

Comparative Management Analysis Knowledge in Colombian and Chilean SMEs: Theoretical Approach

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Abstract - The objective of this study is to develop a comparative study of knowledge management and the most representative models applied in Chilean SMEs versus the models proposed in Colombia, with the purpose of adopting those good practices that allow more SMEs in Colombia to improve performance in the areas of the organization and optimize the transfer of their knowledge to obtain a competitive advantage.

Index of Terms – Knowledge Management, SMEs, Competitiveness, Innovation.

I. INTRODUCTION

If Knowledge is understood as the combination of experiences, values, contextual information and the view of experts that establish a frame of reference to incorporate and evaluate new information or practices, which is why knowledge constitutes one of the most important assets for organizations [1].

However, despite the importance of knowledge in sync with human and technological capital, organizations tend to make intuitive use of it, thus limiting knowledge management.

At present, society is characterized by uncertainty, unregulated markets, and the formation of an interconnected economy in real time, the use of ICTs, the development of mobile telephony and computing, customer-oriented services, marketing, and the innovation. In this context, organizations are required to generate and strengthen sustainable and innovative competitive advantages to respond, adapt and sustain themselves in the face of these changes, and they have done so based on various approaches ranging from knowledge management, innovation, and IT (Information Technology) to continuous improvement, among others.

Knowledge management can provide a response to these requirements in terms of organization and structuring of processes, infrastructure and mechanisms for the generation, use, appropriation, storage, recovery, and circulation of organizational knowledge [2].

In practical terms, knowledge management is considered fundamentally for the products and processes of innovation, improvement and competitiveness for organizational decision making, and the adaptation and renewal of the organization, therefore, the purpose of this research is to provide the SMEs of Colombia an alternative to manage knowledge in their organizations, through a comparative analysis of the most relevant models, in addition to the identification of the strategies that allowed Chilean SMEs to manage this intangible asset, with the above it is sought that SMEs in Colombia can improve performance in the areas of the organization, achieve their objectives and optimize the transfer of their knowledge in order to obtain a competitive advantage.

II. REFERENTIAL FRAMEWORK

A. Knowledge

The philosopher Michael Polanyi [3] was the first author to introduce the concept of knowledge, he maintains that it has a structure of skills that are developed through observation, even unconsciously, therefore, for Polanyi, knowledge is personal.

Knowledge, unlike information, is not an object, but requires a knower, so it is a properly human activity [4].

In the words of Pérez Montoro, knowledge is the mental states of an individual, because of the assimilation of information and that drive the actions of the subject himself, in short, knowledge occurs when an individual can transform information and introduce it to their mental schemes [5].

B. Knowledge Management

Once knowledge is defined and contextualized, it is necessary to define the term knowledge management.

The PMI (Project Management Institute) defines knowledge management as follows: “it is the process of using existing knowledge and creating new knowledge to achieve project objectives and contribute to organizational learning.”

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Wei and Xie [6], defined knowledge management as a systematic and organized approach to improve the organization's ability to mobilize knowledge, and improve decision making, act and deliver results in support of the underlying business strategy. Therefore, Knowledge Management is a process that helps in the acquisition and dissemination of knowledge within an organization.

The importance of this concept is that it serves to facilitate a structured approach to learning from projects and to finding ways to share and reuse this knowledge. For knowledge management to provide the greatest benefits, an appropriate method must be used properly, so it is essential to recognize the theoretical limitations that are practically important while still involving all the good practices of KM within an organization, how to create, store, use and share knowledge.

This is because "the objective of KM is to guide the development of a learning capacity through the introduction of criteria to decide which knowledge is prominent for the organization and to govern the factors and conditions that improve learning processes" [7].

C. Business competitiveness

By defining the term business competitiveness in a simple way, the Spanish Chamber of Commerce tells us that "being competitive is the ability of our company to do things better than its competition, whether in terms of product, production, costs, quality, etc. so that in the end it supposes an advantage when it comes to making our business more profitable" [8].

On the other hand, taking the text of Robbins & Coulter [9], we can interpret that the competitiveness of companies is a concept that refers to their ability to produce goods and services efficiently, making their products attractive, for both the national and international markets.

Business competitiveness is linked to the effectiveness of the organization and its ability to meet the development requirements of fixed performance.

