

Repositório ISCTE-IUL

Deposited in *Repositório ISCTE-IUL*:

2024-08-27

Deposited version:

Accepted Version

Peer-review status of attached file:

Peer-reviewed

Citation for published item:

Vasques, N., Pereira, L. F., Dias, Á. L., Martinho, R. S. & Harfunche, A. (2024). Corporate agility: From functional to project-based organisations. *International Journal of Agile Systems and Management*. 17 (3), 292-314

Further information on publisher's website:

10.1504/IJASM.2024.140413

Publisher's copyright statement:

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Corporate Agility: From Functional to Project-Based Organizations

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Ana Paula de Jesus Harfouche is a prominent figure in health and innovation, serving since 2019 at the Administration of Regional Health and Vale do Tejo. As a hospital administrator, she has extensive academic qualifications, including a PhD in Social Sciences, and specialized training in health management and finance from renowned institutions like Harvard and Université de Lausanne. Professionally, she led the Centro Hospitalar do Oeste, establishing a research center and transforming the institution's legal status. She played a significant role at the Instituto Português de Oncologia de Lisboa and served as an advisor in the Ministry of Health. Additionally, she is a guest professor at NOVA Medical School and has a substantial record as an educator and author in her field.

Abstract

The number of project-based organizations is increasing, as is the number of organisations trying to make the transition from functional to project-based organizations. The lack of information about this transformation is a problem for the organizations trying to change. This research demonstrates the importance of information for organizations to be able to analyse and make a conscious decision to transition to a project-based organization. Twenty interviews were conducted with professionals from different companies, with different roles and working in different fields of action, to better understand the relevance of the problem. Through a qualitative analysis, it was possible to conclude that most organizations are affected in their project efficiency, depending on the field of action in which they work and on their staff. To solve this problem, organizations should work on their characteristics to potentiate the cooperation and collaboration between the different areas in the organization.

Keywords: Corporate Agility; PBO; project-based organizations, functional organizations.

1 Introduction

Project-based organizations are organizations that are structured to work by projects. Projects have an associated period with a beginning and an end in opposition to the traditional companies. This is a new challenge for companies that are structured in a traditional format (Ekstedt, 2019).

In the management literature, project-based organizations are a well-known topic. The study papers on this topic examine how they are organized, how they operate, as well as the advantages and disadvantages of this methodology. To help people to better understand how it works in practice there are also case studies on the use of this approach in several industries where businesses work by projects (Söderlund & Sydow, 2019; Ekstedt, 2019; Dias et al., 2023). The majority of studies that already exists in this area are focus on engineering and consultancy companies where it is usual to work by projects because of how they are organized, the purpose of their business and the end product that they have to deliver (Wang et al., 2022; Barbosa et al., 2022; Löwsted et al., 2018; Pemsel et al., 2018; De Toni & Pessot, 2021; de Rooij et al., 2019).

The research problem is the missing information about the transformation from the traditional organizations to the project-based organizations and the missing studies regarding project-based organizations in different industries other than consulting and engineering industries.

The number of project-based organizations is growing and the number of companies with a traditional structure that wants to change to a project-oriented business is growing as well (Auschra et al., 2019). The traditional organizations are starting to understand the benefits of working with projects and some of them are already transforming without information to understand if it works in their industry, the advantages, and the disadvantages of this method. For this type of companies, it could be a problem because they may not adopt, it can be a problem for the result of their productions or services delivery, it may affect their workers and the organization of the company (Dias et al., 2023). With this information it could be possible for the organizations to understand and predict if a transformation is feasible or not, what is necessary to do in order to complete this transformation, what they can achieve with this information and what they may lose with it.

In this study we are going to try to understand what's the impact of the small amount of information regarding the transition from functional organizations is to project-based

organizations. For this to happen we need to decompose the complexity of the project-based organizations and everything that can cause an effect on this organizations. First, in the literature review the understanding of four key topics in the project-based organizations are going to be studied. These four themes are: the project-based organizations, the organizational design, the organizational learning and leadership. With these four topics studied it is possible to understand the most common information abroad the project-based organizations. After the literature review, information regarding the research and the methodology is shared. Finally, the discussion and findings will be presented using the analysis carried out during the study.

2 Literature Review

2.1 Project-based Organizations

The main characteristic of project-based organizations are the projects. Research by Söderlund and Sydow (2019) has shown that projects have deliberately limited time periods that make it possible for businesses and other people to flexibly manage their operations. This is the opposite of the traditional organizations that have channels with unlimited time (Gonçalves et al., 2023).

Projects are part of our private life, we use them in our daily basis without even notice and inside the organizations we register the same thing (Gemünden et al., 2018), in the case of project-based organizations we are looking for companies that uses projects as their principal method of work.

Inside this organizations it can be easier to achieve innovation because of the cross-functional teams with different people from different departments of the company with different mindsets and knowledge working together in order to solve problems and to create new things. In this case the organization needs to be very agile, flexible and they need to have the project objectives aligned to the long-term goals of the company (Gemünden et al., 2018).

Löwstedt et al. (2018) identify project managers, top management, and middle management as key actors in the strategy development process. The top management team is important to define the strategic objectives of the organization providing support and resources for the rest of the organization in order to achieve these goals (Gustavsson, 2023). The middle management team have to transform these strategic objectives in

actions and in several projects where the output contributes to the organizational objectives previously established by the top management. These actions and projects are delivered to the project managers where they gather a team with the resources available to complete the projects.

Project managers have a very important position in these organizations and the main function it is to coordinate the transfer of project information since projects usually include different people from diverse departments and areas in every team that at the end return to their positions on the organization or move on to other projects (Barbosa et al., 2022).

In their research Wiewiora et al. (2020) they found that the knowledge and the learning about the new skills and the organization in general is achieved with more accuracy in the project-based organizations. The collaboration and the communication between colleagues in projects give a better understanding of the whole organization was also a very important factor in the study of Löwstedt et al. (2018) to achieve strategy development. The authors also find out that project complexity is a factor in the learning process by the workers that develop more skills and knowledge as the project becomes more complex. Technology became very useful to the companies to transfer knowledge and facilitate the learning between all the projects, teams and workers inside and outside the organizations (Motwani and Kataria, 2023).

The projects are utilized as instruments to achieve both internal and external ends, such as restructuring the internal structure or creating new goods. An increasing number of project-based organizations (PBOs) are supporting or substituting permanent organizations from the outside. These are businesses that focus on delivering projects across a range of industries (Lundin et al., 2015; Ekstedt, 2019). Auschra et al. (2019) and Pires et al. (2023) highlight some business areas where the project-based organizations are more common like the consulting business, the engineering business. They refer that these types of organizations are growing and expanding to other business areas (Batista et al., 2023).

