

Marc Fugardo Cortada

# **BENEFITS REALIZATION IN CONSTRUCTION PROJECTS**

Bachelor's thesis in Industrial Engineering

Supervisor: Bjørn Andersen

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Norwegian University of Science and Technology  
Faculty of Engineering  
Department of Mechanical and Industrial Engineering







## PROBLEM DESCRIPTION

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Nowadays, the construction industry is characterized by complex and dynamic projects that often require a significant amount of investment. It plays a crucial role in the development of new infrastructures, facilities, and buildings allowing society to evolve toward a more modern and sustainable world.

However, despite careful planning and implementation, many construction projects fail to provide the promised benefits and value to the companies investing in them. Lately, this issue has raised some concerns about the actual effective realization of benefits in construction projects, requiring a study of the factors affecting its success.

The problem at hand is the need to improve benefits realization in construction projects on a global scale. While project management methodologies and techniques have evolved over the years, there remains a gap in understanding how to identify, measure, and track the benefits throughout the project lifecycle.

Therefore, this thesis intends to have a better understanding of the actual knowledge in benefits realization in construction projects and contribute to it. And also, to see the differences in knowledge and practices used between two big European countries such as Norway and Spain.

# ABSTRACT

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This thesis investigates the knowledge of benefits realization in construction projects in a global context, with a focus on the methodologies and differences between Norway and Spain. The study explores the current understanding, and tools used in both countries to identify, measure and track benefits during the project life cycle.

With a comprehensive literature review and a survey targeted at Norwegian and Spanish organizations involved in construction projects, the thesis examines the challenges and success factors influencing benefits realization in both countries.

By conducting this survey among a variety of organizations, the aim is to conduct a comparative analysis, identify similarities, and find potential areas of improvement in each country. The data obtained from the survey will be analyzed, allowing for a comparative study of the knowledge related to benefits realization in construction projects.

Furthermore, by comparing the two countries' knowledge and identifying successful methods, I will try to realize a benefits realization guidance for the organizations who want to start introducing it in their projects.

## PREFACE

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This bachelor's thesis in Benefits Realization in Construction Projects is the final work of my degree in Industrial Engineering. As an industrial engineering student interested in project management, I have always been intrigued by the difficulties and complexities involved in accomplishing the goals of construction projects. And this thesis represents the culmination of my bachelor studies.

First of all, I wanted to express my sincere gratitude to my supervisor Bjorn Andersen for the support and guidance he gave me during the realization of this thesis. Without his contacts with industry professionals, experience, and knowledge of the topic, it would not have been possible for me to complete this thesis. Furthermore, thanks to Anne Strand Alfredsen Larsen for the feedback and recommendations in conducting the survey.

Also, to my family for always having my back and helping me from the distance in every situation, giving me the motivation to continue working.

Finally, I would like to express my thanks to Norges Teknisk-Naturvitenskapelige Universitet (NTNU) and Escola Superior d'Enginyeries Industrial, Aeroespacial i Audiovisual de Terrassa (ESEIAAT) for giving me the opportunity of writing my thesis as an exchange student.

This bachelor's thesis is my independent work, for this reason, I am the only one responsible for any error or misspelling in what is written and presented.

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June 9, 2023

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# INTRODUCTION

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## 1.1 BACKGROUND

The construction industry plays a crucial role in shaping the infrastructure of nations, increasing economic growth, and improving the quality of life for individuals. However, ensuring the successful realization of benefits in construction projects remains a significant challenge. Benefits realization involves the identification, measurement, and tracking of the expected outcomes and benefits of a project.

The construction industry is characterized by complex and large-scale projects, involving multiple stakeholders and diverse requirements. Consequently, the benefits of construction projects englobe various dimensions, including financial gains, environmental sustainability, social well-being, and improved infrastructure functionality. Thus, understanding and effectively managing these benefits are crucial for project success.

Despite the significance of benefits realization, the construction industry faces several challenges in this area. Identifying and selecting appropriate benefits at the project initiation stage can be complex due to uncertainties, conflicting stakeholder interests, and evolving project scopes. Additionally, accurately measuring and tracking benefits throughout the project lifecycle presents difficulties, as it requires establishing reliable metrics, having a person in charge, and capturing relevant data.

Furthermore, the successful realization of benefits relies on effective project management practices, stakeholder engagement, and collaboration. It demands a proactive approach to address potential risks and mitigate obstacles.

To bridge the existing knowledge gap and contribute to the field of industrial engineering, this bachelor thesis aims to compare the knowledge and practices of benefits realization in construction projects between Norway and Spain. The research wants to investigate the similarities, differences, and potential areas for improvement in benefits realization in these two countries. A comprehensive survey will be conducted among organizations from both countries involved in construction projects to gather valuable insights.

The findings of this research will provide a deeper understanding of benefits realization in construction projects by identifying areas of improvement and highlighting successful strategies.



## 1.2 GOALS

This thesis aims to explore the current level of knowledge and understanding of benefits realization in construction projects and investigate the best practices for ensuring the expected results for the organizations.

Considering the main objective, some other relevant goals have been set and will be studied throughout the project:

- Conduct a survey for construction industry organizations:  
With a focus on organizations in Norway and Spain, this project aims to compare the methodologies, current knowledge level, similarities, and differences between these two countries.
- Identify challenges and opportunities:  
The project aims to identify the challenges that organizations face when implementing benefits realization.
- Create a benefits realization guide for the organizations:  
With the final intention to realize a guide to the organizations on how to implement or improve the benefits realization in construction projects

## 1.3 SCOPE AND LIMITATIONS

The scope of the thesis is the following:

- The thesis approaches benefits realization in construction projects from an industrial engineering point of view.
- The literature research primarily concentrates on the concept of benefits realization within the context of construction projects and the main terms directly related.
- The primary research method is the realization of a survey among Spanish and Norwegian organizations in the construction industry. The survey will collect the necessary data to compare the knowledge and best practices of these two countries.

On the other hand, the limitations that I had during the realization of the study are the following:

- First of all, the survey size and representation in it are not large enough to obtain accurate or reliable findings, as the results may depend on the representation of the organizations participating in the survey. A larger and more diverse number of organizations would be needed to corroborate the reliability of the findings. But anyways, it's a good enough initial representation for the thesis analysis.
- Missing and lack of literature, the amount of benefits realization literature found from Spain is much less extent than the one found from Norway. This and the language and cultural differences, could impact the interpretation of the survey responses.
- The thesis is subject to a limited amount of time, which affects mostly the number of responses to the survey and the extension of the related analysis. Knowing this beforehand the scope had been already limited and certain areas of the investigation may require further research beyond the scope of this bachelor thesis.

## 1.4 DISPOSITION

The structure of this bachelor's thesis and a brief description of each chapter is shown in the following table:

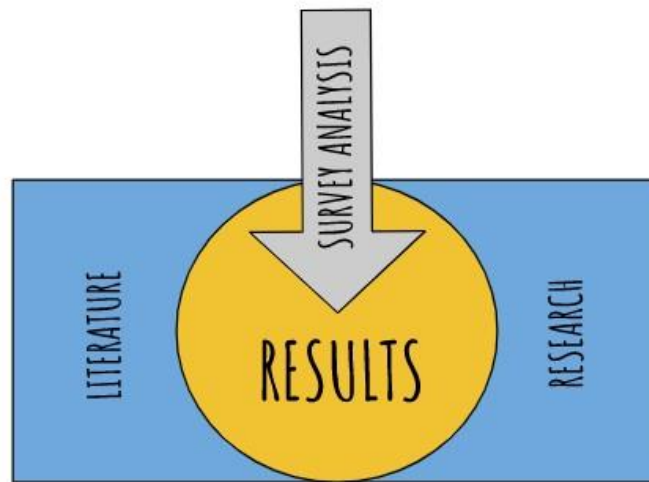
*Table 1: Bachelor's thesis structure*

<b>CHAPTER</b>	<b>DESCRIPTION</b>
<b>Problem description</b>	Description of the issue the thesis tries to address.
<b>Abstract</b>	A condensed summary of the thesis.
<b>Preface</b>	Recognition to all the people who helped realize the thesis.
<b>1.Introduction</b>	Presentation of the thesis topic, main goals, scope, and limitations.
<b>2.Methodology</b>	Explanation of the methods used to conduct the bachelor's thesis research.
<b>3.Theory</b>	The thesis's theoretical foundations that are needed in addressing the study.
<b>4.Survey and Results</b>	Questions of the survey explained and analyzed the results one by one. And discussion of each question.
<b>5.Benefits Realization Guide</b>	Guide for the organizations realized with all the information gathered, from the research and the survey.
<b>6.Conclusion</b>	Most relevant conclusions for the thesis.
<b>Reference list</b>	List of references used in the thesis.

## 2. METHODOLOGY

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The methodology of this thesis involves a combination of literature research and survey-based research. With this approach, I intend to gather the relevant actual knowledge from the existing literature findings and obtain data from the answers of the organizations involved in the survey.



*Figure 1: Illustration of the method used*

*(Source: Created by the author)*

The literature study is the main part of the thesis, as it's crucial to acquire knowledge and understanding of the topic. On the other hand, with the survey, we can obtain the data necessary to analyze the results.

### 2.1 LITERATURE RESEARCH

The literature research component of this thesis is critical for acquiring my knowledge of benefits realization in construction projects. It serves as a foundational component for understanding the factors and processes that contribute to successful benefit realization. This literature review will allow me to identify the key success factors, challenges, and opportunities.

The steps followed to complete the literature research were the following:

1. Review existing Literature: Conduct a comprehensive review of academic journals, research papers, articles, books, and relevant publications to establish a theoretical foundation.
2. Identify Key concepts: Be able to identify the relevant terminology and concepts related to my study, carrying out a “snowball” of concepts inside the thesis framework.
3. Synthesize main literature findings: Summarize the literature gathered to provide a theoretical basis for the survey design and later analysis.

To conduct this research, I extensively reviewed academic journals such as the Project Management Institute, the Project Management Journal, the Journal of Construction Engineering and Management, the International Journal of Project Management, the and International Journal of Managing Projects in Business, among others. I will also consult relevant information in academic databases such as Science Direct, Scopus, and Sage Journals, as well as industry reports from government agencies and construction associations.

