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# Benefits Realization Management: a framework for the project benefits identification based on Pereira Problem Solving and Pereira Diamond.

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Master's in Business Administration

Supervisor:
PhD Leandro Luís Ferreira Pereira, Assistant Professor,
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BUSINESS
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# Acknowledgement

The conclusion of this dissertation represents the achievement of a long-awaited goal. It was a big challenge being a foreign student for 2 years in Portugal, dealing with the physical distance from my family, especially when the world faced a pandemic during most of this period.

Nevertheless, I am sure that I am completing this challenge thanks to the support I had from several people during this journey.

I would like to start by thanking my thesis supervisor, Professor PhD Leandro Pereira, for his support, guidance and enormous availability throughout the development of this research. His always timely and precise feedbacks were crucial for the development of this work.

A very special thank you to my parents and sister who have always supported me along my academic and career journey and who have provided me continuous encouragement, strengths and joy to reach my goal.

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I thank you all!

# Abstract

The investment decisions are an important concern for organizations. There is a growing pressure to assertively invest on the project initiatives that will deliver the most valuable results for the business strategy. Although this is a clear concern for the organizations, many of them are still not able to identify the benefits that their project initiatives can deliver.

This dissertation aims to address the gap between the Benefits Realization Management academic research and the real project management routine in the organizations, focusing on the project benefits identification. The main objective of this study was to explore the steps proposed on the Pereira Problem Solving framework in order to identify the gaps that prevent the project managers from clearly identifying the expected benefits from a project initiative.

After interviewing 32 professionals, the results indicate that the main barrier on the benefits identification is the superficial understanding of the project problem. Additionally, results suggest that the organizations under analysis have low level of maturity on the management of its projects benefits.

As the main contribution of this research, a new framework was proposed by developing and consolidating existing ones. The Pereira Problem Solving framework was evolved in order to further explore the analysis of the problem impacts. It is believed that the proposed model will help organizations to expand the application of the existing model to the context of the benefits identification, working as a practical tool to guide the management of the projects benefits.



**Keywords:** Benefits, Project, Management, Problem-Solving, Business Case, Investment.

**JEL Classification System Code:** M10 – General, M19 – Other.

# Resumo

As decisões de investimento são uma preocupação importante para as organizações. Há uma crescente pressão para investir assertivamente nas iniciativas de projeto que proporcionarão os resultados de maior valor para a estratégia do negócio. Embora esta seja uma preocupação clara para as organizações, muitas delas ainda não são capazes de identificar os benefícios que seus projetos podem proporcionar.

Esta dissertação objetiva abordar a lacuna existente entre a pesquisa acadêmica sobre a Gestão da Realização de Benefícios e a real rotina de gestão de projetos das organizações, a focar na identificação dos benefícios dos projetos. O principal objetivo deste estudo foi explorar as etapas propostas no modelo Pereira Problem Solving, a fim de identificar as lacunas que impedem os gestores de projeto de identificar claramente os benefícios de um projeto.

Após entrevistar 32 profissionais, os resultados indicam que a principal barreira no processo de identificação de benefícios é a compreensão superficial do problema de projeto. Ainda, resultados adicionais sugerem que as organizações analisadas apresentam baixo nível de maturidade na gestão dos benefícios de seus projetos.

Como principal contribuição desta pesquisa, um novo modelo foi proposto a partir da evolução e consolidação de modelos já existentes. O Pereira Problem Solving foi evoluído a fim de explorar a etapa da análise dos impactos do problema. Acredita-se que o modelo proposto ajudará as organizações a expandir a aplicação do modelo existente para o contexto da identificação de benefícios, de modo a funcionar como uma ferramenta prática para orientar a gestão dos benefícios dos projetos.

**Palavras-Chave:** Benefícios, Projetos, Gestão, Solução de Problemas, Business Case, Investimento.

**Classificação JEL:** M10 – Geral, M19 – Outros.

# Summary

CHAPTER 1

# Introduction

In the current context of strong market competition and fast technology advancements, organizations are challenged to keep delivering value to its stakeholders while rationalizing and optimizing the resources spent for this purpose. To achieve this objective, managers and decision-makers must be capable to convert the organization strategic goals into business value in an assertive manner.

Projects are an important way for organizations to implement change in a structured manner, generating business value (Chih & Zwikael, 2015; Serra & Kunc, 2015). However, organizations have limited resources to invest, therefore there is a growing pressure to assertively choose the initiatives that will deliver the most valuable results for the implementation of the business strategy. Investing capital, time and human labor in the wrong projects, those that at the end will not achieve the strategic objectives and will not delivery to the organization the expected return on the investment, may seriously compromise the organization success.

Even though this is a clear concern for senior management and project managers, a significant amount of projects still fail to deliver the expected benefits (Zwikael et al., 2018). This may be explained by the fact that project management discipline has been vastly explored and developed in terms of the iron triangle project success criteria of cost, time and scope, but much less so in terms of meeting the projects' intended benefits (L. Pereira et al., 2018; Serra & Kunc, 2015). Recognizing this gap, in the last decades the project management field has increased its emphasis on project benefit management, shifting from a product creation focus to value creation focus (Musawir et al., 2017).

Benefits Realization Management (BRM) process aims to ensure that the expected benefits of each project are indeed realized. Different BRM models have been developed in the literature with a wide variety of study applications, within different industries and in both public and private sectors. However, in spite of the growing academic evidence that the use of BRM practices enhances the probability of projects achieving organizational goals, recent research from Project Management Institute (PMI) and Association for Project Management (APM) show that the BRM practices are still not widespread among the organizations.

The first step in the BRM process is the identification of the project expected benefits, which literature suggests it is a critical step to ensure the success of the project benefit realization (Chih & Zwikael, 2015). Naturally, the expected benefits must be formulated so they can be measured, planned, realized, and evaluated (Bradley, 2010; Breese et al., 2015). Besides, the target project benefits will be stated in the business case of the concerned project and, consequently, will have direct impact in the projects portfolio management and in the investment decision. The insights obtained during the benefits identification stage can support better decisions about which projects to prioritize and the appropriate levels of investment (Chih & Zwikael, 2015; Zwikael & Smyrk, 2012)

In spite of the discussed importance of the benefits identification step in the BRM process, there is still few literature available about how to set project benefits (Chih & Zwikael, 2015). Furthermore, PMI (2016b) discloses that only half of organizations indicate that projects benefits, as identified, are well aligned with the organization strategic goals, suggesting that projects lack a formal and robust process for benefits formulation.

Pereira et al. (2018) present a model to assist organizations to identify and measure their projects benefits. The Pereira Diamond model may be applied by organizations from different industries and sectors (public, private or NGO), and to projects aiming to achieve economic or social impacts, with two slightly different versions according to the case. In addition, the proposed framework considers a clear diagnosis previously to the benefits identification, for which the authors suggest applying a problem-solving exercise.

Later in another study, Pereira et al. (2021) developed the Pereira Problem Solving methodology aiming to provide an integrative and accessible tool to guide organizations in addressing general business and management problems. In line with this mindset, some previous research on benefits managements suggest that there is a need to translate the academic findings into applied management, contextualizing the BRM theory and models into more practical tools to guide the organizations (Breese et al., 2015; Musawir et al., 2017).

This thesis is motivated by the objective of bringing the academic research on BRM closer to the day-to-day life of the organizations. Given the importance of the investment decision-making process for the organizations nowadays, and the positive impact that BRM can have on this process, this study aims to identify where are the main gaps that prevent the practitioners of project management from clearly identifying the intended project benefits. This gap analysis uses as basis the steps proposed in the Pereira Problem Solving framework for the project benefits identification, taking the opportunity to formulate recommendations to evolve the framework in order to expand its use on the context of the projects benefits identification.

CHAPTER 2

# Literature Review

## 2.1. Benefits Realization Management

The fist record of mentioning the term “benefits management” dates back to the late 1980s, when the failure of IT projects in achieving the expected benefits raised concerns around the return on the investment spent (Breese et al., 2015). While Benefits Realization Management (BRM) as a field of study within project management is comparatively recent, other branches of management studies were already worried about benefits, such as change management and perform management (Breese, 2012). The early stages of Benefits Realization Management development happened in 1990s when the pioneers, most based in UK, developed methods to respond to the failure of IT-focused business change programmes (Breese et al., 2015). In spite of the initial focus on IT, nowadays it is widely understood that BRM is relevant to an extensive variety of industries, disciplines and professions (Breese, 2012; L. Pereira, Sempiterno, et al., 2021).

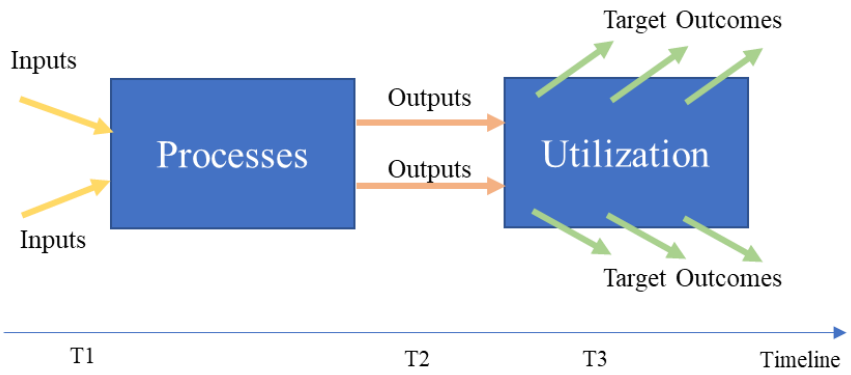
It can be said that Benefits Management played an important role in the development of project management in the late twentieth and early twenty-first century (Breese et al., 2015). It pushed the growing recognition among academics and practitioners that the conventional ‘Iron Triangle’ project success criteria - cost, time, and scope - is insufficient, and supported a shift in the project management field mindset, moving from product creation to value creation (Serra & Kunc, 2015).

Different definitions of Benefits Realization Management can be found in the literature. Farbey et al. (1992) defines it as “the process that realizes the benefits that are achieved and manages the unexpected ones”. Bradley (2010) describes BRM as “the process of organizing and managing, so that potential benefits arising from investment in change are actually achieved”. Similarly, Love et al. (2014) understand BRM as a process that is executed to ensure that the intended benefits of capital investments are realized. Musawir et al. (2017) links the BRM concept to the organization strategy when describing it as “a set of processes that ensure that projects, programs, and portfolios embed the requirements of business strategies into business-as-usual, in order to create value in a meaningful and sustainable manner”.

Projects are a structured way for organizations to implement organization strategies and promote business change (Chih & Zwikael, 2015; Serra & Kunc, 2015). That being said, benefits can be understood as the reason why organizations undertake project investments (Musawir et al., 2017). A benefit in the BRM theory is defined as the improvement arising from a change (outcome) which is perceived as positive by the stakeholders (Bradley, 2010; Laursen & Svejvig, 2016) and it is considered the ultimate deliverable of a project investment (Musawir et al., 2017).

Understanding the definition of "benefit" in BRM permeates comprehend its distinction from two other concepts: project outputs and outcomes. According to the conceptual model proposed by Zwikael and Smyrk (2012), illustrated in Figure 1, a benefit is defined as a flow of value that is generated by the realization of a target outcome. The authors explain a target outcome as "a desired, measureable end-effect that arises when the outputs from a project are utilized by certain stakeholders". Finally, project outputs are defined as "the artefacts that are produced from the work of the project".