The organizations want efficiency Wang et al. (2022) identify, in the project-based organizations, there are some factors that influence the organizations. The greatest challenges of this type of companies are how to produce the best products or deliver the best services possible with low costs, meeting the reduced deadlines that they promise to their clients creating another challenge that is to gain the confidence of their stakeholders (Costa et al., 2020). They highlight the cultural, political, and social factors as possible

problems to achieve this efficiency. In this case as solution, they propose several strategies inside the organization to better use their resources like the utilization of technologies and create network strategies between the organization and the stakeholders. Improve contracts can be the key factor in these organizations to achieve the efficiency that the organizations are looking for, the fact that employees work in temporary projects gives the opportunity for the organizations to change the contracts from project to project to deliver the best depending on the type of project and from what the company pretends to achieve with it.

It is possible for everyone to see and study the positive aspects of the project-based organizations between the money that can be saved in the employees, the capacity to innovate, solve problems and achieve the corporate goals by the teams working in different projects. It is more difficult to understand the worst part of this organizations and that was the study of Locatelli et al. (2022) where the authors choose several real-life examples to prove it. The corruption inside the projects is one of the most important problems inside the project-based organisations. The authors gave as an example the Olympic games in Rio, one of the biggest scandals of corruption in the last years. The abusive behaviour from FIFA in the 2022 world cup in Qatar was another bad image for the project-based organizations that for a lower price had people dying to build the stadiums in the worst labour conditions imaginable. For these authors the complexity, uncertainty and ambiguity are some of the dimensions that organizations, with a special focus from the project managers, have to take into account.

2.2. Organizational Design

Organizational design examines the causes, interactions, and effects of different organizational aspects, which are sometimes known as organizational design components or dimensions. The stream implicitly presupposes that management can, at least in part, influence these components toward accomplishing certain objectives (Turner and Miterev, 2019).

The research of Aubry and Lavoie-Tremblay (2018) define organizational design as the organization of resources and people with the main goal of achieve the expected results. They also draw some conclusions from their research as the importance of the information about the internal and external context of the organization, the fact of the organizational design is always changing, and the continuation of the previous two

conclusions that is the duration of the perfect organizational design that it is always changing because it depends on several factors, and it is different for each company because it does not exist the ideal model.

For the organizational design evolve, the authors that work and study this theme often make references to the capacity of the organizations to learn with the experiences. Pemsel et al. (2018) gave special attention to the knowledge mechanisms and how they influence the organizations. In this study was a major focus in knowledge mechanisms for shifting, leveraging, and adapting. The shifting process normally occurs when exists a big alteration made by the top management team due to internal or external reasons. This provokes a shifting process along all the organization like a reconfiguration of the structure, this can happen due to a change of the strategic objectives of the organization or because of a new entry for the top management team as a CEO or a director. This alteration to the configuration of the organization can bring new motivations for the employees as they see it as an opportunity to develop new skills and new ways of working.

For the leveraging the authors highlighted the project manager as the most important position to take into consideration, this type of knowledge mechanisms affects the learning thru the projects where is important to complete the project and get valuable innovative ideas for future projects. The learnings in this case are that the leaders are having some difficulties to find a balance between these two topics, this should be search proactively or reactively depending of the outcome of the project whether it was important to innovate in order to achieve the completion of the project or the incomplection of the project led the project managers to find the problems to make sure that this doesn't happen again, in this second case is important that the project managers transfer this knowledge to the rest of the organization to create an evolution. The organizations need to adapt, they must possess the flexibility to modify their knowledge governance processes to suit the particular requirements of each project. This can assist to guarantee that the methods and procedures for knowledge management are efficient in each unique setting.

The organizational structure of a company can have a big impact in the decision-making process (Joseph and Gaba, 2020), Turner (2020) identifies as key factors the culture of the organization, the level of stakeholder involvement, and the degree of centralization or decentralization. A good governance can lead to a reduction of the impact of these factors to achieve good solutions for the projects and for the organization's interests. For this to happen it is important for the project managers, the top managers, and other possible stakeholders in action to have a good knowledge

regarding the organization's governance structure, ensure that processes are transparent and accountable, try to achieve an involvement from several decision makers to get more perspectives about the existing questions leading to a collaborative organization that can facilitate decision-making problems.

Rooij et al. (2019) highlight as factors to make an impact in the organizational design of the organizations the uncertainty of the external environment of the company, the increment of the organizations and their complexity, an innovation strategy can also change the structure in order to search and take risks to find innovation and an opportunity strategy that is more reactive when comparing with the innovation strategy. In the study conducted by the authors it was possible to take some conclusions like some correlation with the performance management system of the organizations and the environment uncertainty.

Exists differences between the project-based organizations and the traditional organizations, Ekstedt (2019) concludes that the major difference is the time of work of the employees. In the traditional organizations the structure is more rigid so the daily basis it is very similar in terms of working hours, entrance and departure of the company and the daily tasks. Regarding the project-based organizations they are more flexible, exists organization but it is different for every company, exists working hours but it is more flexible because there is a deadline to finish the project and the personnel can organized their own time.

2.3 Organizational Learning

For the study of project-based organizations we need to consider the organizational learning of the companies. In terms of process first comes the acquisition, then the retention and in the end the memory retrieval (Barbosa et al., 2022).

Barbosa et al. (2022) refer in their article that organizational learning is based on previous experiences, actions, and results and this depends on the structure that a company use and how it responds to their market. In this type of companies is more difficult to use the experience because it is easier to innovate and participate in new experiences. On the opposite side we have the companies with traditional functional structures that work on a long-term purpose with the same specific activities during the years, so it is easier to retain new useful information and used them in a long-term.

De Toni and Pessot (2021) highlighted the importance of organizational learning responding to the very complex projects. Organizational learning brings knowledge, experience, and culture to the organizations. We must understand that PBO's work with short-term temporary projects in every part of the organization made by specific people that work together to reach a common goal (the efficiency of the project). The rate of turnover from one project to another is very high so it's difficult to retain some specific learnings (Barbosa et al. 2022). In companies that achieve the organizational learning find it easier to respond to complex projects, to innovate and to be more efficient (De Toni and Pessot, 2021).

The learnings can be achieved individually, from teams and projects, and from an organizational level as whole. The motivation from the employees, the communication from the top management teams and an easy access to information from technology or other platforms available inside the organizations as departments with all the learning materials from the company are important to a successful organizational learning (Wiewiora et al., 2020). In these organizations, new knowledge could be acquired from friends, from college, books, from experiences of other persons in the company, in the same industry (Barbosa et al., 2022).

2.4 Leadership

Scott-Young et al. (2019) says that project-centric organizations are increasing and with this the leadership and the management of the companies have to change. The fact that exists multiple projects with different objectives and in different scopes, with different people working in the company from the office, home, or the other part of the world origins a difficult task for the leaders to work without innovate. In this article they refer the term shared leadership and give it a major importance in these types of organizations. With this shared leadership they are assigning more responsibility to all the workers evolved in the projects and withdrawing some responsibility from the leaders. They also highlight the fact that are increasing practices and behaviours for team members instead of creating a centralized specific position with all the leadership roles.