The main reason I chose these sites over other types of websites, videos, or pages that I had found was the reliability and trustworthiness of the information provided.

Furthermore, the NTNU and UPC databases will be used for literature research. In the following table, there are the keywords used for the searches and the results obtained in every case.

*Table 2: Databases of the literature review*

<b>DATABASE</b>	<b>KEYWORDS</b>	<b>RESULTS</b>
<b>UPC Bibliotècnia</b>	Realización de beneficios	544
	Gestión de beneficios	1.480
	Beneficios en proyectos de construcción	144
	Project success	254
	Project Benefit management	43.380
	Característiques projects de construcció	217
	Beneficis projectes de construcció	60
<b>NTNU Oria</b>	Benefits realization in construction projects	350
	Benefits management in construction projects	11.507
	Realization of benefits	11.930
	Construction projects management	120.540
	Construction Project Success	14.552

<b>ScienceDirect</b>	Benefits realization in construction projects	34.561
	Benefits management success	437.799
	Value management	2.335.017
	Value engineering in construction projects	291.574
	Construction projects management characteristics	192.205
	Benefit quantification	698.107
	Benefit identification in construction projects	93.289
	Benefit realization Spain's construction industry	4.420
	Risk management plan in construction	162.499
	Project benefit management	545.628
	Intangible benefits in construction projects	10.901
<b>Scopus</b>	Benefits realization	9.751
	Value management	520.857
	Benefits realization management	2.339
	Value engineering	255.432

## 2.2 SURVEY

For this thesis, the most appropriate way to collect the data I was hoping for, was with the realization of a survey. The decision of using an online survey and not an interview, was because the scope is Norwegian and Spanish construction organizations, so to be able to arrive at the maximum number of organizations this method was more useful.

### 2.2.2 Design of the Survey

The questionnaire of the survey was carefully designed to capture the key aspects of benefits realization in construction projects. The questions are divided into various sections, including an introduction, benefits identification, quantification, tracking, maintenance, and a conclusion. A detailed review of the relevant literature, inside the thesis scope, was used as the basis for the formulation of the questions. This ensured that the survey addresses the relevant aspects specific to the construction industry.

It will be distributed to organizations involved in construction projects in both Norway and Spain, from middle-small to large companies. This target of organizations is to be able to make a comparison between the two countries.

Furthermore, upholds ethical standards, by ensuring the anonymity and confidentiality of the respondent's information.

### **2.2.3 Data Collection**

The survey was conducted online, utilizing google forms to increase participation. A personalized email invitation, including a clear explanation of the research purpose, was distributed. To ensure the consistency and completeness of the data, some questions were not mandatory to respond, in case the respondent doesn't have the appropriate knowledge or expertise.

In order to guarantee the accuracy and representativeness of the results, efforts were made to acquire a high participation, along with some reminders to try to maximize the response rate.

### **2.2.3 Data Analysis**

The survey data will be analyzed using both quantitative and qualitative methods. Quantitative data will be summarized and quantified using descriptive statistics. Qualitative data will involve analyzing open-ended responses to identify recurring themes and challenges.

## 3. THEORY

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### 3.1 CONSTRUCTION PROJECTS

A project is composed of a variety of connected tasks that, when done in the correct order, will result in its completion. Projects are transient and typically produce a measurable output or product. Concretely, a construction project is an organized process of constructing, renovating, or improving physical structures or infrastructure. (*Construction Project*, 2022)

From small-scale home renovations to large-scale commercial buildings, infrastructure development, and civil engineering projects, construction projects vary greatly in size, complexity, and scope. But all have the same key characteristics:

- Purpose
- Defined Scope
- Temporary nature
- Complexity, innovation, and sustainability
- Risk and resource management

#### 3.1.1 Construction Project Lifecycle

Construction project's lifecycles are dynamic, go through various stages, and involve multiple stakeholders. The project life cycle typically consists of initiation, planning, execution, monitoring, and closure phases. The owner defines the project's goals, scope, and budget during the initiation phase. Throughout the project's life cycle, the owner's decisions and actions directly impact cost outcomes.

The decisions made at the beginning of the project have more influence on the overall cost of the project and can significantly reduce it. For this reason, is critical for the owner to be involved and make decisions early on to achieve project success.(Levy, 2018; Sinha et al., 2007)

See *Fig 2* to visualize this idea. The graphic illustrates how decisions have an increasing impact as the project progresses.

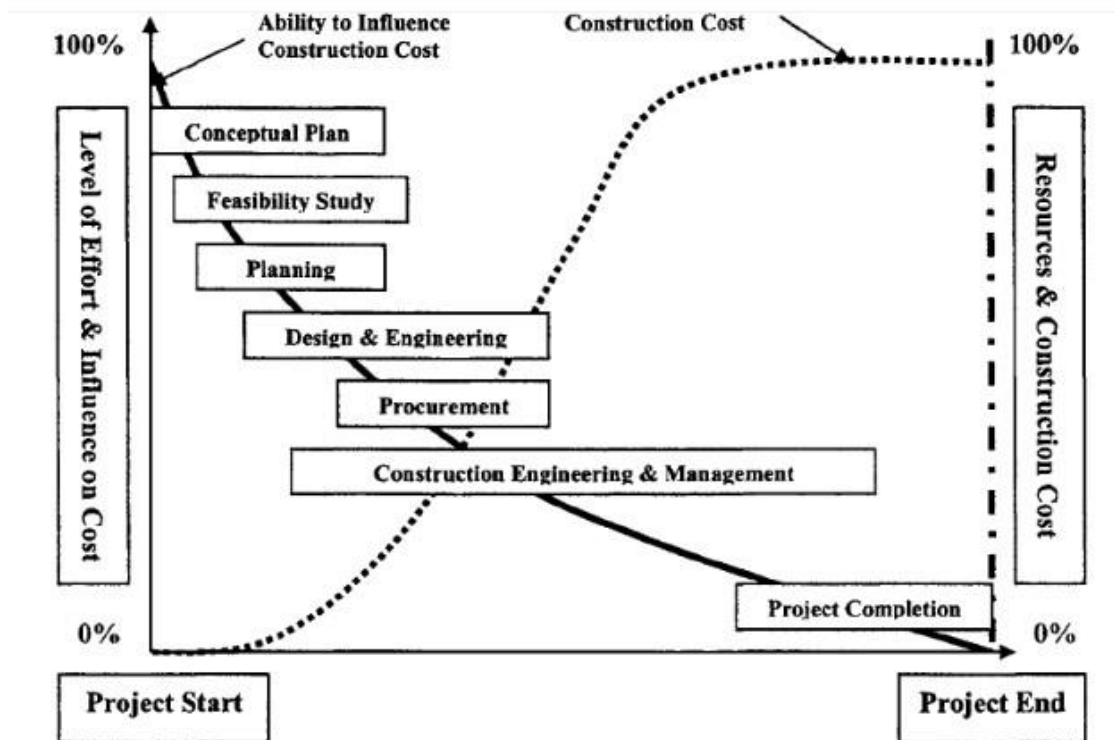


Figure 2: Construction project life cycle.

( Source: (Sinha et al., 2007))

### 3.2 PROJECT SUCCESS

We all know what success means for us, but when should a project be deemed successful? What criteria must it meet? The literature on this subject is divided, and there are various ways to assess project success, mainly because success means different things to different people.

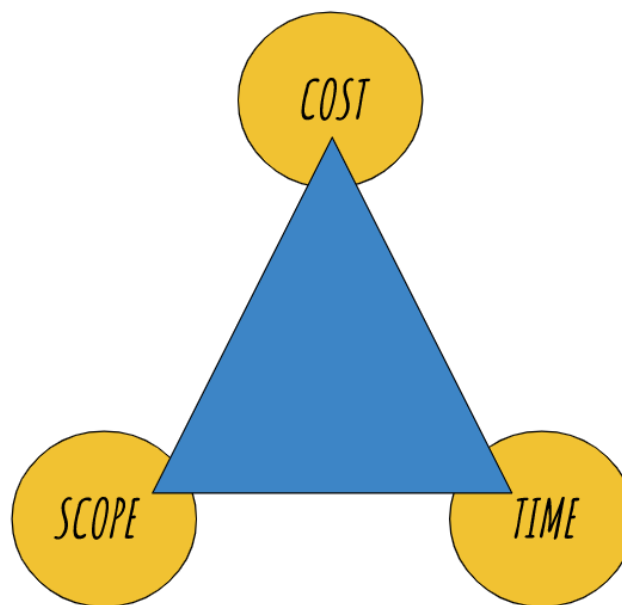
So, what exactly does project success mean?

(Dvir et al., 2003; Shenhar et al., 2001) suggests that one common approach is to consider a project successful when it achieves its time and budget objectives. While this may hold true in certain cases and be suitable in the short term when the time to market is crucial, there are numerous instances where this approach falls short.



Firstly, it was believed that by satisfying the iron triangle, the project was a success. The iron triangle is a project management concept that refers to the three constraints that every project must deal with time, cost, and scope (Ong et al., 2018).

Because of their interdependence, modifications to one constraint will have an impact on the other two. For example, expanding the scope of a project will probably require more time and resources, which will increase the overall cost. For this reason, the iron triangle is very important and useful to measure project management success by evaluating how well a project has met its time, cost, and scope targets. Project teams can ensure that their projects are completed on time, within budget, and to the required quality standards by monitoring and managing the Iron Triangle.



*Figure 3: Iron Triangle*

*( Source: Created by the author based on (Ong et al., 2018) )*

Moreover, nowadays it's not enough with that, as there is another big factor that has a big importance. This factor is sustainability. Sustainability should be considered in project management decision-making because it can contribute to project success by ensuring that projects are environmentally, socially, and economically responsible.

In a study conducted by (Gilbert Silvius et al., 2017) on how to incorporate sustainability into project management, project managers who considered sustainability in their decision-making were more likely to achieve project success due to being able to balance economic, environmental, and social factors. The study concludes that sustainability can be incorporated into project management using techniques like life cycle assessment, which can help project teams identify and reduce environmental impacts over the course of the project.

