PROPOSAL OF A METHOD FOR IMPLEMENTING KNOWLEDGE MANAGEMENT IN A DEAN OF A PUBLIC HIGHER EDUCATION INSTITUTION

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ABSTRACT

Organizations are formed from the knowledge generated and retained by their different agents. Knowledge Management emerges in the administrative context of organizations as a systematized process that connects people and people to knowledge. Like several areas of the public sphere, the administrative areas of universities face a series of challenges, with difficulty in managing internal processes, lack of standardization of procedures, and lack of mechanisms for accumulating and managing knowledge. Thus, the research proposes a method of applying Knowledge Management in public administrative areas, consisting of seven steps: knowledge of the organizational context, mapping of strategic processes, breaking down processes into activities and tasks, association and prioritization of knowledge, identification of focuses of action, characterization of the information, identification of tools and adaptation of existing tools - a portfolio of initiatives. The method uses existing models in the literature, such as Knowledge Management as a process, proposed by Dhamdhere, Sangeeta. (2015) the critical knowledge mapping model, developed based on the experience of the State Department of Finance of the Government of Libya, and, finally, the model developed by Batista (2005) that composes stages for the implementation of Knowledge Management in public administrations.

Keywords: Knowledge Management, Dean's Office, method.

1. Introduction

The most valuable resource of organizations is knowledge, a process associated with people; this is dynamic and changeable. Knowing how to manage resources is a way to generate a competitive strategy. In this context, Knowledge Management emerges, a systematized process of connecting people to the knowledge they need to act effectively (Turulja, et al 2018).

To understand the management model, it is necessary to understand their processes, according to Nguyen, et al (2008). Processes are activities or a set that, through input, add value and provide an output to a specific customer.

Private organizations aim to survive in the competitive market. Therefore, they are concerned with being more competitive by adopting new management methods and tools, such as Knowledge Management. However, Sokar, et al (2011) deals in his study that public organizations do not face this threat; the change in this sector is not motivated by competition. The public sector deals with providing services, providing information, sharing and using knowledge (Wynn, et al 2021).

Thus, like several areas of the public sphere, the administrative areas of universities face a series of challenges with difficulty in managing internal processes, lack of standardization of procedures, and lack of mechanisms for accumulating and managing knowledge. In this scenario, the following question arises: Is it possible to develop a method that helps these administrative areas implement knowledge management? Thus, the general objective of this work is to propose a method for implementing knowledge management in a Pro-Rectory of Research and Graduate Studies of a Public Institution of Higher Education.

Thus, the motivation for this research problem was because the service in Higher Education Institutions (HEI) has as a particular aspect the possibility of intense use of information and communication technologies (ICTs) and the need for information and knowledge before its execution. However, the existence of methodologies that focus on improving services in HEI is still being determined. In the study by Brydan, Rashad (2021) it is possible to understand that the main obstacles to the implementation of Knowledge Management in the HEI are in the fact that it is not a government priority and the low understanding of the subject; also due to the deficiency in infrastructure, the difficulty of capturing undocumented knowledge, the lack of incentives and internal communication. Thus, developing this Knowledge Management method proposed in this study seeks to contribute to improving activities of this nature.

2- Theoretical framework

2.1 – Knowledge Management

The constant search for new knowledge is justified by the complexity, the dynamism of environmental transformations against a scenario of demands for good quality public services and expectations for results, and the uncertainties that characterize this environment.

It is noticeable that the lack of conformity regarding the definition or a simplistic and superficial approach to the subject has caused wear and tear in the term GC, even a certain popularity and a managerial fad, increasing even more the controversy and the difficulty of managers in obtaining results using this concept.

Thus, Oumran, et al (2021) explains that knowledge, once registered, becomes information and, once internalized, becomes knowledge. Still, this author adds that managing knowledge does not imply exercising direct control over personal knowledge but exercising planning and control of the context, that is, the situations in which this knowledge can be produced, registered, organized, shared, disseminated and used to enable better decisions. Therefore, Knowledge Management is a systematic process that aims to improve the performance of an organization and the people who work in it by identifying, capturing, validating and transferring knowledge.

