

# Knowledge as a Valuable Asset of Organizations: Taxonomy, Management and Implications



Yasemin Sen

**Abstract** This chapter presents basic information about knowledge management. Knowledge is regarded as a valuable asset of organizations and knowledge-related processes play a critical role in business operations. Businesses that are successful in management of knowledge processes create value and gain competitive advantage. In this context, in order to provide an understanding about the term of knowledge, first part of the chapter has been spared for the essentials of knowledge topic. In this part, importance, definition and taxonomies of knowledge have been covered. The second part, on the other hand, has been spared for knowledge management issue. In this regard, origins, definitions and enablers of knowledge management issues have been covered. In this chapter, knowledge management has been taken from a process-oriented viewpoint and it has been defined as management of knowledge processes.

## 1 Introduction

In today's highly competitive business world, environmental factors have been changing rapidly. Economic conditions, consumer preferences, industry specifications and many other factors are shaping the future of organizations. In relation to those changes, rules of success for organizations have also been changing. Effectiveness and efficiency, quality and agility are all important factors which become critical in time for organizations. However, on top of these factors, there is one thing which creates a difference for organizations, that is, the power of knowledge. Businesses which create and use knowledge continuously can develop new competencies, new products and services and even new industries. This results in competitive advantage and long life. Of course, it is not an easy work all the time. As well as consciousness, it requires time, effort and resources. There may be different knowledge processes in organizations and management of these processes constitutes knowledge manage-

---

Y. Sen (✉)

Department of Management and Organization, School of Business,  
Istanbul University, Istanbul 34322, Turkey  
e-mail: [ysen@istanbul.edu.tr](mailto:ysen@istanbul.edu.tr)

ment issue. Besides, successful management of knowledge processes occurs in case organizations provide necessary conditions. Therefore, understanding the nature of knowledge and being aware of necessary conditions to manage it bear an important role. For this reason, in subsequent sections essentials of knowledge and management of knowledge issues will be presented.

## **2 Essentials of Knowledge**

Knowledge in organizations is not ready to use all the time, and in order to utilize its advantages, it requires a careful process of knowledge management. Also, understanding the nature of knowledge is important for a successful management of it. Therefore, in this section, essentials of knowledge will be covered.

### ***2.1 Importance of Knowledge***

Knowledge as a valuable asset of organizations...

Information era and the age of digitalization made the term knowledge more important for organizations than it was before. From industrial revolution to today's business world, business organizations have changed in qualitative and quantitative ways. Complexity of factories, new production systems, changes in processes and structure of workforce ... etc. all these things which came with industrialization reshaped organizations and the evolution is continuing without slowing down. One can define businesses as "economic entities which brings factors of production together in an efficient and effective way with the aim of meeting society needs." While this definition is still valid today, assigned meanings of components should be revisited. Economic theory mentions factors of production as land/natural resources, labor/workforce, capital and entrepreneurship. At first glance, explaining process is simple. Entrepreneurs use their capital to form and operate a business unit with the help of workforce and by processing natural resources. However, there is something missing here. What about knowledge? Knowledge is needed in every aspect of the business process. At the beginning, you need a business idea. In order to generate it, entrepreneur should use his/her cognition, insights, experiences and paradigm. As well as personal knowledge, one needs knowledge of industry, knowledge of society needs and knowledge of how to do things ... etc. Examples can be increased of course but the point is that it is not over with even finding a new business idea. Entrepreneur should bring the correct amount of materials together, should use money and workforce wisely. Otherwise, the business cannot fulfill the necessity of being an economic unit. Also, whether it is blue collar or white collar, workforce should use their knowledge on processes. Another point is that organizations are thought as learning units anymore, and therefore, we can say that businesses can also form their

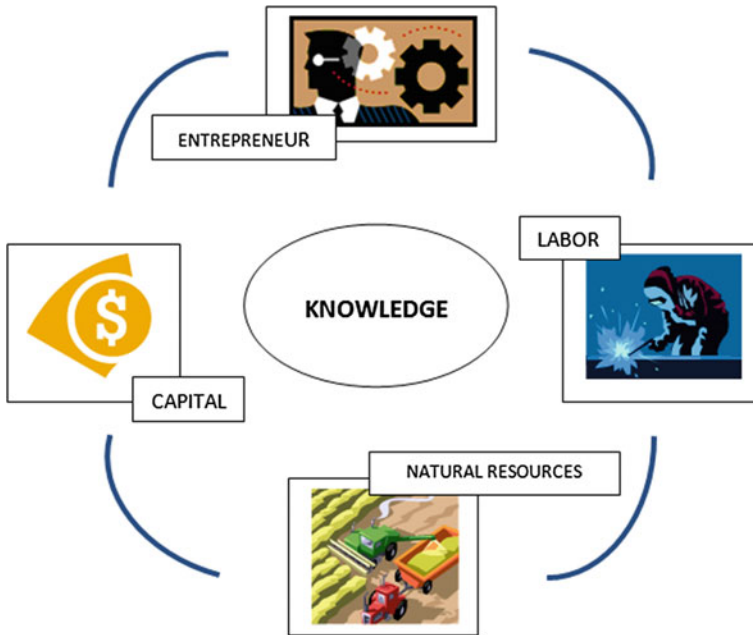


Fig. 1 Factors of production

cognitive system and make use of knowledge in its operations via human or nonhuman agents. This means there is a world of knowledge and it cannot be ignored. All these issues bring the question that is there a new factor of production? The answer is yes. That is “**Knowledge**” (Fig. 1).