So, based on the most modern literature, project success extends beyond meeting time, budget, and performance objectives. It proposes that project success should be evaluated based on four key dimensions: project efficiency, customer impact, direct business, and organizational achievements, and future preparedness. The significance of these dimensions fluctuates depending on the project's timeline and the level of technological uncertainty involve(Serrador & Turner, 2015).

Furthermore, (Kerzner, 2017) proposes a different way to assess project success. Instead of solely focusing on time, cost, and quality, he recommends considering the project's completion within the agreed timeframe and budget, meeting defined specifications, obtaining customer/user approval, and minimizing scope changes. This approach ensures that the project's progress remains smooth without disrupting the primary workflow.

Researchers now focus on measuring success based on the impact on the organization, rather than solely meeting the triple constraint. (Dvir et al., 2003) argue that there are instances where projects adhere to the plan, meet deadlines, stay within budget, and achieve performance goals, yet still fail as they do not generate tangible benefits for the customer or sufficient revenue and profit for the performing organization.

With all that we can extract that every time is more difficult to achieve project success as there are more demands to be met and more parties to be satisfied. Overall, project success in the long term, can be defined as meeting project objectives while also meeting the needs of stakeholders and being efficient and sustainable.

I believe that is very difficult to define success in a general way, as each project may have unique success criteria, and it is crucial to align the project's goals with stakeholder expectations and effectively manage their evolving needs throughout the project lifecycle.

### 3.2.1 Project Evaluation

The Organization for Economic Co-operation and Development (OECD) Development Assistance Committee (DAC) established five evaluation criteria for public interventions, namely: relevance, effectiveness, efficiency, impact, and sustainability. In 2019, these criteria underwent revision to ensure alignment with the Sustainable Development Goals, and an additional criterion, coherence, was introduced. (OECD/DAC, 2019)

The characteristics of each criterion are the following:

- **Relevance:** Evaluates how well an intervention aligns with beneficiaries' needs, policies, and priorities. It emphasizes matching project goals with stakeholders' requirements. Periodic assessments are necessary due to changing needs and priorities.

- Effectiveness: Measures a project's progress in achieving its primary objectives. It focuses on immediate effects and performance.
- Efficiency: Assesses if an intervention delivers results economically and in a timely manner. Compares performance against similar initiatives.
- Impact: Examines the overall positive or negative consequences of a project on society, the economy, and the environment. Considers long-term effects, intended or unintended.
- Sustainability: Determines if the benefits of intervention will continue over the long term. Considers financial, economic, social, and environmental capacities.
- Coherence (added criterion): Assesses if interventions align and support each other. Emphasizes systems thinking, avoiding duplication, and fostering positive relationships between projects. (OECD/DAC, 2019)

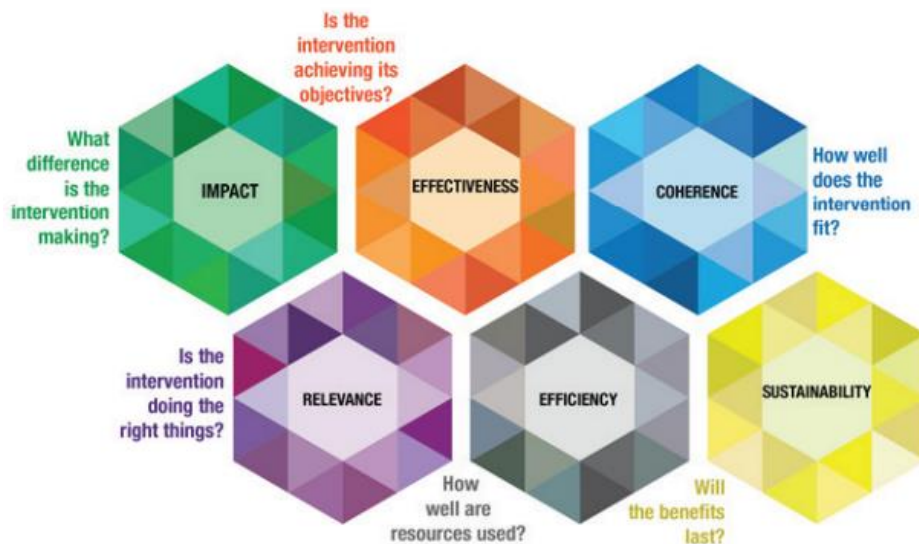


Figure 4: Criteria for evaluating projects

(Source: Extracted from (OECD/DAC, 2019) )

### 3.3 BENEFITS

#### 3.3.1 Definition of Benefit

Some organizations expect to see the benefits from construction projects once they are finished, while others may anticipate them over time. In either case, however, few bother to quantify them to determine whether they are worth the investment. This goes against the philosophy of projects since one of their objectives is precisely to produce measurable

value. However, it is understandable because benefits are notoriously difficult to quantify. For example, how can you assign a value to an increase in customer satisfaction or employee morale? Hence, the importance of identifying benefits at the beginning of the project and measuring them at the end.

Furthermore, do organizations have a clearly defined concept of benefit in a project?

The PMI defines it as a result of actions, behaviors, products, services, or results that provide value to both the sponsoring organization and the project's intended beneficiaries. (PMI, 2017).

(Miranda Miranda, 2005) defines benefits as the positive contributions of a project that aim to fulfill the community's needs. There are three categories: direct benefits, which result from the goods and services added to the economy and are willingly paid for by individuals in the relevant market; indirect benefits; and intangible benefits.

Moreover, according to (D. Williams & Parr, 2004), we can classify benefits into four quadrants: tangible or intangible, and financial or non-financial. Then, based on the similarity of their outcomes, it is possible to combine the characteristics of financial benefits with tangible ones, and non-financial benefits with intangible ones. On the other hand, (Badewi, 2016) further stated that these benefits can only be either financial or non-financial. While non-financial benefits may be tangible or intangible, financial benefits are always measurable and estimated before the project's initiation. Yet, it is challenging to include non-financial benefits in determining a project's investment success unless we clearly express, measure, and evaluate their impact on the financial benefits (Lin & Pervan, 2003).

(D. Williams & Parr, 2004) book, also explains how an intangible benefit could be translated into a tangible one through a simple tool like a survey. For example, targeting customers, to assess their satisfaction with the final product or services provided.

In the context of a project, benefits are the positive outcomes that the project is expected to produce, such as cost savings, increased revenue, improved customer satisfaction, or enhanced reputation.

Project benefits are measurable improvements resulting from a project, considered advantageous by stakeholders, helping achieve organizational goals. They should reflect project-driven improvements and are crucial in planning, decision-making, development, and evaluation. In the context of a project, benefits are the positive outcomes that the

project is expected to produce, such as cost savings, increased revenue, improved customer satisfaction, or enhanced reputation (Cunha & Ribeiro, 2022).

Therefore, in every construction project, we can classify the benefits of two different types: Tangible and Intangible (Capable or incapable of being measured)

### 3.3.2 Tangible benefits

A tangible benefit is a measurable advantage or outcome that can be seen, touched, or physically experienced. These benefits are concrete and can be objectively assessed in terms of their impact on a project, organization, or stakeholders. In the context of construction projects, tangible benefits often include cost savings, improved efficiency, higher quality, increased productivity, or tangible assets gained.

Financial benefits (such as Return on investment, ROI) are always tangible because can be measured and estimated before initiating the project. We can also encounter non-financial benefits that can be measured and are tangible, such as improved safety performance (Badewi, 2016).

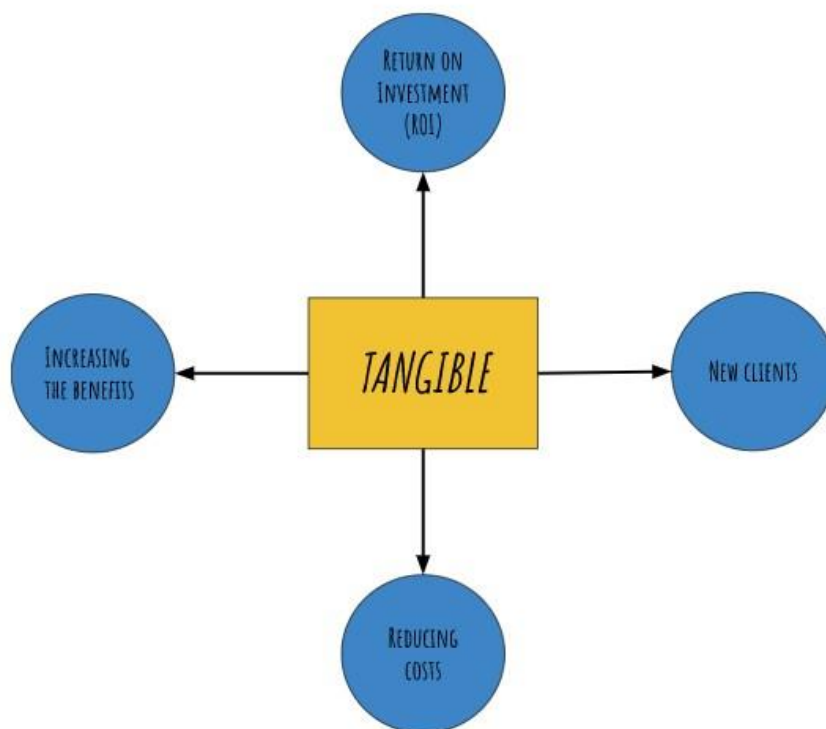


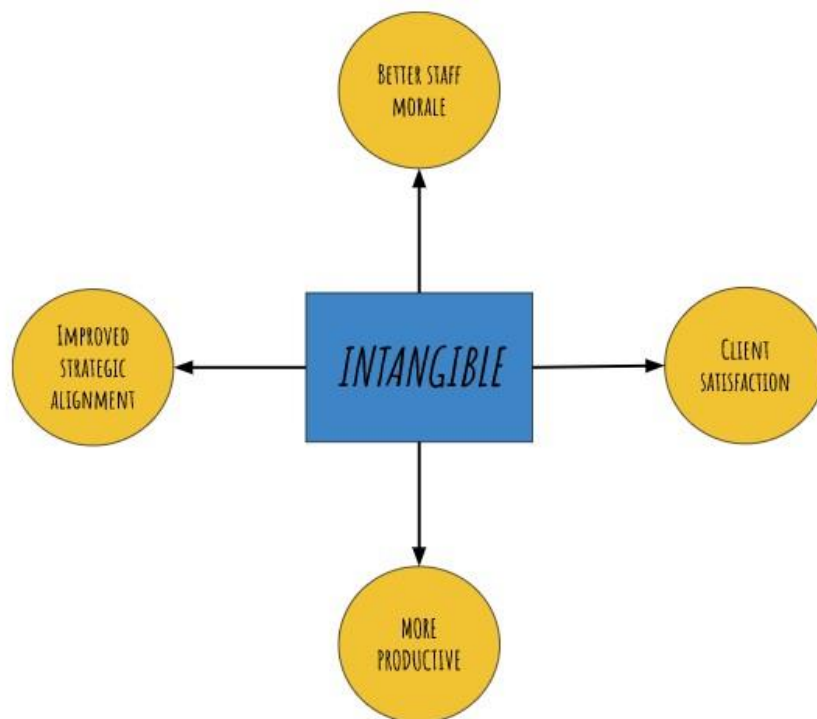
Figure 5: Example of tangible benefits

( Source: Created by the author)