Most scholars define leadership as a method of persuasion that one or several persons uses deliberate influence to shape the behaviour and interactions of others within a team or organization. Some of them also point out the fact the leadership should be spread

across the organization by the departments or the teams and by the persons who work on the daily basis for the companies (Daniëls et al., 2019).

Zaman et al. (2020) brings the topic of the transformational leadership as a style of leadership towards the innovation. They highlighted this topic as way of leadership which provides a better environment to the organization, to their employees and with the main goal of innovation and a good adaptation to the constant change of the internal and external factors of the organizations. With the transformational leaders bringing focus to their objectives, the desire to get the best performance possible out of them and from their employees, the motivation, and the inspiration to change and to create something new, they are creating space to a better work environment with good satisfaction from the people and with this a better performance outcome from the entire organization.

Project managers are the leaders of the projects, but has they said they are actually the doers because they don't have time to think, create or innovate, they gathered a team to do what the clients want inside the company's expectations created by the top and middle management. In here the leadership focus is to motivate the team to achieve the goal of the project inside the specifications of the clients (Löwstedt et al. 2018).

Table 1 – Identification of main topics and main issues

Source – Author

Author, Year	Main Topics (Actual Research)	Main Issues (Future Research)
Wang, Lu and Wei (2022)	Efficient production and Legitimate power	Project goals and stakeholder satisfaction
Barbosa, Carvalho, Choo, Versiani and Pedron (2022)	Corporate memory in PBOs	Analysis conducted in engineering companies
Löwsted, Räisänen and Leiringer (2018)	Strategy inside PBOs organization	Analysis conducted in an engineering company
Pemsel, Söderlund and Wiewiora (2018)	Knowledge governance mechanisms in PBOs	Analysis conducted in typical PBO industries
De Toni and Pessot (2021)	Organizational learning from complex projects	Analysis conducted in a typical PBO industry
de Rooij, Janowicz-Panjaitan, and Mannak (2019)	Configurational approach to performance management in PBO	Analysis conducted in a consulting company
Wiewiora, Chang and Smidt (2020)	Organizational learning in PBOs	Limited feedback learning in one industry
Löwsted, Räisänen and Leiringer (2018)	Strategy in PBOs	Analysis limited to one industry
Daniëls, Hondeghem and Dochy (2019)	Leadership	Leadership development
Scott-Young, Georgy and Grisinger (2019)	Leadership in PBOs	Not tested theoretical model
Ekstedt, E. (2019)	Projects and challenges to traditional institutions	Transformation from traditional organizations to PBOs
Söderlund and Sydow (2019)	Challenges and opportunities in the use of projects in institutions	Fundamental issues were studied
Turner and Miterev (2019)	Organizational Design of PBOs	Small sample of PBOs
Aubry and Lavoie-Tremblay (2018)	Organizational Design of PBOs	The reasons for the companies are organized in certain way

3 Research Methodology

3.1 Research Context

The main problem identified in the literature review was the small amount of information regarding the transition from a company with a functional organization to a project-based organization. It is possible to understand some of the advantages of the transition between

both type of organizations, but it isn't clear how to do it and if it is possible in every industry. To understand the main problems and impacts from this transition the problem-solving methodology will be used. This methodology gives an overall understanding of the problem, their impacts, the causes, a solution for the problem and the benefits brought by this solution.

Table 2 – Identification of research questions and objectives

Key Research Question:	What is the best solution to solve the problem	
Main Issues (Author, Year)	Research Question	Research Objective
1. Stakeholder satisfaction and Leadership development (Wang, Lu and Wei, 2022); 2. Small sample or study conducted in a typical PBO industry (Barbosa, Carvalho, Choo, Versiani and Pedron ,2022); (De Toni and Pessot, 2021); 3. Transformation from traditional organizations to PBOs (Ekstedt, E., 2019); 4. Companies and organizations issues (Söderlund and Sydow, 2019); (Aubry and Lavoie-Tremblay, 2018);	RQ1: What are the evidences of the problem existence	RO1: Understand the problem in detail / framing the problem
	RQ2: What are the main impacts of the problem?	RO2: Understand the main impacts of the problem.
	RQ3: What is the problem trend?	RO3: Understand the problem trend over the past-present.
	RQ4: What are the main causes?	RO4: Understand the real causes of the problem.
	RQ5: What are best solutions?	RO5: Discover the best solution to solve the problem.
	RQ6: What are the main benefits of solving the problem?	RO6: Understand the main benefits of solving the problem.

Source - Author

For this research is going to be used the qualitative methodology in order to better understand the difference between the two types of organizations in the several industries. In order for this to happen it will be conducted in-depth interviews to answer the research questions.

3.2 Research Design

To understand the best solution for the problem, the “Pereira Problem-Solving Research Methodology” was used (Figure 1). This model was complemented with a literature

review based on documents following these criteria: (i) relevance to the research topic: We selected sources that directly addressed the specific research questions and objectives of the paper. The literature should provide evidence and support for the claims made in the paper; (ii) currency: we prioritized recent and up-to-date literature to ensure that the information presented is relevant and reflects the current state of knowledge in the field. (iii) credibility of the sources: we selected sources from reputable journals or books that are recognized for their high quality and rigor. (iv) synthesis and integration: we carefully reviewed the selected literature to identify key themes, findings, and arguments. We then integrated these findings into my own analysis and discussion, demonstrating how our research contributes to the existing body of knowledge.

Pereira Problem-Solving Research Methodology demonstrates the impacts, the causes, and the trends of this problem in the organizations and lead us to a possible solution and its benefits. The answers were given from managers from companies that are doing this transition or already done this transition. The answers were collected by scripted interviews.

These interviews were conducted with 20 different people from different companies and organizations to collect different opinions in order to achieve the best solution possible for this problem. The researchers used data saturation as the criterion for determining the sample size. Data saturation is the point in a qualitative research process where enough data has been collected to draw necessary conclusions, and any further data collection will not produce value-added insights (Guest et al., 2020). Therefore, the researchers did not specify an initial number of respondents, but continued to collect responses until they reached saturation, i.e., when the information from the interviews became redundant and no new insights emerged.

The

Projectification of the organizations	
Small amount of information regarding the transition from functional organizations to project-based organizations	
Question 1	How many years of experience do you have?
Question 2	What is your role in the organization?
Question 3	What are the evidences of the problem existence?
Question 4	What are the main impacts of the problem?
Question 5	What is the problem trend?
Question 6	What are the main causes?
Question 7	What are the best solutions?
Question 8	What are the main benefits of solving the problem?

interviews had the duration of 20 minutes each and were conducted online via Teams,

digitally recorded with the consent of the participants to analyse the answers after the conversation. These interviews were carried out from August 3rd to September 18th. The questions were prepared before the beginning of the interviews to conduct the conversation to objective results. The script has 8 questions.