2.1.1 – Knowledge Management Models

Some authors, such as Dhamdhere, Sangeeta. (2015) see that a KM project can be considered a process, using the literature on the systemic approach as a contribution but only emphasizing the steps: inputs, processing and outputs. The inputs comprise the inputs that will be the sources that feed the system and, after being processed, will produce results for the organization.

Another model in the literature is the Methodology model for Mapping Critical Knowledge in State Public Administration (Al Hakim, et al, 2018). Developed based on the experience of the State Department of Finance of the Government of Minas Gerais. This critical knowledge methodology deepens the method developed by Ermine J-L, et al (2006), which comprises four stages for implementing Knowledge Management in public organizations: Diagnose, Plan, Develop and Implement.

Thus, the critical knowledge methodology covers, for example, the Planning stage, which consists of identifying gaps in the organization's strategic knowledge. The methodology advocates a preliminary survey of critical knowledge linked to the organizations' strategic processes to identify these gaps. Thus, the application is in two stages; the first consists of identifying the strategic processes and the second deals with defining critical knowledge linked to these processes.

Ricardo Manuel Arias Velásquez et al. (2021) propose the methodology of critical knowledge, with steps ranging from defining the strategic focus to planning the implementation of methods and tools. Figure 1 illustrates the model.
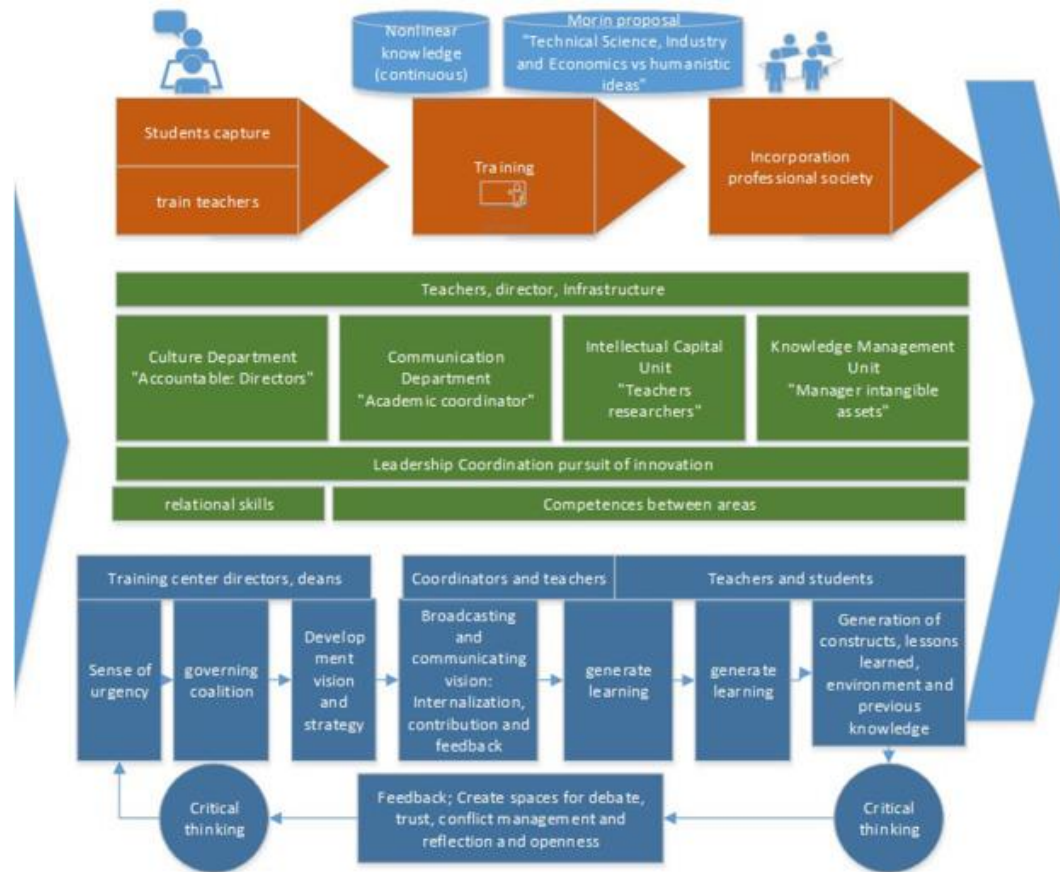