### 3.3.3 Intangible benefits

An intangible benefit in construction projects refers to an outcome or advantage that is challenging to measure or quantify in concrete terms. Unlike tangible benefits that can be observed, or physically experienced, intangible benefits are more subjective and qualitative. They often pertain to psychological, social, or strategic aspects of a project and may have long-term, indirect, or non-monetary effects.

Evaluating and recognizing these intangible benefits alongside tangible ones plays a crucial role in the overall success and value of the project and can help in making decisions and guiding the project most appropriately.



*Figure 6: Example of intangible benefits*

*(Source: Created by the author)*

### **3.3.4 Project Benefits Management**

Project Benefits Management (PBM) involves identifying the intended beneficiaries and corresponding benefits of a project in the early phases of the project, along with timelines and accountabilities for benefits realization (Goel et al., 2020).

Researchers (Shenhar & Dvir, 2007) have recognized the limitations and the misleading nature of the traditional output-focused project management approach. It also implies that in addition to managing the "iron triangle," which consists of managing time, cost, and scope, it's also necessary to manage the project benefits through a formal PBM plan.

According to (Goel et al., 2020; Samset, 2009) literature has shown that there are projects that met the requirements of the Iron Triangle but were still deemed unsuccessful because they did not deliver the anticipated benefits. Consequently, benefit-oriented project management is becoming more prevalent in the literature. By focusing on the strategic roles of projects, this line of research seeks to connect organizational strategies and project benefit realization management.

(Chih & Zwikael, 2015) suggest that PBM should move from a traditional output-focused project management approach to a benefit-oriented project management approach, by identifying the intended beneficiaries and corresponding benefits early in the project phases.

Efficient benefits management in projects helps organizations optimize their investments and ensures alignment with the strategic goals proposed.

## **3.4 BENEFITS REALIZATION**

Benefits realization is the process of ensuring that the expected benefits of a project are achieved and sustained throughout the organization's benefits realization management life cycle. It involves monitoring, measuring, evaluating, and reporting on progress towards achieving the planned benefits, and making adjustments as necessary (PMI, 2019). Similarly, (Serra, 2016) describes Benefits realization as a way of guaranteeing that the benefits of a project are identified, planned, and delivered to achieve the intended business results.

(PMI, 2016) states that benefits realization is a means to ensure that benefits are derived from outputs. Also, The benefits realization process essentially aims to identify, quantify, and value benefits, after which they are appraised and delivered through planning and evaluation of the defined benefits, taking into account the whole project life cycle (Esteves, 2009).

In essence, in the context of construction projects, benefits realization is about capturing the actual benefits (both tangible and intangible) that occur after the project is completed. It ensures that organizations receive the intended benefits and be accountable for them (Washington, 2020).

### 3.5.1 Why is Benefits Realization important?

Benefits realization is important because it measures the actual benefits achieved by a project against the expected benefits. This helps to ensure that the project is delivering value to the organization and its stakeholders.

By actively measuring benefits, project managers gain insights into areas where the project may fall short. This helps them take necessary actions and guide the project toward its goals. This is crucial in construction projects where benefits may take time to fully emerge (Atkinson, 1999).

Some of the Key Elements of Benefits Realization in Construction Projects are:

- **Value Assessment:** Benefits realization evaluates project value and impact, determining if objectives and expected benefits are achieved.
- **Decision Making:** Tracking benefits help make informed decisions, allowing stakeholders to evaluate project success, identify improvements, and adjust strategies.
- **Resource Optimization:** Benefits realization prioritizes projects for optimal resource allocation aligned with goals and strategies.
- **Accountability:** Clear targets enhance accountability and transparency. It monitors progress and ensures effective project management.
- **Risk Mitigation:** Benefits realization can identify and mitigate project risks through active monitoring.
- **Organizational Learning:** Analyzing benefits and identifying areas for improvement contributes to organizational learning. It can help to identify best practices and drive continuous improvement in future projects.



In summary, benefits realization is important in construction projects for value assessment, decision-making, resource optimization, accountability, learning, risk mitigation, and organizational learning. These elements collectively contribute to the success and effectiveness of construction projects (DiGirolamo, 2021).

### 3.5.2 Challenges of Applying BR

A study made by (The state of PM, 2021) in 2021 found that only 36% of organizations interviewed delivered the full benefits of their projects. Meaning that 64% failed to achieve the expected benefits. This shows that there is a big gap between the intention of obtaining the benefits and the final realization of these benefits.

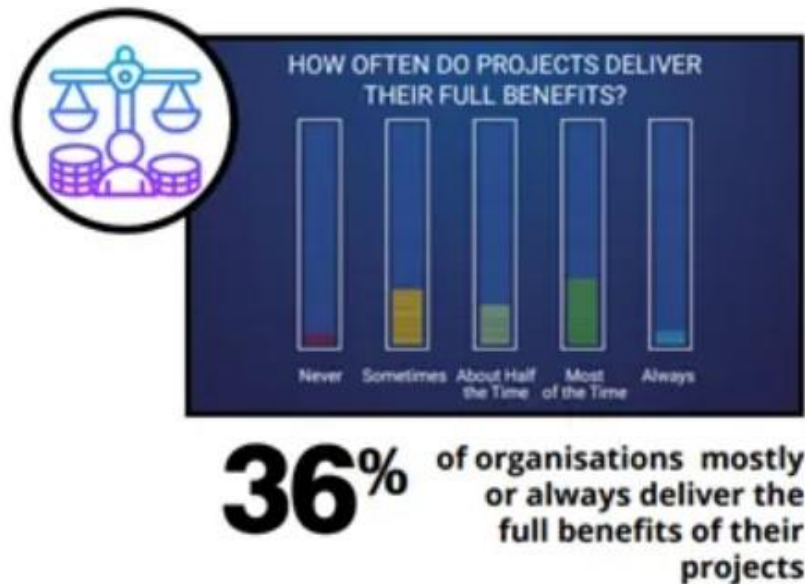


Figure 7: How often do projects deliver their full benefits.

( Source: (The state of PM, 2021) )

Furthermore, in that research, they also asked the organizations where they would place Benefits Realization in a Value-Difficulty graphic. As shown in the following table, for the respondents, BR is very difficult to implement compared to other project management methods.

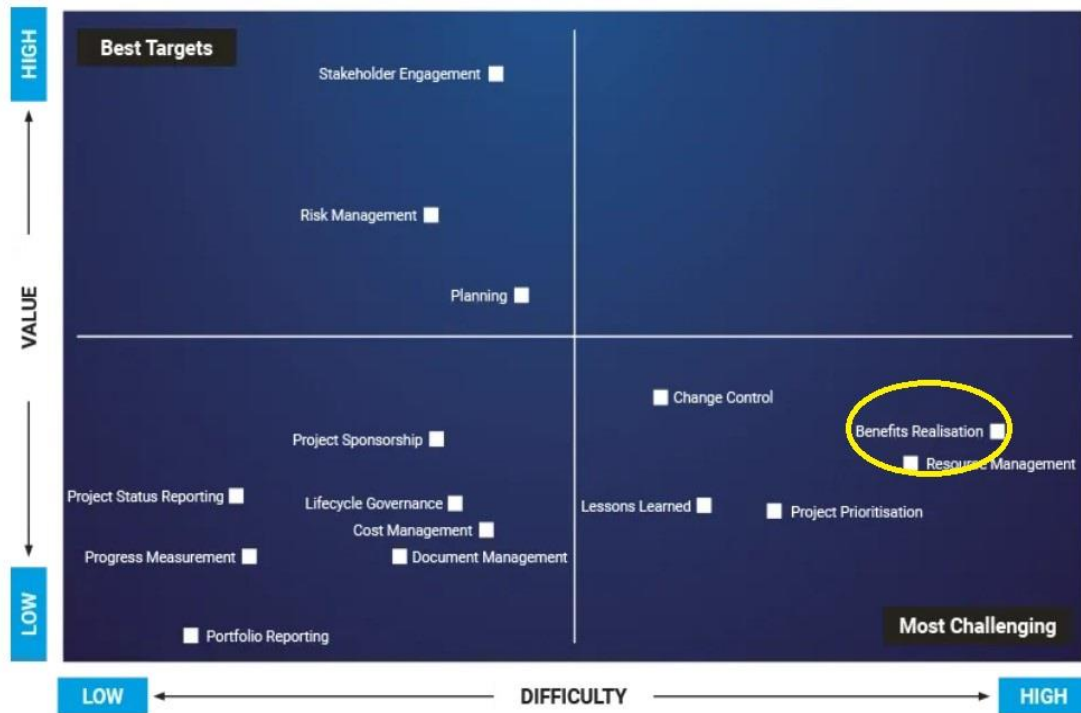


Figure 8: Value vs difficulty to integrate into the project.

( Source:(The state of PM, 2021) )

But why is it so hard for organizations to integrate benefits realization into their projects? What are the common factors that organizations consider challenging?