Table 3 – Interview Questions
Source - Author

The first two are to understand the experience and the role in the organization, the following question is to get to know the existence of the problem and the next five questions are to collect knowledge for the study. In the table above is presented the script of the interviews.

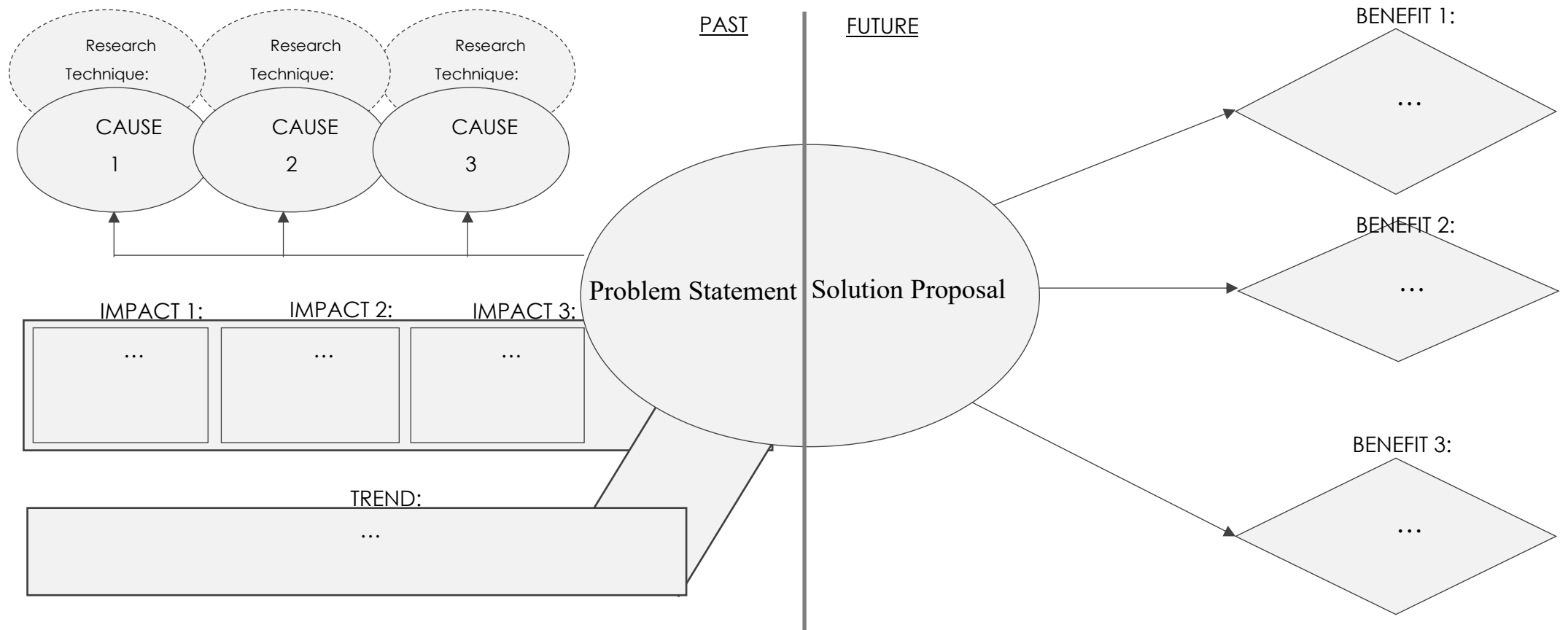


Figure 1 - Pereira Problem-Solving Research Methodology

Source – Pereira et al. (2021)

4 Data Analysis

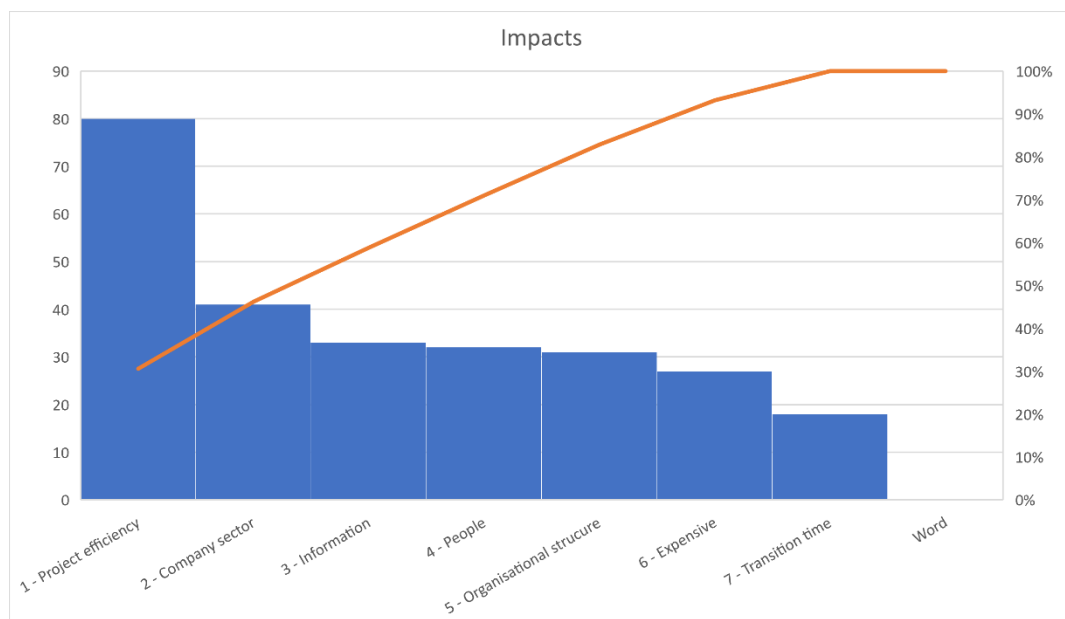
In this chapter it will be presented all the qualitative analysis carried out regarding the questions made in the interviews. These analyses were made using the KH Coder 3 software and Excel and were presented in graphs created by me in different visualization platforms.

4.1 Sample Characterization

For this study 20 people were picked to be interviewed. They have different backgrounds, different roles in their organizations, different years of experience and the working model (project oriented or business as usual) is different as well. This sample with various personalities and opinions is important to get more accurate conclusions where the answers are not equal or biased for having the same experiences and jobs.

4.2 Analysis of the impact of lack of information on organizations

The analysis of the impact of lack of information on organizations with a functional structure that want to do the transition to a PBO was made through a Pareto Chart.



