



Gridding Project of a Lamination Machine from the PMBOK

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Abstract: Project management is a topic of great importance in various economic activities, whether industrial, commercial or others. This article aims to present a network planning in a rolling mill in a forge, using the PMBOK as the basis for all project planning. The Project Management Institute, a forum of excellence in the area of projects, contributes to the theoretical consolidation and dissemination of experiences and good practices in the area, which, in turn, defined the concept of project as the temporary effort undertaken to create a product, service or single result, it recognizes five groups of project management processes: Initiating, Planning, Executing, Monitoring and Controlling and Closing Project Management is characterized as promoting teaching and learning in organizations, achieving significant results, where quality it is essential in the goals that the organization pursues. Project Management is the application of fundamentals and concepts, related to certain given skills. This work was carried out through the case study, following the planning and execution of the project. In the project described in this work, all acquisitions were carried out by the purchasing sector, subordinated to the financial sector. At the end of this work, it is concluded that Project Management is described as a promoter of teaching and learning in organizations, achieving significant results, where quality is essential in the objectives that the organization pursues.

Keywords: Management, Project, Safety

1. Introduction

According to Torreão project management dates back to the time of the pyramids in ancient Egypt, the Great Wall of China, as well as the aqueducts and grandiose works of the Greek and Roman civilizations [1].

But the importance of project management and management, and its current form is presented to us from the last half and the last century, going through great works and impressive actions, ending up taking man to the moon and other wonders of space technology.

Planning, scheduling and executing are activities necessary for all organizations, and indispensable for them to be successful. This article presents a case study, and how this project management technique can improve and improve and produce more suitable results for the organization.

2. Development

According to Vargas a project can be considered as a non-repeated undertaking, characterized by a succession of defined

events, with a beginning, a middle and an end [2]. Intended to achieve a goal and always led by people within the parameters of time and cost and quality, resources and quality whose characteristics are temporary and individual in order to accomplish something that has not yet been done and, The Project Management Institute (PMI), is a forum of excellence in the area of projects, contributes to the theoretical consolidation and dissemination of experiences and best practices in the area, which, for its part, defined the concept of project as “a temporary effort undertaken to create a unique product, service or result” and recognizes five groups of project management processes: Initiating, Planning, Executing, Monitoring and Controlling, and Closing [3, 2].

Therefore, is not part of the routine the company with the use of specific resources gathered for the development of the work.

Keeling says, success requires goals that can be achievable, adequate organization and management skills, especially in planning, control and also leadership [4].

According to the PMBOK, the definition of a project is understood as “a project is a temporary undertaking undertaken to create a unique product, service or result.”

Thus, according to Xavier, in the project planning process,

the whole team involves the interested parties according to the influence of each one of them in the project, according to the skills that will be used in the project [5].

The project, in question presented in this work, deals with the railing of a steel laminating machine, used in a forging company, in the city of São Leopoldo, in the state of Rio Grande do Sul, in the metropolitan region of Porto Alegre, in south Brazil.



Figure 1. Laminating machine.

This equipment in question is of vital importance for this company, as its operation is the starting point of all sequential processes of each of this company's products. This system of railing is necessary to increase the safety of employees who operate this equipment, in addition to making it safe and free from operating risk, in accordance with current legislation. The name in question is NR 12 (NR-12 is

a Brazilian regulation that establishes minimum requirements for safe work on machinery and equipment, ranging from design to disposal of machines and the various interactions with workers in all phases of use) [6].

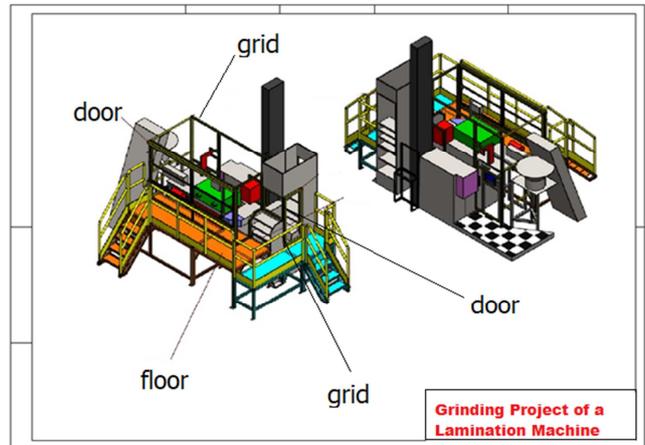


Figure 2. Railing of a steel laminating machine.

Some of the assumptions below must be met for the project to be executed in accordance with the project.

- The project must be a maximum of 4 weeks

 1. The value cannot exceed 10 thousand dollars.
 2. The useful life of the railing must be 05 years.
 3. The fence must cover all equipment

According to Maximiliano [7], WBS (Work breakdown) is the centerpiece in the planning of any project, since it allows defining the project scope, that is, the set of activities that need to be executed. Thus, the WBS of the project follows as shown in the figure below.