D. Knowledge Management Models

"As suggested by (Choi & Lee, 2020), (Daft & Huber, 1987) and (Gnyawali & Stewart, 2003), different knowledge management styles can be described in terms of two critical dimensions that reflect their approach. In the first dimension, the management of techno-structural tools is emphasized to recognize the organizational use of this type of initiative. Another dimension emphasizes behavioral initiatives to appreciate their employment" [10].

The authors show a true and interesting average on the techno-structural tools that knowledge management models have and those oriented to conduct or behavior, either to a greater or lesser extent. Derived from this, Prieto & Revilla built a matrix that helps to represent this postulate. (Figure 1). Each style reflects a state of knowledge management to develop a learning capacity.

		Behavioral approach	
		Low	High
Technostructural approach	Low	Situation 1 Passive	Situation 2 Behavior oriented
	High	Situation 3 Technoestructural oriented	Situation 4 Active

Figure 1. Knowledge management styles
Source: Prieto & Revilla, 2016.

III. OVERVIEW OF SMEs IN COLOMBIA AND CHILE

A. Description of the current situation of Colombian and Chilean SMEs

According to Law 905 of 2004, in Colombia a small company is considered to be one with assets between 501 and 5000 Current Minimum Legal Wages (SMLMV), or between 10 and 50 employees. Medium-sized company, one with assets between 5,001 and 30,000 Current Minimum Legal Wages (SMLMV) or between 51 and 200 employees.

Colombia is a country whose economy is supported by small-scale companies. SMEs, together with micro-enterprises, represent at least 90 percent of the national business park and generate 73 percent of employment and 53 percent of gross production in the industrial, commercial, and service sectors [11]. Argues Rosmery Quintero, national president of the Colombian Association of Small and Medium Enterprises (Acopi), half of the country's MSMEs go bankrupt after the first year and only 20% survive the third.

From a local perspective and according to the data recorded in the Economic Report of the municipalities in the jurisdiction of the Cartagena Chamber of Commerce [12], only 8% of the business structure in the district of Cartagena is made up of SMEs, also shows that SMEs are the largest generators of employment, occupying around 48% of the 160,471 reported in the commercial registry. Next, a table is presented where the business structure is discriminated by size in the district of Cartagena.

TABLE I. BUSINESS STRUCTURE BY SIZE IN COLOMBIA.

Size	Number of companies	Number of employees	Assets (Millions of pesos)	Income level (Millions of pesos)
Little	2,284	30,471	3,231,569	3,277,755
Median	662	45,770	6,533,806	4,584,919

Source. Adapted from Cartagena Chamber of Commerce (2019). Economic report of the municipalities of the jurisdiction of the Chamber of Commerce of Cartagena. (2027-4858).

Due to the situation generated by the COVID-19 pandemic in 2020, according to the portal mipymes.gov.co, there are

2,427 companies in insolvency and of them 208 are micro: 976 small and 802 mediums. In other words, more than 80% of the companies are MiPymes, the Superintendency of Companies points out that the smallest companies are prone to falling into insolvency. Ocampo, M and Nova, L [13] argue. that SMEs in Chile have played a fundamental role for its economy since they contribute largely to the participation in national production and the generation of jobs in the country, even with problems for their entrepreneurship in terms of financing and competitiveness is not a factor of restriction for their growth since they have government entities and fiscal policies that contribute to their development and sustainability.

According to the World Bank in April 2020, Chile has been one of the fastest growing Latin American economies, which has allowed a notable reduction in poverty, this due to the successful programs of access to education, going from an index of poverty from 38% in 1990 to 14.4% in 2011 and 10% in 2016, also through analysis of economic activity, the Economic Commission for Latin America and the Caribbean (ECLAC) placed Chile in second place as the country with the lowest poverty rate, thus indicating that only 1% of the population lives in houses made of precarious materials

In 2017, 2018 and 2019, Chile was the country that led the Global Entrepreneurship Development Institute (GEDI) ranking as the Latin American and Caribbean country with the best ecosystem for business creation. One of the relevant items in this ranking was the perception of opportunities that exist in the population with respect to SMEs, the innovation of processes and public policies that they embody in the country [14].

Likewise, the World Economic Forum affirms that Chile remains a leader in competitiveness in Latin America and the Caribbean, the study reveals that it remains in thirty-third place in the world ranking made up of 137 countries.

