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PROJECT MANAGEMENT: HUMAN AND ORGANIZATIONAL LEARNING

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Abstract:
Project management and projects typically generate a lot of knowledge but unfortunately a formal closure to collect, catalog and archive the documents / information will not be executed. The causes of this improper closure of the project is generally due to the senior management that considers the cost of the closure of the project as an unnecessary cost. After the examination of the current situation to enhance the capacity of the organization to improve its profitability to achieve the strategic goals we could outline three different areas:
- Integrated management of knowledge – with the definition of a new area in the ISO21500 norm;
- Defining a culture of project and knowledge management – through the application of the OKC (Organizational Knowledge Center);
- Continuous improvement of organizational processes – with the Deming cycle.

If each project use the historical information and the lessons learned generated inside the organization we could have a reduction of the cost, time and uncertainty of the project and an improvement in effectiveness and efficency.

Keywords: project management, project culture, lessons learned, personal and organizational knowledge

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1. INTRODUCTION

The world of project management is an incredible generator of knowledge,we just refer to all the documents that must be produced: project plans, functional specifications, technical specifications, minute meetings, progress report, change requests, ... Unfortunately, in most cases, this knowledge doesn't increase the value of the organization process assets.

Project management and projects typically generate: conceptual, organizational, relational and experiential knowledge, just to mention some of them. Too often at the end of a project team, that has managed it, return to normal activities or are used on new projects, and a formal closure to collect, catalog and archive the documents / information will not be executed. This leads to inefficiencies in terms of time and money spent in reinventing the things that are already known within the organization, but not usable at all.

This study aims to highlight the causes of this situation, the potential for improvement and synergies that can be designed to do the organization more competitive and efficient at the same time attempted to provide guidelines to accumulate, transfer and utilize knowledge acquired.

2. ANALYSIS OF THE CAUSES

We shall begin this study with an analysis on the causes of improper closure of the project, I mean, the lack of a phase to collect, catalog and archive the documentations generated during the execution of the project. The reasons, which at first sight might seem the most plausible, are the lack of resources, time and budget. Often people, due to the pressure of work, are assigned to other projects as soon as the previous project go into the closing phase. But perhaps the most plausible explanation is that generally the senior management considers the cost of the closure of the project as an unnecessary cost.

Another motivation on the human nature that avoids liability due to a job is not done properly, leads team members and in particular the project manager who has more managerial responsibilities do not perform this step, avoiding, in this way, the criticism of the work.

Kerzner observes people are more likely to document the successes and are more reluctant to document the failures because their name would be inextricably linked to failures, for fear of retaliation.

Thomset compares projects with the "witch hunt", as one of the most ruthless and cynical organizational practices in which the victims (the project manager and sometimes his entire team) are accused by the top management, however, for the poor results. Identifies in top management the primarily responsible for the failure. To further substantiate this statement we can also say that it is the top management who have to define all the directives for a proper project management. Unfortunately, in most cases, this responsibility is ignored, for a variety of reasons ranging from the lack of a strong culture in project management to a wrong perception of reality in their organization.

Murray, however, advocates for greater professionalism of the project manager and his team inviting him to accept the responsibilities independently of the involved factors.

However. in these cases, lose sight of the real goal that must be pursued. The real goal of the closed phase of a project is the collection and documentation of everything that happened during the execution of the project in order to obtain extremely beneficial in terms of saving and experience, in new projects that will be managed by the same organization.

It's true what Kerzner said, " the only real failures are those in which we learn nothing."

From the analysis of the Standish Group, which analyzes every 2 years, in its CHAOS report, the performance of projects in various market sectors and in different cultural contexts, the picture is quite critical in the regard of the implementation of projects which fail to meet the objectives for whom they were initiated. The last value obtained from this analysis will return a value of about 37% of projects that have met the customer aspettattive. The analysis of this situation is mainly due to three factors:
- Poor or almost absent risk analysis;