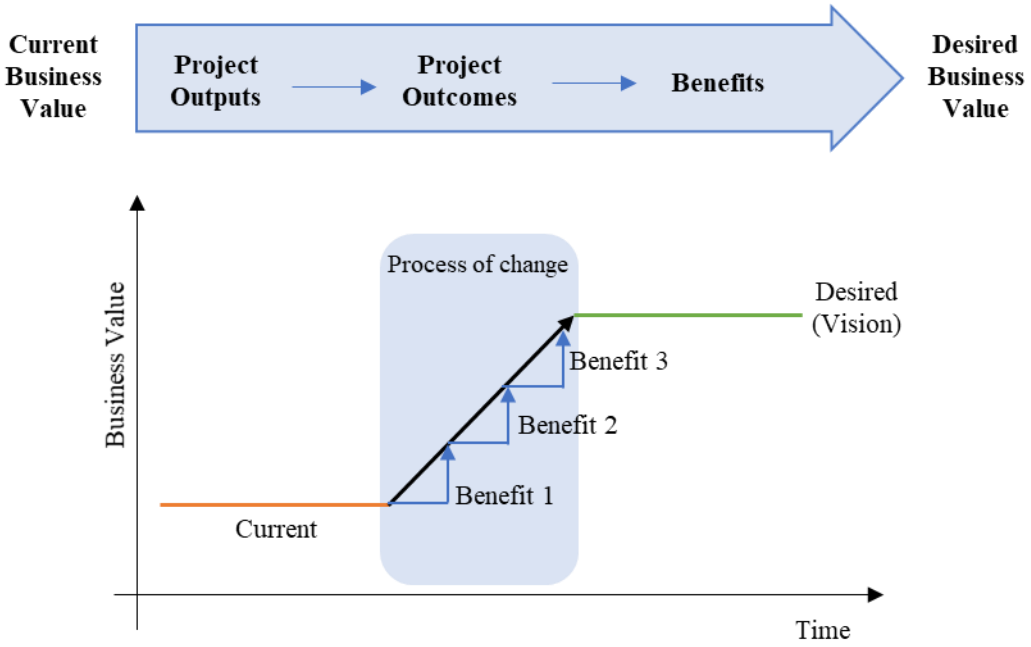
*Figure 1 – Benefits as a flow of value from the target outcomes realization*




*Source: self-constructed, based on Zwikael and Smyrk (2012)*

Aligned to this approach, Serra and Kunc (2015) also present a conceptual model of benefits realisation, illustrated in Figure 2, based in a similar flow of value, from projects outputs to benefits, which aims to cover the value gap from the current business value situation to the desired business value situation. According to the authors, "careful management of each project ensures the delivery of outputs, enables outcomes, and then supports the realisation of the right benefits" (Serra & Kunc, 2015).

*Figure 2 – Benefits as part of the process of change*




*Source: self-constructed, based on Serra and Kunc (2015)*

Therefore, Benefits Realization Management supports the organizational strategy by closing the gap between strategic management and project management, creating the conditions to ensure that the intended project benefits will be realized, which requires a consistent approach to the alignment of project outputs, outcomes, benefits, and strategic objectives (Chih & Zwikael, 2015). Finally, it contributes to the incorporation of the organizations' processes for strategy and change into the project management field (Breese, 2012).

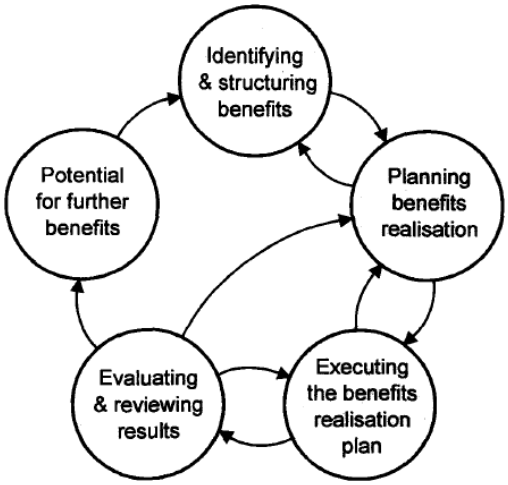
## 2.2. BRM Life Cycle

The main authors in the BRM literature developed methods to provide guidance on the management of benefits. These methods have slightly different names and emphases, but they are quite similar in many aspects. Generally, they are presented in the form of a life-cycle process, from the benefits identification to their realization, aiming to provide instructions on the management of the benefits over time (Breese, 2012; Breese et al., 2015).

Consultancy firms and business-oriented university departments were the main institutions responsible for pioneering BRM methods in the 1990s. One of the widest known work on the Benefits Management field was undertaken at Cranfield School of Management, known as the Cranfield model, which was applied by over 100 organizations across the world in the following 10 years (Ward & Daniel, 2012).

Much of the current literature still debates the benefits management on the basis of the Cranfield process model (Ward et al., 1996), which presents the BRM life cycle into five steps, as represented in Figure 3. The first step encompasses the benefits identification and structuration, where, for each proposed benefit identified, suitable business measures (financial and non-financial) are developed. Once the benefits are formulated, a plan of responsibilities and delivery is made for each of the benefits. The following step is the execution of the benefits realization plan, which happens alongside the project implementation. Afterwards, once the project and business changes are fully implemented, the effects of the project are evaluated using the business measures developed at the initial step. Finally, a post-project review is carried on, when it may be the case that further benefits are identified, and, in this case, it is an opportunity to a new cycle begin. Also, it is at this stage that the lessons learned are taken into consideration for future projects.

*Figure 3 - The Cranfield process model for Benefits Realization Management*




*Source: Ward et al., 1996*

The Cranfield process model describes the benefits management as a continuous process that guides practice under the headings of the identification, planning, executing and reviewing of some benefits and the exploitation of others (Badewi, 2016).

Chronologically speaking, this process model is succeed in the literature by the Active Benefits Realization (ABR) model (Remenyi & Sherwood-Smith, 1998), which follows an analogous process, but encompasses more steps, as the benefits are evaluated in a wider perspective, considering the Business Picture, the Financial Picture and the Project Picture. Similarly to the Cranfield process, the ABR model also understands the benefits realization as a continuous process, nevertheless the authors believe that the benefits can be realized more and more from current investments, not necessarily developing new projects (Badewi, 2016).

Later, Ashurst et al. (2008) presented a similar model, also with a circular nature, but focused on the relationship between benefits practices, competences and capabilities. This model attempted to capture the capabilities required for an organization to undertake Benefits Realization Management effectively and not only during the project life cycle (Breese et al., 2015).

More recently, the BM.UIC (Benefits Management in University-Industry Collaboration) framework was introduced by Fernandes and O'Sullivan (2021). This model adapts the Cranfield model to the University-Industry collaboration context and decomposes each of the main steps into smaller activities, creating a breakdown structure with parent and child activities.

*Table 1 – Steps proposed by different Benefits Management process models*

| Ward et al., 1996 | Remenyi & Sherwood-Smith, 1998 | Ashurst et al., 2008 | Fernandes & O'Sullivan, 2021 |
|---|---|---|---|
| Identifying and structuring benefits | Initialization of Project | Benefits planning | Identify expected benefits |
| Planning benefits realization | Production of Pictures | Benefits delivery | Plan benefits realization |
| Executing the benefits realization plan | An agreement to Proceed | Benefits review | Pursue benefits realization |
| Evaluating and reviewing results | System Development | Benefits exploitation | Transfer and sustain benefits |
| Establishing potential for further benefits | Evidence Collection | | |
| | Review and Learning | | |
| | Update of the Pictures | | |

*Source: Self-constructed*

In summary, all these models have in common their interactivity and circular nature (L. Pereira, Sempiterno, et al., 2021). In conclusion, the Benefits Realization Management life cycle takes place before, during and after the typical life cycle of a project (Musawir et al., 2017). Benefits are defined and planned still at the project selection stage, and then stated in the business case. These benefits are subsequently tracked, reviewed, and aligned with the needs of the key stakeholders during the course of the project. Lastly, the benefits are realized, which may occur during the course of the project, at project delivery, or, more commonly, after project delivery (Laursen & Svejvig, 2016; Musawir et al., 2017). However, as stated by Laursen and Svejvig (2016), this "simplistic and linear account of benefits realization downplays the complexity present in organizations and the managerial challenges facing these organizations".

## 2.3. Benefits Identification: a challenging and key element for BRM adoption

The literature discusses a variety of subjects around the Benefits Realization Management theory. One recurrent topic is the overlapping and lack of consistency in the definitions of some concepts such as value, benefits, output and outcome (Laursen & Svejvig, 2016; Zwikael & Smyrk, 2012). Other researches focus on discussing projects governance and the roles and responsibilities on BRM (Badewi, 2016; Breese et al., 2020; Mikkelsen & Marnewick, 2020). Still, some authors concentrate their efforts on exploring the relationship between BRM practices and project success (Musawir et al., 2017; Serra & Kunc, 2015).

Although different topics have been approached in the recent literature, evidence show that the BRM practices are still not widespread among organizations. In 2009, when launching their Benefits Management SIG (Specific Interest Group), the Association for Project Management (APM) undertook a survey across its members in the UK and found out that 60% of respondents described their organizations' approach to benefits management as informal or accidental (APM, 2009). Later in 2014, the same APM Benefits Management SIG carried on a new survey to understand to which extent the benefits management approach was integrated to the organization's broader approach to management (from strategy to operations), in which 40,5% answered it is "weak benefits focus" plus 23,8% as a "very weak benefits focus". The same survey was undertaken in 2017, in which 39,5% answered it is "weak benefits focus" and 27,9% as a "very weak benefits focus", demonstrating that the situation has not evolved. Still, in 2016, a report from the Project Management Institute (PMI) disclosed that only 17% of the organizations report a high level of benefits realization maturity (PMI, 2016a).

The extent to which Benefits Realization Management practices are being adopted by the organizations and the factors that contribute or not to this adherence is also object of study in the literature (Breese, 2012; Breese et al., 2015). Musawir et al. (2017) argue that a fundamental barrier for BRM adoption is that this field is still in its relative infancy and a substantial amount work is still needed to develop models and tools to guide practice, and suggest that the biggest challenge to Benefits Management adoption is that organizations still do not identify or measure project benefits. For Breese et al. (2015), there are problems over some key concepts definition developed by different professional groups, which culminates in a lack of agreement and guidance on how to classify and measure benefits.

In line with these ideas, Chih and Zwikael (2015) recognize the importance of formulating effective project target benefits, as the first and critical step to ensure the success of the project benefit realization. According to PMI (2016b), 74% of the organizations that identify target benefits in their business cases meet their project goals, compared with only 48% of the organizations that do not. The benefits identification also plays an important role on the investment decision-making process, as it is a relevant part of the business case (Chih & Zwikael, 2015). At the same time that the organizations claim that projects benefits are hard to estimate and measure (Zwikael & Smyrk, 2012), few literature is available about how to set and appraise project benefits (Chih & Zwikael, 2015).

### 2.3.1. Projects Target Benefits formulation

Project target benefits are "strategic project goals that following project completion will enhance organizational performance" (Zwikael et al., 2018). They are set prior to the project kick-off, usually during the initiation phase, and then are formalized in the project business case for the project sponsor analysis and approval (Breese et al., 2015; Chih & Zwikael, 2015; Zwikael & Smyrk, 2012). Although the literature usually mentions the project benefits identification as the first step on the benefits management process (Ashurst et al., 2008; Bradley, 2010; Fernandes & O'Sullivan, 2021; Ward et al., 1996), few details are provided on how this step should be executed (Chih & Zwikael, 2015).

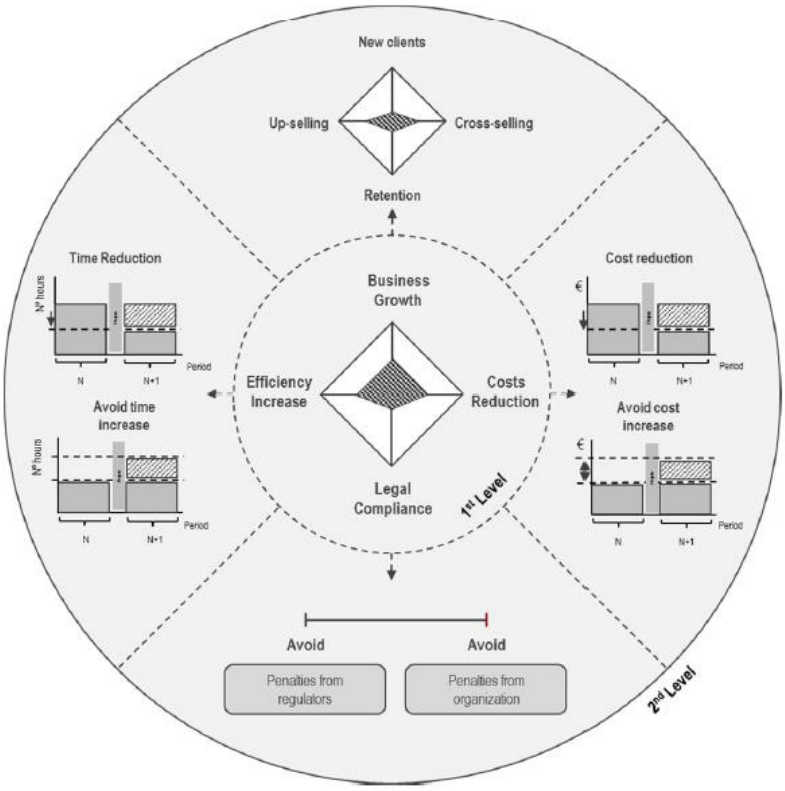
Based on the goal-setting theory, some authors focused their research on defining what are the attributes of an effective target benefit for a proposed project. Chih and Zwikael (2015) suggested that a project target benefit should fit into the organization's strategy, be measurable and realistic, have a specific target value and a target date for its realization, be comprehensive and have someone clearly accountable for its realization. In a later study, Zwikael et al. (2018) proposed the Effective Target Benefits (ETB) scale to appraise effective target benefits. According to their study, a project target benefit is effective when it is comprehensive, specific, and attainable.