Ocampo, Nova and Bohórquez maintain [13], that the strong point of the Chilean economy is stability, since the market stimulates competition and free trade, an example of this is the signing of the FTA with almost two thirds of the world population, its traditional industries such as: agriculture, wine, fishing, mining have taken a more innovative, sustainable and sustainable turn. SMEs are an important point within the economy, in Chile they contribute 60% to the country's GDP and 60% of employment, it is highlighted that these companies show greater profitability in the long term, which means that they are less likely to do without of its collaborators and more feasibility of hiring even in economic recession.

In Chile, at the end of 2019, there are more than 900,000 companies, of which 220,000 are SMEs and some 680,000 are micro-enterprises. According to the Radiography of the Entrepreneur, prepared by the ASECH, the main sources of financing for the entrepreneur are their own resources (85%), followed by public funds (8.5%) and bank loans (6.5%). Due to

the current situation in the world due to the SARS-CoV-2 virus (Covid-19), Chilean SMEs were not immune to this global crisis, according to the survey carried out by MIPORTALPYMES of 254 SMEs, 70% of these responded that have been affected by the crisis, on the other hand, when asked if their sales had decreased, 80% answered yes.

B. description of the problem

Currently, information technologies give us easy access to all the information available on web servers, even so, this information does not mean knowledge, since, although they are usually terms that are disrupted, it does not mean or represent what himself, Devlin [4] states that: "Information is a substance, an object that exists independently of the person, knowledge, on the contrary, is not an object, but requires a knower, so it is an activity intrinsically human". However, it is not enough just to have knowledge, or the availability of information, action is needed, to generate its transformation to achieve the maximum benefit for organizations, which translates into management,

It should be noted that knowledge management is a resource of interest that allows organizations to be able to stand out, enabling the creation of new innovative products and services, optimal and profitable processes, competent strategies for the environment, among others [fifteen]. In accordance with the foregoing, those who have the power to exercise such management effectively will have a differentiating point from the competition.

Among Latin American countries, Chile stands out in terms of knowledge management and innovation, which is why it is necessary to take it as a reference model for the development of knowledge management in Colombian SMEs, without ignoring the distinctive characteristics of the context. local.

The little experience of SMEs regarding knowledge management leads to the waste of this asset, which makes it difficult to achieve the objectives, its evolution and growth [16]. In Colombia in 2018, according to DANE, 2,540,953 SMEs were registered, with a growth of 2.1% during 2019, with which, standing out and achieving success in the market is a complex task, due to the fierce competition between them.

The objective of this degree project is to carry out a comparative study of the knowledge management models developed in Chilean SMEs in parallel with the models proposed by these in Colombia, based on the study and review of the literature concerning this topic. to manage to accept those tools and techniques that may be useful in local application, seeking to reduce the loss of knowledge, which is generated in the process of dismissal from work, where the collaborators take a good part of the Know How, thus affecting the efficient development of business activities, optimizing knowledge and disseminating it systematically and efficiently in order to achieve better performance in the areas of the organization, tracing a path, that serves as a map to guide a correct collection of knowledge management for Colombian SMEs.

IV. KNOWLEDGE MANAGEMENT MODELS

A. *The knowledge-creating organization [17].*

It is a spiral model of knowledge creation in which the phases and content of knowledge interact with each other, with the participation of individuals and groups, through the exchange and conversion of tacit knowledge into explicit knowledge.

The exchange of information from the interior to the exterior and from the exterior to the interior, allows the organization to obtain valuable data to maintain the competitive quality of the products, making modifications when the feedback received so expresses it. It constitutes a way of knowing and publicizing both what the organization offers to its clients, the satisfaction of the consumers of the products and suppliers of the inputs; establishing a synergy to measure the valuation of the product, based on the opinions and recommendations is sued.

B. *Andersen model [18].*

Assesses the flow of information from personal knowledge (how knowledge is shared or made explicit for the organization) to organizational knowledge (creating infrastructure, processes, culture, technology, and systems to capture, analyze, synthesize, apply, and distribute knowledge) or vice versa.

The phases that it postulates are:

1. Capture personal or organizational knowledge.
2. Distribute personal or organizational knowledge.
3. Experience from personal knowledge / analyze organizational knowledge.
4. Learn from personal knowledge/synthesize organizational knowledge.
5. Create from personal knowledge/apply organizational knowledge.
6. Cooperate from personal knowledge / value organizational knowledge.

