

Review of Knowledge and Knowledge Management Research

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How to cite this paper: Lin, X. (2019) Review of Knowledge and Knowledge Management Research. *American Journal of Industrial and Business Management*, 9, 1753-1760.

<https://doi.org/10.4236/ajibm.2019.99114>

Received: August 12, 2019

Accepted: August 27, 2019

Published: August 30, 2019

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Abstract

This paper reviewed the literature related to knowledge and knowledge management, and used the relevant literature of knowledge and knowledge management process as the framework and main line, integrating the relevant international literature on knowledge and knowledge management, and systematically reviewing the definition of knowledge and the process of knowledge management.

Keywords

Knowledge Management, Knowledge Creation, Knowledge Storage, Knowledge Transfer, Knowledge Application

1. Introduction

With the advent of the era of knowledge economy, knowledge has become a key resource for companies to gain competitive advantage [1]. Knowledge, as the most important resource of an enterprise, has an important impact on the development of the enterprise [2]. On the one hand, tacit knowledge is constantly increasing and deepening, and its role is becoming more and more important [3]. On the other hand, due to the increase in the division of labor and specialization, explicit knowledge is constantly developing, and enterprises need to more consciously recognize and play the role of explicit knowledge [4]. Therefore, knowledge as a resource requires a more in-depth study of knowledge and knowledge management. However, in the research of knowledge and knowledge management, there are confusions between the definitions of concepts related to knowledge and knowledge management in different scientific fields, which will bring difficulties to the study of knowledge management. Therefore, it is necessary to systematically sort out the concepts related to knowledge and knowledge

management.

This paper mainly contains four parts, the first part is the introduction, the second part is the review of the concept of knowledge, the third part is the review of the concept of knowledge management, and the fourth part is the conclusion.

2. Knowledge

2.1. The Definition of Knowledge

Knowledge is a concept with rich connotations and extensive extension. There are different opinions about the definition of knowledge in the academic world. Scholars define knowledge from different perspectives. From the perspective of epistemology, knowledge is consciousness, which defines knowledge equal to consciousness [5]. Knowledge is the result of experience, and knowledge is regarded as the sum of human cognitive experience [6]. Knowledge is the sum of ideas, and it is the sum of people's concepts of nature, society, and thinking phenomena and essence [7]. From the perspective of ontology, knowledge is a special resource produced by the interaction between living matter and non-living matter [8]. Knowledge is a civilizational resource caused by the evolution of nature to a certain stage [9]. From the perspective of economics, knowledge is the product of human labor, and it is a human labor product with value and use value. From the perspective of information theory, knowledge is the accumulation of similar information, and it is the abstraction and generalization of information to help to achieve a specific purpose [10].

The various viewpoints listed above reflect the understanding of knowledge from different perspectives, which lead to different understandings of knowledge management. If knowledge is regarded as an object, or equal to information acquisition, then knowledge management should focus on establishing and managing knowledge reserves; if knowledge is a process, then knowledge management should focus on the process of knowledge flow and knowledge creation, sharing and distribution. Knowledge as a capability perspective believes that knowledge management focuses on building core competitiveness, understanding strategic advantages, and creating intellectual capital.

2.2. Classification of Knowledge

2.2.1. Tacit Knowledge and Explicit Knowledge

Knowledge can be divided into tacit knowledge and explicit knowledge. Explicit knowledge can be expressed in words and languages [11]. In the books, magazines, newspapers, documents, drawings and other carriers, explicit knowledge is included. Tacit knowledge is experience, skill, and jealousy [12]. It needs to be obtained through practice and experience, and it is difficult to express it in words. Explicit knowledge and tacit knowledge are not the opposite of knowledge, but interdependent and complementary [13]. Tacit knowledge constitutes the background needed to develop and explain the distribution structure of explicit know-

ledge. The inextricable link between explicit knowledge and tacit knowledge suggests that only individuals with the necessary level of shared knowledge can truly exchange knowledge. Tacit knowledge is necessary to understand explicit knowledge [14]. Individuals in order to understand other people's knowledge, their potential knowledge base must have some intersections that a shared knowledge space.