### 2.3.2. Pereira Diamond Model and SROI Diamond Model

Pereira et al. (2018) present a model to support organizations on the estimation and evaluation of their projects' benefits, particularly for projects with economic or social impact. The proposed model identifies the different dimensions that encourages an organization to initiate a project, setting corresponding levels of benefits for each dimension, and suggests applying a problem-solving exercise to estimate the benefits generated by a project initiative.

Considering project initiatives with economic impact, the called Pereira Diamond model relies in four dimensions as the possible primary causes for a project's origin within an organization: business growth, cost reduction, efficiency increase and legal compliance (L. Pereira et al., 2018). For each of these dimensions, the authors have identified corresponding benefits that can leverage an organization to achieve each dimension, which are illustrated in Figure 4.

*Figure 4 - Pereira Diamond Model, 1st and 2nd Level of Benefits Dimensions*

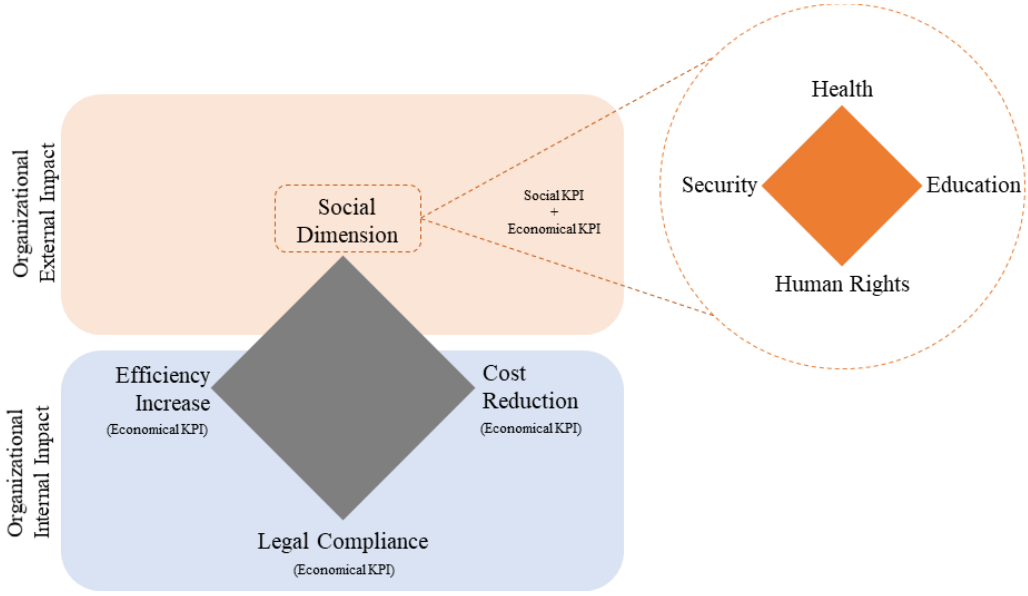



*Source: Pereira et al. (2018)*

For projects with social impact, the intended benefits may differ from the projects with economic impact when considering the external impact that an organization may aim to achieve (L. Pereira et al., 2018). In this case, the authors present a second model, called SROI Diamond Model, whose the key difference from the precedent model is that the Business Growth dimension is replaced by the Social Dimension. This model is based on the fact that an organization that aims to generate social impact "may intend to implement a project which may have internal impacts (to its own organization) or external impact" (L. Pereira et al., 2018).

As a result, the SROI Diamond Model is split into two segments: one considering the organizational internal impacts, which encompasses 3 dimensions and their corresponding benefits, which are common to the Pereira Diamond Model - cost reduction, efficiency increase and legal compliance; and another segment considering the organizational external impacts, which corresponds to the added Social Dimension. This last dimension includes four types of external impact benefits that may be leveraged by a project: health, education, security, and human rights.

*Figure 5 - SROI Dimond Model*




*Source: self-constructed, based on Pereira et al. (2018)*

For the application of one of the proposed models to a specific project initiative, the framework recommends performing an extensive diagnosis of the problem being addressed in that project before focusing on the benefits identification. This diagnosis is made through a problem-solving exercise, which, according to the authors, “assists on identifying the “how”, or in other words, identifying one or more alternative solutions to solve a specific need/problem or opportunity” (L. Pereira et al., 2018). According to the authors, in the problem-solving exercise the central project issue should be identified, followed by mapping its impacts, trends and causes. The solution is encountered by fitting to the identified causes, while the project benefits should be opposite of the issue impacts identified (L. Pereira et al., 2018).

Once the economic or social benefits are identified, they should be framed into one of the models' dimensions and linked to a KPI for the benefits measurement (L. Pereira et al., 2018). At this stage, the authors stress out the fact that "social benefits are not possible to quantify economically by itself" (L. Pereira et al., 2018). Therefore, once social benefits are identified from a project, the following step is to identify what are the economic impacts generated with that solution. In their research, Pereira et al. (2018) states that "typically, projects with social impacts, generate economic impacts in terms of costs and time reduction or reducing current costs and increasing efficiency". This means that for each project benefit framed into the Social Dimension of the SROI Diamond model, at least one Social KPI and one Economical KPI should be identified to measure that benefit, as represented in the Figure 5 (SROI Diamond Model) above.

The results presented in the study conducted by Pereira et al. (2018) indicate that the overall deviation between the estimated ROI (using the proposed models) and the actual ROI result (after the projects are concluded) is less than 10%. The authors conclude that the proposed models support the organizations to estimate and assess their projects benefits, ensuring that the causes of the relevant problems are identified and that solutions are more effective by countering the negative impacts and thus providing value-added benefits to the organization stakeholders (L. Pereira et al., 2018).

## 2.4. Pereira Problem Solving

Recently in other studies, Pereira et al. (2021; 2020) expanded their research by developing a specific problem-solving methodology for business research. The authors have identified that the current scientific management literature discusses a wide variety of scopes and models, as well as a vast range of business research techniques, but that they are frequently very specific and presented with few contextualization, making difficult to apply to concreate problems (L. Pereira, Santos, et al., 2021).

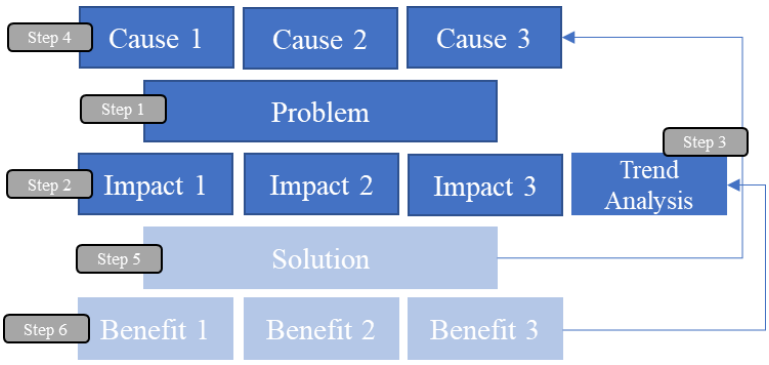
As previously discussed in session 2.3., this seems to be an issue affecting also the Benefits Realization Management field, as studies suggest that organizations are facing difficulties to adopt the BRM practices and that there is a need to put the BRM theory and models into contextualization through more practical tools to guide the practice (Breese et al., 2015; Musawir et al., 2017). The proposed Pereira Problem Solving Model is a methodology presented by the authors to address general business and management problems (L. Pereira, Santos, et al., 2021; L. F. Pereira & Santos, 2020).

The problem-solving process is split in two main stages: the problem formulation, supported by the past situation analysis; and the solution formulation, supported by the future situation analysis (L. Pereira, Santos, et al., 2021). The exercise should start with a profound and meticulous appreciation of the problem in order to ensure that it is fully understood and correctly defined (L. Pereira, Santos, et al., 2021). In line with this approach, problem-solving literature recommends dedicating more time in the analysis of the problem, instead of in the analysis of the solution (Bhardwaj et al., 2018; Stadler et al., 2015).

The first step in the Pereira Problem Solving model is the problem definition step, followed by the identification of its main business impacts (e.g., in costs, revenue, efficiency) and by a trend analysis of these impacts. These two steps in the problem formulation stage are important to raise awareness about the urgency and the priority of the problem identified (L. F. Pereira & Santos, 2020). Once the problem formulation exercise is completed, the framework advances to the solution formulation stage, where the future situation is approached. According to Pereira et al. (2021), the solutions must counteract the main causes that originates the problem identified. Therefore, the key exercise at this stage is to look for the causes of the problem. For this purpose, different tools, most of them based on the quality management literature, are suggested: the Ishikawa, the Five Whys, the Problem-Breakdown, or the Pareto techniques (L. Pereira, Santos, et al., 2021; L. F. Pereira & Santos, 2020).

Still in the analysis of the causes, the authors recommend that an analysis of the statistical (in)dependency of the causes is carried out. This statistical analysis is relevant in the model to understand if the causes are correlated or not and, therefore, to predict if there is potential for one solution to resolve more than one cause at once. In the case where the causes are not correlated, then at least one solution must be developed to each cause (L. Pereira, Santos, et al., 2021).

*Figure 6 - Pereira Problem Solving Framework*




*Source: self-constructed, based on L. F. Pereira & Santos (2020)*

After identifying the causes, the next step in the Pereira Problem Solving model is to propose solutions. As the solutions must directly respond to the main causes of the problem identified, four main strategies of responses could be applied: eliminating, mitigating, transferring, or accepting the causes of the problem (L. Pereira, Santos, et al., 2021).

Finally, if the selected solution addresses appropriately the causes of the problem identified, the solution impacts (benefits) will directly address the problem impacts, resulting in a reduction or elimination of these impacts (L. F. Pereira & Santos, 2020). Therefore, the last step in the framework proposed by the authors is the benefits identification, which is done by counteracting the problem impacts (L. Pereira, Santos, et al., 2021; L. F. Pereira & Santos, 2020). The benefits identified will allow the organizations to assess the expected value creation from the solution defined.

CHAPTER 3

# Methodology

## 3.1. Research Objectives

As previously discussed in the literature review section, the Benefits Realization Management theory provides guidance on the management of the benefits through a life-cycle process. This process is composed by different steps that contribute to the capacity of realizing the benefits at the end of the cycle: identifying and structuring the expected benefits, planning the benefits realization, executing the benefits realization plan, and evaluating and reviewing the execution results (Ashurst et al., 2008; Bradley, 2010; Fernandes & O'Sullivan, 2021; Ward et al., 1996)

This study focuses on the first step – the identification and structuration of the project target benefits – through the lens of the Pereira Diamond and Pereira Problem Solving frameworks. Past research indicates that identifying the project target benefits increases the percentage of organizations that meet their project goals (PMI, 2016b). Nevertheless, the literature review presented in this study suggests that the majority of the organizations are not benefit driven and that few guidance is available on how to set the project target benefits.

In line with the literature reviewed, the purpose of this thesis is to use the Pereira Problem Solving framework to understand where are the main gaps that prevent the project management practitioners from clearly identifying the expected benefits of a proposed project, formulating recommendations to evolve this framework on the benefits management context. In addition, this study takes the opportunity to collect insights into the level of formalization and maturity of project benefits management processes in the organizations studied.