Graph 1 – Pareto Chart

Source - Author

As we can see from the word cloud analysis the words with more frequency are “company” and “project” which is not surprising because they are the major topics in this study. For this question in particular the meaning of this words is that it will exist more projects inside the organizations in the future.

The word “people” it is highlighted as well because it depends on them to create information for the future, to make this type of transitions and because the people in the future as we can see in the new generations want to work in high paced environments and by projects, so it is predictable that this is going to increase in the future.

4.4 Analysis of the causes of lack of information on organizations

To analyse the causes of lack of information on organizations with a functional structure that want to do the transition to a PBO an *Ishikawa* Diagram was made.

Fishbone Diagram

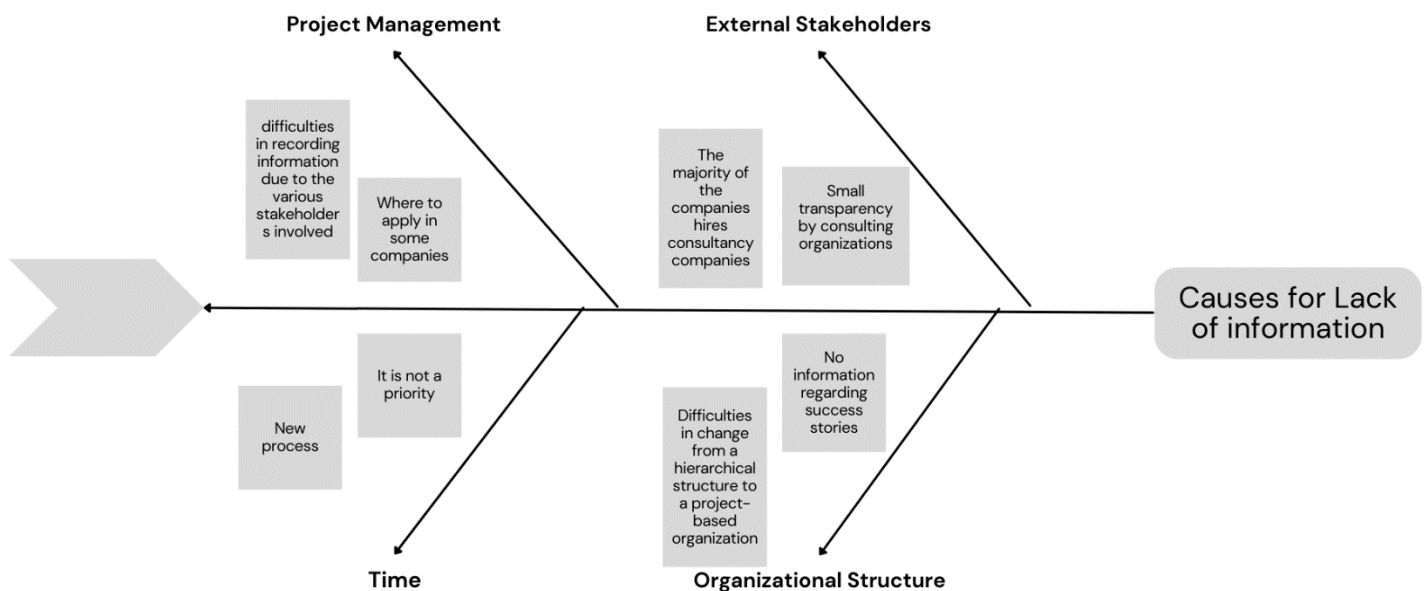


Figure 3 – *Ishikawa* Diagram

Source – Author

To understand this *Ishikawa* Diagram or Fishbone Diagram we must take into account the different positions of the main topics where time is the cause with smaller importance and the External Stakeholder are the topic with biggest importance to this theme.

This was calculated with the frequency of mentions using the KH Coder 3 software.

Time is one of the causes for the lack of information because this is a new process that the companies are trying to integrate in their organizations, so it is easily understandable that there is not a large enough sample on the market nor time to record this type of transformation. The registration of this information is not a priority as well and this contributes to the lack of information.

Project management is also one of the causes because the companies are including this type of working in their organizations. The contact with several stakeholders is something that difficult the recording of information, the small amount of people tailored to do these projects and the areas of the organization where they can apply it is something that the organizations are trying to discover.

The organizational structure of the companies causes lack of information because organizations are having difficulties in losing this hierarchical organization to transform into a PBO. This aligned to the lack of success stories makes impossible to register information until they create a good organizational method.

In this study the major cause to the lack of information was the External Stakeholders because they are owners of the information. Companies that try to do these transitions turn to consulting firms in order to achieve the expected goals. What we can conclude from this analysis is low transparency from this consulting firms and the small amount of studies made by the universities regarding this theme origins lack of information.

4.5 Analysis of the best solutions to the lack of information on organizations

To analyse the best solutions to solve this problem a Mindmap Diagram was created from several analysis made in the KH Coder 3 software that originate conclusions to create this diagram.



Figure 4 – Mindmap Diagram

Source – Author

In this Mindmap Diagram we can observe the best solutions taken from the interviews carried out.

These four main solutions are divided in two types of solution. In the left side the main solutions are from the organizations and from the people and they are the solution for companies that want to do the transformation without information, so this two doesn't solve the problem of lack of information directly but it gives an alternative solution for when the information doesn't exist. On the right side we have solutions from stakeholders and organizations that solve the problem directly.

Starting from the left we have the people and to achieve this transformation without information the organizations need people with different backgrounds, with different and specific soft skills and with an open-minded thinking towards the change.

For the success of the transformation organizations need flexibility, communication, and transparency of the information and the objectives that they want to achieve.

In order to solve directly the problem, the most common solution was from the stakeholders like the universities and consulting companies that should create several studies regarding this topic.

Information sharing by the companies was another solution given by our interviewees where they should share success stories, failure cases and register all the information regarding this topic to share it afterwards.

4.6 Analysis of the benefits of solving the lack of information on organizations

To understand the major benefits of solving this problem an analysis to the answers was conducted through the KH Coder 3 software and organized in a breakdown structure diagram.

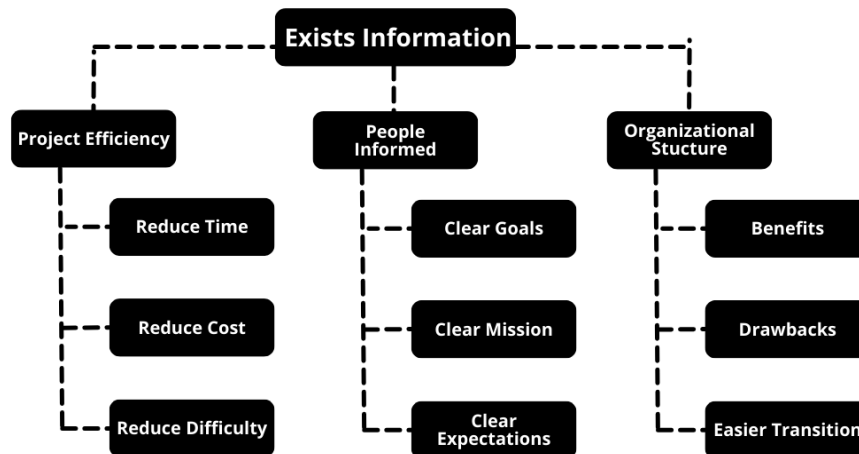


Figure 5 – Benefits Breakdown Structure Diagram

Source – Author

In this figure we can see the three major benefits of solving the problem and why.