C. *KPMG Consulting model [19].*

They determine the factors that lead to increased organizational learning and learning outcomes. The interaction of all its elements, presented in a complex system that influences it in all directions.

This model defines what factors intervene in learning, in addition to the result and the product of it. The company creates a model explaining the conditioning factors of learning and the expected results; thus, giving an answer to two questions: what factors condition learning in an organization and what results does say learning produce? To answer this question, this model is created, which exposes in a clear and practical way the factors that condition the learning capacity, as well as its results.

D. *The 10 Step Road Map [20].*

It is based, especially, on the basic differentiation between tacit and explicit knowledge, but also considers other

classifications of knowledge based on its typology, focus, complexity, and expiration. One of the main objectives of knowledge management in organizations should be the integration and use of existing fragmented knowledge in these organizations. It proposes the creation of communication networks and group collaboration.

The ten steps that make up the model are grouped under four major phases:

1. Infrastructure assessment (Step 1: analysis of existing infrastructure. Step 2: alignment of knowledge management and business strategy).
2. KMS system analysis, design, and development (Step 3: Design knowledge management architecture and infrastructure. Step 4: Knowledge authoring and analysis. Step 5: Design knowledge management team. Step 6: Create management model Step 7: Develop the knowledge management system).
3. Implementation (Step 8: Implement RDI methodology, Step 9: Change management, culture, reward structure).
4. Performance evaluation (Step 10: Measurement of knowledge management results, return on investment and evaluation of performance).

E. *Holistic Model [21].*

This holistic model is based on three bases or pillars that generate its existence:

1. People: They are the ones who acquire knowledge through experiences and implementation in organizations.
2. Technology: It is a fundamental tool for the acquisition of knowledge and for its transfer.
3. The processes: They are required in Knowledge Management since they allow standardizing the construction of organizational learning.

The processes of learning, capture and transfer of knowledge are related to daily activities, it is stated that it is not necessary to carry out a Knowledge Management process to write each of the steps that must be carried out, if it is not relevant. A part of the knowledge is not reliable and remains in the minds of individuals, who form the experiences

V. ANALYSIS OF KNOWLEDGE MANAGEMENT MODELS

All healthy organizations generate and use knowledge. As organizations interact with their environments, they absorb information, convert it into knowledge, and act based on the combination of that knowledge and their internal experiences, values, and norms. They feel and respond. Without knowledge, an organization could not organize itself [...]. [22].

There is a wide variety of Knowledge Management models for organizations, which have been presented in response to the different particularities of each moment, which aims to adopt different methodologies and strategies to disseminate and

enhance knowledge and fundamental information in a methodical and efficient to achieve better performance in the areas of the organization, create value and improve its competitive advantages.

Based on the previously studied theoretical references of Knowledge Management models and the characteristics of SMEs in Colombia and their importance for the country, this chapter seeks to present the most suitable model for the aforementioned organizations.

A. SMEs and Knowledge Management models

Matlay [23], affirms that the performance and competitiveness of SMEs are increased with adequate knowledge management, likewise, he indicates that a strategy on the acquisition of knowledge would be more relevant and successful for survival than other factors of the environment.

Camargo, Rengifo & Serrato [24], found in their study that the internet and the existence of free software solutions to support activities related to knowledge management, becomes an excellent opportunity for companies with limited resources such as SMEs, can implement Knowledge Management solutions and take advantage of the tacit knowledge of their employees, the implicit knowledge in the information of their internal processes, the environment and their clients, and the explicit knowledge contained in their procedures manuals, to obtain advantages sustainable competitive over time.

In the development of their study, Lim & Klobas [25] point out that the needs and challenges of Knowledge Management in SMEs are generally like those of large companies, even many knowledge management processes are simpler. to apply since tacit knowledge is easier to capture in less formalized environments. For his part, Beijerse [26] mentions that some SMEs have some type of knowledge practices, but none with formal management strategies.

It is important that organizations understand and know the usefulness of this intangible asset, such as Knowledge Management, the benefits granted by the adoption of Knowledge Management systems consist of the ability to educate organizations not only to be flexible and to generate agile responses to the permanent changes in the environment, but also to be more innovative, contributing to decision-making and company productivity [27].

It is worth highlighting other advantages enunciated by Alavi, M. and Leidner, D. [28], described in the following table.