Below are presented the main question and sub-questions that guide this research:

RQ1: What are the steps of the Pereira Problem Solving Framework that are not clearly identified by the practitioners on the projects they are managing? How the framework could be evolved to refine its applicability in the context of the projects benefits identification?

- RQ1.1: Does the project manager have a clear and objective comprehension of the central problem that the project seeks to address?
- RQ1.2: Does the project manager have a clear and objective comprehension of the impacts of this problem in the organization? Has the trend of this impact been analyzed?
- RQ1.3: Does the project manager have a clear and objective understanding of the root causes of this problem?

- RQ1.4: Does the project manager have a clear and objective understanding of the solution being implemented by the project in order to tackle this problem?
- RQ1.5: Does the project manager have a clear and objective understanding of the benefits (impacts) expected from the project implementation?

RQ2: What is the level of maturity of the benefits management processes in the organizations analyzed? Do they formalize the project benefits and monitor their realization?

- RQ2.1: Do the organizations have a formal business case for the projects being managed? Are the project target benefits documented in the project business case? In which format?
- RQ2.2: Are KPIs established to measure the project benefits realization?
- RQ2.3: Is the project manager familiar with the benefits realization management methodology and practices? Is he applying the benefits management practices in the management of its projects?

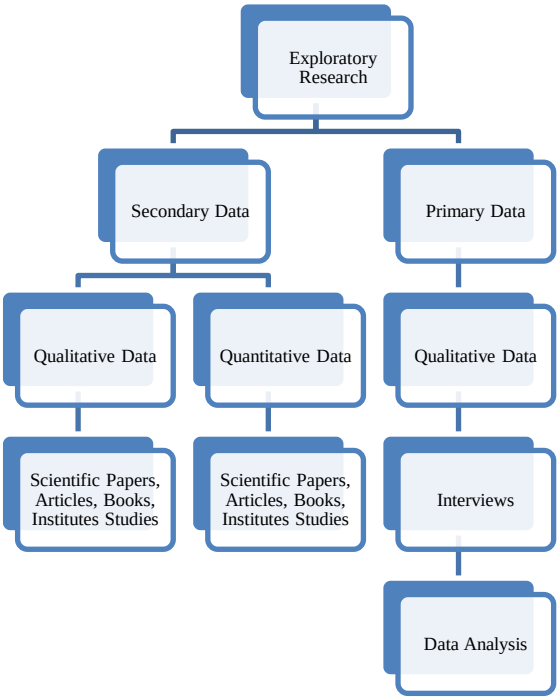
By exploring the research questions stated above, this dissertations thesis has the following objectives:

- Based on the steps proposed in the Pereira Problem Solving framework, to identify where are the main gaps that prevent the project managers from clearly identifying the intended project benefits.
- To formulate recommendations to evolve the Pereira Problem Solving framework towards the project benefits identification.
- To understand to which extent and in which format the project target benefits are identified and documented by the organizations.
- To assess whether KPIs are established to measure the project benefits realization.
- To understand to which extent the benefit management methodology and practices are widespread among the project managers practitioners.

## 3.2. Research Approach and Methods

Considering the research objectives explained, the approach chosen to be applied in this study was an exploratory research. Two research methods were included in this study: interviews for qualitative data collection as primary data source, and literature review as qualitative and quantitative data collection as a secondary data source.

*Figure 7 – Research Methods*




*Source: self-constructed*

### 3.2.1. Secondary Data

According to Cooper and Schindler (2014), "the first step in an exploratory study is a search of the secondary literature". Therefore, before planning and collecting any primary data, this study focused on exploring the existing literature to date. For this purpose, information available in articles, scientific papers, books and studies conducted by specialized institutes or associations, such as the PMI (Project Management Institute) and the APM (Association for Project Management), were explored.

The secondary data analysis was an important step to understand the kind of studies already developed by other researchers and the level of maturity of the topic, clarifying the areas that were more or less explored within the Benefits Realization Management field. It was especially helpful on providing insightful information regarding the application of BRM practices within the organizations and the key challenges already identified, contributing to contextualize and to tailor the topics under analysis.

### 3.2.2. Primary Data

This thesis relied on individual interviews, a qualitative research method, as primary data source. A qualitative research "aims to achieve an in-depth understanding of a situation" and interviews are "a primary data collection technique for gathering data in qualitative

methodologies" (Cooper & Schindler, 2014). This technique was chosen due to the high level of interaction with the respondents, allowing to absorb more information regarding the context of the projects mentioned and providing flexibility to add follow-on questions to ensure clarity on the information collected.

The interviews were conducted using an interview guide in order to follow a structured interview approach, and the response strategy was based on open-ended questions. According to Cooper and Schindler (2014), applying structured interviews increases the interview's neutrality and allows more direct comparability of responses, as the question variability is reduced or eliminated.

The questions within the interview guide were refined and validated by conducting a pretesting exercise, which consisted in applying the interview with two individuals in order to identify questions that were not sufficiently clear, to test the interview duration and to have insights on the interview outputs. Based on the respondent's answers, doubts and suggestions, the interview guide was improved and a final test was conducted by performing the interview with a third individual. The final version of the interview guide applied in this study is presented in the Appendix A.

The interview guide includes 26 questions divided into four parts. The respondents were asked to choose a project they were working on or had recently concluded (within the last 6 months) and to reply to the interview questions based on this project. The first set of questions were designed to allow a sample framing, comprising questions about the respondent, the project under analysis and the organization for which the project was developed.

The second group of questions was based on the different steps presented in the Pereira Problem Solving framework, intending to assess which elements are not clearly identified or comprehended by the respondent, preventing him to effectively reach to the last step, namely the project benefits identification. The open-ended questions were especially helpful in this section, as they allowed the interviewer to add follow-up questions to collect enough inputs. According to the evidence provided in their responses, it was possible to assess to which extent – qualitatively or quantitatively - the respondent was capable to identify the elements of each step for the project under analysis.

The third set of questions focused on the project business case, intending to evaluate whether the respondent was involved on its elaboration and if the expected benefits are stated (and in which format) in this document. The fourth and last set of questions focuses on the BRM methodology, aiming to explore the existence of KPIs to measure the benefits realization, and the respondent knowledge level regarding the BRM methodology.

The intended target population in this study are project management practitioners who work in Portugal on projects developed for organizations from any type (private, public, or non-profitable organizations) and from various industries, such as Energy, Banking, Telecommunications, Insurance, Retailing, Healthcare, and others.

Lastly, it is important to remark that the primary data collection for this study was based on a convenience sampling, which means that the respondents were selected based on their accessibility, their proximity to the researcher and their readiness to participate on the study (Cooper & Schindler, 2014). The convenience sampling is a non-probability sampling technique, meaning that it "does not attempt to select a random sample from the population of interest" (Battaglia, 2011), which implies that the representativeness of the sample to the population cannot be ensured. Even so, it is common that qualitative research involves non-probability sampling, which is less expensive and demands less effort than probability sampling, allowing to implement it more quickly (Battaglia, 2011).

#### 3.2.2.1. Data Collection

The individual interviews with the project management practitioners happened between May and August of 2021. Mostly, the respondents were approached by email or by LinkedIn, boosted by the help of colleagues and professors to spread the interviewing process to their professional network.

The interviews were conducted in an online format using videoconferencing platforms. They had an average duration of 20 minutes and were all recorded with the authorization of the respondents in order to facilitate the data collection and the afterwards analysis. A total of 34 interviews were initiated, from which 32 could be used as primary data for this research, while 2 of them had to be interrupted because the respondent did not match the target population intended.

#### 3.2.2.2. Data Analysis

The primary data collected during the interviews were reviewed using the videos recorded and the responses were framed into ranges in order to facilitate the data consolidation and analysis. For each question included in the interview guide, some response options were created, similarly to a multiple-choice questionnaire. Nevertheless, these options were not presented to the respondent, as the objective of the interview was to have open-ended questions in order to not lose the project contextualization and to preserve the details, keeping an in-depth understanding of a situation.

Therefore, in order to homogenize the responses and facilitate their presentation and discussion, the raw data collected was framed into the response options pre-defined. With all the data processed, framed and organized, they were summarized using frequency tables and presented in this document in a form of pie charts, bar charts, stacked charts and bubble charts.

CHAPTER 4

# Results

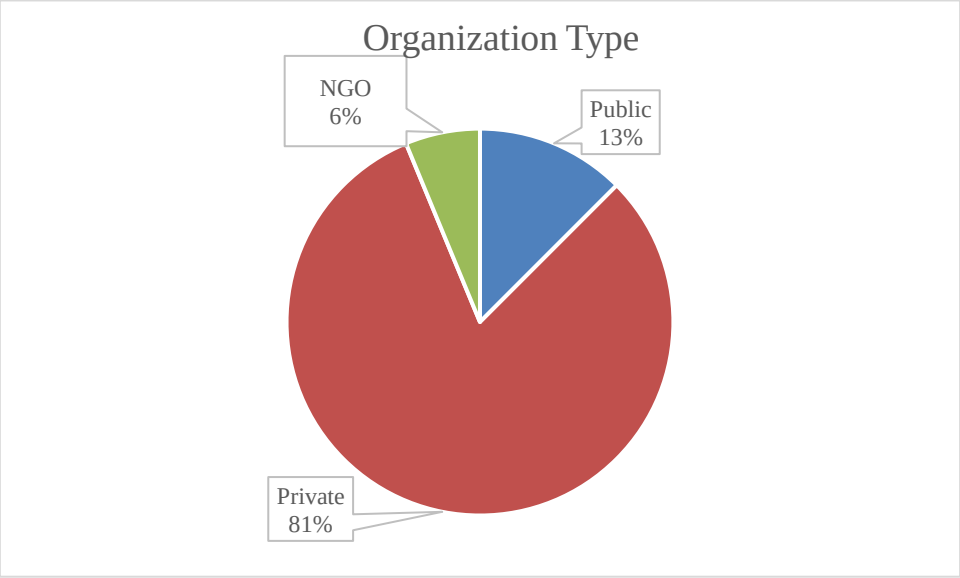
## 4.1. Sample Profile

In order to have a better understanding on the sample profile, the first part of the interview was dedicated to questions about the respondent, about the project under analysis and about the organization for which the project was developed.

### 4.1.1. Organization Type and Industry

When the respondent was asked to choose a project that he was working on or had recently concluded (within the last 6 months), the majority of the respondents (81%) referred to a project developed for a private organization, followed by public organizations (13%) and non-governmental organizations (6%).

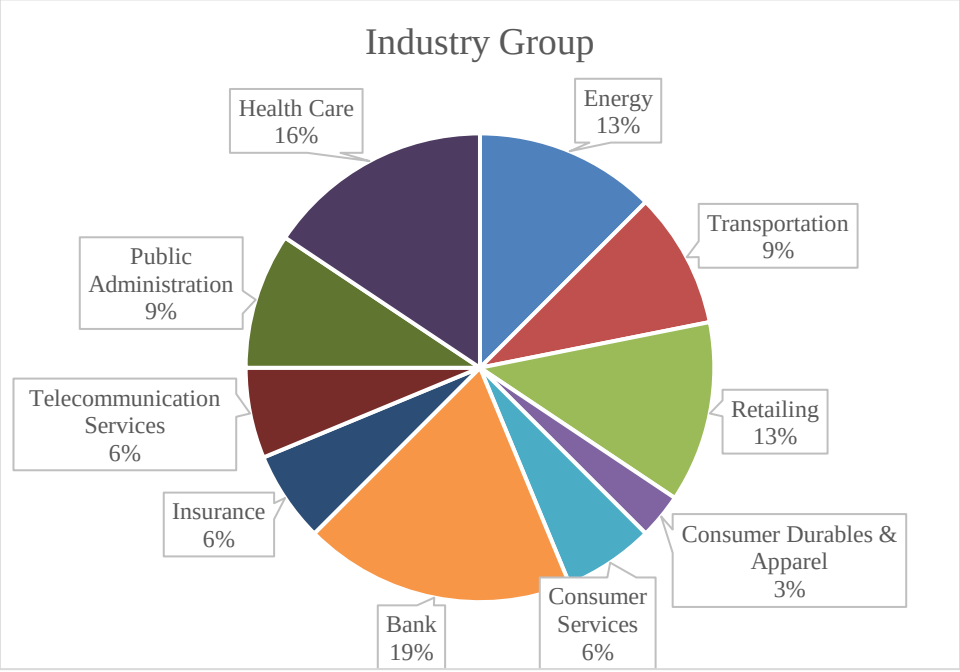
*Figure 8 - Organization Type*




*Source: Self-constructed*

The respondents were also inquired about the industry group to which the organization belongs, which was found very diverse as can be seen in the Figure 9. The majority of the projects under analysis were developed within the Bank Industry (19%), followed by the Health Care (16%) and the Retailing (13%) industries.

