

# Steps to Implement Knowledge Management in SMEs

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**Abstract.** *The concept of Knowledge Management has evolved considerably over time and is increasingly becoming of interest to current companies and implicitly to small and medium-sized enterprises. The technological era and the constant challenges faced in the current context lead small and medium-sized enterprises to use new techniques to gain notoriety in the market and achieve new competitive advantages. The paper considers the detailed analysis of specialized works covering the field of Knowledge Management and highlights the most important theories from the point of view of Knowledge Management implementation in small and medium-sized enterprises. The purpose of the paper is to highlight the concrete steps to be followed in the implementation of Knowledge Management and the theoretical delimitation of the concept to verify its understanding. Theories that define and analyze the field were analyzed and the substantial differences between data, information, and knowledge concepts were highlighted. This paper projects the Knowledge Management System from perspectives that include the representation of knowledge, its organization, implementation, and sharing, as well as ways to measure the performance of knowledge Management in the company. The focus is on conducting an in-depth theoretical review and analysis of Knowledge Management. The contributions of this paper will be useful for both academics and practitioners in the study of Knowledge Management.*

**Keywords:** knowledge, management, data, information, organization, process

## Introduction

In these uncertain and unstable times both from a financial, economic, and social point of view, companies are forced to adopt constant reinvention and adaptation strategies to remain competitive in the market. It is more real than ever that the importance of knowledge and information to determine the right course of action and develop successful strategies, moreover, strategies that are adaptable, malleable, and flexible to new changes are needed. The most vulnerable to these changes are companies classified as small and medium-sized enterprises (SMEs). The problem arises when we find that more than 90% of the companies in the market are included in this category. Thus their vulnerability in times of crisis becomes a real and global problem, as it can decentralize the entire social system causing employment problems, wages below the market level, inability to pay, and debts.

In such an environment, it becomes increasingly important and revealing for SMEs to apply coherent Knowledge Management Systems based on a deep understanding of the concept. An analysis of the specialized literature is more than relevant for a thorough understanding of the concept of knowledge management and how it was adopted and implemented among companies, but also what are the developments in this direction. So that the implementation of such a system among SMEs in Romania can be promoted and expanded to create stability in the business environment.

Therefore, this paper is a systematic review of the existing literature on the concept of knowledge management and its application among SMEs, to present a current understanding of the concept and how it has evolved. We take into account the fact that SMEs represent the majority

category of economic agents in almost all economies of the world, thus the implementation of a sustainable Knowledge Management System is a key factor in creating the sustainability of the company. Knowledge management involves acquiring knowledge both inside and outside the organization, translating it into strategies, applying it within organizations, protecting it, and using it for strategic objectives. The use of knowledge management throughout the organization also contributes to the improvement of service capabilities, and increasing the speed of response to customer requirements (Edvardsson & Oskarsson, 2011).

At the beginning of the paper, I to carry out an in-depth theoretical analysis of the concept of Knowledge Management, which will allow us to highlight different visions, understand the concept and stages of the process, and decode how it can be implemented at the organization level. In the second part of the paper, we highlight the stages for the implementation of the Knowledge Management process in SMEs, the weaknesses and vulnerabilities regarding the implementation, and how the successful implementation of the process can be tracked and verified. The final part and the conclusions of the paper include a series of lessons learned and also new directions for research development that can later be new premises for the development of new articles. The present article has a qualitative research method, following the most cited specialized works in the field until the year 2022 and highlighting what is the new vision of knowledge management. The writing technique is the narrative one, making connections between specialized works and highlighting their common points. To simplify the future understanding of the concept, I have developed in this paper a series of schematic representations to help understand the concept.

### **Theoretical Conception of Knowledge Management**

Currently, small and medium-sized enterprises are increasingly using new technological means of managing information obtained from various sources and collaboration tools. But, the simple implementation and correct use of technological means at the company level are not enough to be able to have a viable Knowledge Management System.

These digital instruments and used tools are rather used to archive, codify and store knowledge, but it is necessary to develop a culture of using and reusing this knowledge to establish best practices and experiences. Thus, it should be emphasized that the simple use of collaborative tools such as e-mail, chat, electronic forums, CRM platforms, etc., which allow the exchange of information between applicants or the progressive collection of information does not imply the existence of a Knowledge Management System at the level of the organization. It is necessary to highlight that knowledge is personalized information, obtained through experience, expertise, and education. Knowledge management mainly focuses on connecting individuals with useful information and assimilating that information. According to Bergeron's perspective (2003), there is a hierarchy between data, information, and knowledge. He sees data as symbols, a signal, or a stimulus related to something (Bergeron, 2003). Information is the conclusion reached as a result of the interpretation of the data obtained. Knowledge Occurs when information is processed and understood by individuals, is internalized, and comes within their capabilities to be controlled and used when needed. The highest placed in the hierarchical chain is wisdom which is shown by a person's ability to use knowledge effectively and appropriately to the strategic needs of achieving goals (Bratianu, 2019).