Communication	Efficiency	Financial
Improve communication.	Reduce time for problem resolution.	Increase sales.
Speed up communication.	Accelerate results.	Lower costs.
More obvious staff opinions.	Reduce proposal time.	Greater benefits.
Increase participation.	Greater overall efficiency.	

Note. Adapted from Rodríguez, D. [29]

B. Comparative Table Knowledge Management Models

To carry out the comparative analysis of the Knowledge Management Models proposed here, it was developed through four descriptors adapted from the article Models for the creation and management of knowledge: a theoretical approach, [29].

1. **Rationale:** Refers to the bases or reasoned foundations that sustain and/or inspire the analyzed Knowledge Management models.
2. **Phases:** Under this descriptor, the author synthetically groups the various steps that, according to each of the models, must be followed for the development and implementation of processes or systems for the creation and management of knowledge.
3. **Technology:** This descriptor aims to show what technological tools or Information and Communication Technologies (ICT) the Knowledge Management Models require for their implementation.
4. **Organizational Culture:** Seeks to distinguish the Knowledge Management Models that adopt the organizational culture, what type of culture they propose as suitable for the development of knowledge creation and management processes.

TABLE II. PERCEIVED BENEFITS DUE TO KNOWLEDGE MANAGEMENT

Perceived advantages of the existence of knowledge management systems

TABLE III. FACTOR QUALIFICATION SYSTEM.

GC Models - Author and Year	rationale	phases	Technology	Organizational culture
<p>The knowledge-creating organization- Nonaka and Takeuchi, 1999</p>	<p>Based on the mobilization and conversion of tacit knowledge (epistemological dimension) and the creation of organizational knowledge versus individual knowledge</p>	<ul style="list-style-type: none"> · Share tacit knowledge. 	<p>Knowledge maps, self-organizing teams and group dialogue sessions.</p>	<p>The organization is capable of:</p>
		<ul style="list-style-type: none"> · Create concepts. 		<p>Motivate your members by granting autonomy.</p>
		<ul style="list-style-type: none"> · Justify the concepts. 		<p>Be open to changes in the context.</p>
		<ul style="list-style-type: none"> · Build an archetype. 		<p>Clearly state your goals.</p>
		<ul style="list-style-type: none"> · Expand knowledge. 		
<p>Andersen model -Arthur Anderson, 1999</p>	<p>Assesses the flow of information from personal knowledge (how knowledge is shared or made explicit for the organization) to organizational knowledge (creating infrastructure, processes, culture, technology, and systems to capture, analyze, synthesize, apply, and distribute knowledge) or vice versa.</p>	<ul style="list-style-type: none"> · Capture personal or organizational knowledge. 	<p>Networks to share knowledge, physical or virtual spaces where those interested in a particular topic can share experiences and exchange knowledge. Packaged or encapsulated knowledge, which constitutes the internal system called “Arthur Andersen Knowledge Space or Arthur Andersen Knowledge Space” where the methodologies, experiences and examples are documented.</p>	<p>The organization is responsible for creating the support infrastructure for the individual perspective to be effective, creating the processes, culture, technology, and systems that allow capturing, analyzing, synthesizing, applying, valuing, and distributing knowledge.</p>
		<ul style="list-style-type: none"> · Distribute personal or organizational knowledge. 		
		<ul style="list-style-type: none"> · Experience from personal knowledge / analyze organizational knowledge. 		
		<ul style="list-style-type: none"> · Learn from personal knowledge / synthesize organizational knowledge. 		
		<ul style="list-style-type: none"> · Create from personal knowledge / apply organizational knowledge. 		
		<ul style="list-style-type: none"> · Cooperate from personal knowledge / value organizational knowledge. 		

TABLE IV. FACTOR QUALIFICATION SYSTEM. PART II

<p>KPMG Consulting model -Weaver & Aguirre, 1998</p>	<p>This model defines what factors intervene in learning, in addition to the result and the product of it. The interaction of all its elements, presented in a complex system that influences it in all directions.</p>	1. Commitment to the vision of the organization.	Mechanisms of creation, collection, storage, transmission and	<p>The organization is expected to: Strategy, structure, leadership, people management, information and communication systems and culture</p>
		2. Organization profile.	Interpretation of knowledge.	
		3. Learning capabilities, supported by culture, information system, leadership, structure, people management, strategies.		
		4. Results: permanent changes, more competent action (Quality), people development, environment construction.	Information systems.	
<p>The 10 Step Road Map - Tiwana, 2002</p>	<p>It is based, especially, on the basic differentiation between tacit and explicit knowledge, but it also considers other classifications of knowledge based on its type, complexity, and expiration date.</p>	1. Evaluation of the infrastructures.	<p>Intelligent databases established from information technologies, collaboration tools and data capture.</p>	
		2.KMS system analysis, design, and development.		
		3. Implementation.		
		4. Performance evaluation.		