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- Ineffective management of quality in the processes of project management;
- Deficient management of the acquired knowledge in the management of projects by the organization.
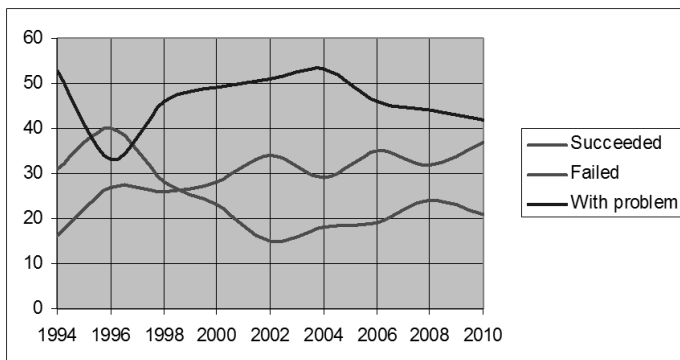

Fonte: Standish Group

We therefore outline three different areas:
- Introduction of an *organizational project management culture* oriented, which is directly involved the top management of the organization;
- Improvement of professional skills of project managers so that their behavior can always be directed to the ethics of the profession by allowing a proper and transparent communication within the organization;
- Definition of a Knowledge Management system that can handle all the knowledge generated by projects that allow you to store the information and at the same time to deploy it.

2.1. Culture of Project Management

Recover a famous phrase of Napoleon "There are no bad regiments, only incapable colonels " that is perfectly suited to the organizational context, we can say that it is the management the major source of problems of the organization. If proper guidelines are not distributed and will not supervise that these are properly executed can not be expected that the results will meet expectations. In this context, one of the toughest tasks for which you will have to occupy management is the definition of a strong culture of project management, which differently from other cultural contexts of the organization (eg sales, marketing, ...) are characterized by a vertical development within the Directions/departments, spread horizontally because it embraces the whole organizational structure.

Picture 1: Development of a culture of project management
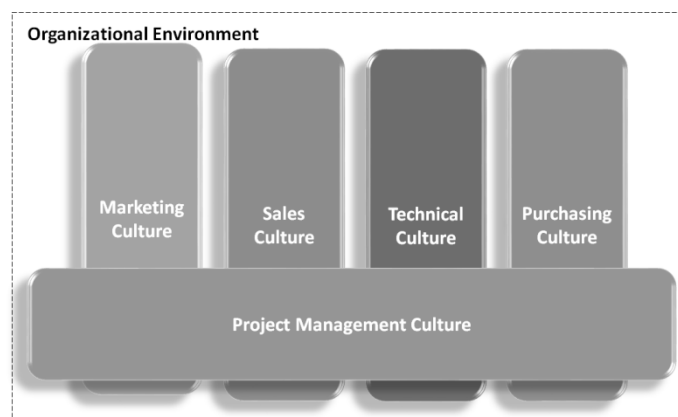
2.2. Professional project manager

The project manager is a professional, and as such should be formed. Unfortunately, in many companies we can assist to the growth of this professional, not through an educational process that should begin with a careful analysis of the candidate's ability, but through a mechanism of promotion

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that elevates the person who stood out for the undisputed technical skills. In this context, we lose sight of one of the most basic concepts of work and the allocation of responsibilities, which answers the following question: Is the person able to perform the task that is required. Since the role of the project manager is typically aimed at the managerial and not to the technical context, this persons do not always meet expectations because the tasks that will have to play are too far away from what is its working reality.

2.3. Knowledge Management

In order to make effective and efficient structure for managing projects within an organization is required to have a knowledge management system that archives and at the same time make accessible all the information. The information generated by the organization are the lifeblood of all projects. Without them, the project will:
- Difficulties in planning. Each project within the organization will be managed as «first project»;
- Difficulties in achieving the objectives. Don't be able to use the historical information for better planning and manage project risks;
- Lack of management. The projects and related processes will not improve.

Consequently, the organization may not:
- Improve their level of organizational maturity.

Let's see how a proper organization of information can be beneficial to the organizations. Therefore we start with the evaluation of different types of knowledge that are gained from the projects.

## 3. THE KNOWLEDGE OF THE ORGANIZATION

In an organization will have two different levels of knowledge that must be managed, from the historical information and lessons learned point of view:
- *individual knowledge*. What the people have learned during the execution of the project;
- *Organizational knowledge*. What the organization has developed and learned from the management of the projects.

3.1. Individual knowledge

Taking Ismail,«poor is the collection of information on how people share knowledge and experience», especially in the context of the project. The author proposes a theoretical framework, represented in the following figure, which shows, by means of appropriate motivational and removing those that may be of inhibitory factors in the sharing of knowledge and experiences, a more effective and efficient sharing of knowledge / experience that would help to increase the probability of success of a project.