*Figure 9 - Industry Group*

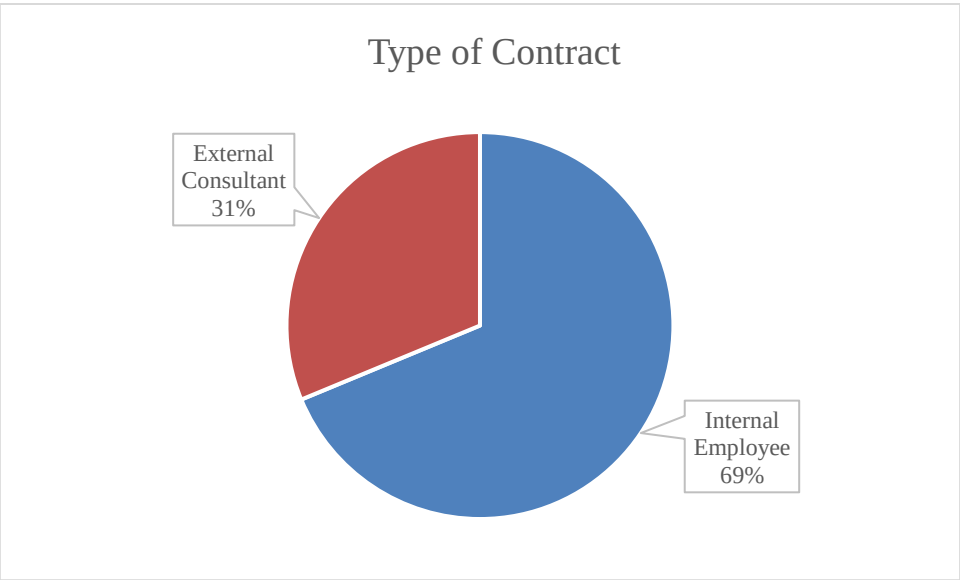



*Source: Self-constructed*

### 4.1.2. The Respondents

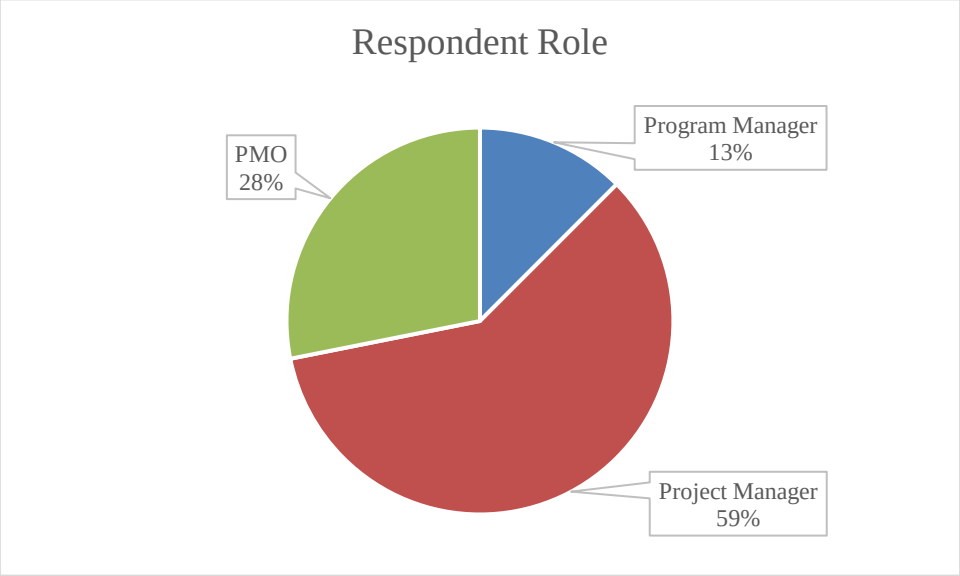
Still aiming to characterize the sample profile, the respondents were inquired whether they are an internal employee or an external consultant, and what is their role within the project under analysis. The responses can be seen in Figure 10 and Figure 11.

*Figure 10 - Type of Contract*




*Source: Self-constructed*

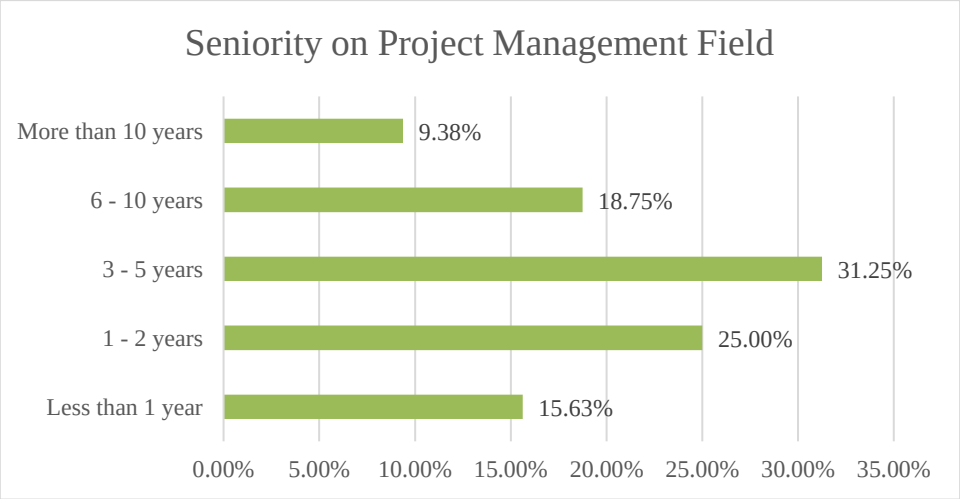
*Figure 11 - Respondent Role*




*Source: Self-constructed*

Concerning the seniority, the respondent was asked about the number of years working on the project management field. As can be seen in the Figure 12, 50% of the respondents have between 3 and 10 years of experience, the majority of them (31.5%) having between 3 and 5 years of experience.

*Figure 12 - Respondents seniority on the PM field*



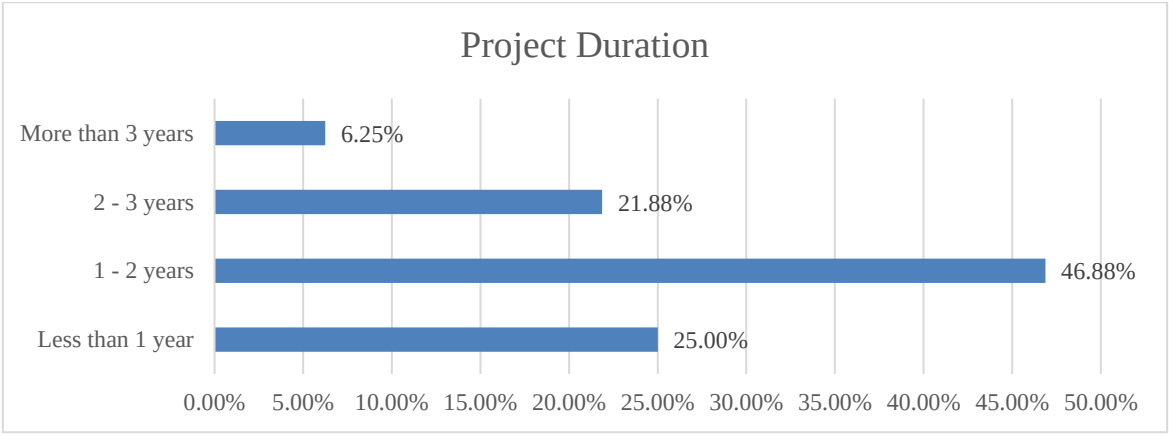

*Source: Self-constructed*

### 4.1.3. The Projects under Analysis

In order to complete the sample framing, the respondents were asked to provide an overall explanation about the project proposed for the present study, clarifying the project scope, duration, and its main objectives.

Regarding the project roadmap, the respondents were asked about the duration of the project under analysis, considering it from the project kick-off to its closure. The majority of the projects (46.88%) take between 1 and 2 years, followed by projects taking less than 1 year (25.00%) and between 2 and 3 years (21.88%).

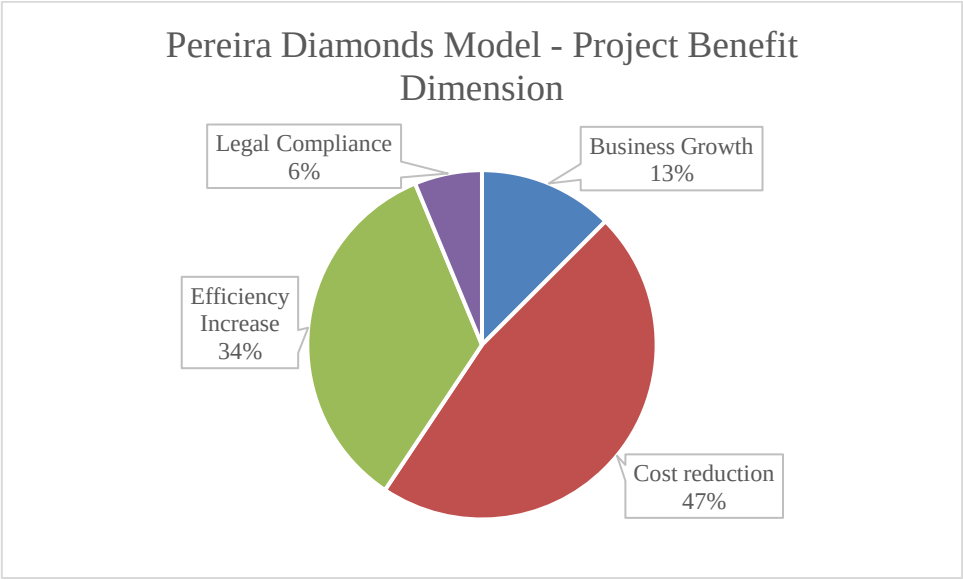
*Figure 13 - Project Duration*




*Source: Self-constructed*

From the overall explanation provided by the respondents about the project, its scope and its objectives, the projects were framed into the Pereira Diamond Model in order to identify in which of the four benefit dimensions the project fits better. Almost half of the project initiatives under analysis (47%) are primarily intended to have a cost reduction impact, followed by project initiatives that intend to have an efficiency increase (34%), business growth (13%) and to attend to legal compliance requirements (6%).

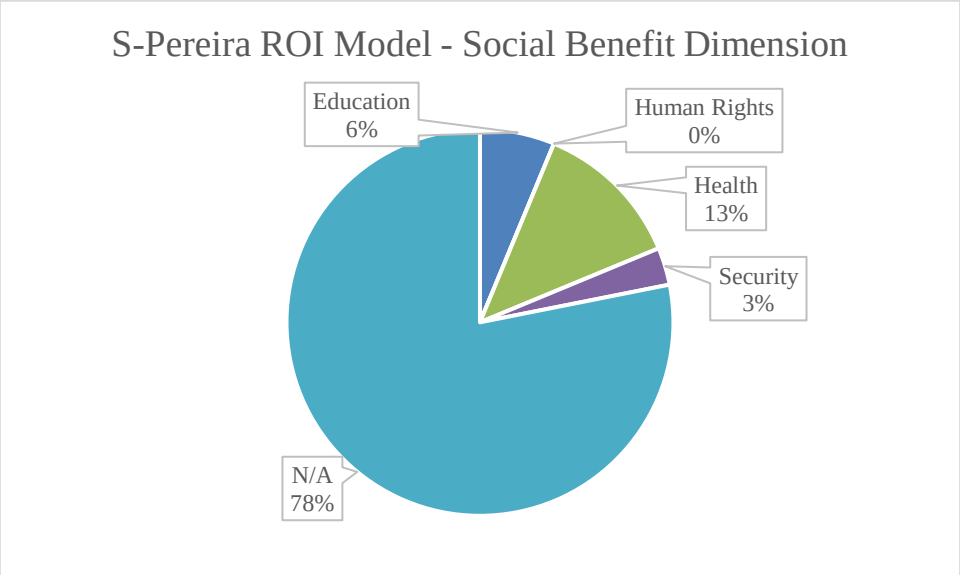
*Figure 14 – Project Benefit Dimension according to Pereira Diamonds Model*




*Source: Self-constructed*

From the 32 projects under analysis, only 7 of them (21.88%) were identified as targeting to generate a social impact. For these projects, the analysis was extended to SROI Diamond Model in order to contemplate the organizational external impacts by identifying the Social Benefits Dimension. The majority of them were framed into the Health dimension (13%), followed by Education (6%) and Security (3%). None of the project initiatives proposed for the present study were identified as intending to leverage Human Rights dimension.