TABLE V. FACTOR QUALIFICATION SYSTEM. PART III

<p>Holistic Model - Chris Collison and Geoff Parcel, 2003</p>	<p>This model seeks to relate day-to-day activities with knowledge processes (creation, capture, use and transfer), the model is based on three pillars:</p>	<p>1. Objectives.</p>	<p>blogging</p>	<p>The organization with leadership must create the right environment for the phases or cycle to occur naturally and continuously.</p>
	<p>people or human talent, the technology, and the processes of the organization.</p>	<p>2. Learning: Before, during and after.</p>	<p>online surveys</p>	
		<p>3. Knowledge capture.</p>	<p>Discussion Forums</p>	
		<p>4. Continuous process between learning and knowledge.</p>	<p>knowledge directory</p>	
		<p>5. Incorporation and use of knowledge to generate results.</p>	<p>wiki</p>	
		<p>6. Leadership and organizational climate.</p>		

Seeking to quantitatively measure the descriptors used to analyze knowledge management models, the factor qualification method is developed below, bringing up the previously proposed models, identifying their foundations and evaluating them according to the characteristics and obstacles presented by SMEs.

Table number eight represents a factor rating method that seeks to compare the different models of knowledge management, considering key aspects such as organizational culture, transfer of knowledge, strategy, technology, and the required personnel.

characteristics of Colombian SMEs according to their capabilities,

In accordance with the above, the purpose of the factor classification system is to carry out an objective analysis of the different models of knowledge management, all this to identify the most appropriate model for the SMEs depending on the factors studied.

TABLE VI. FACTOR QUALIFICATION SYSTEM.

Factors	Relative weight (%)	The knowledge-creating organization	Model Andersen	KPMG Consulting Model	The 10 Step Road Map	Holistic Model	Knowledge Management Model adapted for the Chilean public administration
Organizational culture	30	7	two	9	7	9	4
Knowledge transfer	30	3	6	6	5	8	6
Strategy	20	8	4	7	two	7	3
Technology	10	9	7	5	4	7	5
Required staff	10	two	8	3	1	6	two
Total score		5.7	4.7	6.7	4.5	7.8	4.3

These factors were assigned relative weights according to the level of importance of each of these.

All these mentioned factors influence in one way or another in knowledge management; however, there are some that provide greater value than others. The relative weights assigned according to the studies carried out in this degree project were the following: organizational culture 30%, knowledge transfer 30%, strategy 20%, technology 10% and personnel required 10%.

The alternatives evaluated were the following: The Knowledge Creator Organization, Andersen Model, KPMG Consulting Model, The 10 Step Road Map, Holistic Model and Knowledge Management Model Adapted for the Chilean Public Administration. All these models were studied throughout this research, being the most used and relevant in this context. Each model was assigned a rating from 1 to 10, with 1 being the lowest rating and 10 being the best rating, when compared to each chosen factor. It is worth mentioning that the evaluation criteria determined for the assignment of each score were taken based on all the information collected from these models, the relationship with the specific

After assigning points and corresponding weighting, it is obtained that the model with the greatest compatibility for SMEs is the Holistic Model with a result of 7.8 points, followed by the KPMG Consulting Model, which obtained a score of 6.7. The Knowledge Creator Organization, Andersen Model, The 10 Step Road Map and Knowledge Management Model Adapted for the Chilean Public Administration with results of 6.7, 5.7, 4.5 and 4.3 respectively.

From the study of the current situation of knowledge management in Colombia and Chile, the strategies and obstacles implemented in both countries are highlighted (see table 9), seeking to know which are those points that allow Chile to manage this intangible asset in its SMEs, with the purpose that Colombian SMEs can identify and adopt them to improve their shortcomings in terms of this concept and enhance their organization through its management.

TABLE VII. COMPARISON OF COOKING MANAGEMENT IN CHILE AND COLOMBIA-STRATEGIES.