Knowledge-intensive job, knowledge worker, knowledge organization and many other terms which can be thought as a part of the knowledge economy show that the concept is vital for today’s business world. Knowledge means experience, competitive advantage and long life. Or in short, we can say that knowledge equals power. Businesses are not operating in an economy in which demand is much more than supply. That means the time is far beyond than the age in which businesses sell whatever they produce. First productivity, later quality and then speed were important issues for competitive advantage. Above all, knowledge is an absolute must for competitive advantage, because knowledge leads to productivity, quality and also speed in case it is managed well.

Knowledge is the most valuable asset of organizations. Whether it s a production or service organization, profit or nonprofit organization, ownership of knowledge is the key which differentiates organizations from others. Although it is difficult to measure the knowledge’s own value quantitatively, it can be estimated by looking at the effects and consequences of knowledge on businesses. There may be many firms which provide the similar goods and services in an industry, but the wealth of knowledge underlies factors which bring a firm beyond others. For example, take

the “way of doing something” that can be thought as part of a firm’s knowledge. It may include a new technique that others don’t know, a process that solves a common problem that others cannot resolve or a genius idea which add a different aspect to your product/service and that was not thought by others before. One cannot measure the amount of knowledge used in this product/service, but results explain the power of knowledge. This new technique creates a more productive process, this way of solving problem results in quality assurance and this new aspect fulfills a niche market which creates more profit in turn.

However, knowledge is not ready in businesses all the time. It may be gained through experience in years; it may be hidden in the minds of employees or most of the time it should be created and accumulated in organizations. Therefore, in order to utilize the power of knowledge, businesses need to know how to manage it. But before that it is important to understand the nature and types of knowledge. For this reason, in the next section, the nature and types of knowledge will be clarified.

## ***2.2 Definition and Taxonomy of Knowledge***

There is a common perspective about the importance of knowledge among professionals and academicians, but when it comes to definition of knowledge, there are different perspectives and explanations in the literature [1]. Defining the term is needed to understand nature of knowledge. As well as definition, classification also plays an important role. In an organizational setting, knowledge is existed in different forms, and in order to transform knowledge into competitive advantage, business managers should be aware of these different types of knowledge. Since different knowledge types have different characteristics and different management techniques accordingly, knowing that specifications provides advantage in applying accurate knowledge management strategies.

### **2.2.1 What Is Knowledge?**

A general definition of knowledge is stated in the literature as justified true belief. The meaning underlying this statement is also explained as follows:

A belief held by an individual that is both true and for which they have some justification... A belief is an internally accepted statement, the result of an observation or an inferential or deductive product combining observed facts about the world with reasoning processes. [2, p. 266]

According to this definition in order to regard something as knowledge, it should have some requirements (true and justified). Although it is a general definition, explanation of belief stresses an internal process and explains knowledge with personal observation and evaluation of the world.

Another definition of knowledge is made by Davenport and Prusak [3]. In their work, authors defined the term as follows:

Knowledge is a fluid mix of framed experience, values, contextual information, expert insight and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. [p. 5]

In this definition, knowledge is defined as a dynamic concept which includes many components inside. The experience can be thought as the center of this definition, and also, it is in relationship with all other factors. Many decisions are framed based on past experiences. Values shape our perspective on issues, insights and area of expertise determines our perceptual selectivity, contextual information affects our understanding and all of these factors help to create new experiences.

Besides, in another definition, knowledge is explained as it is below:

Knowledge is the result of a process which combines ideas, rules, procedures and information. [4, p. 105]

Here, the attention is taken to the process and knowledge is regarded as the consequence of this process. This definition also implies a mixture of different components with a combination. As different from the previous one, rules and procedures are regarded as factors which together form knowledge. Although all definitions relate knowledge with personal cognition, they underlie different aspects of knowledge and that makes it difficult to reach a consensus.

One mostly accepted explanation of knowledge is made via comparison of the term with data and information. It is presented as knowledge pyramid (Fig. 2) or hierarchy of knowledge and this representation shows the relationship between data, information and knowledge. Knowledge is thought as something more than information and information is thought as something more than data. Beyond that, some researchers also add wisdom on top of this hierarchy which is called with acronyms of the terms as DIKW (Data-Information-Knowledge-Wisdom) [1].

**Data** is defined as “a set of discrete, objective facts about events” [3, p. 2]. There are many objects and events which can be observed and seen in an environment. Characteristics of these items are represented by symbols and these symbols constitute data. So, data is composed of raw facts and it has no meaning itself. It cannot be interpreted without being processed or being used in a contextual setting.

**Information** on the other hand can be defined as processed data. In Every day, businesses collect much data from the environment (e.g., data gathered from a market research) and store them within several places in their organizations. These numbers have no meaning itself and need some processing to become information. Processing data needs some cognitive effort and it gets some meaning as become information. In the transformation process of data to information, several methods can be used as well.

These several methods were explained by Davenport and Prusak as follows [3, p. 4]:

*Contextualized: We know for what purpose the data was gathered*



**Fig. 2** Knowledge pyramid

*Categorized: We know the units of analysis or key components of the data*

*Calculated: The data may have been analyzed mathematically or statistically*

*Corrected: Errors have been removed from the data*

*Condensed: The data may have been summarized in a more concise form*

When it comes to **Knowledge**, the term can be described as “information with judgment.” Knowledge contains evaluation, high contextualization and purpose. It is more meaningful and highly cognitive.

On top of the hierarchy, there is **wisdom**. It is related to ability to make decision without thought [5]. Wisdom includes intuition and high interpretation.