Picture 2: The knowledge of individuals
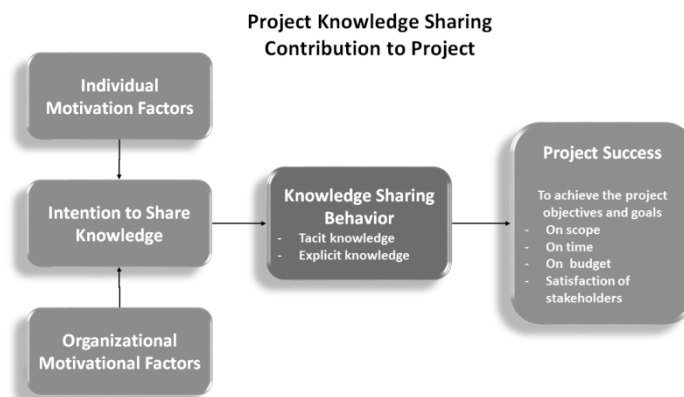
This model is based on the " Nonaka 's Knowledge Conversion Model (known as the SECI model)." It was introduced as one of the most critical elements in the management of knowledge in this context, the management of the tacit knowledge of people. Only through a strong personal motivation, supported by strong motivations from the organization, a person may be willing to share their

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experiences and knowledge. You have to remove the perception of *knowledge = power* to move towards a model of *power = ability to share* where people are valued for their ability to share knowledge and experience at all levels of the organization. This involves a radical cultural change in which even the reward systems of the people must be rethought.

Referring again to the model proposed by Ismail, is not entirely correct to say that only through the collection of these knowledge projects can be successful. Success can be achieved through a system of organizational collaboration in which all parties provide their own contribution: Individuals and organization.

To achieve the desired result the organization, as a priority, it must define the strategy by which we can get this information, so you do not only need to motivate people, but to identify the means by which this collection is made possible. The classic tools such as brainstorming, focus groups, and others may no longer be sufficient. It may therefore be necessary to enlist the help of psychologists who help people to give an order to their thoughts and their feelings. Many times it is just what a person does not have a perfect knowledge but a subtle feeling that might be the key to success in future projects / activities.

3.2. Organizational knowledge

The management of projects, through the amount of documentation that is generated, it is an inexhaustible source of knowledge if properly managed can make a significant contribution to the improvement of organizational processes allowing at the same time to feed the loop of continuous improvement in order to achieve high maturity models.

In this context it becomes particularly important the culture of the organization as it directs all project management organizational behavior and not to the collection, cataloging and information management as well as everything that has been learned in terms of experience, we talk about the knowledge that are generically classified as Lesson Learned. Skills that are learned from such activities have been planned and executed and those who were their results. By critical analysis of these activities you can get to define what has been done in a correct way and that, therefore, it is fair to replicate in the projects that will be managed as a result but also what has not been done so correctly, but which still brings important elements of knowledge because it forces us to reflect on the causes of failure making us understand mistakes made by drawing at the same time the way so that in the same circumstances, in future projects, we can chose the best route.

Picture 3: The knowledge of the organizations
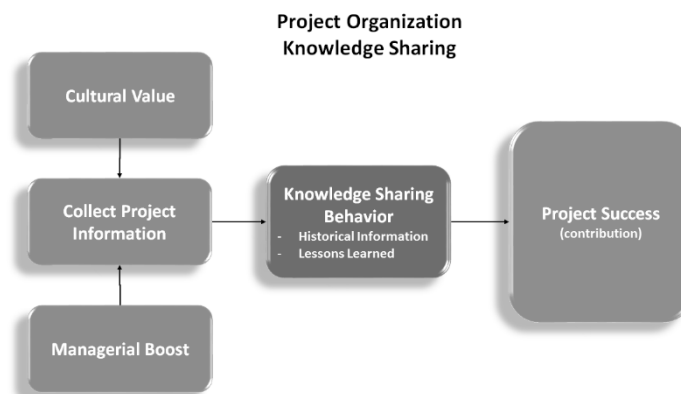
From these two organizational knowledge we can outline what can be the framework that organizations can use to manage its knowledge.

Organizational and individual knowledge provided by the organization are the foundation on which the processes of project management can be improved to achieve the results for which the projects have been undertaken. Through this knowledge you have the possibility to identify the weaknesses and

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strengths of the processes and their organizational flow, defining improvement actions that will direct the flow of actions towards the continuous improvement of the organization.