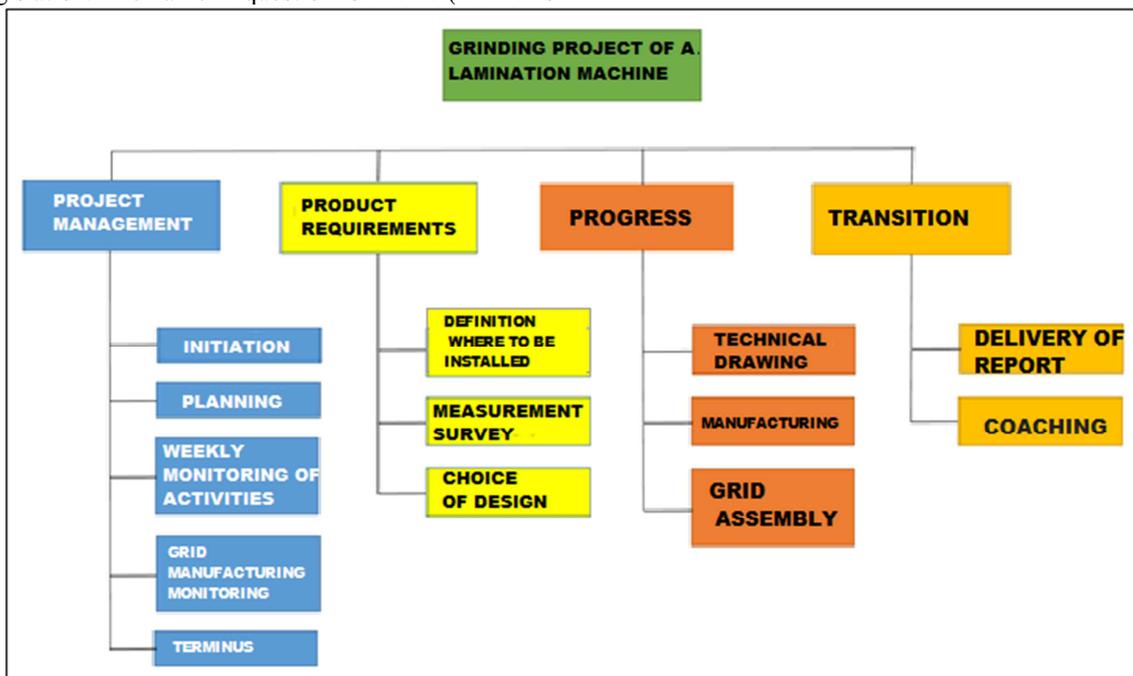


Figure 3. Work breakdown (WBS).

3. Resource

Human resource planning involves identifying roles, responsibilities, and the hierarchy of people within the project. The people management plan can include information about the allocation schedule of people, criteria for releasing them to the project, identification of training needs, skills and others.

Kerzner, states that a project is an enterprise with well-defined objectives that consumes resources and operates under pressures of deadlines, costs and quality [8]. Furthermore, projects are generally considered to be unique activities within a company.

Melo, conceptualizes that every project must present exclusive products, services or results [9]. Even though there

are some similarities, the results of the projects show differences and that uniqueness is an important characteristic of the projects' deliverables. The project always has a beginning and an end. They start when you create the product or service you wanted to create until it closes.

In turn, the project management team is a part of the project team, being responsible for project management, planning, control and closing activities. This part of the team can be called the core, executive, or lead team. On smaller projects, these project management responsibilities can be shared by the entire team or managed solely by the project manager.

For the project in question, a team of 9 collaborators will be needed, which are divided according to the table below.

Table 1. Collaborators of Project-Project Team.

EMPLOYEE		
POST	DEPARTMENT	NUMBER OF EMPLOYEES
PROJECT MANAGER	MANAGEMENT	1
DRAFTSMAN	ENGINEERING DEPARTMENT	1
BUDGETOR	FINANCE DEPARTMENT	1
TECHNICAL PURCHASER	FINANCE DEPARTMENT	1
MANUFACTURING SUPERVISOR	MANUFACTURING DEPARTMENT	1
WELDER	MANUFACTURING DEPARTMENT	2
MECHANICAL ASSEMBLER	INSTALLATION DEPARTMENT	2

The Project Schedule is a widely known tool. Understood as a matrix that graphically reveals for each WBS item, on a time scale, the period that be performed.

Duration time is the interval between the beginning and the end of a specific task, without considering the number of

people needed for this to occur.

The Project Schedule can be defined as a communication tool that demonstrates all the work to be performed, the resources that will be employed and the deadlines that need to be met so that everything is carried out as planned.

Table 2. Schedule.