For example, let’s take a series of numbers whose values change from 1 to 5. These numbers are just symbols and don’t make any sense itself. They cannot be interpreted and have no meaning at all. Therefore, these numbers are regarded as *data* now. In order to call them as information, numbers should be processed. They can be put in a contextual setting and can be categorized or statistically analyzed. For example, if we know that these numbers are collected from a firm’s customers via a market research survey which is about attitudes toward one specific product of the firm and if we take the mean score of these numbers, then we can say that this data is contextualized and calculated. In other words, data turned into *information*. Information has more meaning and it gives some idea now. But this mean score of customer attitude needs some judgment to be knowledge. If the firm compares this number with its past figures, then this information will give idea about the success of the product. This comparison includes high cognitive effort, high meaning and interpretation which means information becomes *knowledge*. Then, the firm will make a decision on whether or not to continue producing this product, and if this decision is made based on intuition, it is regarded as *wisdom* (Fig. 3).

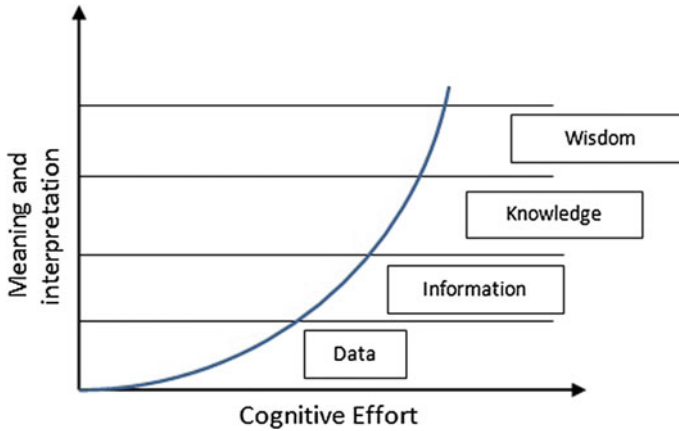


Fig. 3 Hierarchy of knowledge

### 2.2.2 Taxonomy of Knowledge

“Knowledge Taxonomy” is a term related to classification of knowledge. These classifications can be made based on different perspectives. One of these perspectives regards knowledge types as separate classes. Besides, knowledge can also be categorized as opposite end points on a continuum, and based on this view, knowledge can be a combination of different classes as well [6]. However, whether it is thought as separate classes or on a continuum, knowledge has a multidimensional characteristic and it can be categorized in different ways. Alavi and Leidner [7] combined these different types of knowledge from the literature and created a table (Table 1). According to this classification, knowledge is categorized as tacit or explicit, individual or social, declarative or procedural, causal or conditional and relational or pragmatic.

**Tacit and explicit knowledge** is the most widely used categorization. This categorization is made by Nonaka based on the work of Polanyi [7]. In his work, Polanyi told about personal knowledge and proposed language as the limits to the articulation of tacit component [8]. Tacit knowledge is possessed by individual and it is characterized with inexpressible or difficult to share parts of knowledge. This can be non-expressed mental models or viewpoint of a person, experiences and way of doing something as well as non-expressible inner elements (e.g., intuition). On the other hand, explicit knowledge is characterized with expressed and shared components of knowledge. For example, knowledge stored in organizational databases that is open to access of all members resides in this kind of knowledge category.

**Individual and social knowledge** is another categorization. According to this classification, individual knowledge is created personally and social knowledge is shared among a group of people. Insights gained through experience can be an example of individual knowledge, whereas shared communication norms within a group constitute social knowledge [7]. Individual–social knowledge classification

**Table 1** Taxonomy of knowledge [7]

Knowledge type	Definition	Examples
Tacit	Knowledge is rooted in actions, experience and involvement in specific context	Best means of dealing with specific customer
Cognitive tacit	Mental models	Individual's belief on cause-effect relationships
Technical tacit	Know-how applicable to specific work	Surgery skills
Explicit	Articulated, generalized knowledge	Knowledge of major customers in a region
Individual	Created by and inherent in the individual	Insights gained from completed project
Social	Created by and inherent in collective actions of a group	Norms for inter-group communication
Declarative	Know-about	What drug is appropriate for an illness
Procedural	Know-how	How to administer a particular drug
Causal	Know-why	Understanding why the drug works
Conditional	Know-when	Understanding when to prescribe the drug
Relational	Know-with	Understanding how the drug interacts with other drugs
Pragmatic	Useful knowledge for an organization	Best practices, business frameworks, project experiences, engineering drawings, market reports

resembles tacit–explicit knowledge and individual knowledge can turn into social one with communities of practice.

Knowledge is also categorized as *declarative and procedural knowledge*. Declarative knowledge consists of facts or figures. On the other hand, procedural knowledge is the knowledge about the way of doing something [6]. This categorization also called as know-what and know-how level of knowledge. “Know-what” level of knowledge represents “*the knowledge of what action to take when one presented with a set of stimuli*” [9, p. 4]. Besides, “know-how” knowledge is regarded as the next higher level of knowledge and it represents the knowledge of how to apply the action taken. For example, if a manager knows *what* strategy is suited for a business unit, this can be regarded as know-what type of knowledge; on the other hand, if the manager knows *how* to apply one specific strategy, this kind of knowledge can be regarded as know-how type of knowledge.



