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PLANNING OUR EVERYDAY USING TOOLS AND TECHNIQUES OF PROJECT MANAGEMENT

PLANEJAMENTO NOSSO DE CADA DIA UTILIZANDO FERRAMENTAS E TÉCNICAS DE GERENCIAMENTO DE PROJETOS

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Abstract

Planning our daily lives may not be a custom for individuals to have and see how important it is. Therefore, the objective of this paper is to present the most used Project management methodologies, tools and techniques used by project managers, which can be applied in our day by day, such as Project Management Body of Knowledge guide (PMBOK), Work Breakdown Structure (WBS), MS Project, Project Canvas and the methodology agile with the Scrum framework. In the research, it was found that using the concepts; it is possible that people can plan, even if they are not able to acquire software licenses due to their high cost. However, despite that, there are alternatives that can be used.

Keywords

PMBOK; Agile; WBS; Canvas; goal.

Resumo

O planejamento no nosso cotidiano pode não ser um costume que os indivíduos tenham e enxerguem o quão importante é. Portanto, o objetivo deste trabalho é apresentar as metodologias, ferramentas e técnicas de gerenciamento de projetos utilizadas pelos gerentes de projetos, as quais podem ser aplicadas no nosso dia a dia, tais como, as melhores práticas do guia "Project Management Body of Knowledge" [PMBOK], "Work Breakdown Structure" [WBS], Microsoft "Project", "Project" Canvas e a metodologia ágil com o "framework" "Scrum". Perante a pesquisa, foi constatado que usando os conceitos, é possível que as pessoas tenham a capacidade de planejar, mesmo que não tenham condições de adquirir licenças de softwares devido ao seu alto custo. Mas apesar disso, há alternativas que podem ser utilizadas.

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Palavras-Chave

PMBOK; ágil; EAP; Canvas; objetivo.

1. Introduction

The definition of the verb plan, according to the Oxford dictionary (10), means:

1. A detailed proposal for doing or achieving something.

2. An intention or decision about what one is going to do.

3. A detailed map or diagram.

Knowing how to plan is one of the skills ("soft skill") that each person can develop to improve what, how and when a given task must be performed to successfully achieve the goal.

Planning is about organizing and preparing to achieve a goal. This structuring is fundamental for decision making and execution of the activity (9).

Creating a plan to achieve certain goals are applied in various professional and personal moments. For example, career planning is critical if professional success is to be achieved (15).

Lack of goals and planning in life can cause financial problems, bankruptcy in business and ruin a career, leading a person to a picture of depression. One of the major complaints of depressed patients takes the form of a change in actions, reactions or attitudes towards life. Patients may make the following statements: "I no longer have any purpose", "I do not care about what happens to me anymore", "I see no meaning in living anymore" (1).

Having a plan helps you stay focused, set goals; become more productive, efficient and motivated to perform the most diverse tasks of daily life.

The importance of the practice of planning is emphasized in quality theories, such as Deming (1982), which, based on its fourteen principles, consolidated the PDCA cycle ("Plan", "Do", "Check" and "Act ").

According to Lobo (2010), in the PDCA cycle, the planning action ("Plan") is the definition of the goals and specification of the methods that will be used to achieve them. For example, the basis of planning is to define the company's goal, to establish goals to reach it, to question whether it is measurable, attainable, relevant, specific and time bound.

In this way, it is seen that the act of planning is present in the strategic business thinking, which idealizes challenging and unstable situations in the organizations, but allows to generate opportunities for competitive advantage to avoid threats and risks (2). Therefore, this concept can be extended to everyday life, that is present in all actions carried out day by day, in a simple purchase in the market, take a vacation trip, prepare the meals of the week and what to do in the day.

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But how to develop this ability. Can we use techniques and management tools that professionals use to plan their goals and apply them to the everyday lives of "ordinary" people?

Based on the proposed question, the objective of this work is to present the techniques and tools of project management that are applied in the planning of a person's day by day tasks.

2. Methodology

The elaboration of a good plan is a basic premise so that the objectives can be successfully achieved without complex documentation (8). Based on this statement, creating a well-structured plan containing the most important information in a simple and objective way is the easiest way to understand what needs to be done throughout a project. In project management, methodologies, tools, and techniques are used to guide project managers in planning, controlling, and executing activities.

In this work, the most well-known and popularized project management tools among project managers were discussed. They have greater adhesion due to their easy comprehension and application, making them of universal use (4). Thus, the following are presented such tools, which have been worked out their theories and practices, as well as their ways of controlling and monitoring the performance of each project. The Project Management Body of Knowledge (PMBOK) of the Project Management Institute (PMI), the Canvas model and the Agile Method with the "Scrum" framework were used as planning. The work was based on a person's one-year goals.

The planning began with the guidance of the best practices of Project Management, the PMBOK guide, which presents in Figure 1 the five processes of a project cycle.

In line with the PMI (2013), the planning process group consists of the processes performed to establish the total scope of the effort, define and refine the objectives and develop the course of action necessary to achieve those objectives, thus, among the processes mentioned, the focus was on the planning process.