Resistance to change within organizations is a significant factor when implementing benefits realization. It may require a shift in organizational practices, which some individuals, accustomed to traditional project management methods, may resist. Moreover, benefits realization involves extensive data analysis, and accurately tracking and measuring intangible benefits can be more challenging than tangible aspects such as cost and schedule. After an initiative is approved, it is common for people to overlook some of the documented benefits until the project is almost finished. By then, it is considered too late to take corrective actions. Consequently, implementing benefits realization necessitates adequate resources, including skilled personnel, time, and financial investments (Serugga et al., 2021; Washington, 2020).

For all these main reasons, nowadays organizations fail to apply benefits realization plans successfully.

### 3.6 BENEFITS REALIZATION MANAGEMENT

PMI provides a comprehensive definition of benefits realization management. According to their definition, it involves the collective process of identifying benefits at the beginning of a project and taking deliberate actions during implementation to ensure that these benefits are not only achieved but also sustained once the project is completed (Aguilera, 2016). Moreover, (Badewi, 2016) says that benefits realization management encompasses various stages such as initiation, planning, organization, execution, control, transition, and support of change within an organization, emphasizing the role of project management mechanisms in realizing predefined project benefits and the subsequent consequences incurred by the organization. Similarly, (Bradley, 2016) describes benefit realization management as the process of organizing and managing activities in a way that enables the actual achievement of potential benefits resulting from investment in change. As (PMI, 2016) states, benefits realization management is a collective set of processes and practices for identifying benefits and aligning them with formal strategy, ensuring benefits are realized as project implementation progresses and finishes, and that the benefits are sustainable, and sustained, after project implementation is complete.



*Figure 9: Benefits Realization Management phases*

*( Source:(PMI, 2016) )*

On the other hand, one challenge of benefits realization management is the length of the project's life cycle. From the project's creation to its completion, a lot of time passes, and many things happen with various changes that need to be addressed. Some of these changes are unexpected, and even small adjustments in project design and execution can affect the original benefit prediction. When the project's results are poorly aligned with the organization's needs, it creates a significant problem. In these instances, the risk of losing benefits increases, which is not favorable.

Effective planning, including a clear project business case, and implementing a progress monitoring plan are essential to prevent benefits from not being accomplished. However, these actions are most effective when integrated into a comprehensive Benefits Realization Management framework (Perez, 2015).

### 3.6.1 Difference between BR and BRM

Many people have confusion about understanding the meaning and differences between Benefits Realization and Benefits Realization Management. Now that the literature has been studied and the definition of both concepts is known, it is possible to answer the following question:

What is the difference between BR and BRM?

Benefits realization refers to the process of achieving the expected benefits from a project or initiative. On the other hand, Benefits Realization Management is a set of practices that enable planning, delivering, and communicating the progress of benefits realization to stakeholders in order to support effective benefits realization. BRM establishes the link between business and projects and helps in managing benefits during the project's life cycle. (Serra, 2016)

In summary, benefits realization is the end goal, while BRM is the process that helps achieve that goal.

### 3.6.2 Responsibilities and Roles in BRM

Project Manager: They manage the project and the team, overseeing the work

Benefits Owner: They identify, define, and manage benefits. They ensure clear, measurable benefits aligned with goals. The owner monitors progress and addresses issues

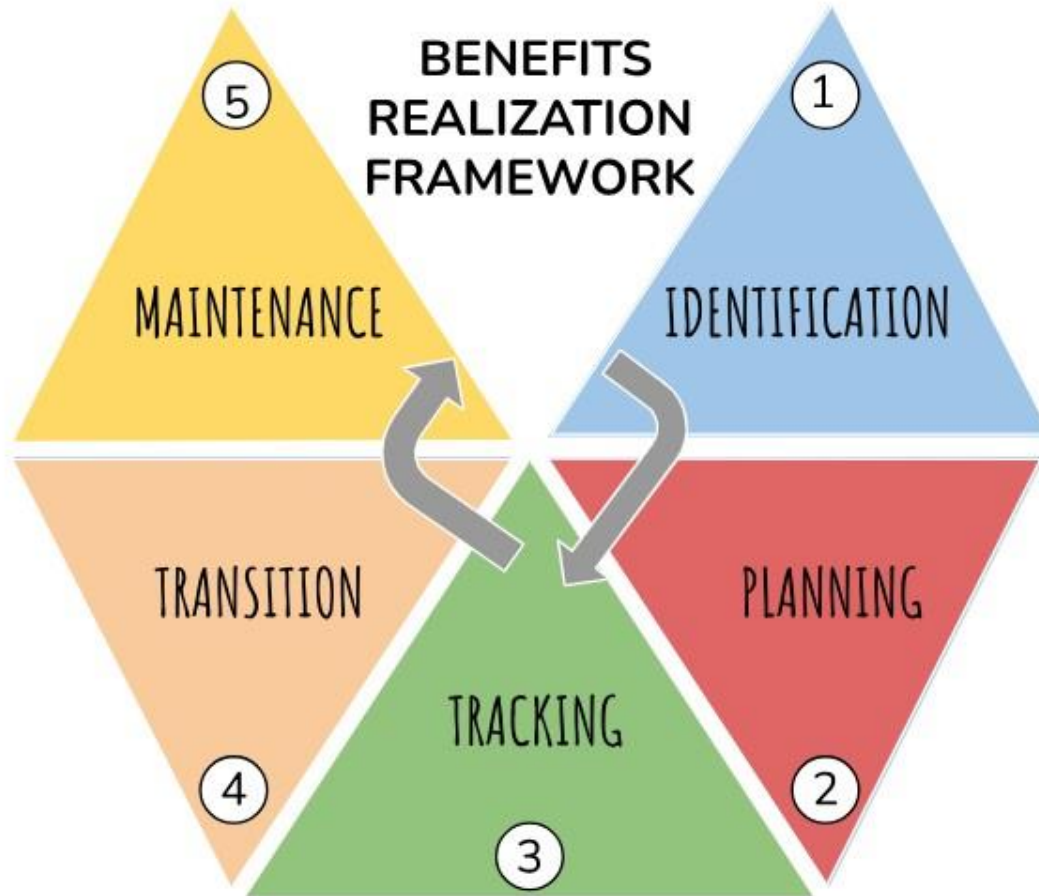
Project Team: The team contributes to benefits management. They identify benefits, develop plans, and collaborate for execution and tracking.

Stakeholders: Including, clients, customers, and partners, they contribute to project benefits. Engaging and communicating effectively aligns expectations for successful benefits delivery

## 3.7 BENEFITS REALIZATION FRAMEWORK

A benefits realization framework is a structured approach or model that guides organizations in effectively managing and realizing the benefits of their projects or initiatives. It provides a systematic process for identifying, planning, tracking, and measuring the expected benefits throughout the project lifecycle.

Based on the literature reviewed, I have identified five stages as the most common steps to effectively carry out a benefits realization plan.



*Figure 10: Benefits Realization Framework*  
(Source: Created by the author)

### 3.7.1 Benefits Identification

The benefits identification phase is the first step in the benefits realization process. It involves identifying and clearly defining the specific benefits that the organization aims to achieve through a project or initiative. This step helps organizations clearly understand the desired outcomes and align the project activities accordingly (PMI, 2017; Terry, 2015).

To identify benefits, it's important to understand the organization's business environment, industry, and external factors that can impact the benefits. Knowledge of the organization's strategies and objectives is also important (Letavec, 2014).

On the other hand, (Serra, 2016) highlights the importance of defining the metrics used to measure progress, which should be specific, measurable, achievable, relevant, and time-bound (SMART). The SMART framework is used to define the metrics used to measure progress toward achieving the expected benefits of a project.

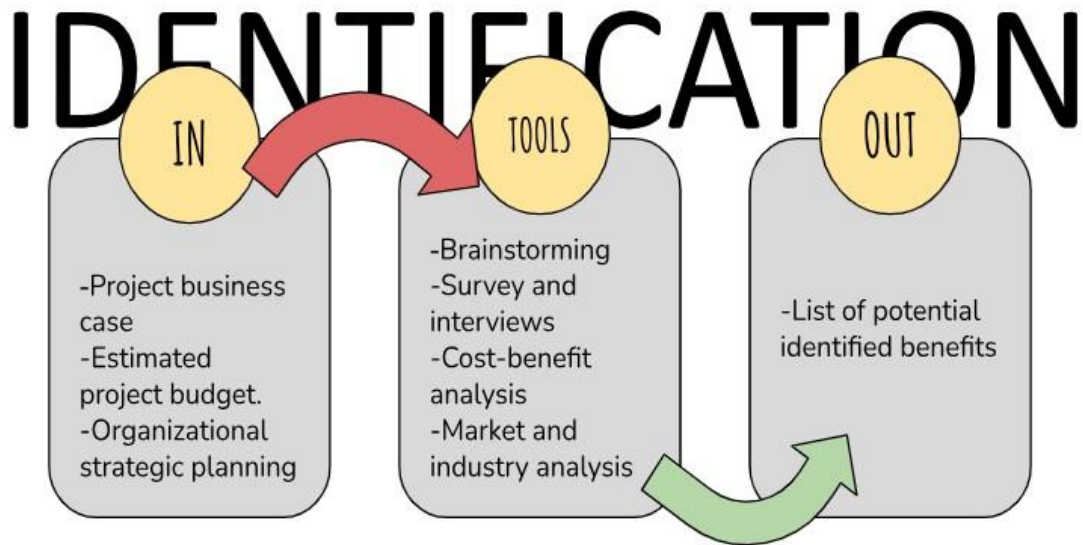
Organizations use different techniques to identify benefits. However, this identification is not always easy because benefits change and evolve over time. They are often intangible and complex, and in some cases, their assessment is impossible.