Another categorization is made as *causal*, *conditional* and *relational knowledge* [10]. *Causal knowledge* represents the knowledge of reason to take an action. *Conditional knowledge* represents the knowledge of when to take a specific action and *relational knowledge* represents the knowledge of relationships between different events. Again, we can exemplify these classifications on our previous strategy example. If the manager knows why this specific strategy type is the best one, this knowledge is regarded as causal knowledge. If manager knows in which situations this specific strategy is suitable, this knowledge represents conditional knowledge. And if the manager knows the relationship of this strategy with competitiveness of the business unit, then this knowledge is regarded as relational knowledge.

The last category specified by Alavi and Leidner is *pragmatic knowledge*. This type of knowledge is defined as useful knowledge such as best practices, market research results or project experiences in the context of an organizational setting [7].

As well as these classifications that are explained above, there are different types of knowledge specified in the literature. One of these classifications is true–false knowledge classification and the other one is certain–uncertain knowledge classification [6]. Definition of these classifications can be made as opposite of another. True knowledge represents the verified knowledge, while false knowledge is the knowledge that is not true. Similarly, certain knowledge is the knowledge that is assured and uncertain knowledge is the knowledge cannot be assured.

Another classification of knowledge is the one made by Mahlup. According to him, knowledge is classified under five categories based on the meaning of known to the knower. The first one is the *practical knowledge* that is useful to individual. Practical knowledge can be applied to different areas. This can be a business knowledge or household knowledge as well. The second one is the *intellectual knowledge* that is satisfying intellectual curiosity of individual such as knowledge achieved based on a scientific inquiry. The third one is the *small-talk and pastime knowledge* that is satisfying nonintellectual curiosity or light entertainment of individual such as gossip or jokes. The fourth one is the *spiritual knowledge* that is religious-related knowledge of individual, and lastly, the fifth one is the *unwanted knowledge* that is outside the interests of individual such as knowledge retained from an advertisement seen accidentally during a walk on the street [1] (Table 2).

### 3 Managing the Valuable Asset: Knowledge

In today's business environment, knowledge is regarded as a main source of competitive advantage. In order to create value and to benefit from its advantages, successful management of knowledge processes plays a critical role. Therefore, in this section, knowledge management topic will be covered.

**Table 2** Mahlup's classification of knowledge [1]

S. No.	Knowledge type	Explanation	Example
1.	Practical knowledge	Knowledge useful to individual	Knowledge about a quick way of statistical analysis
2.	Intellectual knowledge	Knowledge satisfying intellectual curiosity of individual	Knowledge achieved based on a scientific inquiry
3.	Small-talk and pastime knowledge	Knowledge satisfying nonintellectual curiosity or light entertainment of individual	Gossip or jokes
4.	Spiritual knowledge	Religious-related knowledge of individual	Knowledge of behavioral codes in a specific religion
5.	Unwanted knowledge	Knowledge outside the interests of individual	Knowledge retained from an advertisement seen accidentally during a walk on the street

### 3.1 *Origins of Knowledge Management*

Knowledge management is a topic which is nourished by different disciplines in the literature. For this reason, it is difficult to give a precise starting point for origin of the term. Some researchers trace the genesis of knowledge management back to the origin of knowledge. This perspective explains knowledge management based on Greek philosophy of ancient times [11]. However, in organizational theory, it can be traced back to the modern times of management literature. In 1960s, with the emergence of systems and situational approaches in management, the attention of organizations has been taken to its external environment [12]. This perspective stressed the importance of monitoring changes in environmental factors and processing information gathered from micro- and macro-environment of organizations in order to survive in the industry. When it comes to 1980s, contemporary management approaches such as total quality management stressed management of knowledge based on a problem-solving and continuous improvement perspective. A knowledge sharing culture, lean formal structures, teamwork and collaboration are main themes of this management perspective. Although we can see early signs of knowledge management within that time frame, this discipline gained widespread importance in 1990s with economical, social and technological advancements. With the effects of globalization and developments in information technologies, management of knowledge has become a popular issue for competitive advantage (Table 3). Especially, the work of Nonaka [13] contributed to the field by explaining modes of knowledge conversion and by giving direction for process of organizational knowledge creation. Knowledge has

**Table 3** History of knowledge management

Time frame	Advancements	Implications
1960s	Systems and situational management approaches	Monitoring environment and information gathering
1930s	Contemporary management approaches—TQM	Sharing of knowledge Problem solving Continuous improvement
1990s	Globalization Advancement in IT Learning organizations	Knowledge creation Knowledge storage Knowledge use

been seen as an asset of organizations and businesses tried to find ways of storing knowledge in order to use it again when necessary.

As it is seen from the above explanations, knowledge management takes its place within philosophy, information systems, organizational theory, organizational learning, strategic management and many other areas. All these disciplines, directly or indirectly, take knowledge management issue from different angles and stress the importance of it. Therefore, knowledge management can be thought as an eclectic discipline which has an old history.

### 3.2 What Is Knowledge Management?

As stated before, knowledge management is an eclectic discipline and this makes it difficult to reach a consensus on one common definition. For this reason, there are different perspectives and explanations of knowledge management in the literature. Even from the point of business management area, a variety of definitions has been made by several researchers. Some of these definitions concentrate on processes of knowledge management, some of them cover its aims and importance, whereas some take the term as a more comprehensive topic.

A definition which stresses the process of knowledge management has been made by Jasimuddin [14] as follows:

Knowledge management involves activities related to capturing, utilizing, creating, transferring, and storing of organizational knowledge. [p. 173]

As it can be seen from this definition, knowledge management has been explained by several processes (i.e., capturing, utilizing, etc.) and organizational knowledge has been regarded as something to be stored for utilization.