According to Table 1, the planning processes associated to the areas of project management knowledge were listed: scope, time and costs, which were applied in this work. The other areas of integration, quality, human resources, communications, risks, acquisitions and stakeholders were not addressed in this study.

Based on the information cited, the Canvas model was used to collect requirements and define the scope. The "Project Template" Canvas (PM Canvas) reconciles the agile and adaptive approach with the foundations of the PMBOK Guide, considered an innovative management methodology, this model was written with clarity and differentiated approach to revolutionize the field of project management (6). In this, it was possible to organize the ideas and transcribe them

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into the model, which is defined as screen / frame, and its concept is used by models that help organize thinking.

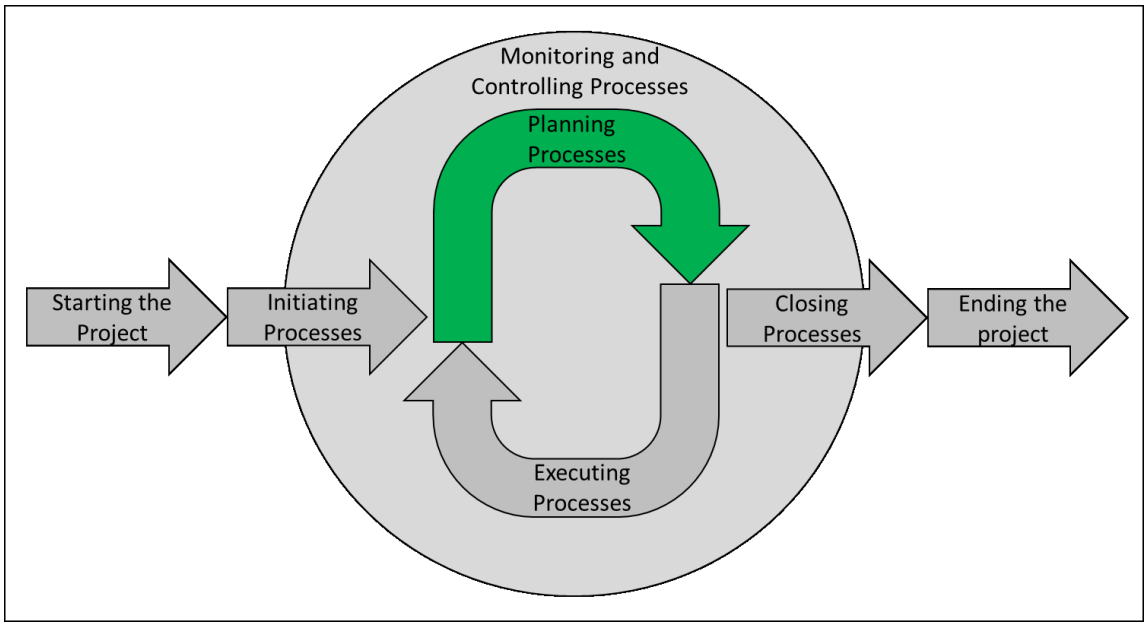

Figure 1 - Project management process groups. Source: Based in (11)

In this way, the PM Canvas model developed by Finocchio (2013) was used to present this first planning step in a simple way according to the best project management practices guide, which is represented in Figure 2. The use of the model allowed all the most important information was put together for the development of other stages of this work.

The fields of the model were filled according to the methodology proposed in Finnochio (2013):

- "Pitch": describe the project in one sentence.
- Justification (past): problems currently faced and what needs are being addressed now.
- Product: final result.
- External stakeholders: those involved or external factors that can affect the goals.
- Assumptions: information about the environment and external factors that need to be met to achieve the goals.
- Risks: uncertain events that need to be identified and analyzed.
- "Obj Smart": specific, measurable, attainable and realistic goals.

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- Requirements: what should be done.
- Benefits: what benefits will be earned after achieving the goals.
- Team: all the people responsible for deliveries.
- Restrictions: a description of the limitations that may impact the progress of deliveries.
- Delivery group: concrete, measurable and tangible components that must be delivered.
- Timeline: when goals should occur.
- Costs: how much will be spent to meet the goals.

Table 1 - Knowledge Areas x Planning Process Group

Knowledge areas	Planning Process Group
Project Scope Management	• Collect requirements: the process of determining, documenting, and managing stakeholder needs and requirements to meet project objectives. • Define scope: the process of developing a detailed description of the project and product. • Create WBS: the process of subdividing project deliverables and project work into smaller, more manageable components.
Project Schedule Management	• Define activities: the process of identifying and documenting the specific actions to be performed to produce the project deliverables. • Sequence activities: the process of identifying and documenting relationships among the project activities. • Estimate activity resources: determine which resource are necessary, such as: material, people, equipment or suppliers which will be used during the project. • Estimate activity duration: the process to determine the work periods needed to complete activities, providing start and end dates.
Project Cost Management	• Estimate costs: the process of developing an approximation of the monetary resources needed to complete project work. • Determine budget: the process of aggregating the estimated costs of individual activities or work packages to establish an authorized cost baseline.