In the specialized literature, Knowledge Management is presented as a concept of strategic management aimed at the rational use of knowledge resources and their application in the company with the aim of developing strategies and achieving strategic objectives. It aims to promote, implement and use knowledge to increase the value of the company. O'Dell and Grayson (1998)

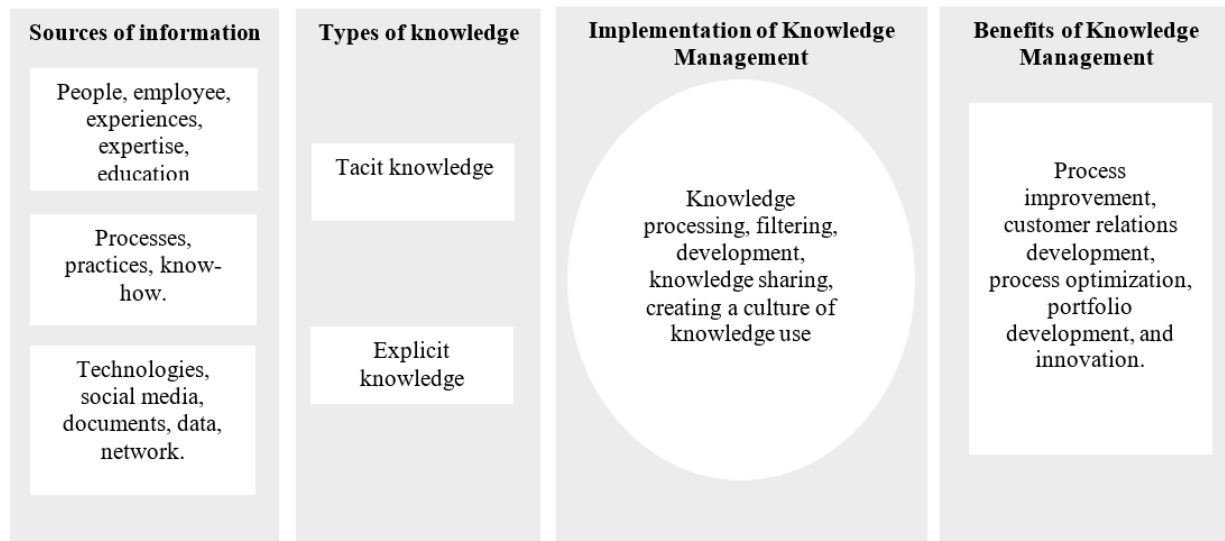
define Knowledge Management as a conscious strategy designed to connect the "right knowledge" with the "right people" at the right time and to help people share and put information into action in ways that strive to improve organizational performance (O'Dell & Grayson, 1998). But, to be of value in the Knowledge Management process, the company's collective knowledge must be transparent and actively and systematically developed as well as strategically applied to achieve the company's strategic goals.

Knowledge management is a complex process, it is not limited only to internal knowledge of companies, but aims at an entire flow of creation, synthesis, and sharing of knowledge. As a management process, it involves combining the collective knowledge of the organization with that from external sources. The purpose of this process is to find solutions to complex business problems. They highlight the fact that organizations must effectively manage the knowledge possessed for obtaining the maximum benefit as a result of the use of the knowledge present in the organization, be it tacit or explicit. Therefore, knowledge management is seen as a managerial activity that develops, transfers, transmits, stores and applies knowledge, to allow all employees in the organization to access the knowledge necessary for their activities, facilitate their processes, and guide them in achieving their goals. At the organizational level, this process generates the achievement of the organization's strategic goal.