The first major benefit of solving this problem is the project efficiency. With information it is possible that the organizations can reduce time, cost and the difficulty to do the projects that they want to because they have access to the information of how to do it and what they need to achieve the expected goals.

The second benefit is the information in people. With information the organisations can give a clear vision to their workers of their expected goals and missions giving them a clear expectation of they have to do contributing to a better wellbeing and less surprises in the future.

The last benefit is regarding the organizational structure where it is possible for the organizations to understand the benefits and the drawbacks of making this transformation contributing to a better a smoother transition.

5 Discussion and Findings

In this section, it will be possible to understand the connection between the results of the conducted study and the literature shared in the second chapter (Literature Review).

In the first question that was analysed, “What are the main impacts of the problem?”, we conclude that project efficiency is the biggest impact that exists. This conclusion is evident because the small amount of information that exists difficult the best actions to take and the predictions regarding positive and negative outcomes in the future forcing people to resort to trial-and-error actions to achieve the intended objectives. These actions will force the organizations to spend more money and more time to achieve their expected goals. As the research of Wiewiora et al. (2020) showed us that the knowledge and learning new skills is very important to achieve more accuracy and more efficiency but for this to happen, information regarding this topic is needed.

The second major impact is the company sector. This can be linked to the fact of all the information that exists regarding project-based organizations are in specific industries where the core business of the organizations is to work by projects (Wang et al., 2022; Barbosa et al., 2022; Löwstedt et al., 2018; Pemsel et al., 2018; De Toni & Pessot, 2021; de Rooij et al., 2019).

One of the biggest impacts are the persons, the lack of information is something that directly harms employees’ daily lives because they don’t have a concrete vision of their work, their responsibilities, their future, or the organization’s future. In here we can observe that communication, transparency, and knowledge is very important for the employees as Löwstedt et al. (2018) shared in their research.

“What is the problem trend?” was the following question where it was clear that the future involves more projects in companies as well as the people want to work by projects. This conclusion is in agreement with studies of Lundin et al. (2015); Ekstedt (2019); Auschra et al. (2019) that have shared that the PBO’s are increasing in every sectors.

The next question analysed was “What are the main causes?”. The main causes found were the time, the project management, the organizational structure and the external stakeholders. Here the definition of time refers to the novelty and the recent wave of transformations in companies for this type of organizations, such as the fact that it is not a priority for companies to record this type of information.

Other main cause was the project management where translates in the difficulty to apply projects in certain industries and the difficulty to register information due to the high turnover of employees from project to project and the amount of information lost between them as we could understand in Barbosa et al. (2022) study.

Organizational structure is also a main cause of the lack of information because some organizations have difficulties to lose the hierarchical structure because of the loss of power by top management or due to some cultural or historical questions as it was possible to conclude from the interviews conducted. These conclusions are also explained in the studies of Joseph and Gaba (2020) and Turner (2020) where the change of the organizational design develops impacts in decision making processes and in the level of involvement of different stakeholders. The fact that doesn't exist success stories is something that also impacts directly in the information topic.

The main cause considered by the interviewees was the external stakeholders. Consulting firms are one of the types of organizations that work by projects (Lundin et al., 2015; Ekstedt, 2019) and help other organizations to achieve these transformations so they have the knowledge to document and publish but their small transparency doesn't allow other organizations to understand the work made by them and contributes directly to this lack of information.

For the question "What are the best solutions?" the conclusions were split in two. The first conclusions were made to respond to the need of organizations carry out this transformation without the necessary information to do so and the second conclusions were made to directly impact the inexistence of information creating it.

These first conclusions have a focus on the organizations and in the people. The organizations need to be flexibles, transparent and with a clear and fluid communication between all the organization in order to have success to achieve this transformation and work with quality by projects as was published by the following authors Gemünden et al. (2018), Löwstedt et al. (2018) and Turner (2020).

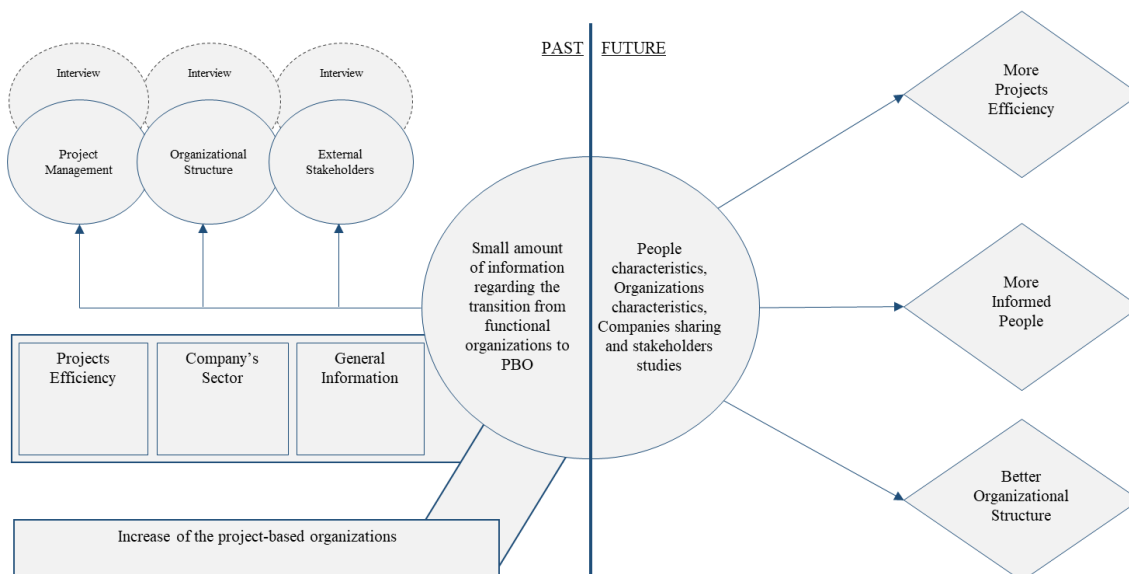
People working in these organizations need to be open-minded to the future, have different backgrounds with different experiences and develop soft skills to achieve a good transformation to a PBO as we can observed by the literature of Wiewiora et al. (2020), Löwstedt et al. (2018) and Pemsel et al. (2018).