Nonaka [13], on the other hand, explained knowledge management with conversion processes between tacit and explicit knowledge. According to this definition,

knowledge management includes processes of socialization (tacit to tacit), externalization (tacit to explicit), combination (explicit to explicit) and internalization (explicit to implicit) [p. 18]. With this definition, creation of organizational knowledge has been stressed and social interaction between organizational members has been thought as an important issue for creation of organizational knowledge.

Although it is explained by processes, some definitions of knowledge management also stress the importance and aim of knowledge management for organizations. One of these definitions can be stated as follows. In this statement, knowledge management has been defined as:

Strategies and processes of identifying, capturing and leveraging knowledge to help the firm compete. [15, p. 322]

Here, knowledge management has been taken from a strategic management perspective, and besides processes, the purpose issue has been stressed in the definition. According to this explanation, knowledge management is something that is implemented strategically in order to help firms for creating competitive advantage. Similarly, Jarrar [15] regards knowledge management as a systematic process that contributes to the knowledge-related effectiveness of an enterprise. Knowledge has been stated as an asset by this researcher and as the way to get returns from these knowledge assets, processes such as observation, instrumentation or optimization of the firm's knowledge economies have been proposed [p. 322].

In another definition below, knowledge has been regarded as an object that is ready in organizations (whether explicit or implicit), and accordingly, knowledge management has been explained with processes other than creation. Here again, knowledge has been regarded as an asset which can be stored and transferred.

Knowledge management promotes an integrated approach to identifying, capturing, retrieving, sharing, and evaluating an enterprise's information assets. These information assets may include databases, documents, policies and procedures, as well as the un-captured tacit expertise and experience stored in individual workers' heads. [16, p. 19]

As different from other definitions, Salisbury [17] regarded knowledge management as a comprehensive system that is formed to enhance the growth of an organization's knowledge. It has also been explained with creation, preservation and disseminating processes, but here a limitation has been made for the knowledge that will be managed. This was defined as the knowledge which can be regarded as core competence of organizations and management of this knowledge has been stated as a success factor for organizations [pp. 128, 129].

One common point of all these definitions above can be regarded as the attempt to determine processes of knowledge management. However, there has also been a distinction made in the literature between knowledge processes and knowledge management practices. Processes that naturally exist in organizations such as knowledge sharing or knowledge acquisition have been regarded as knowledge processes; on the other hand, knowledge management practices have been explained with interventions made for effective and efficient management of knowledge assets of organizations [18]. In line with this perspective, a more comprehensive definition has been made by Lee and Yang [19] as follows:

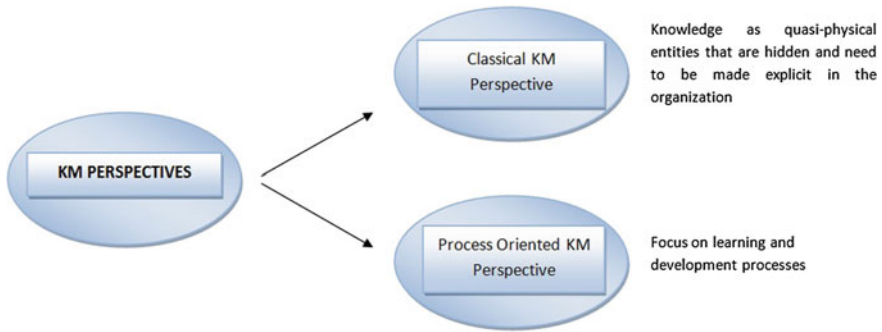
**Table 4** Different definitions of knowledge management

S. No.	Knowledge management definitions	Author(s)—Year
1	Knowledge management involves activities related to capturing, utilizing, creating, transferring and storing of organizational knowledge	Jasimuddin (2006)
2	Knowledge management includes processes of socialization, externalization, combination and internalization	Nonaka (1994)
3	Strategies and processes of identifying, capturing and leveraging knowledge to help the firm compete	APQC (1997) cited in Jarrar (2002)
4	A systematic process that contributes to the knowledge-related effectiveness of an enterprise	Jarrar (2002)
5	Knowledge management promotes an integrated approach to identifying, capturing, retrieving, sharing and evaluating an enterprise’s information asset	Gartner Group (1999) cited in Hicks et al. (2006)
6	A comprehensive system that is formed to enhance the growth of an organization’s knowledge	Salisbury (2003)
7	Knowledge management consists of a set of management activities that enable the firm to deliver value from its knowledge assets	Andreeva and Kianto (2012)
8	Knowledge management is an emerging set of organizational design and operational principles, processes, organizational structures, applications and technologies that helps knowledge workers dramatically leverage their creativity and ability to deliver business value	Lee and Yang (2000)

Knowledge management is an emerging set of organizational design and operational principles, processes, organizational structures, applications and technologies that helps knowledge workers dramatically leverage their creativity and ability to deliver business value. [p. 784]

There is knowledge worker in the center of this definition, and knowledge management has been considered as practices and organizational factors which will make knowledge workers create knowledge and value for their organizations (Table 4).

Based on these explanations, another distinction can be made between different knowledge management perspectives. In this sense, knowledge management perspectives can be categorized as content view (or classical knowledge management



**Fig. 4** Classical and process-oriented KM perspectives

perspective) and process view (or process-oriented perspective) (Fig. 4). Classical knowledge management perspective regards knowledge as quasi-physical entities that are hidden and need to be made explicit in the organization, whereas process view of knowledge management concentrates on learning and development during knowledge processes [20].