So, in the context of construction projects the tools and techniques more used are the following (PMI, 2017, 2019):

*Table 3: Tools and Techniques of the benefits identification phase*

<b>TOOLS/TECHNIQUES</b>	<b>DESCRIPTION</b>
<b>Brainstorming</b>	Brainstorming sessions inspire participants to freely generate ideas and potential benefits without any judgment or restrictions. This creative technique promotes innovative thinking and aids in discovering benefits that may not have been immediately evident. The emphasis is on generating a diverse range of possibilities and exploring various perspectives.
<b>Surveys or interviews with stakeholders</b>	This method enables organizations to gather qualitative and quantitative data, identify potential benefits, and understand stakeholder preferences.
<b>Cost-benefit analysis</b>	It involves comparing the projected benefits of a project to the anticipated costs to determine if it is worth pursuing.
<b>Market and industry analysis</b>	Identify the latest market trends, techniques, and tendencies to determine the organization's position and identify opportunities for maximizing benefits.

A visual representation of the benefits identification phase could be the following:



*Figure 11: In, tools, and out of the benefits identification phase*

*(Source: Created by the author)*

### 3.7.2 Benefits Planning

Once the initial project advantages are recognized and it's confirmed that they align with the organization's strategic plan, the benefits should be planned and detailed in the Benefits Management Plan. This plan will incorporate metrics that will allow monitoring of their achievement later on (Letavec, 2014). It will serve as the reference point to measure the team's progress in attaining the benefits.

(Serra, 2016) says that this phase involves figuring out the strategies, actions, and resources needed to accomplish each benefit. It also includes setting performance metrics and goals. Additionally, it should be regularly evaluated based on the business case, and the expected outcomes and benefits should be reviewed regularly to make sure they are still valid and achievable.

(Lake, 2001) the paper said that to make a good benefits plan, the realization plan must answer at least these questions:

- Who in the organization should be responsible?
- What action is required by the stakeholders to ensure the delivery of the benefits?
- When will the benefits be realized?

Based on (PMI’s The Standard for Project Management, 2019) and (Perez, 2015), this phase should include the next activities:

1. Establish a plan to achieve the project's benefits.
2. Set metrics for each benefit and determine when and how each benefit will be considered achieved. This applies to both tangible and intangible benefits.
3. Define KPIs and quantitative measures to monitor the delivery of planned benefits

So, in the context of construction projects the tools and techniques more used are the following:

*Table 4: Tools and Techniques of the benefits planning phase*

<b>TOOLS/TECHNIQUES</b>	<b>DESCRIPTION</b>
<b>Benefit Mapping</b>	This tool helps in visually mapping out the relationships between project objectives, identified benefits, and corresponding actions or strategies. It provides a clear overview of how each benefit contributes to the overall project goals and helps in prioritizing actions accordingly. It may be considered the most important tool of the phase.
<b>Work Breakdown Structure (WBS)</b>	WBS breaks down project deliverables into smaller tasks for organization and structure. It simplifies resource allocation, milestone setting, and progress monitoring.
<b>Benefit Metrics and Measurements</b>	Defining clear benefit metrics and measurement criteria is essential for effective planning. This involves identifying specific metrics that will be used to assess the achievement of each benefit,
<b>Risk Management</b>	Tools such as risk identification, risk assessment, and risk response planning help in identifying potential risks, evaluating their impact on benefit delivery, and developing appropriate mitigation strategies.

A visual representation of the benefits planning phase could be the following:



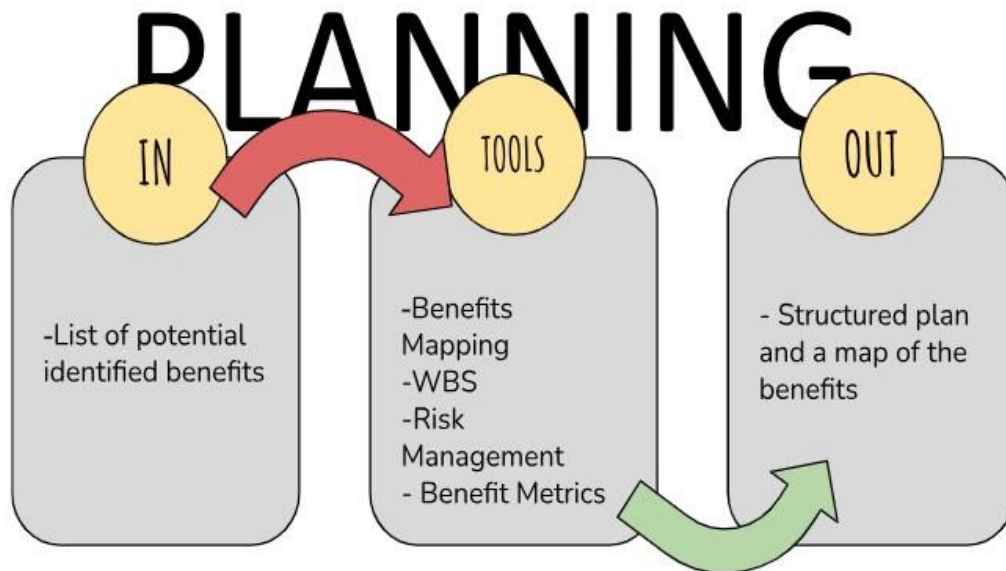


Figure 12: In, tools, and out of the benefits planning phase

(Source: Created by the author)

### 3.7.3 Benefits tracking

Once all the metrics and measurement methods are established and the project is being executed, it is time to track the benefits according to the plan. During this phase, the project's results are compared with the benefits realization plan to evaluate if any internal or external changes have occurred that may affect their delivery. The benefits tracking phase should be periodically reevaluated based on the business case, and the expected outcomes and benefits should be regularly reviewed to ensure their relevance and achievability (Serra, 2016).

As (PMI, 2019) mentions, the benefits Tracking Phase includes the following steps:

- Establish the baseline: The baseline should contain the anticipated value, schedule, and measurements for each benefit.
- Monitor the benefits: The monitoring should include tracking the progress, identifying any deviations, and taking corrective actions as necessary.
- Report on the benefits: The report should contain the real value, timeline, and measurements for each benefit, along with any discrepancies and the corresponding corrective measures.
- Evaluate the benefits: The evaluation should include assessing the actual value, timeline, and metrics for each benefit, as well as any lessons learned.

So, in the context of construction projects the tools and techniques more used are the following:

Table 5: Tools and techniques of the benefits tracking phase

TOOLS/TECHNIQUES	DESCRIPTION
<b>Performance Dashboards</b>	Performance dashboards provide a visual representation of the benefits of tracking data
<b>Data Collection and Analysis Systems</b>	Good data systems are necessary for collecting relevant benefit-related data.

A visual representation of the benefits tracking phase could be the following:

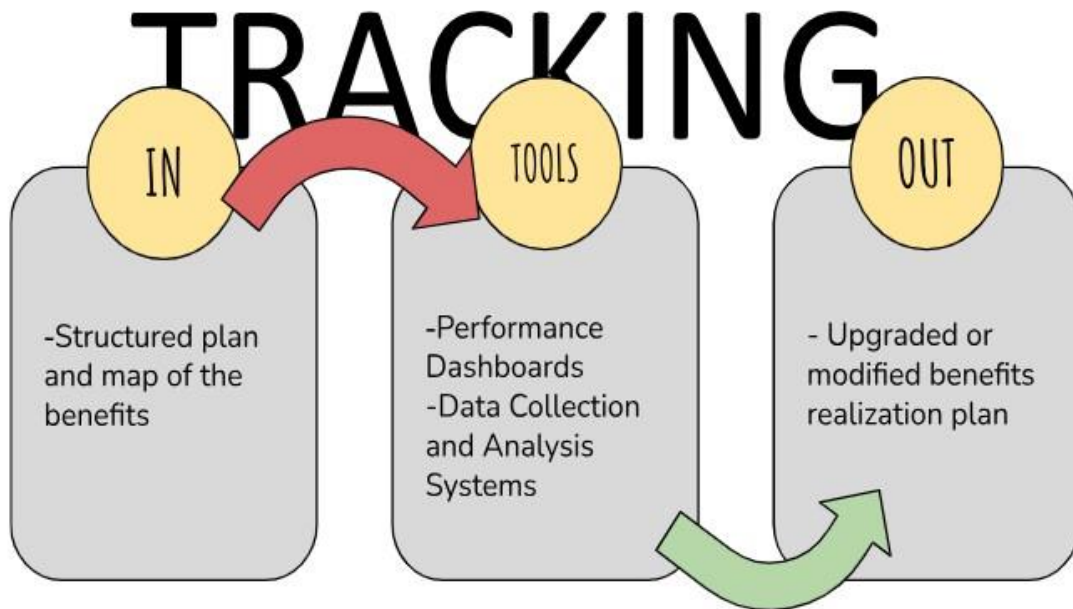


Figure 13: In, tools, and out of the benefits tracking phase

(Source: Created by the author)

### 3.7.4 Benefits transition

The benefit transition plan should provide a thorough explanation of how the transition will occur. It should outline the roles and responsibilities of each stakeholder, establish a timeline for the transition, and specify the metrics used to track progress toward achieving the anticipated benefits (Serra, 2016).

During this phase, our primary aim is to transfer the project's benefits to the operational areas of the organization. To ensure a smooth and continuous transfer of benefits, it is advisable to create a transition plan specifically designed for the affected operational areas (Letavec, 2014).

So, in the context of construction projects the tools and techniques more used are the following:

Table 6: Tools and techniques of the benefits transition phase

TOOLS/TECHNIQUES	DESCRIPTION
<b>Benefits Transfer Plan</b>	A benefit transfer plan outlines the necessary steps to transition project outcomes into operational benefits. It includes information on resource allocation, timelines, responsibilities, and communication strategies to ensure a coordinated and efficient transition process
<b>Standard Operating Procedures (SOP)</b>	SOPs offer guidelines and instructions for operating and maintaining the systems, processes, or infrastructure that deliver the project benefits.
<b>Training and Knowledge Transfer</b>	This can involve organizing workshops, training, or seminar sessions to make it easier to share the best practices and knowledge.