Source: Based in (11)

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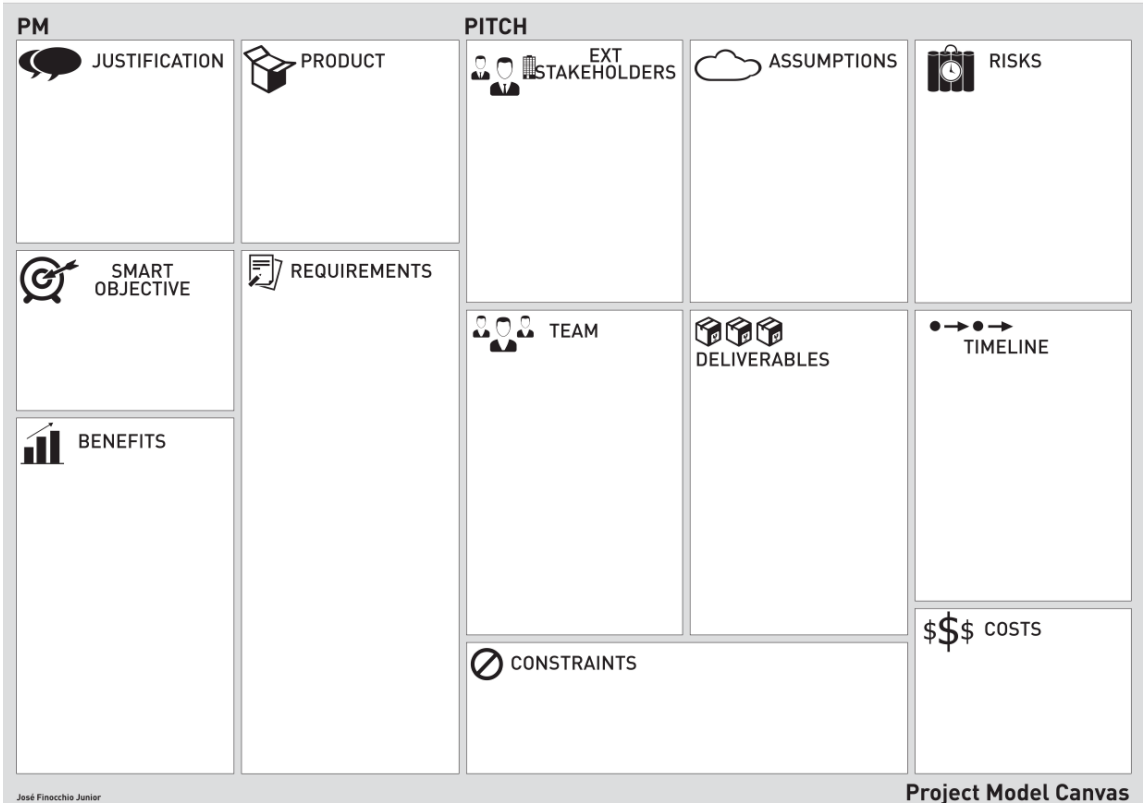

Figure 2 - PM Canvas Model. Source: Based in (6)

With deliverables defined and presented in the PM Canvas model, the "Work Breakdown Structure" (WBS) is designed to present them. WBS can be represented graphically in Figure 3, either in text or table form and can be decomposed into several levels of deliveries (12).

The WBS "Schedule" Pro tool was applied to generate the diagram representing the deliverables up to the third level. This was presented in the topic "Results and Discussion" of this document.

In the time-related processes, the Microsoft "Project" 2013 tool (MS "Project" 2013) was used to list the tasks of each delivery, which were sequenced, the estimated resources of each activity estimated and the periods to start and complete been established. By executing these actions, the timeline was created.

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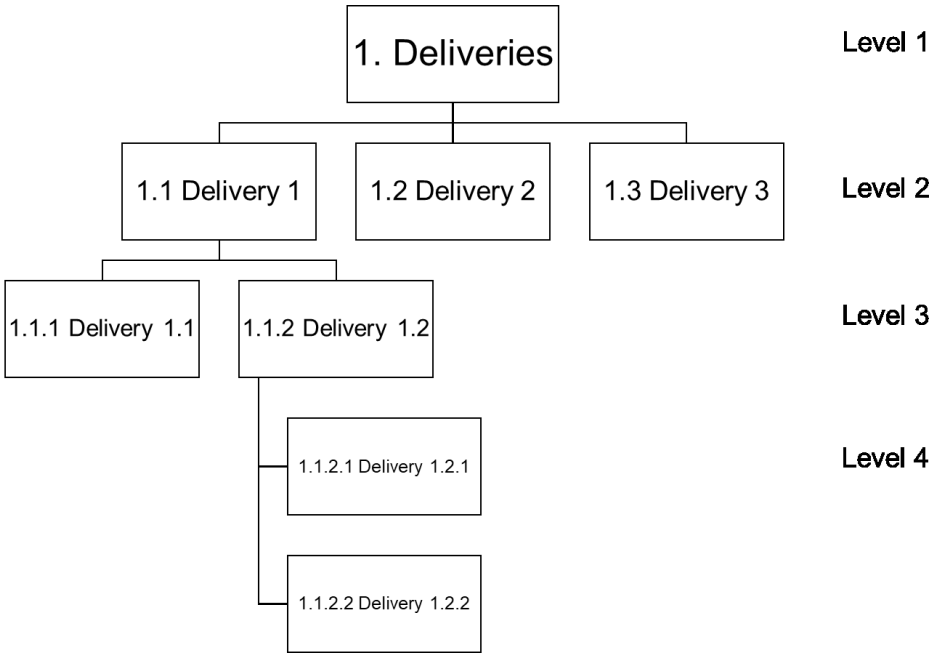

