit knowledge, electronic databases, and printed documentations. Personal observation organizational memory is made up of an individual's actions, experiences, and observations as well as information archives from inside as well as outside the company, shared knowledge, and interactions, the actual working environment, and workplace structure, changes, and formation.. Fifth step is Knowledge Dissemination Process. The practice of disseminating knowledge, often referred to as knowledge sharing, it is described as the exchange of information between people, teams, or companies using a number of media. A group of behaviors known as knowledge sharing involve the sharing of information or offering support to others. The last step is knowledge application process which means making sure that knowledge is used successfully to benefit the company is key to knowledge management. Knowledge development may eventually arise from knowledge application, which also involves using knowledge to solve problems and safeguard decisions. The cycle continues because the newly acquired knowledge must be recorded, disseminated, and used (Yesil, Koska, Buyukbese, 2013 and Kumar, Kalva, 2015).

It a study it was observed that Industry 4.0 has led to the creation of digital transformation, which is characterized as a shift in the organization's business and operational concepts. The use of technology to improve the effectiveness and efficiency of processes is another benefit of digital transformation. It should be emphasized that organizations must assure technological as well as technical expertise in order to perform digital transformation. Infrastructure that businessmaintain are mainly concerned with the technical competency which includes tools and equipment used by the organization. The artificial intelligence was nurtured by this digital transition. The goal of the scientific field of artificial intelligence (AI) is to develop a system that is comparable to human cognitive functions. The term "AI" was first used in 1956, and as technology has advanced and the necessity for intricate analyses of organizational contexts has grown, so too has the need for AI systems. In other words, the goal of AI science is to develop a system that is comparable to the human brain and is capable of learning on its own. As a result, machine learning, neural networks, and deep learning are the three types of learning approaches that form the basis of the majority of current AI systems. Artificial intelligence may be used to a variety of fields, including electrical engineering, civil engineering, and healthcare. Depending on the sort of company it is utilized in, AI might be developed differently and have distinct functionalities. The majority of the time, AI is applied to sales and marketing in order to forecast and analyze both existing market

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conditions and potential future trends. AI may also be employed as a customer support system. Such a mechanism makes it possible to quickly respond to all inquiries (Raj, & Ha-Brookshire, J. E. 2016).

In a research it was concluded that the complexity of corporate settings has increased significantly due to the fast expansion of knowledge and information technologies. If businesses are to manage the consequent challenges, they must continually innovate; otherwise, it will be extremely difficult for them to survive in the competitive environment. Due to this, a lot of companies have turned to IT to cut production costs, provide innovations in products and services, accelerate growth, develop partnerships, keep customers and suppliers, raise entry barriers, and foster cooperation. Technology may therefore aid a business looking to achieve a competitive edge. In addition, it has been said in several studies that intangible assets, such as knowledge, account for the majority of corporate value. As a result, knowledge workers will be able to displace clerical employees as the major source of labor force. ICT is important because it has worked as a driver for knowledge management. Knowledge searchers and specialists involved in various knowledge acquisition processes, such as socialization, externalization, and internalization, might benefit from computer technology. For instance, computer tools like emails, discussion groups, bulletin board multimedia conferencing, and brainstorming apps are utilized to translate implicit information into knowledge acquisition. By assisting users in talking with one another and simplifying the distribution of organizational information throughout the whole business, these computer technologies enable user interactions. Although enterprises have a tremendous store of information in terms of their technical expertise, customer trust, and happiness, they are unable to utilize this knowledge to its fullest potential since it is dispersed and frequently goes undetected. People frequently don't share and promote their knowledge in order to maintain their own support base and position. The evaluation of each employee's knowledge level might be a time-consuming and unpleasant operation. This highlights the requirement for enterprises to have a knowledge management system so that knowledge, skills, and expertise can be evaluated. Information sharing done well and efficiently may provide a business with a competitive advantage (Abubakar, Elrehail, Maher Ahmad Alatailat, Elci, 2017).