Factor of extreme importance are also the tools that technology provides us for the knowledge so that it can be properly managed. There are already technologically advanced tools for knowledge management in the context of a project but you need to have built-in tools that integrate planning tools with these tools of knowledge management.

Picture 4: Knowledge and success of organizations
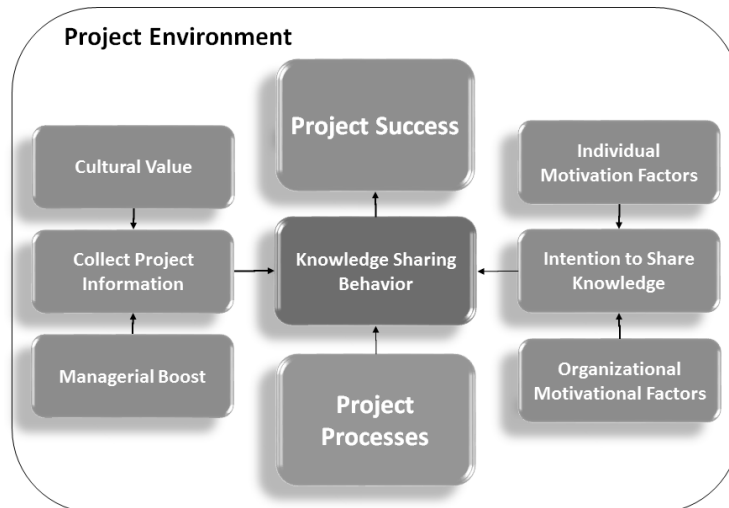
The characteristics (minimum) of these tools should be:
- Automatic archiving of official documents (design documents, functional specifications, reports, ...);
- Managing the versioning of documents;
- Archiving of documentation for meetings, events and presentations;
- Lessons learned;
- Mail system design with automatic archiving in the database of the project;
- Immediate fruition of all information.

4. WHAT IS THE FUTURE

After the examination of the current situation with the evidence of the elements that them characterized we can define, to guide our actions, what are the critical success factors of project management in a context of knowledge management:
- *Integrated management of knowledge*;
- Establishment of a culture of project and knowledge management;
- *Continuous improvement* of organizational processes.

4.1. Integrated management of knowledge

In order for knowledge management projects can be managed effectively and efficiency is necessary for the project management system integrates the management of knowledge. Should be defined the processes that govern the management. In an ideal development project, as defined by the ISO with its standard ISO21500 project management, through the 5 process groups: initiation, planning, execution, monitoring, and closure must be insert the processes of knowledge management into the following groups:
- Initiating - projects must benefit from the knowledge of past projects in order to improve the management of the project, through the knowledge and past experiences;
- Planning, execution, control - collecting and storing lessons learned gained from the development of the project;
- Closure - recording the lessons learned acquired in this last phase and all the information generated by the project (official and unofficial documents, presentations, memos, reports ...).

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In this context, it would be desirable to the 10 knowledge areas (scope, time, cost, risk, ...), that make up the standard ISO21500, to add another one, the management of the knowledge. Only in this case you would have an effective integration between project management and the knowledge.

4.2. Defining a culture of project and knowledge management

The culture of project and knowledge management, to succeed, must permeate the entire organization. Must be able to develop horizontally embracing all organizational structures, placing a common factor principles and concepts that are shared by all, taking into account the specificities of each individual feature. Must be established a central body which develops, and manages to branch out the principles and guidelines by which the organization can move forward with the knowledge that she herself is able to generate. Must be defined.

As shown in the following figure is shown the flow of information and knowledge between the project organization and the organization and in the second part of the figure shows the area of interest and influence of organizational structure responsible for managing the knowledge that call Organizational Knowledge Center (OKC), whose main responsibilities / activities are:
- Definition of means of knowledge management;
- Definition of the development cycle of knowledge in a project structure;
- Definition of the processes of knowledge management in a project context;
- Transformation of knowledge into operational practices (process improvement, defining checklists, troubleshooting);
- Definition of the resources needed to manage and the related costs.

