

KNOWLEDGE MANAGEMENT FRAMEWORK STUDY FOR A UNIVERSITY LIBRARY

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<https://doi.org/10.3390/su15139936>

Abstract

Over time, knowledge management has been criticized with a number of different justifications. To recognize and evaluate the effects of academic library knowledge management and be successful, it is essential to understand knowledge management from a systems approach. A commonly used full knowledge management framework model can be created to do this. The study begins by providing a thorough summary of the literature on contemporary knowledge management. The paper then looks at university library administration from a number of different perspectives. It also looks at the growth of content and knowledge management, as well as the organizational structure. The subsequent sections of this essay will create a knowledge management framework model, recommend one, and analyze its applicability in running university libraries.

Keywords: Knowledge Management, Academic Library, System Approach, Knowledge Management Framework Model and Library Management

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Review of the Literature and Research Objectives

The trans-disciplinary discipline of knowledge management is relatively young (Handzic, 2015). Surveys of this area will lead to a better comprehension of the KM field. Consensus supports the KM's known features (Fteimi, 2015). Also, it benefits businesses planning to set up their own knowledge management systems (Abdullah R, Selamat MH, Sahibudin S, Alias RA., 2005). Previous literature has emphasized the value of KM systems for organizations because they facilitate organizational learning by utilizing common tacit and explicit knowledge (Meso P, Smith R., 2005).

Knowledge management systems can be described technically and socio-technically (Meso P, Smith R., 2005). KMS's related hardware and software might potentially be considered to as an IT infrastructure. A technology-focused KMS uses a variety of tools, including groupware, data mining, visualization, and decision support systems, to encourage information work and organizational learning. From a socio-technical perspective, KMS is more than just technology; it also includes organizational architecture, culture, knowledge, and human capital.

In reality, establishing a governance structure for knowledge management gives enterprises the resources they need to use KMS to lessen errors and get time and money back (Abdullah et al., 2005). Further study is therefore required in this area (Handzic, 2015). The discipline of knowledge management has thus been the focus of several studies, many of which have explored relevant output models in an effort to comprehend the topic. Such studies focus on identifying significant research problems addressed in the knowledge management literature, research methodologies used in knowledge management studies, or the most frequently cited papers in the sample. More than one of the concerns mentioned above has been the subject of certain research studies.

Using 256 publications from the Knowledge Management Research and Practice (KMRP) journal as an example, Walter and Ripier (2013) have looked at the main research questions raised in these papers. The study by Fteimi and Lehner (2016), which used a CA-based assessment to select the 755 most important research fields, is another example. In a work that was published in the Proceedings of the European Conference on Knowledge Management (ECKM), Serenko and Pontis(2013) tracked the citations of 63 KM-related publications that

were published in the Journal of Knowledge Management. But fewer journals are the focus of these evaluations.

Seven KM-focused publications' citation patterns in seven different journals were analyzed by Serenko and Dumay (2015). Using 2175 articles from 11 prestigious Knowledge Management and Intellectual Capital (KM/IC) periodicals, Serenko et al. (2010) conducted a rigorous quantitative study. (1994–2008). Wallace et al. (2011) have utilized bibliometric and content analysis to assess research methodologies applied in knowledge management activity.

In addition, Dwivedi et al. (2011) examined the research topics and procedures for knowledge management studies conducted between 1974 and 2008. He used meta-analysis as an approach. A survey of research methodologies and issues from important knowledge management publications is also provided by Handzic (2015). Ma and Yu (2010) have also looked at the citation and co-citation patterns of contemporary knowledge management studies.

In contrast to earlier studies, this one tracks KM research methodologies progress over time (1997–2018) and develops an explanatory framework for it using grounded theory and topic modeling from text mining techniques.