In a research it was studied that Knowledge Management have several benefits to the organization which are as follows: Companies may make decisions about problems that arise more rapidly based on already-existing knowledge and even newly-acquired information about the company. Throughout the learning process, organizations can produce new information that can be used to solve issues in a rational and beneficial way for the organization. A system exists that offers the organization a reusable data store medium. Companies may provide information to employees whenever and wherever they need it. Moreover, Knowledge Management with the use of technology aspires to accomplish goals like information sharing, greater jobs, economic edge, or the development of organizational entrepreneurship (Arikan, & Knoben, 2014 and Sanzogni, Guzman, & Busch, P. (2017).

Objective: To investigate impact of technology on effectiveness of Knowledge Management

Methodology: This study is descriptive in nature in which the data were obtained from the 175 respondents leaders and managers from various industries and experience levels. The major business area covered in the study were Banking and Financial Services, IT and ITEs, Retail Management, Transportation, Tour and Travel. A checklist question was used to analyze and interpret the data. In a checklist question respondents choose “Yes” or “No” for all the questions.

Data Analysis and Interpretations:

Table 1 Impact of Technology on Effectiveness of Knowledge Management

SL No.	Impact of Technology on Effectiveness of Knowledge Management	Yes	% Yes	No	% No	Total
1	Technology has enabled the development of sophisticated KM systems.	151	86.29	24	13.71	175
2	Technology has had a significant impact on the	163	93.14	12	6.86	175

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	effectiveness of knowledge management.					
3	Knowledge Creation process is a challenging, unpredictable, and changing process.	165	94.29	10	5.71	175
4	Technology has enabled organizations to store and retrieve knowledge in more efficient ways.	145	82.86	30	17.14	175
5	Knowledge Creation process produce knowledge for its systems, services, and products.	157	89.71	18	10.29	175
6	KM tools may analyze vast amounts of data to identify patterns.	132	75.43	43	24.57	175
7	Knowledge management is considered as an important aspect for the growth of the organization.	153	87.43	22	12.57	175
8	Technology has made it complicated for employees to share their knowledge and expertise with others in the organization.	129	73.71	46	26.29	175

Table 1 shows the impact of technology on effectiveness of Knowledge Management. It was found that around 94.2% respondents accept that Knowledge Creation process is a challenging, unpredictable, and changing process, (93.1%), produce knowledge for its systems, services, and products (89.7%), considered as an important aspect for the growth of the organization (87.4%), technology has enabled the development of sophisticated KM systems (86.2%), technology has enabled organizations to store and retrieve knowledge in more efficient ways (82.8%), KM tools may analyze vast amounts of data to identify patterns (75.4%) and technology has made it complicated for employees to share their knowledge and expertise with others in the organization (73.7%).

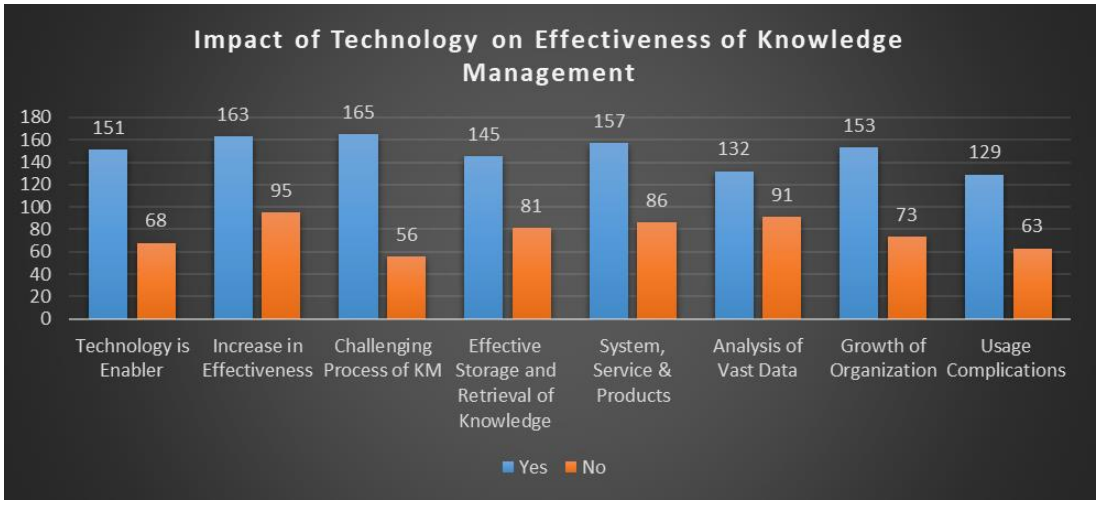

Figure 1 Impact of Technology on Effectiveness of Knowledge Management

Conclusion

The study presented above leads to the conclusion that knowledge management may be carried out successfully using technology. It lessens the executors' or managers' workload in addition to saving time. Also, it is established that