**Picture 5:** Organizational Knowledge Center
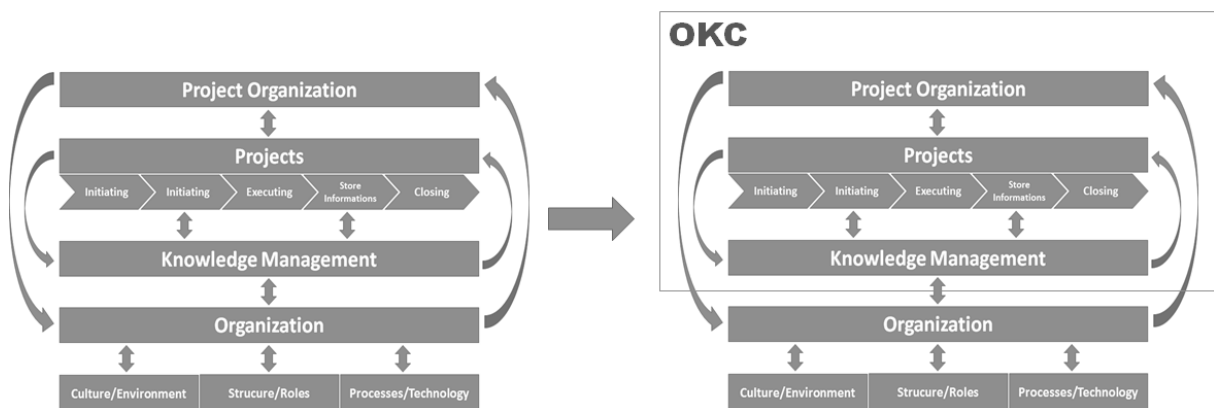
4.3. Continuous improvement of organizational processes

The ultimate goal of an organization is to pursue and achieve the strategic objectives for which the organization was created. In this context, the projects are the tools available for the organization to achieve this. In addition to having to meet the objectives there needs to commit itself for the results can be prosecuted effectively and efficiently, this is only possible through the adoption of the Deming cycle (Plan-Do- Check-Act) in the organizational context. By superimposing the cycle to the proposed model (OKC) is obtained by the model described in the image below in which:
- Plan - a component of knowledge management plan will be managed as knowledge (collected, stored and disseminated);
- Do - the context of the project is running the project with the integration of the processes of knowledge management;
- Check - The project collects and analyzes the results;
- Act - the organization and knowledge management component to determine if the actions taken have resulted in benefits for which they were taken, approving those that are valid and rejecting ineffective ones.

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The most important thing about this series is the fact that they must be repeated periodically to continuously improve the organizational context / knowledge in which both the company and the people continue to learn and improve.

Picture 6: Coninuous improvement of the organization
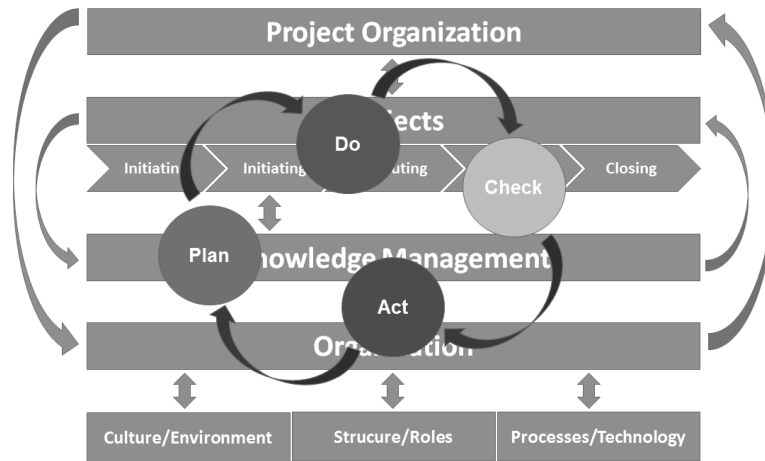
4.4. Conclusion

If each project use the historical information generated inside the organization we could have a reduction of the cost and time of the project. This reduction in percentage in a statistical way is so defined:

- Cost and time to store the information – 0-2%. 0% when we defined the project processes with a knowledge management component to store the information during the execution of the project;
- Reduction of cost and time to use the historical information – 10-20% of the cost and time during the planning phase.

The advantage of *cost and time reduction*, multiplied for each project, is more and more than the cost to store the informations. In this case the organization has the opportunity to invest in new projects and to increment its profits.

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