GRIDDING PROJECT OF A LAMINATION MACHINE								
SCHEDULE								
YEAR: 2020								
DATE: 03/03/2020				PERIOD				
				SETEMBER				
PROJECT	START	PREVISION	END	PROGRESS	1/1	9/1	20/1	25/01
INITIATION	1/1	17/2	2/1					
PLANNING	03/01/	3/1	9/1					
EXECUTION	9/1	17/1	20/1					
CONTROL	21/1	21/1	25/1					
CLOSING	1/2	1/1	1/2					

Maximiano, states that at the beginning of a project, it is not practical, in most cases, to go beyond an approximate idea of costs [5]. The cost of preparing the budget increases when the technology is unknown or when there is some other factor of uncertainty about the project.

Terribili Filho, says that non-compliance with the established budget happens due to several factors, such as changes or poorly defined scope, delay in the schedule, team performance, quality rework, among others, and not only due to problems in project cost management, which can bring huge losses to the company [10].

Carvalho, states that organizations develop processes, techniques and tools in order to obtain efficiency in the

management process and better performance in project results [11]. Such recommendations are in line with the results found here, considering the respondents' perception of project success.

The budget for the project, based on the price quotation that breaks down the railing, added to the labor, was in accordance with the premise, which was ten thousand dollars.

Gorges, tells us that in quality planning, the characteristics of the product or service are examined, comparing them to the explicit and implicit needs of the stakeholders in order to understand how they correlate [12].

According to the modern philosophy of quality management, error prevention is more important than

detection. The cost is lower and it becomes faster to work on prevention than on correction. The cost of rework goes beyond financial expenses and time, it can also damage the image of the project team, the organization and cause a great negative impact on people.

Orth, in turn, states that the most direct, probable and important risks, however, are usually perceived and researched during the feasibility study, which can also identify signs that warn managers and managers for the emergence of an imminent problem [13].

For Portny, no matter the specific characteristics of your projects, deadlines, resources and results, they will be the same for any project, of any type or cost or size [14].

One of the worrying risks concerns the geometry of the railing, and the possibility that it may not fit within the perimeter of the machine, making the project unfeasible.

4. Conclusion

As such, the procurement management plan outlines how the procurement processes will be managed from the development of the procurement procurement through the end of the contract.

In the project described in this work, all acquisitions were carried out by the purchasing sector, subordinated to the financial sector.

The quality of the product must be reliable or in accordance with predetermined specifications. With a reasonable delivery time. The customer needs to have the product within a certain period of time, otherwise the product has no value, so the PMBOK is an essential tool for this issue.

It is more likely that a satisfied customer will maintain a good relationship with the company over time and this is what really matters, hence the importance of carrying out the methodology.



Figure 4. Siemens Safty Gridd.

According to Xavier, project management is a subset of project management that includes the protection processes for the generation, collection, disclosure, storage and proper final disposal of project information [2].

Thus, the communication of the project took place entirely

through electronic means and meetings with the entire project team.

The Grids, applied to this equipment, have the main objective, they enclose it, and make its use safe, and comply with safety standards, which has been achieved [15].

At the end of this work, it is concluded that Project Management is described as a promoter of teaching and learning in organizations, achieving significant results, where quality is essential in the objectives that the organization pursues.

The premises for the project to be executed according to the project, which were, the project time, the stipulated value, the useful life, the size and characteristics of the fence, were all long, thanks to the use of PMI tools, which showed that it does not matter what type and size of the project is, when they are well applied the results are achieved.

Understand that Project Management is the application of fundamentals and concepts, related to certain competencies provided for the desired objective, desired by the organization.

The number of companies that use project management has increased significantly, making it essential to have a model based on focus, priorities and objectives.

Organizations are increasingly looking for alternatives to keep up with a competitive market, demanding that they know how to plan, organize and control their operations, in this way organizations can meet the needs and act preventively so that damage to their structure does not occur, and so that they are prepared to meet all possible expectations, internally and externally, with a positive impact on society.

Based on the knowledge acquired with the PMBOK, the project manager is able to establish clear guidelines and standardize processes, ensuring that, in an appropriate way, greater quality and reliability can be achieved.

Thus, the established guidelines serve to increase the company's efficiency and generate value to better satisfy customer needs.

Using this method, we prepare documentation, evaluate existing processes and identify interested parties. The practices aimed to make the most of the human, capital, technological and technical resources at our disposal.

With the completion of the initial stages, it was much easier to implement the prepared plan and meet the established goals. Who were managing the execution of the project; mobilize and develop the team to achieve the result, conduct the necessary acquisitions, and distribute all necessary information to interested parties.

The Monitoring and Control part whose the objective was that there are no major variations in the project, where the monitoring of activities, the supervision of the schedule and control of risks, and the disclosure of performance took place as per plan.

Thus, it can be understood that the concept of project management goes beyond mere techniques and managerial skills included, that is, it requires, in addition, the relevance of the use of techniques and tools in project management, in

all segments of work, are accepted and recognized, since what is currently sought are procedures that facilitate the execution of organizational tasks and the achievement of the results foreseen in the institutional plans.

Finally, in the general context, the projects present themselves as profound changes in organizations, exposing new methodologies and practices and professional attitudes, as well as attracting new skills.

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