Figure 1: Knowledge Management Process (Ricardo Manuel Arias Velásquez et al. 2021)

2.1.2 - Knowledge Management in Higher Education Institutions

According to Gamit, Rajeshkumar. (2022), the HEI should be fully capable of producing, capturing and redistributing knowledge since this provides a competitive advantage among the many institutions. However, this view of knowledge as a competitive differential has yet to be developed by HEIs since the structure of courses, departments and procedures remain the same as decades ago.

The research by Saeed, et al. (2022) considers that understanding how the Public Institutions of Higher Education deal with the subject of knowledge management is important to verify if there are initiatives with the objectives of: improving decision-making processes, reducing costs and rework (eliminate activities that add little value to services); locate existing knowledge and intellectual capital in the organization; generate new knowledge based on the

reuse of the organization's knowledge, create conditions for the existing knowledge in the organization to be used to better execute programs.

The survey by the Institute of Applied Sciences – IPEA, written by Sinha, (2012) also presented the following conclusions: (i) perception of the importance of KM is higher among senior management members; (ii) there is little dissemination of the KM strategy in the administration and planning areas of the HEI; (iii) the rate of KM initiatives implemented in the administration and planning areas of the HEI is very low; (iv) in most areas of HEI administration and planning, KM is an abstract concept discussed only by small informal groups; (v) commitments made by human resources, IT and knowledge networks teams are the main mechanism for defining KM strategy; (vi) the main facilitating elements to implement KM processes in the HEI are: training programs for staff, exchange of experiences with other organizations involved in this process and methodologies that guide the process; (vii) the vast majority of IFS administration and planning areas do not have budgetary resources to put KM objectives into practice; and (vii) the main obstacles to KM implementation are: knowledge and information management are not government priorities, low understanding of KM in the institution, difficulty in capturing undocumented knowledge, lack of incentives to share knowledge, failures of communication.

2.2 - Management by Processes

Management by Processes has spread to reorganize organizational processes and activities in recent decades. A process is a group of activities carried out logically to produce a good or a service that has value for a specific group of customers (Dhamdhere, Sangeeta 2015).

Management by Processes is a systematic management approach that treats business processes as assets, directly enhancing the organization's performance and striving for organizational excellence and business agility (Jensen, et al, 2000). These authors also portray the organizational objectives of Process Management: (i) to know and map the organizational processes and provide information about them, promoting standardization and description in manuals; (ii) to identify, develop and disseminate methodologies and best practices in process management; (iii) continuously promote the monitoring and evaluation of process performance through the construction of indicators; and (iv) implement process improvements, aiming at greater efficiency, effectiveness and performance effectiveness.

3- Methodology

To meet the proposed objectives, the study is qualitative, which is characterized, according to Van Maanen (1979), in the researcher who seeks to reduce the distance between theory and data, between context and action, using the analysis of the observed phenomena, that is , where there is an understanding of phenomena through their description and interpretation. The study also has a descriptive character, which aims to describe the characteristics of a given population, phenomenon or the establishment of relationships between variables.

The method used is empirical research; according to Ibrahim, Fahmi. (2017), it is research dedicated to the empirical and factual treatment of reality, producing and analyzing data. The appreciation of this type of research is due to the "possibility that it offers greater concreteness to the arguments. However tenuous the factual basis may be.