Towards the conclusions that directly impact the lack of information we have as possible solutions the information sharing by the companies or by other stakeholders. The organizations should share success stories, failure cases and all the registered information

regarding this topic and other stakeholders as universities or consulting organizations should create and share information regarding the transformations of organizations.

To answer the final question “What are the main benefits of solving the problem?” three benefits have emerged from the analysis and the first one is the project efficiency, where it is possible to conclude that exists a reduction of the costs, the time and the difficulty to achieve the expected goals. The second benefit is more information for the people of the organization to give a clear mission, goals and what to expect contributing directly to employee’s happiness and satisfaction. The third and last benefit is for the organizational structure where it will be possible to understand the benefits and the drawbacks of the transformation. This is important for the organizations to evaluate their future and to understand whether the transformation makes sense. This also contributes to an easier and smoother transition.

Based on these results the proposed model contributes to organisational agility as follows. According to the proposed model, organisational agility can be enhanced by transforming the organization into a project-based organization (PBO), which organizes its activities around temporary, goal-oriented, and cross-functional projects, rather than permanent, function-based, and hierarchical units. This suggests that there are three main aspects that influence the success of this transformation: the organizational culture, the people, and the information sharing. The organizational culture needs to be flexible, transparent, and communicative, as these are the key elements of agile organizations. The people need to be open-minded, diverse, and skilled, as these are the characteristics of agile teams. The information sharing needs to be frequent, honest, and collaborative, as



this is the way to learn from successes and failures, and to create and disseminate knowledge about the transformation.

The model also indicates that there are three main benefits of solving the problem of transforming the organization into a PBO: the project efficiency, the employee satisfaction, and the organizational structure. The project efficiency refers to the improvement of the performance indicators of the projects, such as cost, time, and quality. The employee satisfaction refers to the enhancement of the motivation, engagement, and happiness of the project members and managers. The organizational structure refers to the understanding of the advantages and disadvantages of the PBO model, and the ability to evaluate and adjust it according to the changing needs and opportunities of the organization.

Figure 6 – Pereira Problem Solving “Findings”

Source – Adapted from Pereira et al. (2021)

Author, Year	Main Topics	Main Theoretical/Practical Contributions
Barbosa, Carvalho, Choo, Versiani and Pedron (2022)	Corporate memory in PBOs	The areas of action of organizations have an impact to work by projects
Löwsted, Räisänen and Leiringer (2018)	Strategy inside PBOs organization	Communication and transparency are important for the employees
Wiewiora, Chang and Smidt (2020)	Organizational learning in PBOs	Information and knowledge increase efficiency
Löwsted, Räisänen and Leiringer (2018)	Strategy in PBOs	The number of PBOs will increase

Ekstedt, E. (2019)	Projects and challenges to traditional institutions	The importance of information to transform
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Table 4 – Contributions from the research

Source – Author

In the table presented it is possible to understand the main contributions from the research made towards the studies from other authors in the management field. The fact that this study is related to the lack of information about this theme, the contributions made were more related to some equal conclusions from both studies.

Based on these results a link between PBO and agile organizations can be established. As mentioned, corporate agility refers to the ability of an organization to quickly adapt to changing market conditions, customer demands, and technological innovations. It is a key source of competitive advantage in today's dynamic and uncertain business environment. One way that organizations can achieve corporate agility is by adopting a project-based approach to their work. PBOs can contribute to corporate agility in several ways. First, PBOs can foster innovation and creativity, as projects allow for more autonomy, experimentation, and learning among project teams. Second, PBOs can enhance responsiveness and flexibility, as projects can be initiated, scaled, or terminated according to the changing needs and opportunities of the organization. Third, PBOs can facilitate collaboration and integration, as projects enable the sharing of knowledge, resources, and expertise across different functions, disciplines, and locations.

6 Conclusion

This study was created to understand the impact of the small amount of information regarding the transition from functional organizations to project-based organizations. This lack of information as well as the impacts of them in the organizations was showed in this study. The inexistence of information was found in the literature review where the gap of information regarding this topic is clear. To comprehend this subject 20 interviews were conducted with people with different years of experience, working in different organizations, in different sectors and with different roles inside their companies.

The impacts of this problem are evident in the efficiency of the projects carried out by the organizations as well as in the transition to PBO's. The sector of action of the organization is also impacted if they work in other industries than IT, consultancy, and engineering. Lastly the general information between the organizations and their employees has a big impact because the uncertainty created around them.

The trend of this problem is the increase of project-based organizations.

The main causes of this problem are the current project management in the organizations, their organizational structure, and the small contributions of external stakeholders.

There were four solutions offered in this study and they were split in two. The first two are towards the organizations that make the transition without information and the other two solutions are to solve the inexistence of information regarding this topic. This first two solutions have a major focus on people and organization's characteristics. The second pair of solutions have a bigger focus on shared information by companies and other stakeholders.

The benefits of solving the problem are the increase of projects efficiency, the increase of information of the employees and a better understanding of the best solution for the organizational structure of the companies that are trying to do this transformation.

With this study was possible to understand the gap in the literature, the impacts of this gap in organizations, possible solutions to solve this issue and the benefits of solving the problem.

For the future is important to follow the increase of information published regarding this topic, to do some business cases in organizations that are doing or trying to do these types of transitions, work together with several organizations from different sectors of action to register their transition, and to better understand the viability of the PBO's in every sector.

Limitations

This study has presented some limitations during the elaboration process. Firstly, regarding to the problem, this was not a subject for some people that doesn't work with projects, in an organization that don't want to make this transition or if they aren't in a strategic position of their organization.

Next, the small number of interviews carried out in this study gave an expected conclusion for this work but with a bigger sample maybe the results would have been different.

This is a difficult subject to talk about, so it was very difficult to clearly explained the questions and the purpose of the study. This had a direct impact on some of the interviews made.

The data analysis was made with KH Coder 3 software and some of the questions were difficult to analyse and to take relevant conclusions because of the different words used by the interviewees that wanted to say the same information.

Finally, nineteen out of twenty interviewees work in Portugal so the answers given were based on Portugal's reality.