Views on and Approaches to Systems Thinking

Any class of computer problems should be fully utilized while analyzing and assessing them using a variety of knowledge systems and methodologies. When examining how different computer components or subsystems interact with larger computer systems, it is crucial to develop and use systems thinking viewpoints and approaches. On this basis, learning-capable integrated systems can be created. Knowledge management is viewed as a whole in the system analysis approach to knowledge management research. All pertinent elements and processes must be taken into account in a logical-mathematical manner when using computer analysis to try to solve an issue. We must determine the purpose of the knowledge management system, define the problem of knowledge management, and define the structure and model of the knowledge management system using a logical procedure based on computer analysis.

System analysis, system design, system measurement, system evaluation, system integration, etc. should be included in accordance with business operations. Action research, value research, and ethical research are only a few of the problem-solving techniques that must be widely used.

Furthermore, modeling, simulation, and optimization tools are available. According to information management and knowledge transfer, knowledge management experts are required for the dynamic processes. Functions are grouped into numerous tiers that each have a different impact from a computer science standpoint. For knowledge management research to ensure that each company's knowledge management as a whole sets a core knowledge management roadmap, systemic thinking is essential. It provides a comprehensive overview of the framework and main concepts (Rubenstein-Montano et al., 2001).

System for Integrated Knowledge Management

A system is made up of numerous interconnected parts, which could be discrete objects, undefined entities, or living things. Depending on the components and organizational structure of the system as a whole, these factors interact and influence one another to produce characteristics.

A system's hierarchy, components, and functional units must be examined in order to determine its fundamental properties. An integrated knowledge management system comprises of individuals, information-sharing websites, and knowledge, encompassing workplaces and electronic virtual environments. In actuality, knowledge management is a fluid, transformative process of knowledge flow. Information management and knowledge management have a direct relationship with the culture and goal of organizational knowledge distribution. Tactic knowledge must be "managed," a knowledge sharing environment and transfer mechanism must be established, the organization's knowledge discovery system must be put into place, and resources and operations must be integrated.

Knowledge management can be divided into four stages, according to the approach: strategy level, application level, method level, and technology level. Strategically speaking, knowledge management is seen as being an essential part of a comprehensive strategic plan for the entire company. This is something that businesses should undertake as it will increase their competitiveness and long-term growth. In information, they perceive resources. In terms of profit and survival, the organization will directly gain from utilizing a successful knowledge and operations management approach. Knowledge management at the strategic level reflects an organization's internal comprehension of knowledge management theories and frameworks by having an impact on strategic planning and ensuring that it is incorporated into organizational structure through the appointment of a Chief Knowledge Officer (CKO).

Knowledge engineers work full- or part-time in different industries. To encourage the use of knowledge management, organizations will create a cultural environment for information exchange, communication, and learning; this is a vital stage in the development of efficient knowledge management. The KM application layer provides decision support and business support via KM. It sets up the most effective teaching strategies, employs effective knowledge precipitation and management, teaches and masters teamwork and business processes, and actively gathers and improves information.

These are some of the significant concepts that result from the use and effectiveness of knowledge management. Knowledge management method levels refer to the techniques used to define the processes and implementation that knowledge management facilitates. Organizations require formal guidelines since knowledge import is a dynamic management activity.

Technically speaking, knowledge management (KM) seeks to ensure effective use of knowledge management platforms and tools, such as platforms for IT systems, features for security system protection, knowledge management systems and knowledge, safe system approach, etc.

Architecture for Knowledge Management Guidelines

The representation of knowledge management architecture or the specifications of modeling based on knowledge management architecture are the major topics in knowledge management research. Depending on the modeling objective, the knowledge management architecture model employs descriptive, structural, mathematical, and process modeling. Functional techniques, like application design, are used to explain techniques and process models (Syed, 2008; JINETTE de Gooijer, 2000). Of the five models, are the most frequently utilized to develop knowledge transfer methods (Goh, 2002; Kenneth Preiss, 1999). Computer analyses haven't backed up these models.

Because it is merely a simplistic depiction, the idea of continual optimization is not stressed; rather, knowledge management and knowledge enlightenment are stressed. These models lack integration and have no common explanation for how KMS connect to one another, despite the fact that many of them have comparable concepts but differ in the sequence and structure of the components (Panagiotis Sentas, Lefteris Angelis and Ioannis Stamelos, 2007).