*Figure 15 – Project Social Benefit Dimension according to SROI Diamonds Model*




*Source: Self-constructed*

## 4.2. Pereira Problem Solving Framework

The second part of the interview was dedicated to questions based on the steps proposed by the Pereira Problem Solving framework, presented in Figure 6 in the Literature Review chapter. The objective was to assess whether the respondent has a clear and objective understanding about the different elements presented in the framework for the project under analysis - namely the problem being addressed, its impacts and trend, its causes, the solution, and, ultimately, the project benefits.

For this purpose, the respondents were asked to identify and explain these elements on the project proposed for the present study. According to the evidence provided in their responses, it was possible to assess to which extent each of these elements are identified and comprehended by the respondent for the project under analysis.

### 4.2.1. The Problem Contextualization

The respondents were asked to describe what is the central problem that encouraged the "birth" of the project under analysis, as well as to explain its impacts on the organization, what is the trend of this impact and what are the causes of this problem. Their responses were classified into 3 categories:

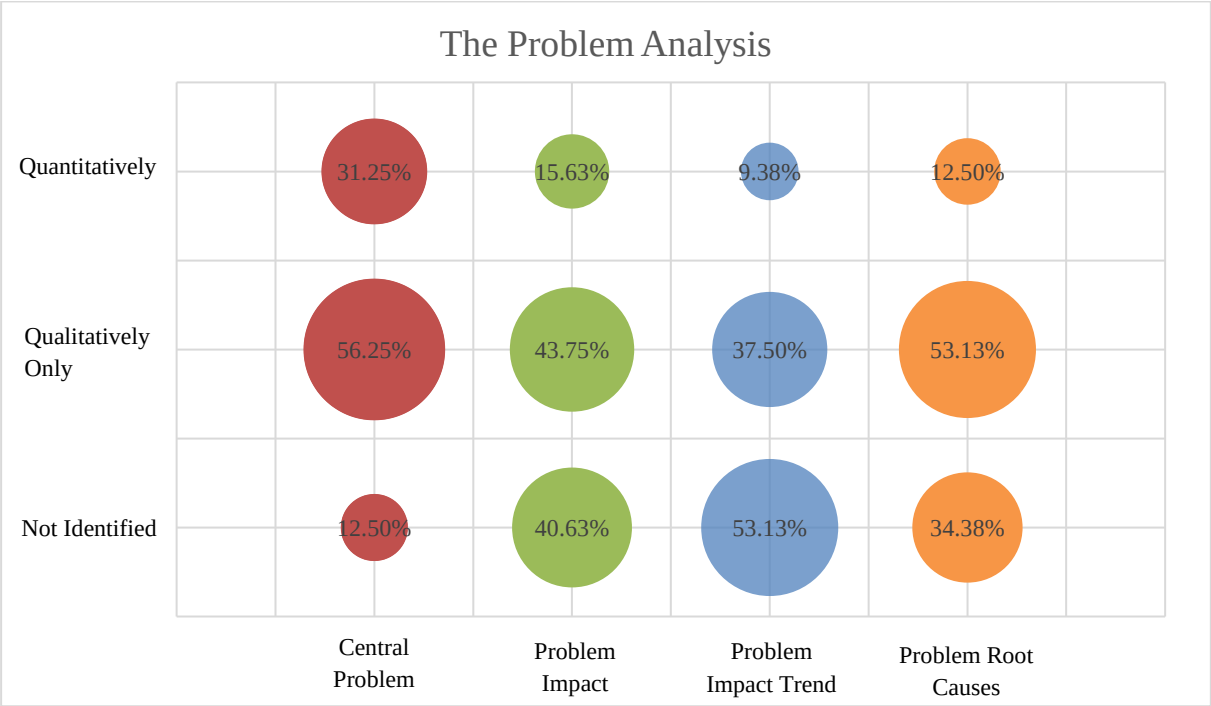
- Not identified: the respondent was not able to identify or explain the information requested.
- Qualitative Identification Only: the respondent was able to identify and explain it, however he was not able to provide any quantitative evidence to contextualize his response.
- Quantitative Identification: the respondent was able to identify and explain it, providing quantitative data as evidence to contextualize his response.

The results of this analysis were synthetized in the Figure 16. As can be seen, the majority of the project management practitioners interviewed (56.25%) were able to qualitatively identify the central problem that originates the project under analysis, while 31.25% of them was capable to illustrate this problem with quantitative data, and only 12.50% was not able to clearly identify the problem (qualitatively or quantitatively). However, concerning the problem impacts on the organization, the number of respondents that were not able to identify these impacts neither qualitatively nor quantitatively more than triplicates (rising to 40.63%) compared to the problem identification, while the respondents capable to contextualize the impacts with quantitative data reduces by half, reaching only 15.63%.

When inquired about the trend of the problem impacts, the majority of the respondents (53.13%) were unable to provide neither quantitative nor qualitative information regarding the impacts evolution over the time. 37.50% of the project management practitioners were able to qualitatively explain the trend, and only 9.38% proved having clear visibility about the trend by contextualizing it using quantitative evidence.

Lastly, the respondents were asked to identify and explain the root causes of the problem. The majority of them (53.13%) were able to qualitatively explain these causes, while only 12.50% were capable to provide quantitative data related to illustrate these causes. More than one third of the respondents (34.38%) were not able to clearly identify the problem root causes within the context of the organization.

*Figure 16 – The analysis of the project problem*



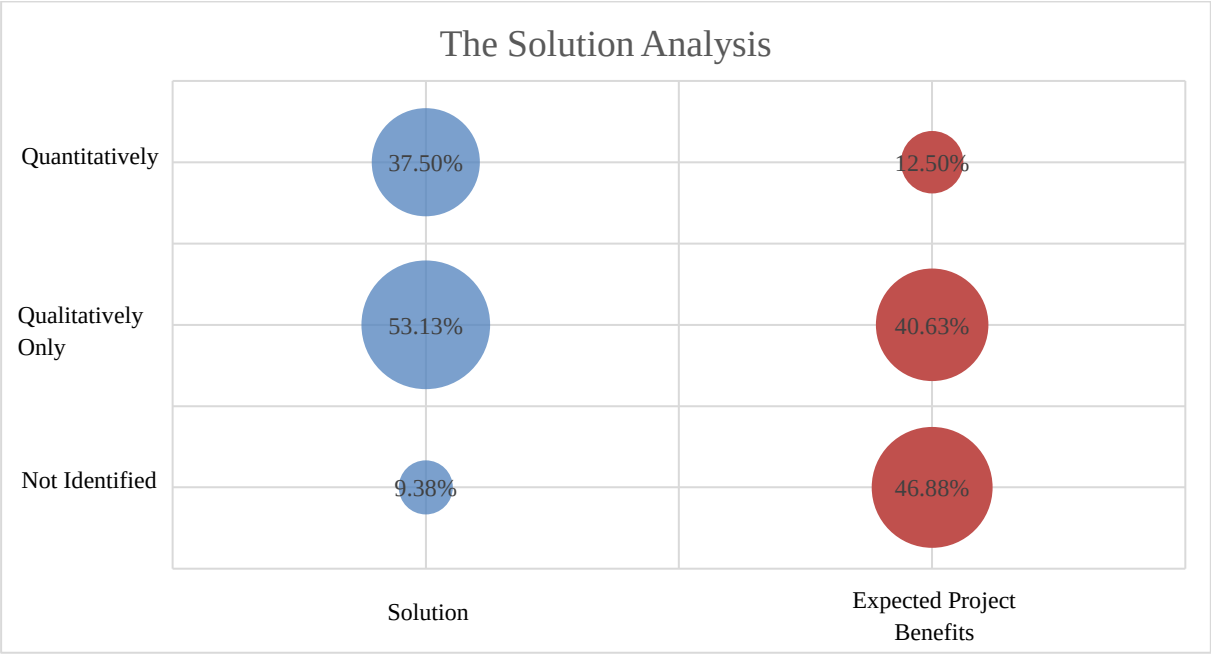

*Source: Self-constructed*

## 4.2.2. The Solution Contextualization

Still following the steps proposed by the Pereira Problem Solving framework, and similarly to the previous section, the respondents were asked to identify and explain the solution that the project under analysis aims to put in place and the expected project benefits. Again, the responses were classified in "Not identified", "Qualitatively Only" and "Quantitatively" identified.

More than 90% of the practitioners were capable to identify and contextualize the solution that the project intends to implement, 53.13% of them only in a qualitative way and 37.50% including quantitative data. However, although the vast majority was able to identify the solution, almost half of the respondents (46.88%) were not able to identify neither qualitatively nor quantitatively the expected solutions impact (benefits) in the organization. 40.63% of the respondents were able to qualitatively explain the expected project benefits, while only 12.50% of them were capable to quantitatively define it.

*Figure 17 - The analysis of the project solution*



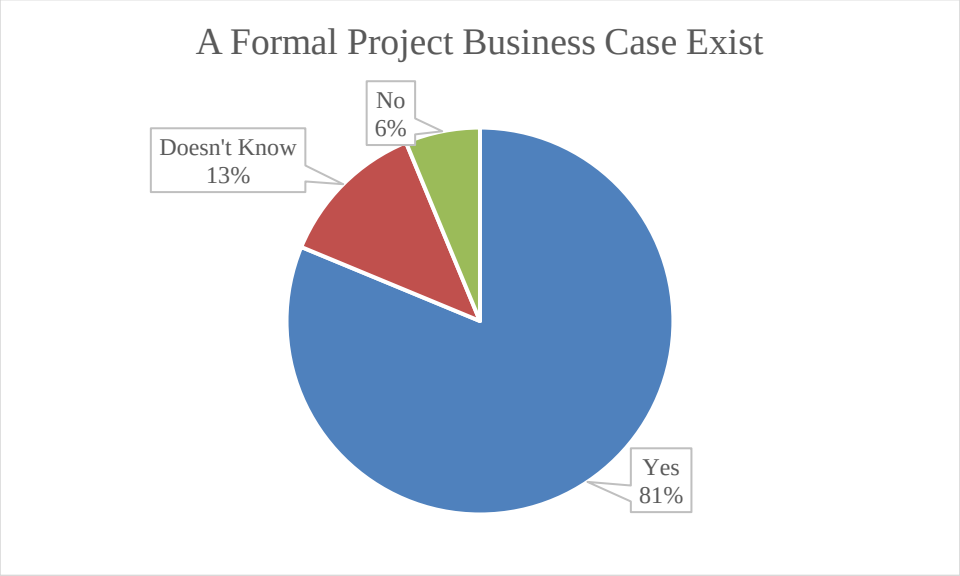

*Source: Self-constructed*

## 4.3. Project Business Case Awareness

The third set of questions in the interview focused on the project business case. As discussed in the literature review, the project target benefits should be formalized in the business case, therefore this part of the interview intended to confirm the applicability of this in the projects under analysis, as well as to understand to which extent the respondent participated on the business case elaboration.

The respondents were first asked to confirm whether a formal business case exist or not for the project under analysis. More than 80% of the respondent confirmed that the project business case exists, while 12.5% were not able to confirm, followed by only 6.25% of the respondents who affirmed that the project doesn't have a formal business case document.