7 References

- Aubry, M., & Lavoie-Tremblay, M. (2018). Rethinking organizational design for managing multiple projects. **Project Management Journal**, 36(1), 12–26.
- Auschra, C., Braun, T., Schmidt, T., & Sydow, J. (2019). Patterns of project-based organizing in new venture creation: Projectification of an entrepreneurial ecosystem. **International Journal of Managing Projects in Business**, 12(1), 48–70.
- Barbosa, L.C.M., Carvalho, R.B., Choo, C.W., Versiani, Â.F. & Pedron, C.D. (2022). Corporate memory dynamics in project-based organizations (PBOs): multiple case study in Brazilian engineering design firms and a framework proposal. **The Learning Organization**, 29(4), 297-316.
- da Costa, R. L., Pereira, L. F., Dias, A. L., & Gonçalves, R. (2020). Engage customers in co-creation: Is critical for projects success. **Journal of Modern Project Management**, 8(2), 65-73.
- Daniëls, E., Hondeghem, A. & Dochy, F. (2019). A review on leadership and leadership development in educational settings. **Educational Research Review**, 27, 110-125.
- de Rooij, M. M. G., Janowicz-Panjaitan, M. & Mannak, R. S. (2019). A configurational explanation for performance management systems' design in project-based organizations. **International Journal of Project Management**, 37(5), 616-630.
- De Toni, A. F. & Pessot, E. (2021). Investigating organisational learning to master project complexity: An embedded case study. **Journal of Business Research**, 129, 541-554.
- Dias, Á., Patão, C., Pereira, L., Costa, R. & Gonçalves, R. (2023). Workforce agility: how to manage knowledge and innovation in a remote work environment. **International Journal of Agile Systems and Management**, 16(2), 145-178.

- Ekstedt, E. (2019). Project work, a challenge to traditional work life institutions. **International Journal of Managing Projects in Business**, 12(2), 267-281.
- Gemünden, H. G., Lehner, P & Kockc, A. (2018). The project-oriented organization and its contribution to innovation. **International Journal of Project Management**, 36(1), 147-160. <https://doi.org/10.1016/j.ijproman.2017.07.009>
- Guest, G., Namey, E., & Chen, M. (2020). A simple method to assess and report thematic saturation in qualitative research. **PloS one**, 15(5), e0232076.
- Joseph, J. & Gaba, V. (2020). Organizational Structure, Information Processing, and Decision-Making: A Retrospective and Road Map for Research. **Academy of Management Annals**, 14(1), 267-302. <https://doi.org/10.5465/annals.2017.0103>
- Locatelli, G., Konstantinou, E., Geraldi, J., & Sainati, T. (2022). The Dark Side of Projects: Dimensionality, Research Methods, and Agenda. *Project Management Journal*, 53(4), 367–381.
- Löwsted, M., Räisänen, C. & Leiringer, R. (2018). Doing strategy in project-based organizations: Actors and patterns of action. **International Journal of Project Management**, 36(6), 889-898.
- Lundin, R.A., Arvidsson, N., Brady, T., Ekstedt, E., Midler, C. & Sydow, J. (2015). Managing and Working in Project Society: Institutional Challenges of Temporary Organizations. **Cambridge University Press**.
- Pemsel, S., Söderlund, J. & Wiewiora, A. (2018). Contextualising capability development: configurations of knowledge governance mechanisms in project-based organizations. **Technology Analysis & Strategic Management**, 30(10), 1226-1245.
- Pereira, L., Santos, R., Sempiterno, M., Costa, R.L.d., Dias, Á., António, N. (2021). Pereira Problem Solving: Business Research Methodology to Explore Open

Innovation. **Journal of Open Innovation: Technology, Market, and Complexity**, 7, 84.

Pires, R., Pereira, L., Dias, Á., Gonçalves, R., Costa, R. & Silva, R. (2023). The agility challenge during organic growth. **International Journal of Learning and Intellectual Capital**, 20(3), 310-333.

Scott-Young, C. M., Georgy, M. & Grisinger, A. (2019). Shared leadership in project teams: An integrative multi-level conceptual model and research agenda. **International Journal of Project Management**, 37(4), 565-581.

Söderlund, J., & Sydow, J. (2019). Projects and institutions: towards understanding their mutual constitution and dynamics. **International Journal of Project Management**, 37(2), 259-268.

Turner, R. (2020). How Does Governance Influence Decision Making on Projects and in Project-Based Organizations? **Project Management Journal**, 51(6), 670–684. <https://doi.org/10.1177/8756972820939769>

Turner, R., & Miterev, M. (2019). The Organizational Design of the Project-Based Organization. **Project Management Journal**, 50(4), 487–498.

Wang, R., Lu, W., & Wei, Y. (2022). Project-Based Organizations' Pursuit of Production Efficiency and Legitimate Power: An Institutional Perspective. **Project Management Journal**, 53(3), 295–308.

Wiewiora, A., Chang, A. & Smidt, M. (2020). Individual, project and organizational learning flows within a global project-based organization: exploring what, how and who. **International Journal of Project Management**, 38(4), 201-214.

Zaman, U., Nawaz, S. & Nadeem, R.D. (2020). Navigating Innovation Success through Projects. Role of CEO Transformational Leadership, Project Management Best Practices, and Project Management Technology Quotient. **Journal of Open Innovation: Technology, Market, and Complexity**, 6(4),168.

Dias, Á., Patão, C., Pereira, L., Costa, R. & Gonçalves, R. (2023). Workforce agility: how to manage knowledge and innovation in a remote work environment. *International Journal of Agile Systems and Management*, 16(2), 145-178.

Gonçalves, R., da Costa, R.L., Pereira, L., (...), da Silva, R.V., Teixeira, N. (2023) Agile applications of artificial intelligence to apparel industry, *International Journal of Agile Systems and Management*, 16(4), pp. 429-457

Gustavsson, T. (2023) The impact of agile coordination practices on conditions for successful coordination, *International Journal of Agile Systems and Management*, 16(3), pp. 347-367

Motwani, J., Kataria, A. (2023) Organisation agility: a literature review and proposed conceptual framework, *International Journal of Agile Systems and Management*, 16(1), pp. 82-123

Batista, F., Pereira, L., da Costa, R.L. (2023) Enterprise agile transformation, *International Journal of Agile Systems and Management*, 16(2), pp. 179-204

<https://doi.org/10.1017/CBO9781139939454>

<https://doi.org/10.1080/09537325.2018.1459538>

<https://doi.org/10.1177/87569728221103911>

<https://doi.org/10.1177/8756972819859746>

<https://doi.org/10.1177/87569728221087156>

<https://doi.org/10.1016/j.ijproman.2017.05.012>

<https://doi.org/10.1108/IJMPB-01-2018-0007>

<https://doi.org/10.1108/IJMPB-02-2018-0033>

<https://doi.org/10.1016/j.ijproman.2018.05.002>

<https://doi.org/10.1016/j.ijproman.2019.01.001>

<https://doi.org/10.1016/j.ijproman.2019.02.002>

<https://doi.org/10.1016/j.edurev.2019.02.003>

<https://doi.org/10.1016/j.ijproman.2019.03.002>

<https://doi.org/10.1016/j.ijproman.2020.03.005>

<https://doi.org/10.1016/j.jbusres.2020.03.027>

<https://doi.org/10.1108/TLO-12-2020-0226>

<https://doi.org/10.3390/joitmc7010084>

<https://doi.org/10.3390/joitmc6040168>