Figure 3 - WBS diagram. Source: Based in (12)

In relation to cost processes, the MS "Project" was also used. The costs of each activity were generated, thus generating the total budget.

The agile methodology with the "Scrum" framework was applied in this work to the planning of the weekly tasks to accomplish them as specified in the schedule. According to Schwaber and Sutherland (2017), the Scrum method has been used to develop software, hardware, networks of interactive functions, autonomous vehicles, schools, governments, marketing; manage the operations of organizations and almost everything we use in our day by day lives as individuals and societies. That is, it is a fast and agile response tool, facilitating short-term management.

The Scrum lifecycle has its structure and rhythm based on "Sprints", which have their beginning, content, execution and end. Thus, the project is divided into small iterations, executed in a sequential and repetitive way, increasing the process until the project closes (3).

This meant, for the planning of the tasks, the "Sprint" was created, containing the activities to be delivered in a certain period. As shown in Figure 5, the flowchart shows the Sprint created, which was defined over a period of three weeks. Some steps were taken, such as planning (on Sundays), daily follow-ups, review and retrospective (on Saturdays). These occurred mandatorily in this sequence (16). This event is represented in Figure 4 as a table divided into columns showing the status of each task in: "backlog", "to do", "doing" and "done".

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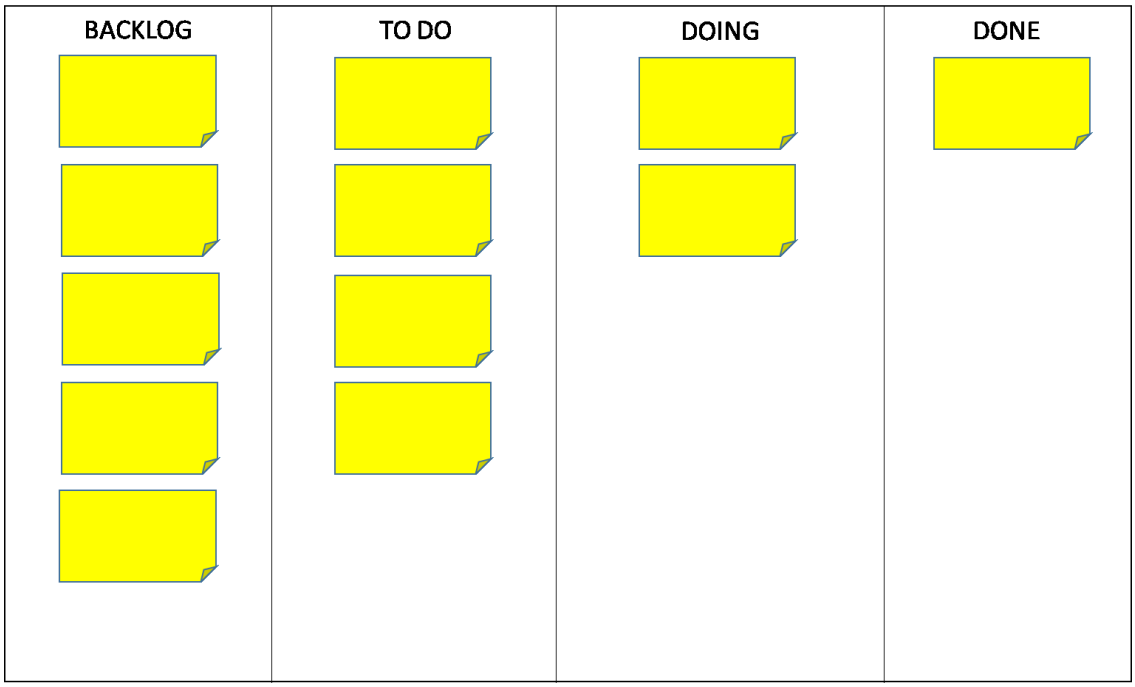

Figure 4 - Representing a Sprint. Source: Adapted of (13)

3. Results and discussion

Based on the information of the methodologies, techniques and tools of project management presented in this document, we created the annual planning of a person's activities in relation to their daily life at work, in studies, with family and housing.

The first action was accomplished using the PM Canvas so that all ideas and information were transcribed for this model. The use of the thirteen canvas fields, which define: why, what, who, how, when and how much, allowed a broader view of what needed to be done, what points were attention, what restricted, who needed to be involved, what had to be done before the delivery was completed, a preview of the budget and when deliveries should be finalized.