One of the most relevant perspectives in the field of knowledge management is that presented by Nonaka. Knowledge is an intangible asset, and an individual resource, it is formed and born in the minds of individuals. However, they can be transferred to the organization level and once integrated can be transformed into a complex mechanism for the innovation and development of companies (Nonaka, 1994). Knowledge is the concept, skills, experience, and vision that provide a framework for creating, evaluating, and using information (Soltani & Navimipour, 2016). In general, knowledge can be divided into two types, tacit and explicit. Tacit knowledge is a person's personal and context-specific knowledge, it refers to the knowledge that resides in an individual's mind, this knowledge is usually difficult to articulate and express in words, and it is difficult for others to use (Bratianu, 2015). Explicit knowledge is defined as data that is either technical or in academic terms or information, this knowledge is recorded and represented in tangible forms and available in digital format, or paper format. Schwartz (2006) describes the knowledge part as follows: tacit, explicit, individual, collective specific general, declarative, and procedural knowledge (Schwartz, 2006).

Over the years, the concept of Knowledge Management has evolved considerably, increasing in value and importance for the development of companies, especially within SMEs. If we were to compare the power and scope of Knowledge Management between large companies and SMEs, we can say that, in the case of SMEs, knowledge management is limited due to limited resources and capital possibilities and must be implemented gradually. Within SMEs, managers are put in a position where they have to find intelligent and dynamic solutions for the exploitation of knowledge. In this case, given the limited resources, managers will have to acquire knowledge from the external environment to remain competitive (Bratianu, 2015). However, even if their limitation is obvious, the successful implementation of Knowledge Management within SMEs is a key element for developing and increasing competitiveness. O'Dell (1998), highlighted that the main objectives that Knowledge Management must do to prove a successful implementation within companies are: to aim transfer of best practices, develop employee capabilities, collect customer market information, improve company processes, leverage intellectual capital, develop the company's product portfolio and develop customer relationship management (O'Dell & Grayson, 1998). However, the way companies view the implementation of the Knowledge Management

system involves many organizational interferences. Factors such as infrastructure, property, business strategies, organization structure, organizational culture, decision-making process, and company digitalization greatly influence both SME employees and the implementation of Knowledge Management Systems. Therefore, for a successful Knowledge Management Systems implementation all these elements must be thoroughly reviewed and investigated before Knowledge Management implementation. To have a comprehensive picture of what knowledge management means, Figure 1 exemplifies the sources of information available to organizations, the way of processing information into tacit, and explicit knowledge, the implementation of information at the company level, and the advantages of using knowledge captured within the company.



**Figure 1. Knowledge Management Scheme**

Source: Owned scheme.

Therefore we must consider Knowledge Management as a managerial approach to managing intellectual assets and other information to support the achievement of the company's competitive advantage (Bergeron, 2003). Knowledge management is the ability to translate research findings (knowledge) into policies and practices that can improve quality of life and prolong survival (Schwartz, 2006). According to McNabb (2007), knowledge management means the management of perceived information so that the organization makes the most of the knowledge captured to make decisions beneficial to the company's strategy and apply innovative responses to the problems that the strategy encounters. Susanty and Salwa (2017) argued that the main objective of implementing knowledge management in an organization is to derive from the mind, experience, and expertise of employees that information and knowledge beneficial to the organization and include it in the capital of the organization for later use by all members of the organization for the benefit of achieving strategic objectives. From this perception, knowledge management implies a feature of preserving information and knowledge so that the organization does not suffer as a result of the flow of personnel and experts. Even if the most valuable people in the organization leave, they must leave their capital of knowledge and best practices in the organization for future employees to use (Susanty & Salwa, 2017).

On the other hand, Schwartz (2006) described the fields of management through a series of processes that refer to knowledge acquisition through knowledge creation, knowledge discovery,

knowledge collection, and knowledge validation. Knowledge organization through knowledge calibration, knowledge integration, knowledge modeling, and knowledge classification. Sharing knowledge and knowledge reuse through, knowledge exchange, knowledge maintenance, and knowledge dissemination (Schwartz, 2006). According to Jetter (2006) there are four knowledge management processes, namely: identifying, acquiring, and using external knowledge. Identifying knowledge means that people in the organization identify all the necessary knowledge. Knowledge acquisition means that people in the organization begin to take the knowledge through various systems, programs, and events (Jetter, et al., 2006). The use of external knowledge means that people in the organization implement the knowledge in the work of the organization.