Similar to classical- and process-oriented knowledge management perspectives, another classification has been made by McElroy [21] as first-generation knowledge management (KM) and second-generation knowledge management (KM). First-generation knowledge management includes processes of knowledge sharing and use, which is characterized as supply-side knowledge management (KM). However, second-generation knowledge management adds process of knowledge production to the knowledge sharing and use processes. In other words, supply-side knowledge management and demand-side knowledge management together constitute second-generation knowledge management [p. 9] (Fig. 5).

Second-generation KM stresses the point that classical knowledge management perspective ignored. That point is knowledge creation. Knowledge is not ready to use all the time, and creation of knowledge requires social interaction and learning processes. Approaching the topic with the content point of view overlooks the importance of learning and development. Therefore, in this chapter, knowledge management has been taken into consideration from the process viewpoint. Another issue that should be clarified here is the definition of knowledge management. As it can be seen from the previous explanations above, there are a variety of definitions for knowledge and knowledge management concepts in the literature. Knowledge management is a comprehensive topic and it can be regarded as a general umbrella for management of all knowledge-related processes (i.e., organizational learning, corporate memory system, etc.) in an organizational setting. That means knowledge management can be defined as “management of knowledge processes of any kind in the organizations.” With this perspective, knowledge creation, knowledge sharing and knowledge use can be thought as processes of knowledge. Besides, Knowledge management can be regarded as a discipline which enhances operation of these processes. In this context,

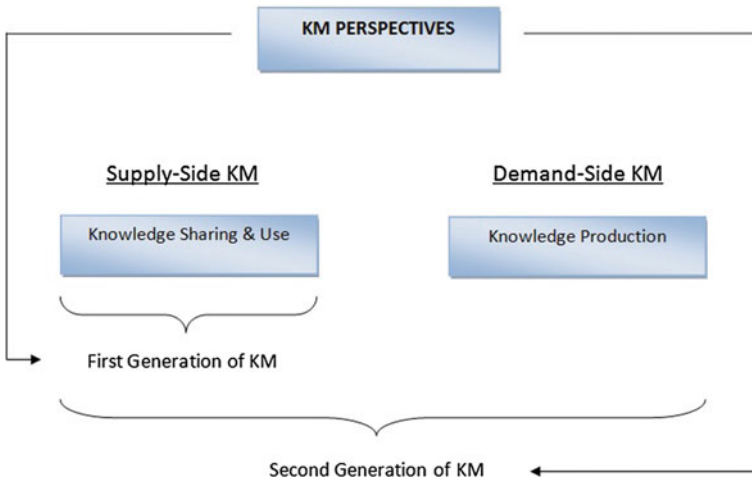


Fig. 5 Supply-side and demand-side KM perspectives

in the next section enablers and obstacles will be covered as knowledge management practices.

### 3.3 How to Manage Knowledge Processes?

In organizations, knowledge processes and knowledge management play an important role in creating value. They contribute to capabilities, operations and returns of organizations. Successful management of knowledge processes makes the firms use its resources more efficiently and operate innovatively. Besides, it makes them perform better as well [22]. Therefore, analyzing the issues related to knowledge management is critical for organizations. Processes of knowledge (here knowledge creation, knowledge storage, knowledge sharing and knowledge use) are located in the center of overall system. Operations of these processes, on the other hand, depend on several factors in organizations. These factors can be regarded as enablers of knowledge management and they should be handled carefully in order to achieve success. Enablers of knowledge management can be listed as leadership and strategy, organizational structure, organizational culture, human resources management and information technologies (Fig. 6). While these factors are important for success of knowledge management, harmonization among all of these factors is fundamental as well.