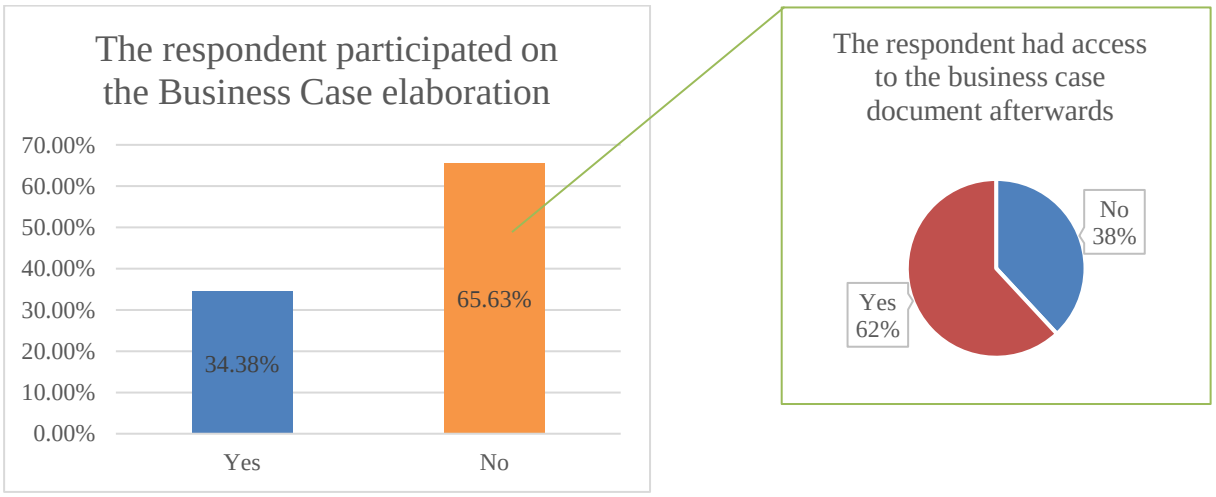
*Figure 18 - Project Business Case*




*Source: Self-constructed*

The respondents were then inquired whether they participated or not in the project business case elaboration, and those who did not participate were asked whether they had access to the document afterwards. As can be seen in the Figure 19, more than 65% of the respondents did not participate on the business case elaboration for the project under analysis. From those, more than 38% did not have access to the document afterwards.

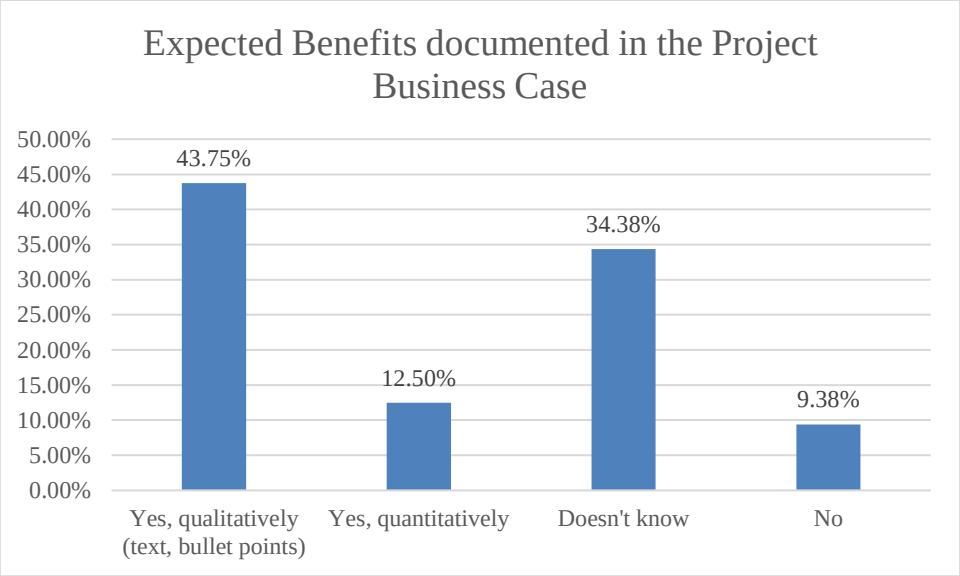
*Figure 19 – Involvement in the Business Case elaboration*




*Source: Self-constructed*

Still in the third part of the interview, the respondents were inquired whether the expected project benefits were documented in the business case and in which format. The majority of them affirmed that the project expected benefits are stated in the business case in a qualitative format (text, bullet points or similar). Almost 35% of the respondents doesn't know if the expected project benefits are documented in the business case or not, and therefore cannot say in which format they are stated. Only 12.5% said that the benefits are expressed in a quantitative format, and 9.38% affirmed that the project benefits are not stated in the project business case.

*Figure 20 – Expected project benefits reported in the business case*




*Source: Self-constructed*

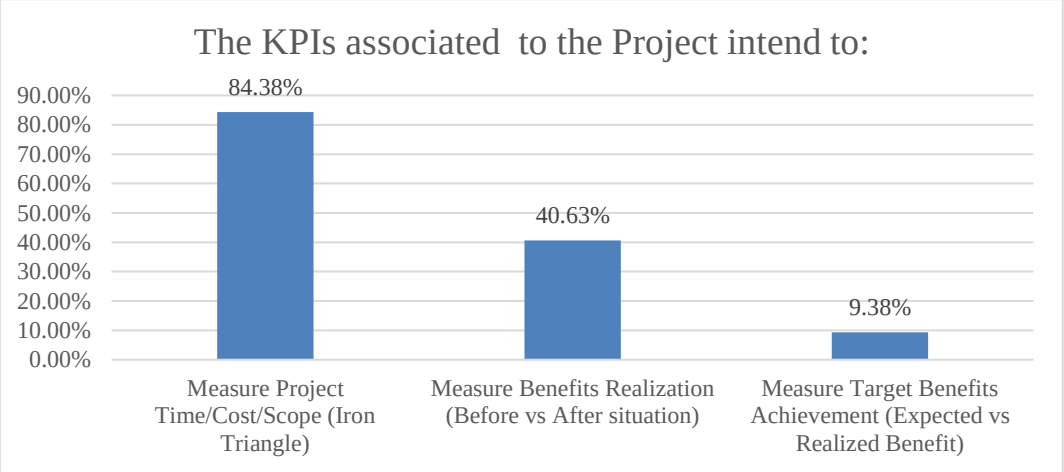
## 4.4. Benefits Realization Management

The fourth and last part of the interview was dedicated to questions related to the Benefits Realization Management methodology.

Firstly, the respondents were asked about what are the KPIs are associated to the projects under analysis, intending to identify whether the measurement of success for the projects under analysis was driven by the benefits realization or by the conventional 'Iron Triangle' project success criteria of cost, time, and scope. Naturally, a project could have KPIs associated to both the benefits realization and the iron triangle, therefore the occurrences are not mutually exclusive.

Almost 85% of the project management practitioners interviewed mentioned a KPI associated to the measurement of the project time/schedule, cost/budget, or scope. Around 40% of the respondents also referred to a KPI related to the measurement of the benefits realization, meaning the comparation of an indicator before and after the project implementation. Less than 10% of the respondents mentioned a KPI to measure the achievement of the project target benefits, meaning the comparison between the expected benefit (usually set before the project kick-off in the project business case) and the benefit impact actually achieved once the project is implemented.

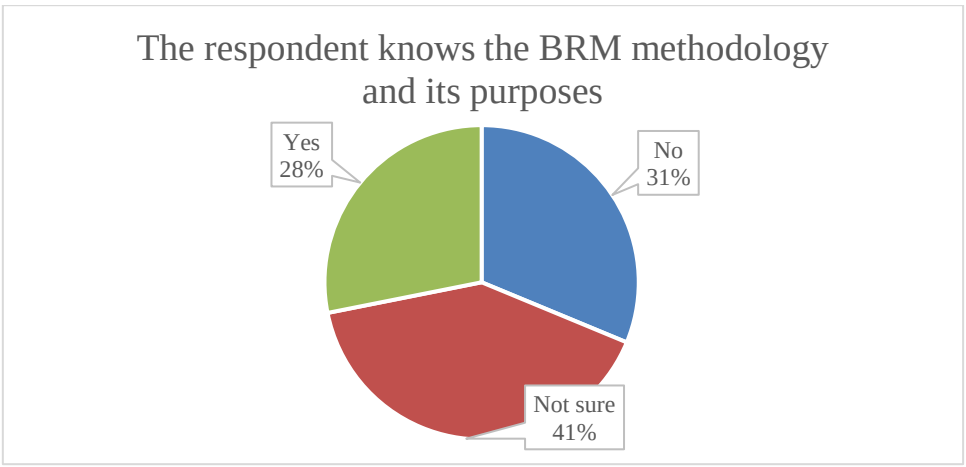
*Figure 21 – Project KPIs*




*Source: Self-constructed*

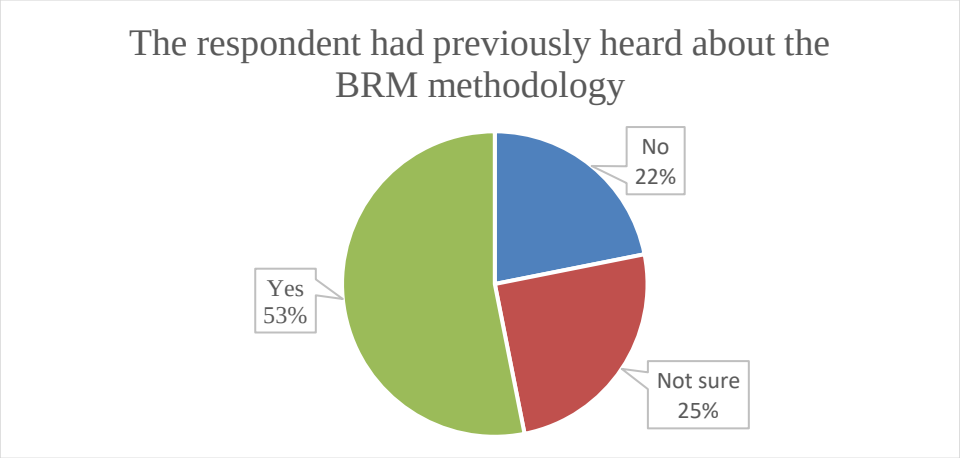
Lastly, the practitioners were inquired about their awareness about the BRM methodology and its purposes and practices, and whether they believe that the BRM practices were applied in the management of the projects under analysis. The results are represented in the Figures 22, 23 and 24.

*Figure 22 – Familiarity with BRM methodology*



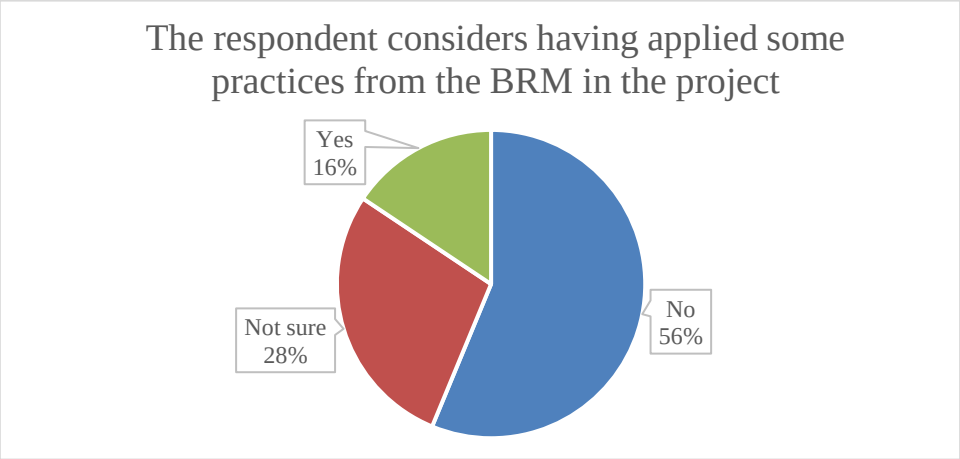
*Source: Self-constructed*

*Figure 23 – BRM methodology awareness*




*Source: Self-constructed*

*Figure 24 – Application of the BRM methodology*




*Source: Self-constructed*

CHAPTER 5

# Findings and Discussion

The research conducted for this study encompasses organizations from various industries and project management practitioners with different levels of seniority. The study analyzes projects that cover all the four benefit dimensions proposed by the Pereira Diamond Model, as well as projects that consider the social dimensions included in the SROI Dimond Model. The results presented in the previous chapter reveal some interesting findings that will be discussed in the following sections.