Organizations are able to acquire, maintain and leverage their knowledge resources by resorting to knowledge management initiatives and technologies. Griffith argued that the scientific understanding of knowledge in organizations is still in its infancy but there are four main elements and processes in knowledge management that need to be considered when discussing the implementation of Knowledge Management in organizations, namely: Knowledge creation or sketching. This first process involves the accumulation or development of new knowledge at the organizational level and the replacement of current content in the organization's explicit and tacit knowledge. This stage involves a continuous process on the part of the organization to seek information and knowledge from all possible sources, both internal and external to the organization. The development of new knowledge can be done in all ways from imitation to replication or exploitation. Knowledge storage. Organizational knowledge, both explicit and tacit acquired by individuals, must be organized and managed in such a way as to allow their easy use. Knowledge dissemination or knowledge transfer. This process involves the sharing and exchange of knowledge between individuals or a network of individuals, a group of people to organizations, and individuals to explicit sources. Application of knowledge. This process involves the use of knowledge in adjusting strategic direction, solving problems, making decisions, improving efficiency, and reducing costs (Griffith, et al., 2003). The individual can use the knowledge held by other individuals without actually learning that knowledge.

Based on specialized literature, he stated that knowledge management is a process of creating, disseminating, and applying organizational knowledge. The process of creating knowledge at the organizational level involves all people and involves the awareness of ownership. The process of dissemination means that the organization must make a program to ensure that the knowledge can be shared with others and is also accessible to all people in the organization. Knowledge application means that people in the organization use the knowledge to make their daily work more efficient.

## **Implementing Knowledge Management in SMEs**

We have seen what knowledge management means and what it consists of from the perspective of various experts in the field, but the implementation of Knowledge Management at the level of the organization is not a simple process and it cannot be carried out without preparation and an analysis of the systems already existing in the company. The implementation of Knowledge Management among SMEs is more challenging than the implementation in large companies, the main consideration being the limited resources of the SME category. Bolisani, Giuman, and Scarso (2016) consider that while large companies implement knowledge management professionally, in SMEs there is emerging knowledge management, often being a process combined with operational management and not an independent one (Bolisani, et al., 2016).

However, we must look at the implementation of Knowledge Management in SMEs differently from the adoption of traditional information systems, as there are no exact steps to follow in the case of implementing Knowledge Management and it involves more intangible characteristics than tangible ones. For implementation, Knowledge Management does not only involve technological elements, it also involves considerations related to the organization's culture, structure, business strategy, and human factors (Bertoni, et. al., 2008).

The implementation of Knowledge Management is a series of processes that can only be implemented in stages such as pre-implementation, implementation, and post-implementation. Before the adoption of knowledge management processes within an SME, a complete analysis of business processes and structures must be carried out to highlight which factors can negatively influence the implementation of the Knowledge Management System. The main purpose of introducing knowledge management in organizations is that knowledge management has a positive impact on organizational performance.

In order to understand the implementation of a Knowledge Management System within SMEs, we must start from the previously highlighted idea, that the main objective of any Knowledge Management System is to support the business strategy and facilitate the achievement of objectives established strategies. Therefore, the first stage in the implementation of Knowledge Management in the organization is understanding the business strategy of the organization in order to be able to supplement and fulfill it through the implementation of Knowledge Management. To optimize the implementation effort, it is essential to carry out the SWOT analysis and establish the strengths, opportunities, and threats that the organization has. After mapping the company's position in terms of competitiveness and development, we can identify the risks and gaps that can appear during the implementation process. To achieve their competitive goal, SMEs must adopt a process of reconfiguration and constant development of knowledge within the organization. In the absence of such a process, huge discrepancies can appear between the knowledge that a company should have and what it does have. Thus, in the pre-implementation stage, the organization must achieve an alignment of the knowledge it possesses with the established strategic objectives. The work of AlAmmary and Fung (2008) indicates that the alignment between knowledge strategy and business strategy influences organizational performance. Knowledge Management activity should be directed to areas of strategic importance to the organization, the greatest value, and solving business problems (AlAmmary & Fung, 2008). Another way to identify where to start is to examine ongoing or planned improvement initiatives. Another essential and critical element to take into account when implementing the Knowledge Management System is the organizational culture. For Knowledge Management to be implemented, a culture characterized by trust, openness, teamwork, collaboration, risk-taking, tolerance for mistakes, autonomy, common language, courage, and time for learning is needed.

Knowledge processes include socialization, internalization, externalization, and combination (Bratianu, et al., 2020). The organizational culture that supports the Knowledge Management implementation effort must facilitate the exchange of information between employees through these processes. For example, facilitating conversations between employees at work is an example of a socialization process that leads to the formation of new knowledge, writing is an example of externalization, while learning is an example of internalization. Sorting, adding, or combining explicit knowledge is an example of combination. Examining knowledge processes will help determine the balance between tacit and explicit knowledge.