The second stage of this model was to perform the integration of the blocks to make the necessary links, such as:

1 - Integration of the blocks Justification, Objective "Smart", Benefits;

2 - Product Integration and Requirements;

3 - Integration of Stakeholders and Team;

4 - Integration of Restrictions, Assumptions and Groups of deliveries and;

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5 - Integration of Risks, Timeline and Costs.

The outputs of these integrations have revealed the reason for their existence, what will be delivered, who is involved, what needs to be done, what programming to execute, and how much to spend.

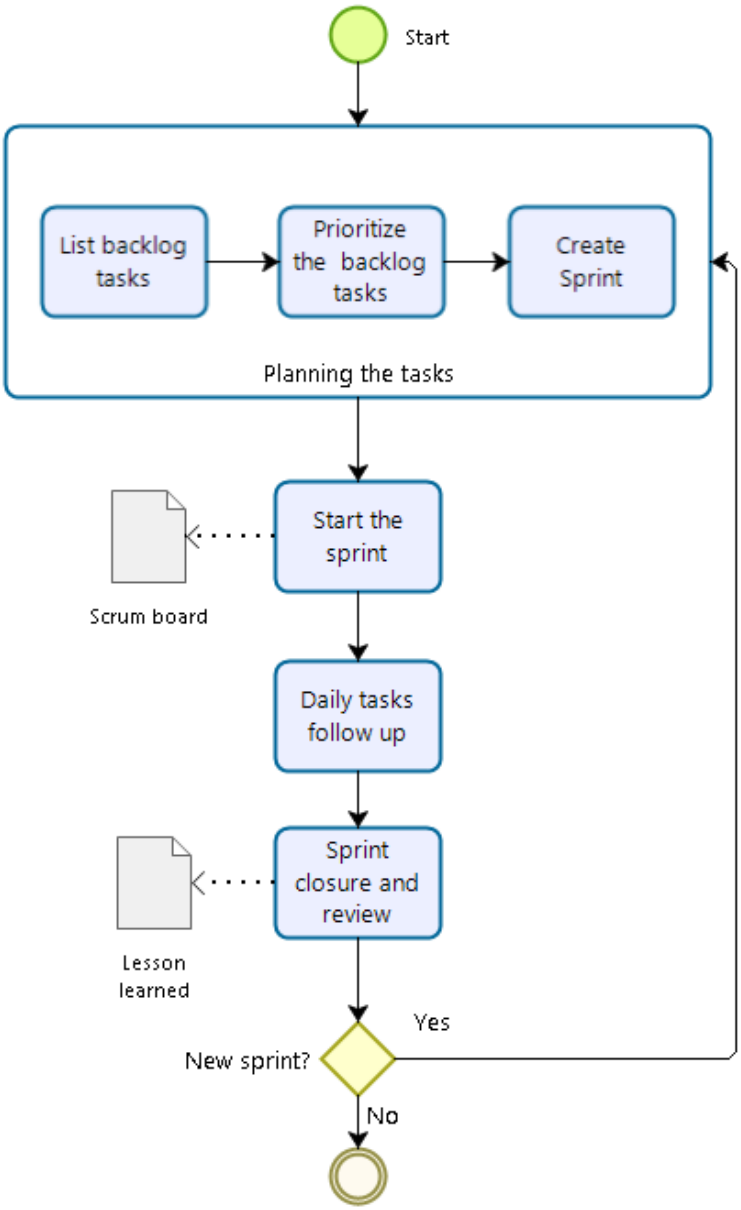

Figure 5 - Framework Scrum flow. Source: Elaborated by author

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With the application of the PM Canvas, the planning and structuring of the necessary deliveries was facilitated through the exercise performed in the thirteen fields of the model, as shown in Figure 6.