A visual representation of the benefits Transition phase could be the following:

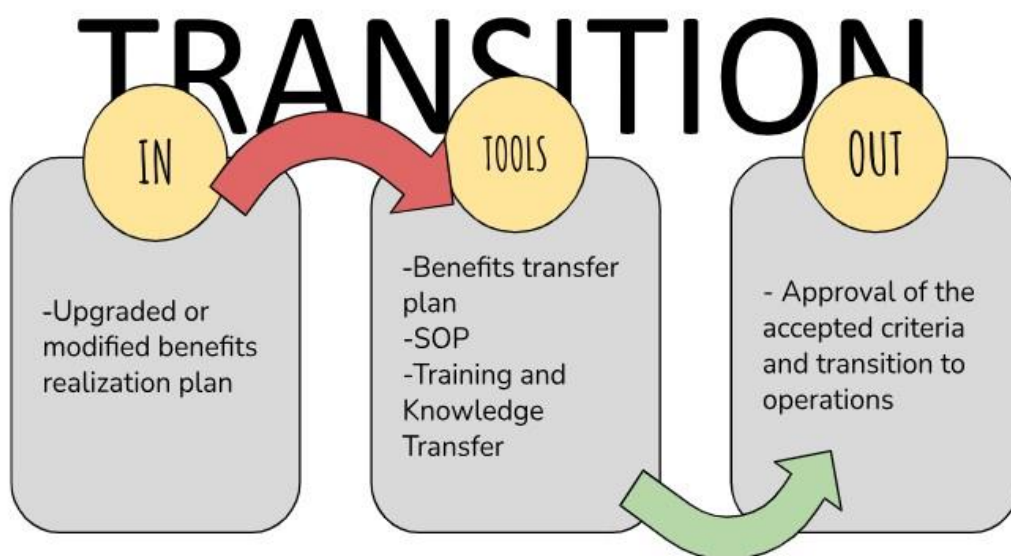


Figure 14: In, tools, and out of the benefits transition phase

(Source: Created by the author)

### 3.7.5 Benefits Maintenance

Usually, in project management, it is often overlooked what happens after the project is completed. Once the project is closed, the project team moves on, and whatever the project has delivered stays with the receiving organization. However, in benefits realization, it is essential to incorporate maintenance and sustainability activities to ensure that the objectives remain aligned and continue to yield benefits in the long term. In this case, there is a stronger focus on ensuring the long-term viability of benefits realization (Letavec, 2014)

As the (PMI's The Standard for Project Management, 2019) states, some tools or techniques in this area are:

Table 7: Tools and techniques of the benefits maintenance phase

TOOLS/TECHNIQUES	DESCRIPTION
<b>Benefit Optimization</b>	The phase of maintaining benefits allows us to find areas for improvement. This could mean identifying ways to enhance processes, upgrade technology, or implement other initiatives that can maximize the benefits even more.
<b>Customer's inputs</b>	Responding to customer inputs on their needs for the results.
<b>Documentation and reporting</b>	Maintaining accurate and up-to-date documentation of the benefits maintenance activities, outcomes, and lessons learned.

A visual representation of the benefits maintenance phase could be the following:

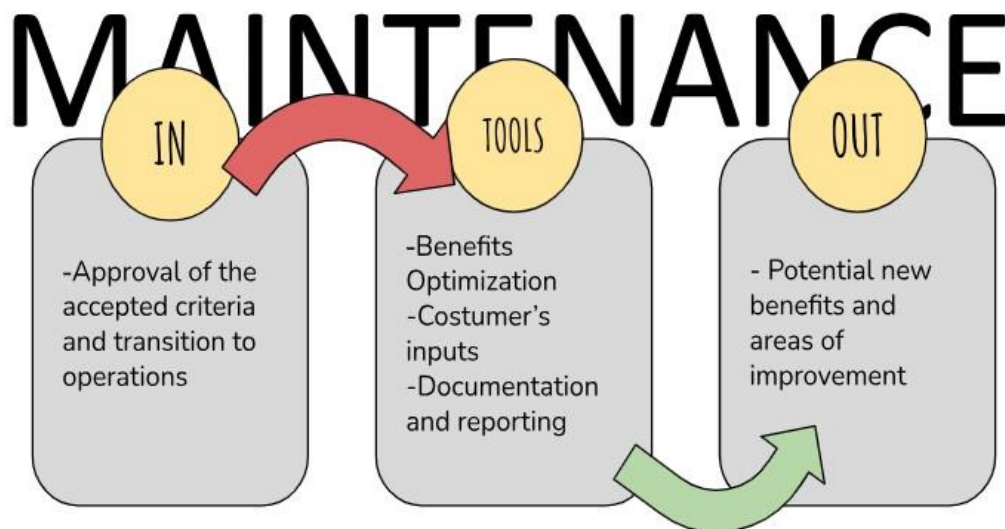


Figure 15: In, tools, and out of the benefits maintenance phase

(Source: Created by the author)

## 4. SURVEY AND RESULTS DISCUSSION

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### 4.1 SURVEY CHARACTERISTICS

As mentioned before, the survey questions were validated by my supervisor and the research group, with the purpose of obtaining the most coherent, clear, and insightful questions for this thesis.

So, after some discussion and modifications along the way, the final version of the survey had sixteen questions divided into five different specific sections of benefits realization. As shown in *Fig 8*.

Taking into consideration that before the enumerated questions, the respondents specify which country is their organization from, the size of it, and their respective roles.

Moreover, the preliminary questions and section 1 are the only parts compulsory, for all the respondents, of the survey. This is because the questions are generic, and everyone can respond even if they don't use/know benefits realization. On the other hand, the rest of the sections are based on the respondent's previous knowledge using benefits realization in their last construction projects.

With this, the intention is to know where the organizations are from, and how big is it, intending to later extract the conclusions based on that.

Furthermore, with the section 1 questions, we can know how many of the organizations that responded to the survey don't even know about benefits realization and interesting data to collect as well.

- Section 1: Introduction (Q1-Q3)
- Section 2: Benefits identification (Q4-Q6)
- Section 3: Benefits quantification and tracking (Q7-Q12)
- Section 4: Benefits maintenance (Q13)
- Section 5: Conclusions (Q14-Q16)

Table 8: Survey questions

#	STATEMENT
Q1	When did your organization start using Benefits Realization?
Q2	How many years of experience with Benefits Realization do you have?
Q3	Did your last project involve Benefits Realization?
Q4	In which phase of the project did you identify the benefits of the project?
Q5	How did you prioritize benefits during your construction projects?
Q6	How does your organization identify the potential benefits of a construction project?
Q7	How does your organization quantify the expected benefits?
Q8	How does your organization handle the non-quantifiable benefits?
Q9	How frequently does your organization track the progress of benefits realization during the construction phase?
Q10	How frequently does your organization track the progress of benefits realization after the project is finished?
Q11	In case the progress of the project is different from the plan. How does your organization adjust the expected benefits during the project?
Q12	Does your organization ensure that the benefits realized are attributed to the construction project and not other factors?
Q13	What are the main difficulties that arise for the maintenance of benefits?
Q14	Based on your experience, has Benefits Realization contributed to achieving positive project outcomes?
Q15	What were some of the key factors that contributed to the success of benefits realization in your construction project?
Q16	Based on your experience, what recommendations would you give to organizations looking to introduce/improve their Benefits Realization processes in construction projects?

## 4.2 GOALS OF THE SURVEY

The survey has developed with the main objectives:

- Identify the maturity level of the organization in Benefits Realization
- Compare the knowledge, best practices, and differences between organizations in Norway and Spain.
- Identify challenges that organizations may encounter.

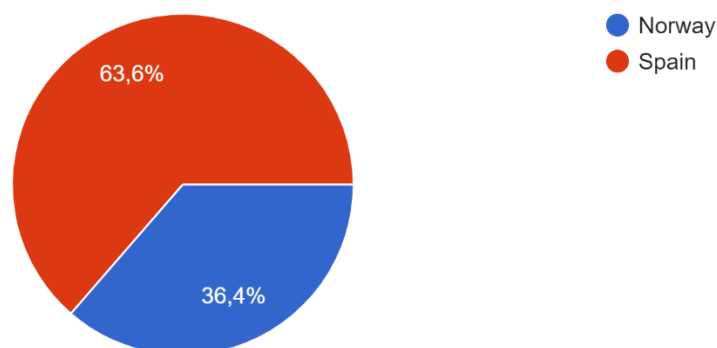
## 4.3 ANALYSIS OF THE RESULTS BY QUESTION

First of all, I would like to appreciate the contribution of all the respondents of the survey. I understand that the number of responses received was lower than expected, but even with a small number of participants the results obtained still have a significant value. This provides the capacity to dig deeper into the responses received, obtaining a more detailed and comprehensive analysis. The survey has been responded to by eleven different organizations from the construction industry.

With this information, we can start the analysis of the following questions.

### 4.3.1 Preliminary Questions

- Where is your organization from?



*Figure 16: Results preliminary question 1*

*(Source: Created by the author)*

From the eleven responses received, seven were from Spanish organizations, while the remaining four were from Norwegian ones. Although the distribution is not ideal, it still falls within an acceptable difference percentile range.

- What is the size of your organization?

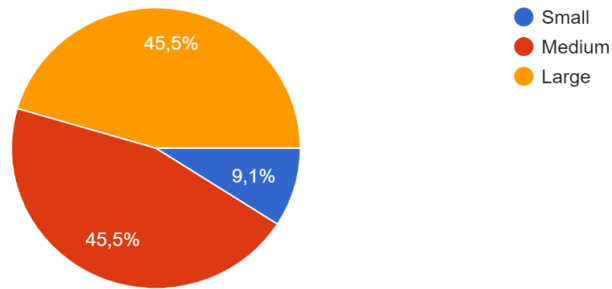


Figure 17: Results preliminary question 2

(Source: Created by the author)

Norway: Three large / one medium.

Spain: Two large / four medium / one small

For the survey, large and medium organizations are more valuable because they have more resources and personnel available, making it more probable for them to utilize BR. However, the results obtained from small enterprises are also interesting to analyze.