The public body analyzed is the Pro-Rectory of Research and Graduate Studies of the University of Tripoli (UT). The purpose of this body is to advise the administration of the University in matters related to Graduate Studies and Scientific and Technological Research. Its structure involves scientific initiation programs, postgraduate programs, specialization courses, Institutional Research Committee and Technological Innovation Center.

The choice of the Dean's Office is justified by the accessibility of researchers to information relevant to the study, the need observed by employees about the importance of implementing Knowledge Management in this organizational environment and the applicability of the model in the administrative areas of Higher Education Institutions. The data source of this work is classified as primary since the data were collected, researched and presented "to meet the specific needs of the ongoing research" (Igwenagu, Chinelo. 2016).

The study began with a bibliographic survey through research in books and scientific articles on Knowledge Management and Process Management, intending to build a framework for understanding the main concepts, models and applications in the area. Data was collected through interviews, direct observation, and document analysis from July 2021 to April 2022. Thus, this data collection was based on interviews and document consultations. From data collection, content analysis and data interpretation are performed, applying in the context of the structured method constructed by the researchers.

The main method used for the study's theoretical basis was the methodology applied by Bučková, Jaroslava. (2015), which can be summarized in four major stages for implementing Knowledge Management in public organizations: Diagnose, Plan, Develop and Implement. Another methodology used as a basis for the study is the Mapping of critical knowledge in-

state public administration, which has two stages: Identification of the organization's strategic processes and Definition of critical knowledge linked to strategic processes.

4. Organization context

The Pro-Rectory of Research, the body studied for the application of the model, works on developing strategic actions to support and coordinate research, post-graduation and Innovation. Its objective is to support researchers, whether professors, students, or administrative technicians. The organizational chart of the organization is illustrated in Figure 2.
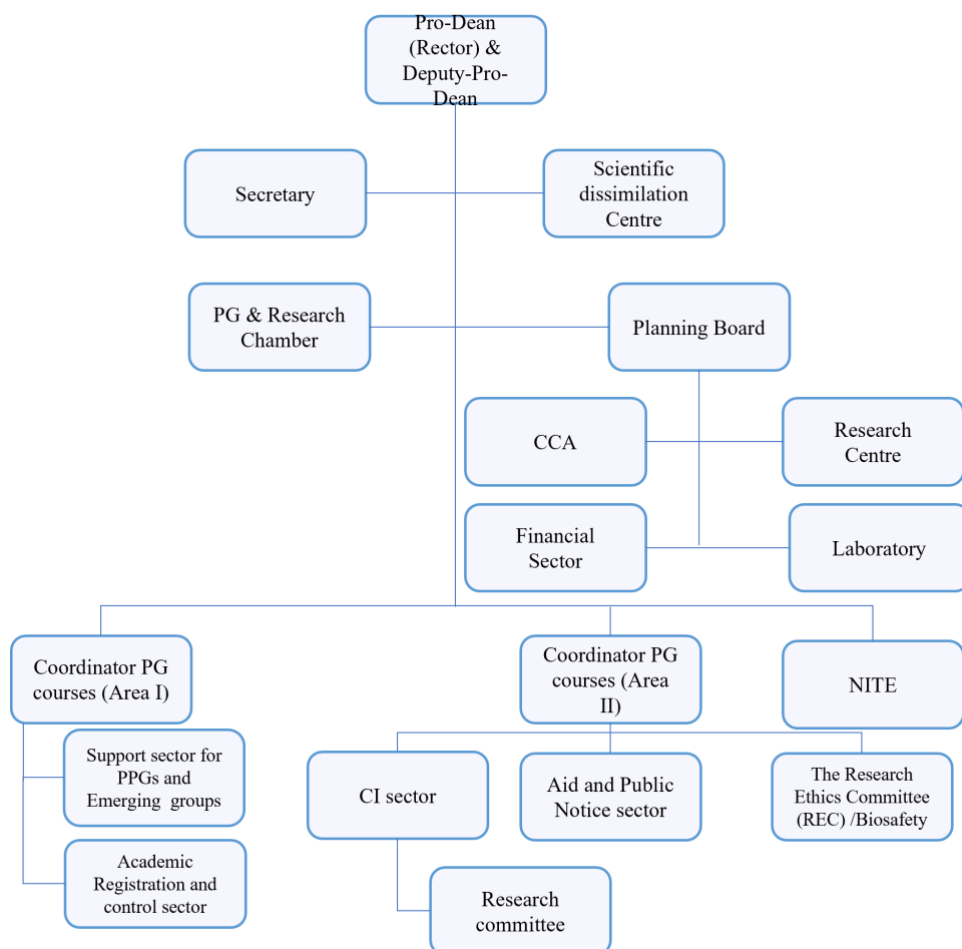