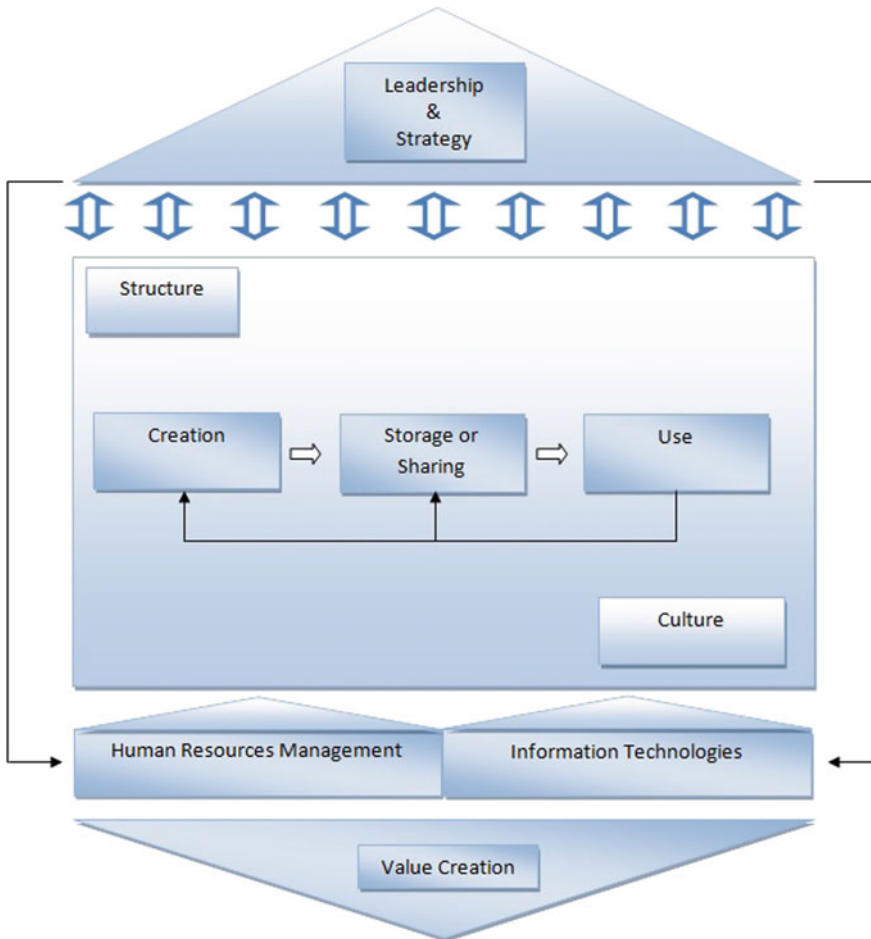


Fig. 6 Enablers of knowledge management

### 3.3.1 Enablers of Knowledge Management

As stated before, knowledge processes are fundamental for organizational success. When taking into consideration the information age in which today's businesses operated, it is not difficult to understand why it is so important. Knowledge is the key factor that differentiates an organization from others, and in order to utilize from its advantages, management of knowledge processes bears a critical role. There may be many processes that can be regarded as knowledge processes in a complex organizational setting. However, here mostly accepted processes of knowledge will be covered. These processes can be regarded as knowledge creation, knowledge storage, knowledge sharing and knowledge use.



**Knowledge creation** is related to producing or acquiring new knowledge. Creation of knowledge is mostly carried out by individuals. Individuals are potential learners and they gain experience and insight throughout their lives. These individuals apply their experiences into business practices, and while doing this, they create new know-how with interaction of other employees. Organizations can create knowledge inside by means of these individuals. Besides, transfer of new knowledge from outside of the organization can also be a way of knowledge creation. Adoption of this knowledge into business operations creates new knowledge. **Knowledge storage** is related to storing knowledge on data warehouses or other mediums for later use of organizational members. However, it is important to note that only explicit knowledge is suitable for storage in the organization. Therefore, some part of knowledge resides in the minds of individuals and this knowledge can be utilized by **knowledge sharing**. Knowledge sharing can take place with observation, learning and social interaction. Long-term apprenticeship can also be a way of knowledge sharing. With this process, it becomes possible to transfer valuable knowledge from one individual to another. **Knowledge use** is another knowledge process that is important for organizations. Whether it is stored or shared, the knowledge should be used in organizations in order to create value and gain competitive advantage. At the same time, the process of knowledge use contributes to other knowledge processes and continuous operation of these processes requires successful knowledge management practices. Therefore, factors that enhance these processes which are called as enablers of knowledge management play a critical role.

### ***Leadership and Strategy***

Although all of the factors are important, leadership and strategy can be regarded as the main enablers of knowledge management. In any organization, the success is mainly dependent on top management's perspective and operations. As business conditions are changing over time, requirements of successful management are also evolving. In order to adapt to today's highly ambiguous and competitive environment, organizations should be aware of environmental changes and timely response to these changes needs efficient and effective knowledge management practices. Since the leader is the person who will execute knowledge management practices, top management's direction and support in this process are important. First of all, the leader should be aware of the need for knowledge management and then create necessary conditions for it. These necessary conditions can include a suitable organizational structure and culture, a budget spared for knowledge processes or allocated resources for knowledge management.

As related to the leadership factor, strategy is another important issue that should be taken into consideration. Knowledge management efforts should be spread over all of the organization. In order to do this, there should be a strategic focus for knowledge management. In other words, knowledge management practices should be integrated into the strategic management process of the organization. Top management should place knowledge management practices into the organization's mission and vision; besides knowledge management-related objectives and strategies should

be determined. In this way, management of knowledge management processes will gain prominence and achievements will be under the control continuously.

### ***Organizational Structure***

Structure is the other enabler for knowledge management in organizations. Organizational structure should also meet the needs of today's environment. Knowledge management requires a flexible structure which enhances creativity of individuals. Rigid hierarchical organizational structures, on the other hand, may restrict peoples' interaction and may affect the process negatively. Learning and development are important processes for creation and sharing of organizational knowledge and structure is one of the factors which may affect these processes. Therefore, a team-based or contemporary type of structure can be regarded as more suitable for knowledge management. Applying less formality and increasing channels of communication will help for successful management of knowledge processes in organizations.

### ***Organizational Culture***

In relation with other factors, organizational culture is critical for the success of knowledge management. Effectiveness of any business strategy depends on its congruence with organizational culture, structure and objectives. The same thing is valid for knowledge management strategies and practices as well. Culture includes deeply held beliefs and assumptions of an organization. If a suitable culture is settled in the organization, it enhances knowledge processes and ensures the continuous value creation. Effective management of knowledge processes requires a learning-oriented culture. As stated before, learning and development are critical for knowledge creation. Sharing of ideas, being open to new ways of doing jobs, a collaborative atmosphere, learning from mistakes and opportunities for development can be listed as some specifications of learning-oriented cultures. Besides, these characteristics create a reciprocal trust among organizational members and improve creativity and innovation as well.

### ***Human Resources Management***

Human element is one another factor which should be taken into consideration in management of knowledge processes. Knowledge is mainly created by individuals and applied to business operations. As well as creation, knowledge sharing and use processes are also affected by individuals in an organization. Therefore, investing in human resources (HR) is critical for the success of knowledge management. There should be supportive human resources practices for this process. Recruitment of individuals to knowledge-related positions, training and development of employees, appropriate reward and incentive systems that support knowledge processes performance and creating motivation among employees can be regarded as some examples of supportive HR practices.