## 5.1. The Framework Evolution

After inquiring the respondents about each step of the Pereira Problem Solving framework in the context of the projects under analysis, it was found that the steps related to the analysis of the impacts of the problem and its trend are the ones with less adherence. The results show that, although 87.5% of the respondents are able to identify quantitatively or qualitatively the central problem of the project, an expressive percentage of the respondents are not capable to identify the main impacts of this problem in the organization (40.63%), nor the trend of this impact (53.13%) or the problem root causes (34.38%). Still, only 12.50% of the respondents seem to have a clear and extensive comprehension of the benefits expected from the project initiative, being able to state them in a quantitative way.

These findings support the approach proposed by Pereira et al. (2018) that the project benefits should be defined by counteracting the impacts of the problem. Therefore, in the case of this research results, if the impacts of the problem are not extensively comprehended by the respondents, it is expected that the majority of them cannot clearly identify the expected projects benefits. The results suggest that the bottleneck for organizations in identifying the intended benefits of a project is the superficial understanding of the problem being addressed on that project. Thus, it indicates that the organizations and the project management practitioners should invest more effort on a rigorous appreciation of the problem.

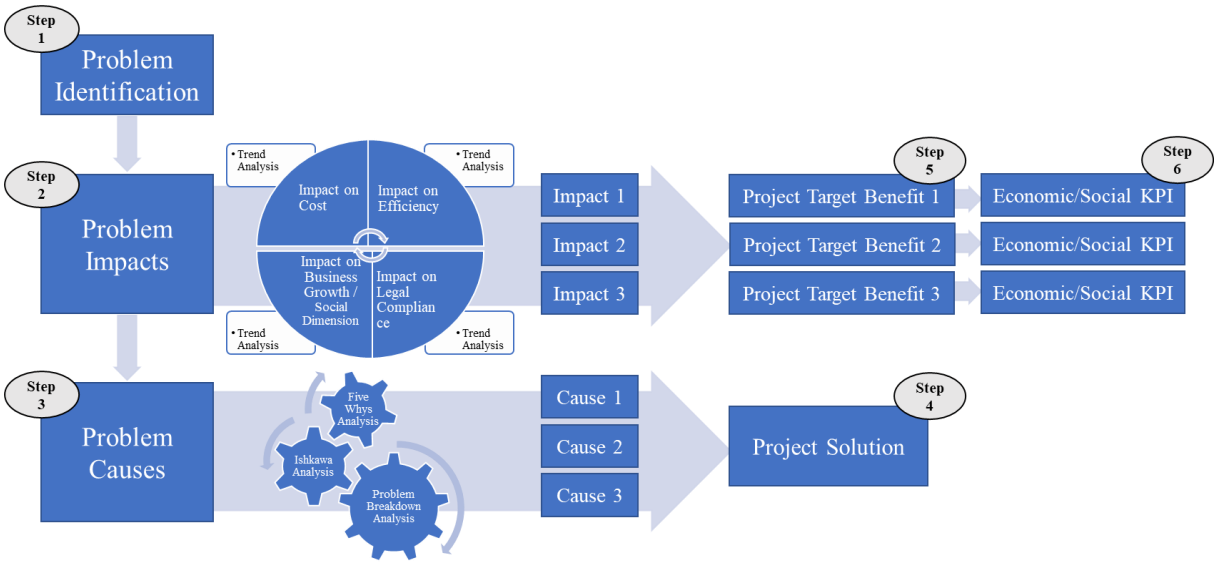
In the previous studies related to the Pereira Problem Solving framework, the analysis of the causes is a step widely explored by the authors, who present different tools that might be implemented to address this step, such as the Ishikawa, Five Whys or the Problem-Breakdown techniques (L. Pereira, Santos, et al., 2021; L. F. Pereira & Santos, 2020). Nevertheless, the

present study suggests that there is a need to provide further guidance on the analysis of the problem impacts and its trends.

The project benefits dimensions defined on the Pereira Diamond Model could guide the organizations on the analysis of the problem impacts. Assuming that the project benefits are defined by counteracting the impacts of the problem (L. Pereira et al., 2018), the benefits dimensions could be used to characterize the impacts of the problem, meaning that an organization would analyze the problem impacts and its trends on each of the business dimensions, selecting the most relevant impacts to define the project target benefits and the corresponding KPIs to monitor their realization.

The following model is suggested as an evolution of the Pereira Problem Solving framework focused on the benefits identification by exploring the problem impacts through the benefits dimensions presented in the Pereira Diamond Model.

*Figure 25 - Pereira Problem Solving for Projects Benefits Management*




*Source: Self-constructed*

## 5.2. The Maturity of the Benefits Management

The research results suggest that the project management practitioners are capable to identify the problem being addressed and the solution being implemented within their projects, but they have difficulties on identifying the impact of this problem and solution on the organization. This might indicate a disconnection between the project management and the execution of the organization strategic objectives in the cases analyzed. Still in that direction, the findings related to the low involvement of the project manager practitioners in the business case elaboration support the idea discussed by Serra and Kunc (2015) that project managers often do not

comprehend the relevance of their projects on delivering the expected benefits to the organization, because they are frequently sidelined of the rationale for projects selection and prioritization.

Regarding the formalization of the project target benefits in the business case, the majority of the respondents indicated that these benefits are documented in a qualitative format, meaning that they are expressed through text or bullet points, without precising a target value. Only 12.5% of the respondents reported that the benefits are expressed in a quantitative format. This is not in line with a common attribute found in the literature for setting effective target benefits: they should be specific, meaning they should be assigned a specific target value and date (Chih & Zwikael, 2015; Zwikael et al., 2018). This result suggest that the organizations analyzed have low level of formalization and maturity on the management of its projects benefits.

In addition, finding that the KPIs established for the projects are much more associated with the dimensions of the Iron Triangle than with measuring the realization of benefits reinforces the idea discussed by several authors that organizations and practitioners still evaluate their projects by criteria related to project management performance rather than to project investment success or value creation (Musawir et al., 2017; Serra & Kunc, 2015; Zwikael & Smyrk, 2012). Considering that other research has found that the adherence of actual project benefits to the target benefits planned in the business case have a strong positive effect on different dimensions of project success (Musawir et al., 2017), the very low percentage of respondents who mentioned the measurement of the benefits realized compared to the expected benefits is alarming and reinforces the weaknesses of the benefits management process in the organizations studied.

Finally, it is not surprising to find out that the majority project manager practitioners interviewed are not familiarized with the Benefits Realization Management process, and that only few of them consider having applied the BRM practices into the projects under analysis. These results, in line with the past surveys conducted by PMI and APM institutions, suggest that the BRM practices are still not widespread among the organizations and practitioners, and that organizations are not yet benefit oriented, reinforcing the need for guidance on this direction.

CHAPTER 6

# Conclusion and Recommendations

This thesis has studied the Benefits Realization Management methodology, focusing on the project benefits identification phase. The main objective was to explore the steps proposed in the Pereira Problem Solving framework in order to identify where are the gaps that prevent the project management practitioners from clearly identifying the intended benefits of a project. For this purpose, 32 practitioners working for organizations from different industries were interviewed. The results suggested that the main barrier on the benefits identification process is the superficial understanding of the problem being addressed on a project, specially the impact of this problem on the organization and the trend of this impact. Additionally, the results related to the project benefits documentation in the business case, the project KPIs and the low familiarity of the practitioners with the BRM methodology reveled a weak and immature benefits management process in the organizations studied.

It is relevant to remark that the data collected in this study was based on a convenience sampling and that the size of the sample was limited to 32 respondents. Moreover, this research was restricted to project management practitioners working in Portugal. It is recommended that future research is developed having a larger and more diversified sample in order to statistically increase its representativeness.

As a main contribution of this research, a new framework was presented by developing and consolidating existing ones. The Pereira Problem Solving framework was evolved to further explore the identification of the problem impacts, by applying the benefits dimensions presented in the Pereira Diamond Model. The proposed model was developed based on the key findings of this research and presented as an outcome of this study, but it was not tested in the context of this thesis. Consequently, there is a need for future research to test and confirm its applicability and contribution to the identification of project benefits within initiatives and organizations from different contexts.

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# Appendix

## A. Interview Guide

| Context of the Interview | | |
|---|---|---|
| iscte BUSINESS SCHOOL | Interview Date / Hour | |
| | Type of Interview (video, phone, presential) | |
| | Respondent Name | |
| | Respondent E-mail / Phone | |

| Part 0 - Introduction | |
|---|---|
| 0.1 | Personal introduction |
| 0.2 | Introduce to the research objective |
| 0.3 | Ask permission to record the interview |
| 0.4 | Request the respondent to choose one project that he is working with or had recently concluded (within the last 6 months). Inform that all the questions should be replied based on this project. |
| 0.5 | Request to answer unbiasedly. |

| Part 1 - Project Context | | Response / Comments |
|---|---|---|
| 1.1 | For which organization the project under analysis is being developped? (if possible to disclose, not required) | |
| 1.2 | Is this a private, public or non-governamental organization? | |
| 1.3 | What is the organization industry sector? | |
| 1.4 | What is your current role in the organization and specifically in the project under analysis? | |
| 1.5 | Are you na external consultant or an internal employee? | |
| 1.6 | How many years of experience do you have in the project management field? | |
| 1.7 | What is the name of the project under analysis? (if possible to disclose, not required) | |
| 1.8 | What is the expected duration of the project? | |
| 1.9 | When was the project kick-off? (date) | |
| 1.10 | When is the project expected end-date? | |
| 1.11 | Could you please give me a brief context of the project (scope, project motivation, objectives, etc.)? | |
| 1.12 | **Pereira Diamond Model -** Based on the answers on 1.11, to request the respondent to confirm the project Benefit Dimension identified: business growth, cost reduction, efficiency increase or legal compliance. | |
| 1.13 | **S-Pereira ROI Model -** Based on the answers on 1.11, to request the respondent to confirm the Social Benefit Dimension identified, if applicable: health, education, security, human rights. | |

| Part 2 - Pereira Problem Solving Framework | | Response / Comments | Evidence | |
|---|---|---|---|---|
| | | | Qualitative | Quantitative |
| 2.1 | Could you please explain me what is the **central problem** that the organization aims to tackle with this project? | | | |
| 2.2 | What are the i**mpacts of this problem** to the organization (in its business results, processes, etc.)? Could you please describe them (up to 3)?<br>- In the case of projects with Social Dimension: what are the impacts of this problem in the society (impacts external to the organization)? | | | |
| 2.3 | What is the **trend** of these impacts? How has this problem being evolving? | | | |
| 2.4 | What is causing this problem? Could you please describe the **causes of the problem** (up to 3)? | | | |
| 2.5 | What is the **solution** that is being implemented within the project under analysis? | | | |
| 2.6 | What are the **benefits** (impacts) expected to the organization once the project solution is implemented? Could you please describe them (up to 3)?<br>- In the case of projects with Social Dimension: what are the impacts expected in the society (impacts external to the organization)? | | | |
| **Part 3 - Business Case Awareness** | | **Response / Comments** | | |
| 3.1 | Is there a business case document for the project under analysis? | | | |
| 3.2 | Did you participate on the business case elaboration process? If not, did you have access to the document afterwards? | | | |
| 3.3 | Are the expected project benefits formalized in the project business case? In which format (text only, bullet points, target values)? | | | |
| **Part 4 - Benefits Realization Management Awareness** | | **Response / Comments** | | |
| 4.1 | How the results of this project will be assessed? What are the KPIs established for this project? | | | |
| 4.2 | Are you familiar with the Benefits Realization Management methodology and its purposes? Could you please briefly explain what you know about it? | | | |
| 4.3 | Have you ever heard about the Benefits Realization Mangement previously to our meeting? | | | |
| 4.4 | Do you consider that some benefits management practices have been applied in the management of the project under analysis? Could you please briefly describe which practices? | | | |