The creation of knowledge management framework models can be done in accordance with a number of ideas, points of view, and techniques as long as they adhere to the following guidelines:

Employ formal language: The framework model gives participants in knowledge management initiatives standardized vocabulary and concepts for that field, facilitating communication and fostering consensus.

The actions listed include: The Knowledge Management Framework model offers high-level generic operational knowledge processes that can be used as the engine for knowledge management operations.

It offers a checklist for the framework model, which provides a checklist for planning the knowledge management process. This aids project managers in concentrating on the knowledge management process and its essential elements rather than implementing in a specific area.

Focus on non-technical aspects: A successful knowledge management strategy should take into consideration planning and analysis, knowledge acquisition and sharing, culture, and other non-technical aspects. This structural model provides a description of the state of management and technology.

Model for Knowledge Management

Knowledge resources, knowledge transfer practices, knowledge transfer processes, and the external environment for knowledge management are all parts of a knowledge management system.

a) **Organizational structure is included into the knowledge management framework:** A knowledge management system's components include knowledge resources, techniques for transferring knowledge, transfer processes, and the surrounding environment for managing knowledge.

b) **Combining the processes for managing and sharing knowledge:** Many knowledge-related elements, including knowledge development, information exchange, knowledge application, and knowledge evaluation are taken into account during the operational process improvement cycle.

c) **An outline of the primary knowledge management domains:** It also makes use of expert networks, unwritten knowledge, and cooperative techniques in addition to resources that are generally known.

d) **A description of the objectives of knowledge management:** It entails optimizing management procedures, improving communication, developing staff abilities, and making strategic decisions and innovations.

e) **Practices in corporate knowledge management:** These practices have the ability to communicate with a company's internal IT systems, regional and national knowledge management infrastructure, the condition of the knowledge economy, competitor strategies, and the external KM environment.

Model for the Software Framework of the Application

The knowledge management framework model directs knowledge management activities' comprehension, use, and assessment. There are various perspectives on how to process knowledge and information. We have created a comprehensive set of knowledge management system software framework based on the system analysis thinking model and knowledge management framework.

To completely support the knowledge management process, the software framework complies with the knowledge management framework model of application design. It fully utilizes the most recent advancements in software technology, and it chooses the multi-layered web as its base. Five tiers make up this system (Gammelgård, Simonsson & Lindström, 2007). Client access layer interaction takes place through mobile and web browsers, and it provides real-time communication technologies that allow for online knowledge sharing. The foundational layer of the service organization is the performance layer of knowledge management. Knowledge and interactive knowledge management systems are interconnected.

The second layer of knowledge management is the application layer, which comprises decision support, collaborative knowledge management, management of organizational culture, management of external knowledge, etc. These knowledge management systems feature a model-based knowledge management architecture.

Basic knowledge management services begin with the third layer by gathering, organizing, sharing, and promoting the application of innovations. Next, these services are provided through computer interfaces that may include the most basic forms of communication services and technology, tools for managing organizations and human resources, tools for managing documents and processes, and more.

The fourth layer, which acts as the structural foundation for the knowledge management platform, is made up of middleware application servers, hardware database servers, and auxiliary network environments. This kind of knowledge management approach has been helpful for managing organizational knowledge.

Conclusion

To make sure that it is immediately accessible to those who need it most, knowledge management is an active organizational strategy. It facilitates the dissemination and application of knowledge with the ultimate aim of enhancing organizational performance. The Knowledge Management process is incredibly complicated and is reliant on a number of variables, including leadership strategy, corporate culture, technological considerations, and evaluation outcomes. Continuous improvement is necessary to combine all of these with the design and management of supporting procedures. To completely comprehend the fundamentals of knowledge management and to identify its general concepts and engineering techniques, it is helpful to use a comprehensive knowledge management framework model. It necessitates a thorough understanding of the principles governing philosophy, administration, computer science, and scientific knowledge management.

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