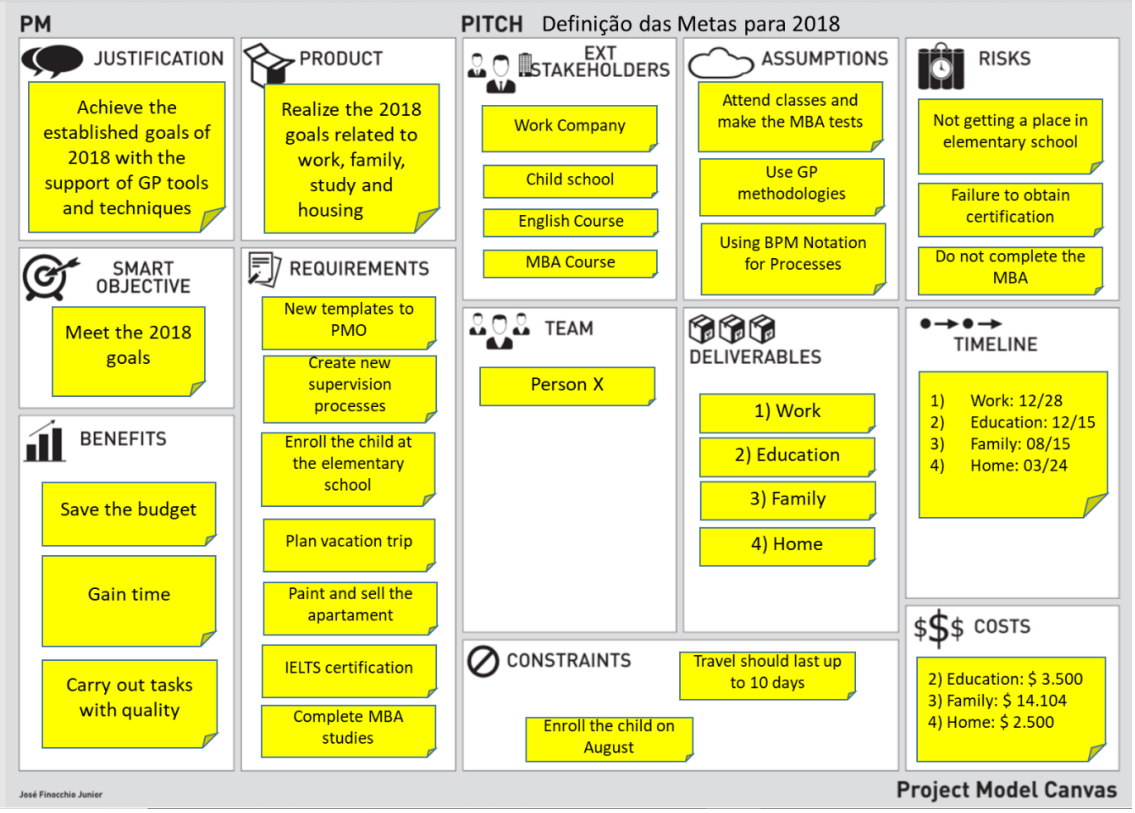

Figure 6 - Model Canvas with 2018 goals information. Source: Elaborated by author.

In order to present the organization of the phase's deliveries, the WBS diagram was developed with the help of the WBS tool "Schedule" Pro. The structure defined was "top-down" and phase-based, the details of the tasks are represented in levels. According to Figure 7, a structure of only 5 levels was presented. Using the tool, it became possible to customize the visualization of the diagram in various ways, and the information could be displayed as needed, for example, data about the task in terms of its duration and cost, including progress and completion of the same, from a graphical representation for this purpose.

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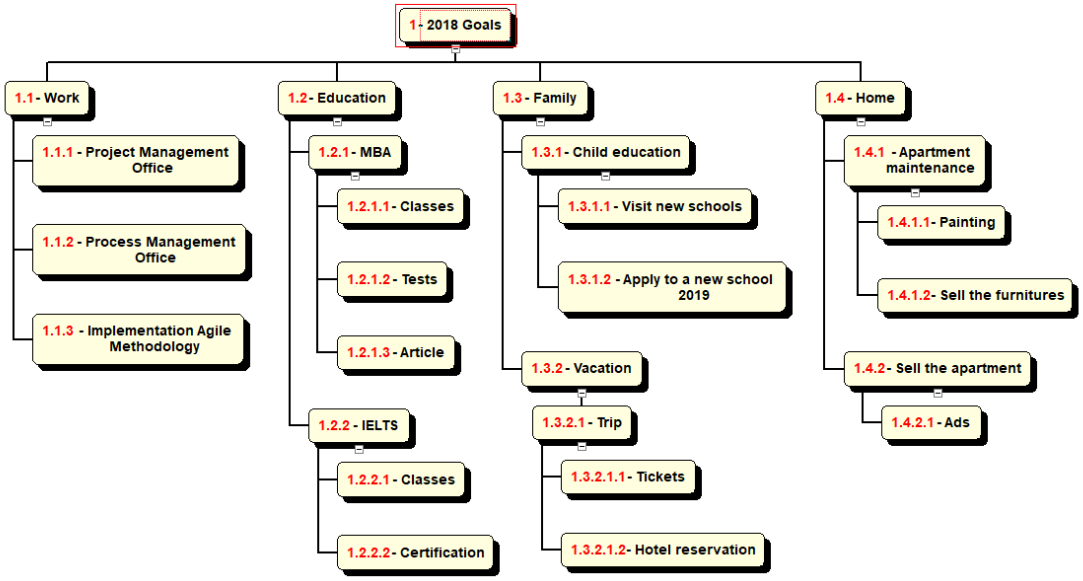

Figure 7 – 2018 goals deliverables using WBS Schedule Pro. Source: Elaborated by author.

The advantage of using this tool is to perform the integration with others, in this case, the WBS "Schedule" Pro, can interact with the MS "Project" 2013.

In this tool, the activities were listed, the start and end dates were informed, the resources responsible for each task were identified, the deliveries were identified through the WBS field and the costs of each activity were estimated (Figure 8).