Figure 2: Pro-Dean (Rector)'s Organization Chart (Source: Author)

The function of the Dean's Office is to induce the creation of new programs, integrate a group of emerging researchers and support the research of these groups. The key strategic process mapping, the focus of this study, is creating graduate courses. The choice is justified by the complexity of this process and its strategic value for achieving the organization's objectives. The Pro-Rectory's role in this process is to guide, support and coordinate the initiatives, acting internally, in the superior councils, and externally in the submission and evaluation process

with the University of Tripoli (UT), Libya. Figure 3 represents the mapping in the form of a flowchart.
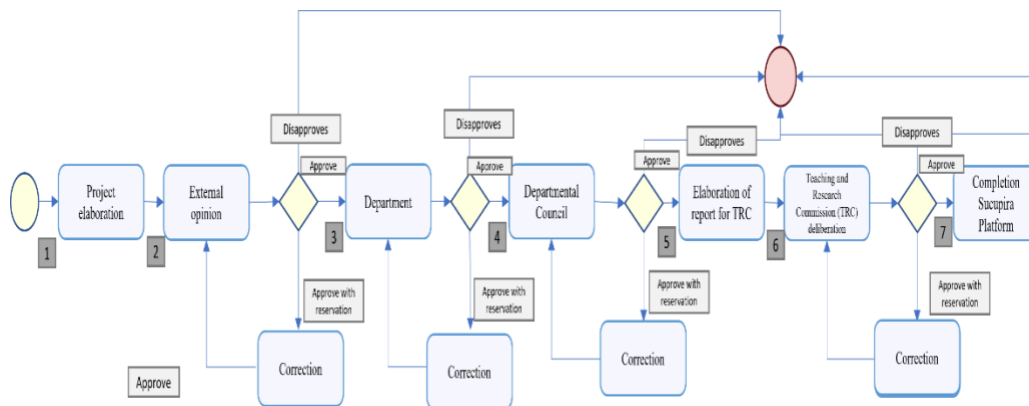

Figure 3: Flowchart of the postgraduate course creation process

Source: Research d

ents, Partner, UT, and Teaching and Research Commission (TRC). Table 1 identifies the documents required for each stage of the course creation process, presented in chronological order of activities.

Creating postgraduate courses, which go through these steps, is new in the Pro-Rectory, taking place just two years ago. Emerging groups were created to standardize and organize information from departments. This process carried out by the emerging group takes about a year and the preparation of the Project Document is the main deliverable of this stage. The information on how the course should be created comes from TRC and the role of the Dean is to help and support the groups.

The Partner, a member external to the institution, responsible for the "External Opinion" activity is chosen for his experience in evaluating the courses and for his comprehensive knowledge of the criteria pre-established by TRC. The Pro-Rector advises the emerging group in choosing this individual. The availability of the Partner directly influences your choice.

Standardized criteria are not established for approvals, in addition to those pre-defined by TRC. Another problem identified is the time UT requires for approval and completion on the Online Platform, as they require a deadline that may exceed the dates established by TRC. After being approved by TRC, the course must be implemented within one year and it is the responsibility of the Pro-Rectory to publicize and coordinate.