Strategies implemented	
Knowledge management in Chile	Knowledge management in Colombia
Culture and high experience in assimilation of new technologies.	Progress in operational and organizational aspects to streamline knowledge management.
Organizational culture that promotes the transmission of information.	The need for employee training and learning is recognized.

Source. Developed from the article Analysis of knowledge management capabilities for the competitiveness of SMEs in Colombia [30].

Regarding the strategies developed in Chile and Colombia to manage knowledge, we find the lists in the following table.

TABLE VIII. COMPARISON OF COOKING MANAGEMENT IN CHILE AND COLOMBIA-OBSTACLES

obstacles in development	
Knowledge management in Chile	Knowledge management in Colombia
Lack of comprehensive and holistic vision regarding the objectives, culture, and use of technology.	Lagging progress in the use and appropriation of digital technologies that allow manage information and knowledge.
Lack of priority for knowledge management initiatives relative to other priorities.	Insufficient strategic advances for the development of knowledge management.
Lack of managerial support.	Organizational features show few efforts to manage knowledge.
Lack of clarity of the benefits of Knowledge Management.	Lack of teamwork.

Source. Developed from the article Analysis of knowledge management capabilities for the competitiveness of SMEs in Colombia [30].

C. Choice of the Knowledge Management model for a SME

After theoretically analyzing the main models of Knowledge Management found in the literature and knowing the characteristics of SMEs in Colombia, it is recognized that the most viable model considering the aforementioned variables is the Holistic Model of Chris Collison and Geoff Parcell due to the following considerations:

1. Because this model relates the processes of learning, capturing, and transferring knowledge to daily activities, it makes it easier for the

organization's personnel and other stakeholders to adopt it.

2. It is based on three pillars: (1) People: They are the creators of knowledge that add value to the organization, (2) The technological factor: It is the facilitating medium that allows knowledge and experiences to be shared. and (3) The processes: They allow homogenizing the actions oriented to the construction of organizational learning. Pillars that are the basis of every organization, which is why they do not result in inaccessible resources for small and medium-sized companies.
3. In the words of Collison and Parcell [21], it is easier to reuse knowledge than to create it again, which is why their model is based on ensuring learning at every opportunity and continuously: learning before, learning during, and learning after. This implies that the staff work together and instinctively to promote creativity, learning and improve the performance of the organization.
4. This model does not require the implementation of a particular technological tool, expensive, difficult to acquire or use, but rather allows the integration of commonly used tools that support the capture of tacit knowledge, which is why it is ideal considering the limited resources available. those that SMEs count.
5. The proposed Knowledge Management model seeks to provide small and medium-sized entrepreneurs with a useful, adaptable and effective administrative tool to manage the environment in which knowledge can be captured and shared, in favor of the development of their organization and the acquisition of competitive advantages. .

Managing knowledge from a holistic approach requires commitment, leadership and teamwork, to link the people who have the knowledge with those who need it, promoting behaviors and collective communication skills, to be able to ask, listen and share accurately. and efficient.

The application of a Knowledge Management Model for SMEs is important, since frequently in the process of layoff, the collaborators take part of the know-how (know how to do), destabilizing the normal development of the productive process, in the specific case of SMEs, this situation has a greater impact due to the fundamental role played by each member of the organization.

It is easier and more efficient for any organization to reuse knowledge than to recreate it, since not doing so implies unproductive time and wastage of knowledge, which in turn incurs costs that can be avoided.

VI. CONCLUSIONS

In 1995 Nonaka and Takeuchi [17] laid the foundations for what would be a new discipline, knowledge management, which they defined as a "discipline in charge of designing and implementing systems whose objective is to systematically identify, capture and share the knowledge involved within an organization in such a way that it can be converted into value for it" [31].

From there, multiple authors delved into the subject and approached it from different perspectives, developing models and guidelines for its implementation in different types of public and private organizations, even when the development of this discipline was presented, not all organizations have known take advantage of this intangible good, managing it efficiently to obtain competitive advantages for the organization.

The study and development of the comparative analysis of Knowledge Management and the most representative models, allowed to propose from a theoretical perspective the Model proposed by the authors Chris Collison and Geoff Parcell, as the most suitable according to the relationship between the factors: Organizational culture, strategies, technology, personnel required and the characteristics of these organizations, it should be noted that this resolution was the product of the study of the literature and knowledge of the particularities of SMEs.