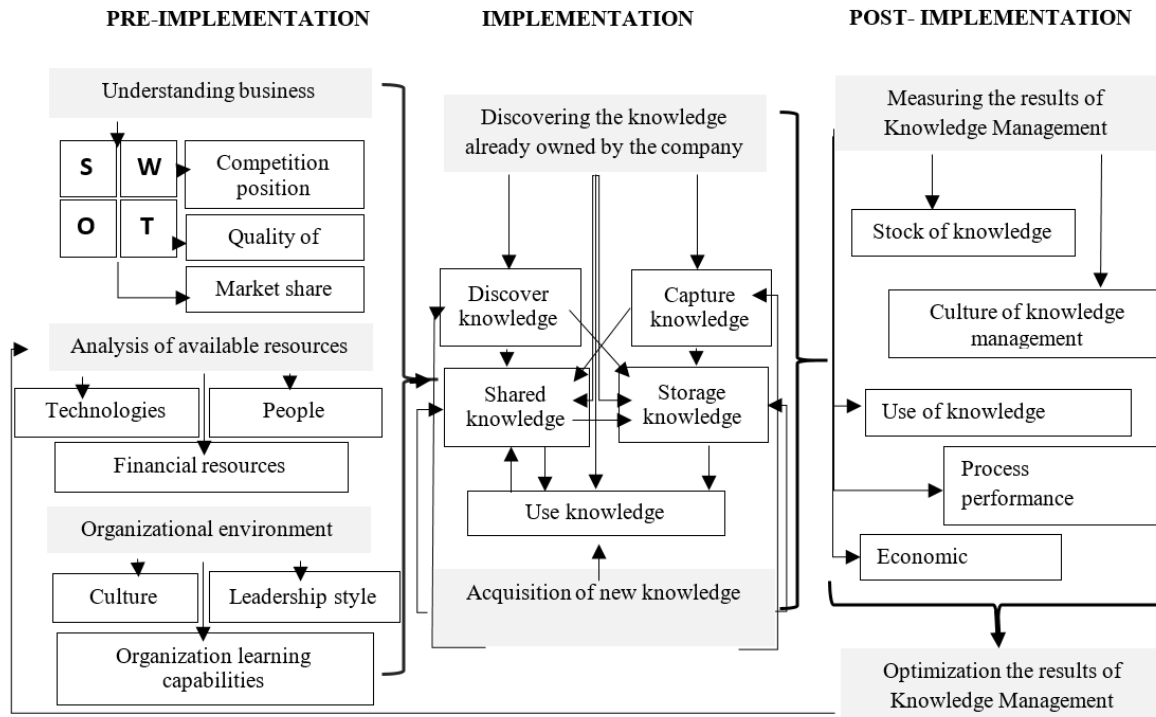
We must remember that the performance of Knowledge Management depends on the storage, transfer, and application functions of knowledge creation. Moreover, it is essential to

verify the quality of knowledge. Knowledge Management must facilitate access to the right people, to the right knowledge at the right time. And verifying the successful implementation of Knowledge Management in the organization can be achieved by verifying the satisfaction of the knowledge user. The net benefit of which is the development of the performance of work processes at the workplace or the improvement of decision-making capabilities. Last but not least, as a result of the benefits obtained by each individual, the company itself will benefit, by improving performance (DeLone & McLean, 2003).

Another essential element for the implementation of Knowledge Management processes in organizations is leadership and the role of the leader. The actions, expertise, experience, culture, and education of the leader are the first engine of the development of a Knowledge Management System in the company. His main role is to define a clear direction for the organization and build an environment that facilitates the exchange of knowledge. They start the transfer of knowledge and they also form the organizational culture that allows the knowledge exchange process, they are agents of training and change in the implementation process of Knowledge Management in the company. From this point of view, SMEs are at an advantage. Relatively small hierarchical scales allow leaders to establish an environment where employees can share knowledge in both a formal and informal way, thus creating an excellent environment for implementing Knowledge Management. And with a sufficient technological infrastructure to improve and support their approach, the implementation of the process can be a real success.