The report generated by MS Project serves as support, such as immediate access to planned work, completed work, and the remaining work of your project as lines on a chart. Creating a timeline enables a new way of visualizing when deliveries are to be made throughout the year.

Another method used was the Scrum framework in the agile method, which enabled the development, treatment, problem solving and delivery of tasks according to the application. Goal tasks were listed and prioritized in the backlog in the task planning phase. For each one the duration was estimated, in this way it was possible to verify in which "Sprint" would be performed. At the first moment, weekly Sprints were defined, but during the activities, it was noticed that there was no need for this, so the Sprints were modified to last three weeks.

At the beginning of each Sprint, the planning and prioritization of the activities to be carried out during the three weeks were defined. Each "Sprint" was named with the date of the period, as represented in Figure 9.

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WBS	Task Name	Start	Finish	Resource Names	Cost
1	**Goals 2018**	**Tue 02/01/18**	**Fri 28/12/18**		**-$ 20.104,00**
1.1	**Work**	**Tue 02/01/18**	**Fri 28/12/18**		**$ 0,00**
1.1.1	Project Management Office	Tue 02/01/18	Fri 28/12/18	Person X	$ 0,00
1.1.2	Process Management Office	Tue 02/01/18	Fri 28/12/18	Person X	$ 0,00
1.1.3	Implementation Agile Methodology	Mon 16/04/18	Fri 13/07/18	Person X	$ 0,00
1.2	**Education**	**Mon 22/01/18**	**Mon 15/12/18**		**-$ 3.500,00**
1.2.1	**MBA**	**Mon 22/01/18**	**Mon 15/12/18**		**-$ 2.600,00**
1.2.1.1	Classes	Mon 22/01/18	Mon 24/09/18	MBA Course	-$ 2.600,00
1.2.1.2	Tests	Mon 22/01/18	Mon 01/10/18	MBA Course; Person X	$ 0,00
1.2.1.3	Article	Wed 16/05/18	Sat 15/12/18	Person X	$ 0,00
1.2.2	**IELTS**	**Mon 14/05/18**	**Sat 29/09/18**		**-$ 900,00**
1.2.2.1	Classes	Mon 14/05/18	Fri 28/09/18	English Course	$ 0,00
1.2.2.2	Certification	Sat 29/09/18	Mon 29/09/18	Person X	-$ 900,00
1.3	**Family**	**Mon 19/03/18**	**Wed 15/08/18**		**-$ 14.104,00**
1.3.1	**Child education**	**Mon 25/06/18**	**Wed 15/08/18**		**-$ 4.104,00**
1.3.1.1	Visit new schools	Mon 25/06/18	Tue 26/06/18	Person X	$ 0,00
1.3.1.2	Apply to a new school 2019	Wed 15/08/18	Wed 15/08/18	Person X	-$ 4.104,00
1.3.2	**Vacation**	**Mon 19/03/18**	**Thu 12/04/18**		**-$ 10.000,00**
1.3.2.1	**Trip**	**Mon 19/03/18**	**Thu 12/04/18**		**-$ 10.000,00**
1.3.2.1.1	Tickets	Mon 19/03/18	Mon 19/03/18	Person X	-$ 6.000,00
1.3.2.1.2	Hotel reservation	Thu 12/04/18	Thu 12/04/18	Person X	-$ 4.000,00
1.4	**Home**	**Sat 03/03/18**	**Sat 24/03/18**		**-$ 2.500,00**
1.4.1	**Apartament maintenance**	**Sat 03/03/18**	**Fri 23/03/18**		**-$ 2.500,00**
1.4.1.1	Painting	Mon 12/03/18	Fri 23/03/18	Person X	-$ 3.500,00
1.4.1.2	Sell the furnitures	Mon 03/03/18	Sat 03/03/18	Person X	$ 1.000,00
1.4.2	**Sell the apartment**	**Mon 24/03/18**	**Sat 24/03/18**		**$ 0,00**
1.4.2.1	Ads	Mon 24/03/18	Sat 24/03/18	Pessoa X	$ 0,00

Figure 8 - Planned activities in MS “Project” 2013. Source: Elaborated by author.

Daily monitoring of the tasks was performed to analyze them, and according to Schwaber and Sutherland (2017), the time-boxed was stipulated in 15 minutes. In this analysis, the understanding of how the status of each task was in relation to what was done the previous day, what would be done on the day and if there was any pending in order to continue with the activity, were actions taken during this process.

At the close of each Sprint, the review was performed to assess whether all tasks were completed as planned, and if there was one that did not meet, it would be part of the next Sprint again. It was also noted which tasks were added over the course of Sprint and which were not started with their justifications. All activities were verified and reported in a lesson learned report.

The Sprints cycles were repeated until all goals were completed successfully.