### ***Information Technologies***

Information technologies (IT) can be used as a supporter of knowledge processes. Some part of organizational knowledge can be explicit and this explicit knowledge can be stored in common databases. In this way, knowledge can become open to use of organizational members when necessary. It also makes activities such as knowl-

edge search, knowledge acquisition and knowledge dissemination possible. As well as this function of IT, information technologies are also important for communication and business operations in organizations. Adaptation to changing environments needs rapid responses and this requires applying advanced information technologies. In this way, processes of knowledge can be conducted more efficiently than it has been before. Therefore, a successful knowledge management needs appropriate information technologies as well.

As it can be seen from explanations above, knowledge processes can be enhanced by several factors that are called as enablers of knowledge management. The important point here is that all of these factors are related to each other, and therefore, the congruence among them is also important for the process. Successful management of knowledge processes can be regarded as a source for value creation and sustainable competitive advantage. For this reason, all related parties should be aware of these issues and align their businesses accordingly.

## 4 Conclusion

Sustainable competitive advantage is the main issue of all businesses and factors that affect it have been evolving as time is passing. Today's businesses need to create and use knowledge continuously in their operations. Businesses that create and use knowledge better can differentiate themselves from competitors and survive in the industry. Therefore, knowledge is a valuable asset of organizations and processes that create knowledge are critical. However, it is not easy to maintain knowledge in organizations all the time. It can be regarded as a volatile mixture that can just disappear or become invalid with rapid changes in the environment. For this reason, continuous processes that help to create knowledge are crucial for organizations. In order to maintain this continuity, knowledge management should be implemented carefully. Knowledge management can be regarded as the management of knowledge processes and it includes several enabling factors. These factors are critical for successful management of knowledge processes and they can be listed as leadership and strategy, organizational structure, organizational culture, human resources management and information technologies. Leadership support and efforts are vital for knowledge management. Resource allocation, consciousness and directions are all dependent on top management perspective on knowledge management. Integrating knowledge management efforts with strategy is another important factor. It creates unity of objectives and brings a long-term focus. A perfect fit of organizational structure and culture is also needed for easy implementation of knowledge management practices. Lastly, human resources management and information technologies are critical as well.

All these factors together help to manage knowledge processes (here knowledge creation, knowledge storage, knowledge sharing and knowledge use) and result in higher value creation. Therefore, business managers should be aware of these fac-

tors and operate their businesses accordingly. Otherwise, any attempt to manage knowledge processes is condemned to fail.

## References

1. Wallace, D. P. (2007). *Knowledge management: Historical and cross-disciplinary themes*. London: Libraries unlimited Publishing.
2. Losee, R. M. (1997). A discipline independent definition of information. *Journal of the American Society for information Science*, 48(3), 254–269.
3. Davenport, T. H., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. US: Harvard Business Press.
4. Rahe, M. (2009). Subjectivity and cognition in knowledge management. *Journal of Knowledge Management*, 13(3), 102–117.
5. Gamble, P. R. & Blackwell, J. (2002). *Knowledge management: A state of the art guide*. London: Kogan Page.
6. Ein-Dor, P. (2006). Taxonomies of knowledge. In D. G. Schwartz (Ed.), *Encyclopedia of knowledge management* (2<sup>nd</sup> ed., pp. 848–854). Pennsylvania: IGI Global.
7. Alavi, M., & Leidner, D. E. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS quarterly*, 107–136.
8. Polanyi, M. (2005). *Personal knowledge*. London: Routledge.
9. King, W. R. (2009). Knowledge management and organizational learning. In W. R. King (Ed.), *Knowledge management and organizational learning* (pp. 3–13). Boston, MA: Springer.
10. Zack, M. H. (2002). Developing a knowledge strategy. In C. W. Choo., & N. Bontis (Eds.), *The strategic management of intellectual capital and organizational knowledge* (pp. 255–276). Oxford: Oxford University Press.
11. Schwartz, D. G. (2006). Aristotelian view of knowledge management. In D. G. Schwartz (Ed.), *Knowledge management: Concepts, methodologies, tools, and applications* (pp. 10–16). Pennsylvania: IGI Global.
12. Kocel, T. (2005). *Isletme Yoneticiligi*, Arikan Basimevi.
13. Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5(1), 14–37.
14. Jasimuddin, S. M. (2006). Disciplinary roots of knowledge management: A theoretical review. *International Journal of Organizational Analysis*, 14(2), 171–180.
15. Jarrar, Y. F. (2002). Knowledge management: Learning for organisational experience. *Managerial Auditing Journal*, 17(6), 322–328.
16. Hicks, R. C., Dattero, R., & Galup, S. D. (2006). The five-tier knowledge management hierarchy. *Journal of Knowledge Management*, 10(1), 19–31.
17. Salisbury, M. W. (2003). Putting theory into practice to build knowledge management systems. *Journal of Knowledge Management*, 7(2), 128–141.
18. Andreeva, T., & Kianto, A. (2012). Does knowledge management really matter? Linking knowledge management practices, competitiveness and economic performance. *Journal of Knowledge Management*, 16(4), 617–636.
19. Lee, C. C., & Yang, J. (2000). Knowledge value chain. *Journal of Management Development*, 19(9), 783–794.
20. McInerney, C. R., & Day, R. E. (2007). *Rethinking knowledge management* (Vol. 12). Berlin: Springer.
21. McElroy, M. W. (2002). Second-generation knowledge management. 1–18.
22. Darroch, J. (2005). Knowledge management, innovation and firm performance. *Journal of Knowledge Management*, 9(3), 101–115.