In accordance with the general objective of this project, the comparative analysis of Knowledge Management and the most representative models, evidenced those strategies implemented in Chile that have favored the management of this intangible and, without a doubt, its greatest strength lies in the assimilation of new technologies and application of these, even when these organizations are called SMEs, they point to technology as a key and strategic factor, recognizing that it is crucial to compete in the market, on the other hand, in Colombia SMEs present hard obstacles in the use and appropriation of technologies, which represents an impasse for them in knowledge management, since although very complex technologies are not needed, These tools make it easier for organizations to transfer and access knowledge for all collaborators.

The study and analysis of the subject allows us to deduce that an efficient Knowledge Management will allow organizations to increase their innovation processes and achieve higher levels of competitiveness, this can be achieved through the appropriation of a Management Model that is consistent with the characteristics of the organization, hence the importance of analyzing them, these comparisons serve to reflect on which of these distinctive characteristics of each of the studied models are the ones that are most suited to SMEs. Even when knowledge management is based on three pillars: People, processes and technologies, the latter

should not be considered an obstacle for small and medium-sized companies that have limited resources,

VII. RECOMMENDATIONS

The implementation of the knowledge management model proposed for SMEs to trace a path towards knowledge management implies a cultural change, where processes, technology, people with managerial support are integrated. In this sense, it is recommended to consider the following aspects:

It is necessary to clarify that this degree work generally covers a first phase of knowledge management, and it is timely for companies to continue implementing actions to guarantee the collection and distribution of knowledge so that it continues to add value to the organization.

Even when the chosen model took into consideration the general characteristics of SMEs in the Colombian context, it is important to establish the particularities of the sector where the organization is developed, to establish a correct collection of the model for it.

Manage the implementation of the proposed model, using the pillars: Processes, people and technology, in a timely manner allowing continuity throughout the process.

The proposed model must be aligned with the strategic objectives of the organization to guarantee its sustainability.

The commitment and interest on the part of senior management must be permanent and not for the moment, as well as that of all the people directly linked to the development and collection of the model to manage knowledge.

Train the personnel involved and promote the culture of knowledge with socialization activities so that they can understand and appropriate the strategies, tools, and pillars of it.

VIII. FUTURE WORKS

The World Health Organization defines a pandemic as the global spread of a new disease, an influenza pandemic is generated when a new influenza virus emerges that spreads throughout the world and most of the population is not immunized against it (2010). On January 30, 2020, the WHO declared COVID-19 a "public health emergency of international scope", and on March 11, with 37,364 cases reported outside of China, it was officially classified as a "pandemic".

As of the pandemic generated by COVID-19, the Ministry of Health and Social Protection adopted a series of measures to prevent the spread of the virus, classified as follows: health and health emergency measures, social, economic and ecological emergency measures and public

order and other ordinary measures, which had a strong impact on the economy and most organizations, the repercussions generated by the confinement on SMEs are evidenced in the survey on the Business Impact of Covid-19 ITC, which collected data on how the pandemic has affected 4,467 companies in 132 countries, the results show that: Two thirds of the micro and small companies surveyed reported that the crisis had strongly impacted their business operations and in addition a fifth of the SMEs stated that they were at risk of closing permanently within three months [32].

Once the comparative analysis of Knowledge Management has been carried out, the most representative models and knowing the global context that exists today, it can be established that in situations such as the one generated by Covid-19, it is important that SMEs at the national level grow, to help strengthen a changing economy. Due to the pandemic, many of the large companies have decreased their income, this due to restrictions in terms of import and export, which has significantly reduced their sales, affected not only the supply chain of many products but also decreased production. This fact was reflected in the negative impact not only on the Colombian economy but also on that of many countries around the world.

As future proposals, we seek to ground the analysis proposed in this degree work and the proposal studied as a viable model for SMEs from a perspective based on the study and analysis of the literature, to take this outline to the next level, thus proposing a action plan, which shows the guidelines to manage knowledge in a correct and easily understood way for this type of organization, which will allow it to generate competitive advantages, innovation and creation of growth opportunities, in addition this action plan must incorporate measures of emergency in atypical cases such as the one we live in the current context, which allows organizations to face the adversities of the future, mitigate the possible consequences and generate quick solutions and strategies in favor of facing vertiginous changes.

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