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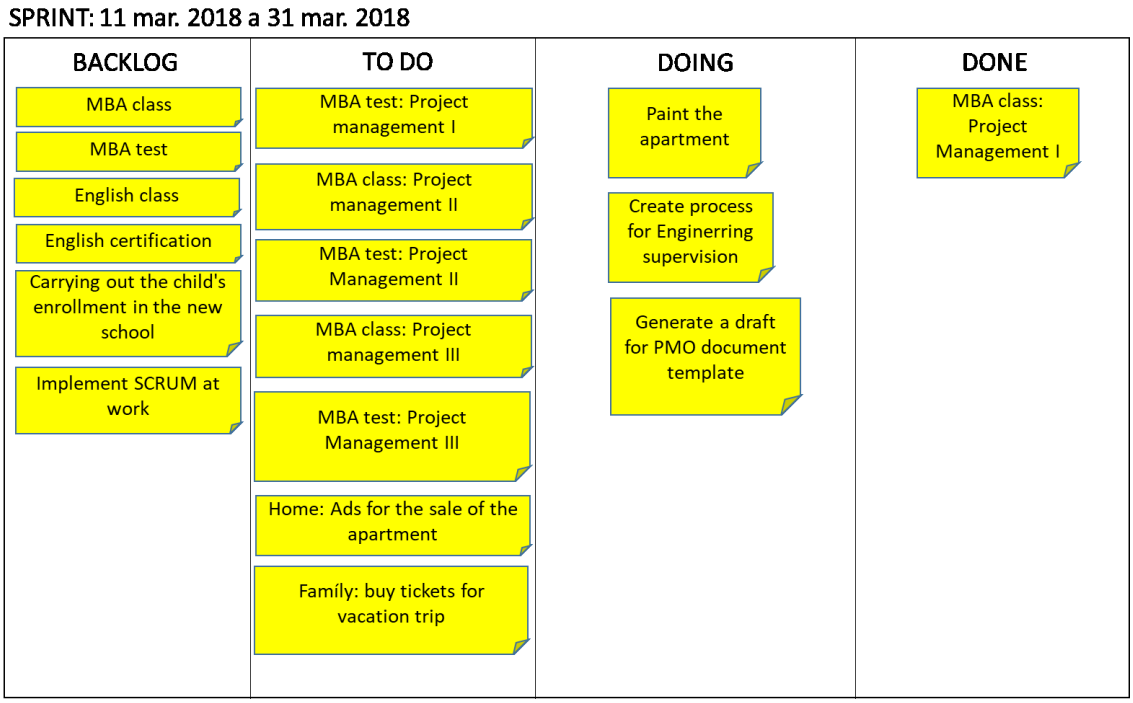

Figure 9 - Sprint period: 11 mar. 2018 - 31 mar. 2018. Source: Elaborated by author.

Planning is a project management skill that can be developed with daily practice or can be initiated, for example, in schools and communities. Currently, PMI develops a Project Management Institute Educational Foundation (PMIef) program, whose mission and vision is to transform people's lives through project management knowledge into a better future by applying these skills in their daily lives (14). In other words, it is possible for ordinary people to plan their goals / objectives and apply them in their daily lives using project management concepts. The methodology, tools and techniques presented facilitated day by day planning. Because the models shown are visual and intuitive, they were easy to understand by presenting the tasks that should be followed to achieve the goals. It helps to have a clear vision of the final product or the results that must be obtained with the project following with a visual management (12).

4. Conclusion

Based on the results and discussions, it can be observed that this process requires attention so that all tasks and deliveries are carried out successfully. But with the use of methodologies, techniques and tools of project management, it was shown that there is optimization in time control, control over costs and a better quality of life.

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It assists people chart a real purpose in their lives, helping them developing or increasing the skills such as organization, commitment and time management in order to plan their future on both professional and personal issues.

However, for an ordinary person to obtain the licenses of the tools presented in this document and to apply them, it may be impracticable in relation to its cost. For example, a person who receives a minimum salary (in case of Brazil: USD 240.00), using the tools for two years, the cost will be approximately USD 862.00.

But obtaining the knowledge of the methodologies and the objectives of each tool and technique, the person can construct them from tools that are accessible and that can be adapted for this purpose.

Some of the free tools used are:

WBS tool free - www.wbstool.com

Schedule spreadsheet - https://www.google.com/sheets/about/

Scrum, Kanban board - www.trello.com

5. Limitations and future research opportunities

There are many studies on agile projects in the corporate world but a few one that investigate the application of this methodology in people's daily lives. There is also a limited academic literature available on this subject.

Continuing researching others agile frameworks, tools and methodologies used in project management by companies, that can be applied to daily management, is an opportunity to explore new skills.

Agile frameworks which can be study are The Crystal method, Disciplined Agile (DA) and Scaled Agile framework (SAFe). Others project management tools/methodologies are Mind Map and Lean methodology.

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7. Annex

Tools license budget

- Microsoft “Project” Online Professional: R$ 116,20 (user/month).

Microsoft Project Professional license budget. Available in:

<https://products.office.com/pt-BR/Project/compare-microsoft-Project-management-software?tab=1&OCID=AID717901_SEM_SWwTmYdJ&lnkd=Google_O365SMB_App>.

- WBS Schedule Pro: USD 199.00 (per user).

WBS Schedule Pro license budget. Available in: <https://store.criticaltools.com/>

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- PM Model Canvas: for free.

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