2.2.2. Personal Knowledge and Organizational Knowledge

Knowledge can also be seen as being in an individual or group. Individual knowledge is created by individuals and exists in individuals [15]. Social knowledge is created by the collective action of a team and internalized in collective action [16]. Since the generation of knowledge comes from human practice and understanding, knowledge is generated by individuals, and leaving individuals cannot produce knowledge [17]. Organizational knowledge is the formation and crystallization of personally generated knowledge with other people in the organization's knowledge network. Individuals can only acquire and generate knowledge in specialized fields, and in innovation activities need to integrate various knowledge into productivity, which requires organizing knowledge [18]. Organizational skills, including documents, drawings, procedures, etc., can be considered explicit knowledge of the organization. In addition, there is tacit knowledge of the organization, which exists in the tacit understanding between personal memory and the formed people [19].

2.2.3. Relationship between Data, Information and Knowledge

Although there are various definitions of knowledge, because of the combination of knowledge and information or data, many authors believe that the premise of defining knowledge is to distinguish knowledge, information and data. Data represents observations or facts that are not directly meaningful from the background [20]. Adding meaningful content to the data produces information, which is often a form of message [20]. Knowledge is believed and evaluated by experience, communication, or inference based on the organization of meaningful information [20]. Although the general view is that data is unprocessed numbers and facts, information is processed data, and knowledge is identified information. But this level of assumptions from data to information to knowledge is hard to be carefully scrutinized [21]. The key to effectively distinguishing information and knowledge is not the content, structure, accuracy or use of hypothetical information or knowledge, but knowledge is information in the human brain. It is personalized information and relate to facts, procedures, concepts, Interpretation, thought, observation and judgment.

3. Knowledge Management

Knowledge management refers to identifying and coordinating the collective knowledge of the organization to help the organization compete, and knowledge management can promote the flow and sharing of knowledge. Organization as a

knowledge system consists of four processes, namely creation, storage, transfer and application. In general, individuals and teams can engage in several different aspects and processes of knowledge management at any time and place. Therefore, knowledge management is not a discrete, independent and one-dimensional organizational phenomenon. These processes cannot represent a single activity, but the interconnection and interweaving of activities. This paper defines knowledge management as the process of creating, storing, transferring, and applying knowledge. The details are as follows.

3.1. Knowledge Creation

The organization's knowledge creation involves nurturing new content or replacing existing content within the organization's implicit and explicit knowledge [22]. Through social and collaborative processes and individual cognitive processes, knowledge is created, shared, enhanced, magnified, and rationalized in an organizational context [22]. Nonaka regards organizational knowledge creation as the continuous interaction of tacit knowledge and explicit knowledge, which is a spiral of knowledge rising at the individual, team and organizational levels [22]. Nonaka clearly proposed four patterns of knowledge creation, namely socialization, externalization, internalization and combination [22]. Socialization refers to the transformation of tacit knowledge into new tacit knowledge through social interaction and shared experience among members of the organization. Combination refers to the creation of new explicit knowledge by merging, classifying, reclassifying, and synthesizing existing explicit knowledge. The other two modes are the interaction and transformation between tacit knowledge and explicit knowledge. Externalization refers to the conversion of tacit knowledge into new explicit knowledge. Internalization refers to the creation of new tacit knowledge from explicit knowledge, such as learning and understanding what comes from reading or discussion. These four patterns of knowledge creation are not completely separate, but highly dependent and interwoven. In other words, each model relies on promotes and benefits from other models.

Nonaka also considered the conditions and environment for promoting the creation of new knowledge. The basic problem of knowledge creation is to establish 'ba', which is defined as a common place or space to create knowledge [23]. The four 'ba' corresponding to the four knowledge creation modes discussed above are origin ba, interactive ba, system ba, and practice ba [23]. The origin ba takes on the socialization model of knowledge creation and is the beginning of the process of organizing knowledge creation. The origin ba is a public place where individuals can share experiences through face-to-face interactions at the same time and in the same place. An interactive ba is a space associated with the externalization model of knowledge creation, where tacit knowledge is transformed into explicit knowledge and shared among individuals through the process of dialogue and cooperation. The system ba refers to the interactive virtual space, which is related to the combination of knowledge creation. The practice ba involves translating explicit knowledge into tacit knowledge through an internalization process.