Table 1: Documents required at each stage

Emerging Group	• **Process Resolution** • **Institution rules for Procedure** • **Institution Statute**
For Partner	Project Document
For Department	• Resolution approval (Coming from the Partner) • Official Letter and document of the Project (Coming from the emerging group)
For Department council	Job -Extract from the minutes of approval by the department
For Dean	Job-Extract from the minutes of approval by the departmental council
To The Research Ethics Committee (REC)	▪ The email with Project document ▪ Course approval resolution
For Group President emergent	Office (informing REC Approval)
For UT	• Course approval Resolution • Platform submission
For Department (Stage Homologation)	Offices

Source: Author

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The Dean's internal processes have no explanation of Knowledge Management, so its practices are implicit. According to research data, knowledge is a very important resource and there are formal attempts to disseminate it in the institution. There needs to be standardization in the postgraduate course creation process; there needs to be more practices that identify problems, transfer knowledge and share information. There are also gaps in practices that structure the processes, as the implicit knowledge generated needs to be explicitly organized, disseminated and retained for other emerging groups.

5. Presentation of the model

The research elaborated a management model to adapt and optimize Management by Processes applied directly to Knowledge Management. Using the methodology of the four major stages by Bučková, Jaroslava. (2015) and the methodology of Mapping critical knowledge in state public administration.

Using the information obtained by the research, considering the specificities of the administrative areas of the HEI, the model is structured to know the organizational context and map processes and activities. Thus, we begin to associate critical knowledge and apply Knowledge Management techniques and tools. Finally, the model proposes initiatives that improve the mapped strategic process. These initiatives focus on the deficiency of information technology infrastructure, the difficulty of capturing undocumented knowledge, the lack of incentives and internal communication, and the current context of federal institutions of higher education, as shown in the study by Agarwal, (2014). The model used in the studied Pro-Rectory can be applied in other organizational contexts, mainly due to its ease of application and focus on strategic processes that generate value.

The Management model, applied in the Dean's Office to improve internal activities, begins with diagnosing the organization's context, knowing its core activities, organization chart and strategies. Figure 4 illustrates the steps of the model.

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┌─────────────────────────────────┐
│     Organizational Context      │
└─────────────────────────────────┘
               ⇩
┌─────────────────────────────────┐
│    Mapping of Strategic process │
└─────────────────────────────────┘
               ⇩
┌─────────────────────────────────┐
│   Breakdown of processes into the│
│        activities and tasks     │
└─────────────────────────────────┘
               ⇩
┌─────────────────────────────────┐
│  Association and Prioritization of│
│            Knowledge            │
└─────────────────────────────────┘
               ⇩
┌─────────────────────────────────┐
│       Identify action of foci   │
└─────────────────────────────────┘
               ⇩
┌─────────────────────────────────┐
│     Characterize the Formation  │
└─────────────────────────────────┘
               ⇩
┌─────────────────────────────────┐
│         Identify Tools          │
└─────────────────────────────────┘
               ⇩
┌─────────────────────────────────┐
│   Adaptation of existing tools –│
│      Portfolio of initiatives   │
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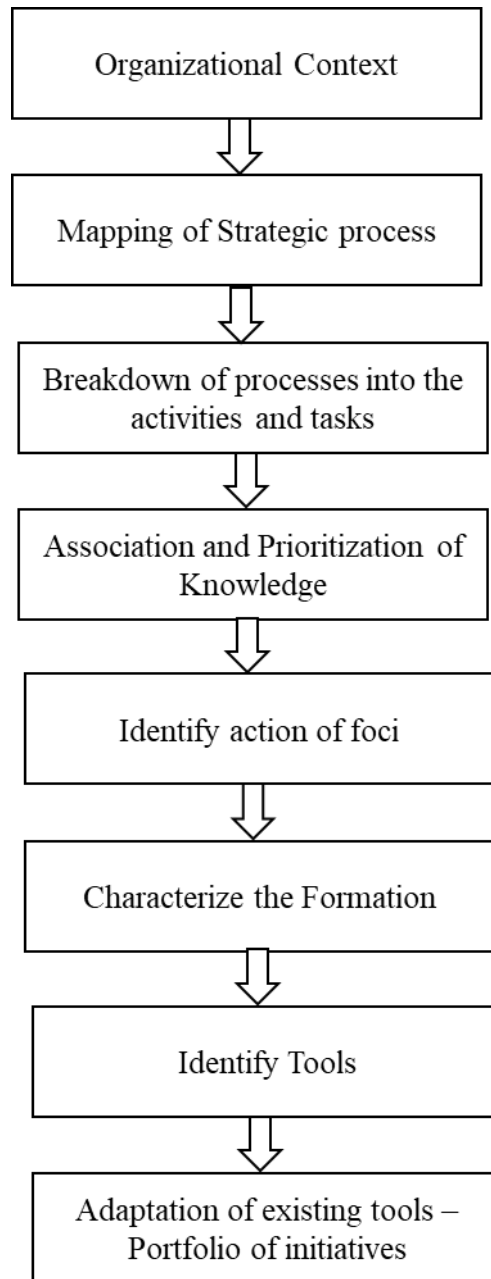
Figure 4: Stages of the Management Model