To establish the performance of the Knowledge Management process, it is necessary to establish some performance metrics. Through the measurement process, we are allowed to evaluate the effectiveness of Knowledge Management practices. It allows us to determine whether the process meets the learning needs of the organization, and provide feedback on the process performance to allow constant optimization. Measurement involves a process consisting of qualitative analysis and quantitative analysis. Qualitative analysis of the Knowledge Management process can include open-ended questionnaires, expert interviews, case studies, and surveys. Whereas, for the quantitative analysis required to measure explicit knowledge, a series of established indicators, financial or non-financial, can be used. Wang and Yang (2016) proposed an index system of Knowledge Management, which includes four components: Knowledge Management process, organizational knowledge structure, economic benefits, and efficiency (Wang, MH, & Yang, 2016). And the performance measures were considered to be three, knowledge resources, Knowledge Management processes, and the factors affecting Knowledge Management. Wang and Zheng (2010) proposed a Knowledge Management performance evaluation method that includes knowledge systems, structural capital, human capital, mental capital, and market capital (Wang, Y. & Zheng, 2010).

Therefore, I have established that there are three stages that must be taken into account when we aim to implement Knowledge Management in SMEs, pre-implementation, implementation, and post-implementation, and what are the elements that must be taken into account when we aim for each stage. Below, in Figure 2, you can find a schematic representation of these stages to make them easier to understand and to highlight the flow of the implementation process.



**Figure 2 Steps to implement Knowledge Management in SEMs**

Source: Owned scheme.

The creation and implementation of the Knowledge Management System is not simple, but as I mentioned there are some key elements that must be taken into account when we talk about the implementation of Knowledge Management in SMEs. Moreover, we can highlight some operational management techniques that can support the implementation process. A special technique that can support Knowledge Management initiatives is the development of a short-term culture that enables its development. Creating a short-term culture can be achieved by implementing a culture by mandating employees, reinforcing, rewarding, or incentivizing them. A technique to facilitate knowledge sharing and the Knowledge Management process is the use of job rotation. This technique allows employees to learn various skills and requirements of positions in the company, developing multilaterally, the technique allows employees to fill in for positions in the absence of a colleague and develops an environment of employee knowledge sharing. A factor that can substantially influence the implementation of the Knowledge Management process is the IT infrastructure of the company. Even if their resources are limited, the constant developments in the market have determined an increase in the digitization of SMEs, which facilitates the implementation of Knowledge Management, however, there must be a balance between the technologies implemented in companies and the role they play in perform in the knowledge management process. This also implies optimization of the use of financial resources.

Numerous theories support and highlight what are the most important elements for the successful implementation of Knowledge Management in SMEs, but it is important to highlight a few elements. Handzic (2006) brings to attention four important phases in the implementation process, namely: building Knowledge Management awareness, aligning Knowledge Management with business Strategy, auditing knowledge assets and resources (Strength & weakness analysis), and right Knowledge Management solution (Handzic, 2006). However, all items are indicative.

For an organization, the Knowledge Management process is unique and specific, it cannot be replicated or copied. And in order to truly create value for the company and bring it competitive advantages, the implemented Knowledge Management System must be developed, and comprehensive and ensure that knowledge is discovered, captured, shared, and used.

## Conclusion

Knowledge management is still a developing field, and it is becoming more and more interesting with the emergence of new technologies, including that artificial intelligence. So far, however, specialized literature and studies in the field demonstrate how the implementation of Knowledge Management strategies can benefit SMEs. The importance of knowledge in the company has been underappreciated for too long, but SMEs have begun to notice that it is a way to fill the gap formed by the limited resources at their disposal, and for this, the main resource that they must learn to exploit effectively right and beneficial is human capital, because it has the power to form and develop knowledge capital and can thus dictate the future of the organization.

We can thus conclude that knowledge management must be understood as intelligent management and management aligned to the company's goals of the intellectual property transmitted by individuals to the company. However, Knowledge Management requires future and additional research as it is still a growing topic, and its development depends on the possibilities of their use and exploitation. If more SMEs see the potential to achieve certain goals by implementing Knowledge Management more and more organizations will start to show their intention and interest in implementation. However, it is necessary to develop a guide for companies that will allow them to implement and develop their system, unique and correlated with their development possibilities. Establishing the efficiency of Knowledge Management processes should not only be analyzed through the lens of implemented technologies, but also issues of organizational culture, leadership, and decision-making system. In fact, the implementation of the Knowledge Management system mainly aims to implement a system that offers viable solutions to organizational problems, supporting the management of organizational and behavioral changes as critical success factors in the implementation of information systems.

Future research can focus on how the implementation of a Knowledge Management system in SMEs helps to solve environmental and social challenges, as well as exploiting how SMEs can accumulate knowledge from the market or external partners. The importance of continuous knowledge updating and transfer in small firms, as well as the accessibility of affordable digital tools and solutions for Knowledge Management, can also be avenues for future research.

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