Therefore, the practice ba is an individual learning space.

3.2. Knowledge Storage

Knowledge storage involves acquiring knowledge from members of the organization or external sources [24]. Organizations are also forgetting while creating knowledge and learning [25]. Therefore, the preservation, organization, and organization of knowledge that is the organization's memory constitute an important and effective part of organizational knowledge management. Collective or organizational memory is defined as past knowledge, experience, and events. Organizational memory includes knowledge that exists in different forms, including documented documents, structured information stored in electronic databases, knowledge of coded people stored in expert systems, archived organizational procedures and processes, and networks of individuals and individuals that learn tacit knowledge [26]. Organizational memory is divided into semantic or plot [27]. Semantic memory refers to general, explicit, and expressive knowledge, while plot memory refers to knowledge in specific contexts and contexts. The transformation of knowledge into semantic memory does not guarantee the effective dissemination of knowledge, nor does it guarantee efficient storage.

3.3. Knowledge Transfer

Knowledge transfer exists at different levels. The transfer of knowledge between individuals, from individuals to explicit knowledge resources, from individual to team, between teams, across teams, from team to organization [28]. Considering the distributed nature of organizational understanding, an important process of knowledge management in an organizational context is the transfer of knowledge to where it is needed and where it is used. However, this is not a simple process because organizations don't know what they know and there is no powerful system to locate and retrieve knowledge stored in the organization [29]. Knowledge transfer consists of five elements, namely, recognizing the value of the knowledge of the source individual, the incentive tendency of the source, the existence and enrichment of the communication channel, the incentive tendency of receiving the individual, and the absorptive capacity of the receiving individual [30]. Most of the literature focuses on the third factor, the channel of knowledge transfer. The most difficult element to control is the fifth. Knowledge must be recreated in the recipient's brain. This re-creation relies on the receiver's ability to handle the stimuli introduced into the stimulus. However, people sometimes find that knowledge is sticky and contextual and therefore difficult to transfer.

3.4 Knowledge Application

The competitive advantage of an enterprise is derived from the application of knowledge rather than the knowledge itself. It is mean that knowledge itself cannot produce competitive advantage. Only by using knowledge and exerting the role of knowledge can the advantage of the enterprise be produced. The knowledge inte-

gration mechanism that creates organizational capabilities is the instruction, organization, and independent task force [31]. The indicator refers to the specific rules, standards, procedures and guidance formed by the conversion of explicit knowledge and integrated knowledge that is effectively communicated with non-experts through expert tacit knowledge [32]. Organizational affairs refer to the form of task execution and cooperation, interactive protocols, and processing specifications that allow the application and integration of individual knowledge without the need to communicate their knowledge with others [33]. Teams with the necessary knowledge and expertise are combined to solve problems when task uncertainty and complexity prevent instruction and organizational transaction specifications [34].

4. Conclusion

Based on a review, interpretation and synthesis of a series of related literatures, this paper discusses knowledge and knowledge management, and some major conclusions can be drawn from the research. Knowledge management includes different, interdependent processes of knowledge creation, knowledge storage, knowledge transfer, and knowledge application. At any point in time, the organization and its members are integrated into multiple knowledge management processes. Knowledge management is not a one-dimensional, but a dynamic continuous organizational phenomenon. The complexity of the knowledge management process, resource requirements, and potential tools and methods will vary depending on the type, scope, and characteristics of the knowledge management process. This paper has theoretical significance and practical value. On the one hand, it clarifies the related concepts of knowledge and knowledge management, on the other hand, it helps enterprises to apply the ideas and methods of knowledge management to practice. At the same time, this paper also has some deficiencies, it lacks the discussion on the application of knowledge management to enterprise practice, which is the direction that needs further research in the future.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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