Source: *Research data.*

From the discovery of the strategic context of the company, the mapping of the process begins, with the objective of identifying the key, managerial and support processes. As an essential part of the business, the key processes have a strategic role intrinsically related to the organization's results.

To help the graphic visualization of the strategic processes, the flowchart is used. According to Prakash, et al (2020) is a technique used to register the process simply and easily to visualize

and understand. Considering that a process is the sequential chaining of a series of steps and decision points, the flowchart will contribute to an overview with possibilities for detailing.

The third phase of the model, still in the context of process mapping, involves breaking down the activities and tasks that make up the analyzed processes. In this stage, inputs and outputs, the people involved, the type of information handled and whether or not there is a decision point (or verification) are evaluated. Using the concept of processes offers a more detailed and descriptive level of analysis; Gonçalves (2000) states that this form of analysis allows a better view of the behavior of process agents in a more integrated and comprehensive way.

The fourth stage of the model consists of identifying the knowledge associated with each activity in the descriptive stages of the process. At that moment, the associated critical knowledge is identified and grouped and classified in descending order of importance.

Identifying the focus of action aims to understand the importance and relevance of each evaluated criterion, breaking down the aspects that encompass the criticality of knowledge. Another relevant issue at this stage is the association of potential problems for each activity and task to later apply Knowledge Management.

In the fifth stage, the information associated with knowledge is characterized, using the specification of its format (internal documents, technical publications, database, verbal contacts, etc.) and origin (specify supplier, organizational unit, institution, company, University, etc).

After analysing the knowledge associated with each activity of the stage that makes up the dismembered key process, it is important to understand if there are knowledge management tools that are systematically applied in the evaluated context and in what stage of development they are. Finally, in the seventh stage, adaptations of existing tools and applications of new ones are proposed that fit the context of the process and can solve problems and generate improvements.

6. Conclusion

It is known that Knowledge Management in the public sector needs to be used and deepened. This study proposes a change in this paradigm, pointing out the importance of applying Knowledge Management explicitly and the relevance of this application in strategic processes. The application of the methodology generates value for the process, as it facilitates the retention and dissemination of the knowledge necessary to carry out the activities. Another important

aspect of this methodology is the ease of application in other administrative units and even in organizations that need to improve strategic processes focused on knowledge.

The research concluded by identifying the problems and barriers encountered in creating the postgraduate course and in the proposed model application. The need for the creation, retention and dissemination of knowledge within this process is observed by users. In addition, standardizing aspects of the process, such as assessments, is necessary for effective course creation. Using tools that explain the knowledge needed at each stage would help users make decisions.

Thus, the proposed model uses the concepts of Management by Processes and Knowledge Management simultaneously to improve the processes of service companies. Making it possible to understand the strategic objectives, propose changes, guarantee the retention of the knowledge generated in the activities, facilitate the management of the processes, apply the continuous improvement of the quality of the services and guarantee the satisfaction of the clients-users of the service.

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