knowledge management serves as every company's primary source of competitive advantage. Today's businesses understand that knowledge management is an important resource that can be handled just as efficiently as physical resources in a bid to boost efficiency. Every company must have creative thinking and use technological methods in order to succeed in a market where competition is intensifying day after day. Lack of information about technology in knowledge management may hinder the companies' future growth and expansion. Thus further, in order to gain a competitive advantage, every business must understand the relevance of knowledge management and the integration of technology. Knowledge management is a technique that promotes a business's efficient process as employees are the foundation for knowledge and development. Integrating people, processes, and technology is the core objective of knowledge management in order to utilize corporate knowledge. Knowledge management may be successfully implemented in areas of enterprises with the usage of technology. .

References

1. Abubakar, A.M., Elrehail, H., Maher Ahmad Alatailat, M.A., Elci, A. (2017). Knowledge management, decision-making style and organizational performance, *Journal of Innovation and Knowledge*, 4(10)104-114.
2. Raj, D., & Ha-Brookshire, J. E. (2016). How do they create 'Superpower'? An explo-ration of knowledge-creation processes and work environments in the wearable technology industry, *Journal of Fashion Design, Technology and Education*, 9(1)82–93.
3. Yesil, S., Koska, A., Buyukbese, T. (2013). Knowledge Sharing Process, Innovation Capability and Innovation Performance: An Empirical Study, *2nd International Conference on Leadership, Technology and Innovation Management*, 75(2013) 217-225.
4. Iskandar, K., Jambak, M. I., Kosala, R., & Prabowo, H. (2017). Current Issue on Knowledge Management System for Future Research: A Systematic Literature Review. *Procedia Computer Science*, *116*, 68–80.
5. Elidjen, N., Hidayat, D., & Abdurachman, E. (2022). The Roles of Gamification, Knowledge Creation, And Entrepreneurial Orientation Towards Firm Performance. *International Journal of Innovation Studies*, *6*(4), 229–237.
6. Arikan, A. T., & Knoben, J. (2014). Sources Of Inter-Firm Heterogeneity In Accessing Knowledge-Creation Benefits Within Technology Clusters. *Ind. Innovation*, 21(6), 476-493.
7. Cepeda-Carrión, I., Martelo-Landroguez, S., Leal-Rodríguez, A. L., & Leal-Millán, A. G. (2017). Critical Processes Of Knowledge Management: An Approach Toward The Creation Of Customer Value. *European Research on Management and Business Economics*, *23*(1), 1–7.
8. Martelo-Landroguez, S., & Cegarra, J. G. (2013). Linking Knowledge Corridors To Cus-Tomer Value Through Knowledge Processes. *Journal of Knowledge Management*, 18(2), 342–365.
9. Kumar, A., Kalva, U.K. (2015). Knowledge Management: A Review, *International Journal of Academic Research in Social Sciences & Humanities*, 1(1) 9-17.
10. Kovacic,M., Mutavdzija, M., Buntak, K., Pus, I. (2022). Using Artificial Intelligence for Creating and Managing Organizational Knowledge, *Tehnički vjesnik*, 29(4)1413-1418.
11. Sanzogni, L., Guzman, G., & Busch, P. (2017). Artificial Intelligence And Knowledge Management: Questioning The Tacit Dimension. *Prometheus*, *35*(1), 37-56.
12. Edosio, U.Z. (2014) Knowledege Management Concept, *Conference Paper.*
13. Verma, A. (2012). Institutionalising Organisational Effectiveness through Knowledge Management, *International Journal of Research and Development - A Management Review, 1* (1), 2319–5479.