#### 4.3.2 Section 1: Introduction

1. When did your organization start using Benefits Realization?

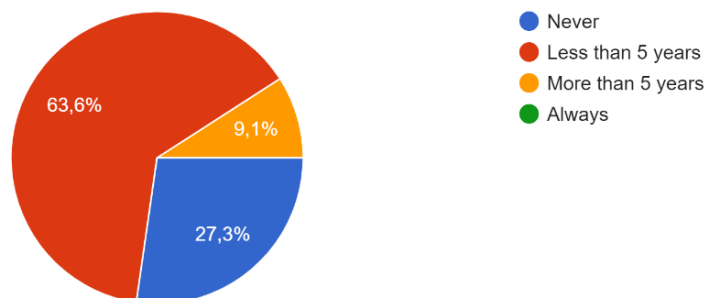


Figure 18: Results question 1

(Source: Created by the author)



Norway: three < five years / one > five years

Spain: four < five years / Three never

It can be seen that specifically 7 companies (63.3%), have been implementing the BR process for less than 5 years. This shows us that it is difficult for organizations to apply it, but recently there is a change in trend and companies are starting to introduce it, at least in Norway. It is worth noting that the three companies (27.3%) that have never used it are Spanish. This fact may begin to indicate that lack of awareness and understanding of the topic, for the Spanish organizations.

2. How many years of experience with Benefits Realization do you have?

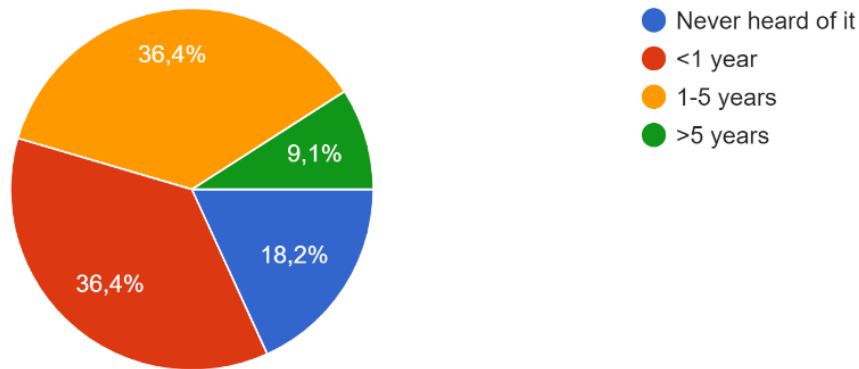


Figure 19: Results question 2

(Source: Created by the author)

Norway: one R < one year / two between one and five years / one > five years

Spain: two never / three < one year / two between one and five years

This is a very subjective question depending on the respondent, but we can see that there is more knowledge and per se a higher level of maturity about the topic in Norway rather than in Spain.

3. Did your last project involve Benefits Realization?

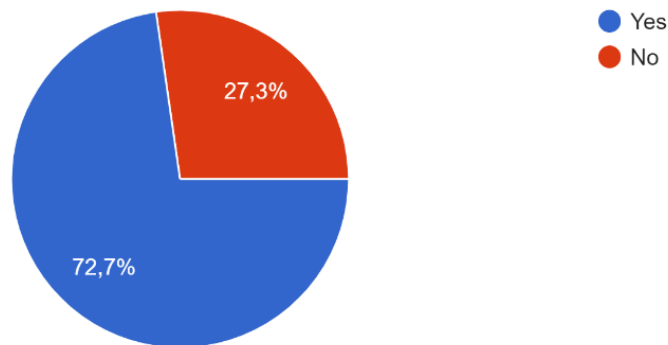


Figure 20: Results question 3  
(Source: Created by the author)

Norway: four yes / zero no

Spain: four yes / three no

This graphic makes even more evident what I mentioned before about the utilization of BR in every country.

Now there are three Spanish organizations that don't continue the survey because they don't know about the topic and have never used it before. With these we have four Norwegian and four Spanish organizations remaining, nice for analyzing.

4.3.3 Section 2: Benefits Identification

4. In which phase of the project did you identify the benefits of the project?

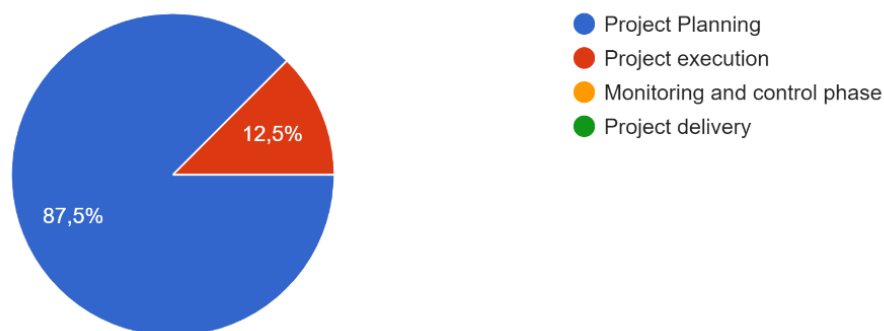


Figure 21: Results question 4  
(Source: Created by the author)

Norway: all project planning

Spain: three project planning, one project execution.

As the literature shows, the planning phase is the moment when the benefits should be studied, 87,5% of the organizations start with the BR process in the project planning. Only one organization from Spain is not applying it at the right moment, fact that could be a motive for an unsuccessful benefits delivery.

5. How did you prioritize benefits during your construction projects?

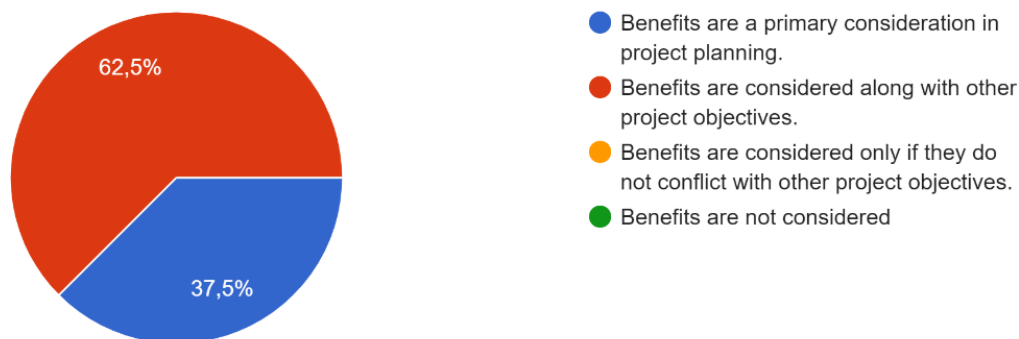


Figure 22: Results question 5

(Source: Created by the author)

Norway: two primary considerations / two along other objectives

Spain: one primary consideration / three along with other objectives

The literature suggests that benefits prioritization is crucial for effective benefits realization. Prioritization ensures that resources and efforts are focused on delivering the most significant and relevant benefits. Being quite complicated to implement, it requires prioritization if it is to be carried out successfully, and only 36.5% prioritize the study of benefits when planning the project. This can demonstrate the lack of importance that organizations give to it.

6. How does your organization identify the potential benefits of a construction project?

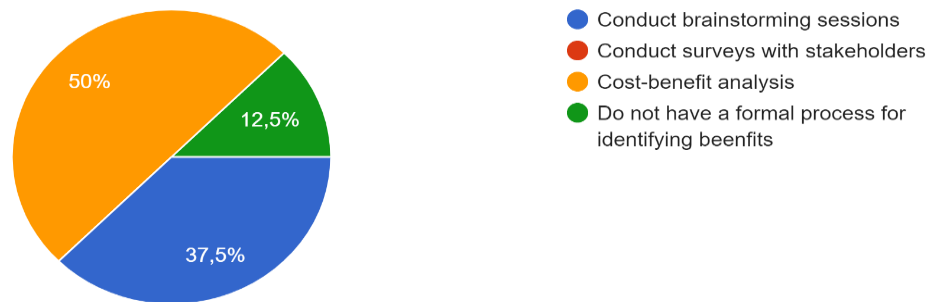


Figure 23: Results question 6

(Source: Created by the author)

Norway: all cost-benefit analysis

Spain: one doesn't have a formal process / three brainstorming.

Brainstorming and cost-benefit analysis are both correct ways to identify the potential benefits. With this graphic, we can detect a very interesting thing: all the Norwegian respondents use cost-benefit analysis, whereas the Spanish respondents use brainstorming. We can clearly identify a different methodology for approaching the benefits identification phase.

#### 4.3.4 Section 3: Benefits Quantification and Tracking

7. How does your organization quantify the expected benefits?

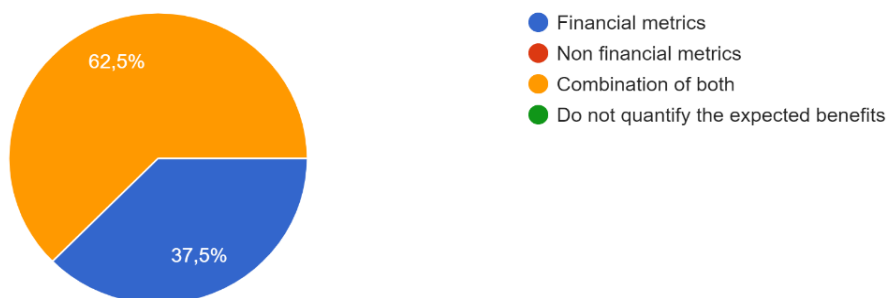


Figure 24: Results question 7

(Source: Created by the author)

Norway: all combinations of both

Spain: one combination of both / three financial metrics

When we only rely on financial measures, we overlook certain intangible benefits that cannot be measured in monetary terms. These benefits are highly valuable, and it is inappropriate to ignore them. The data shows that Norway has successfully recognized the importance of quantifying all benefits, whereas Spain still does not quantify non-financial benefits. As a result, Spanish organizations miss opportunities to improve decision-making, engage stakeholders effectively, evaluate project success, and secure necessary resources. Ultimately, they miss out on a significant portion of the benefits throughout the process.

8. How does your organization handle the non-quantifiable benefits?

50% of the Norwegian organization use a qualitative assessment, this is a very effective method used to evaluate and measure non-numeric or subjective factors related to a project. It involves gathering and analyzing descriptive data, opinions, feedback, and observations to gain insights into the qualitative aspects of the project's performance, impacts, and benefits. On the contrary, only one Spanish organization uses a qualitative assessment, while the others didn't even quantify the benefits or don't have a concrete method.

9. How frequently does your organization track the progress of benefits realization during the construction phase?

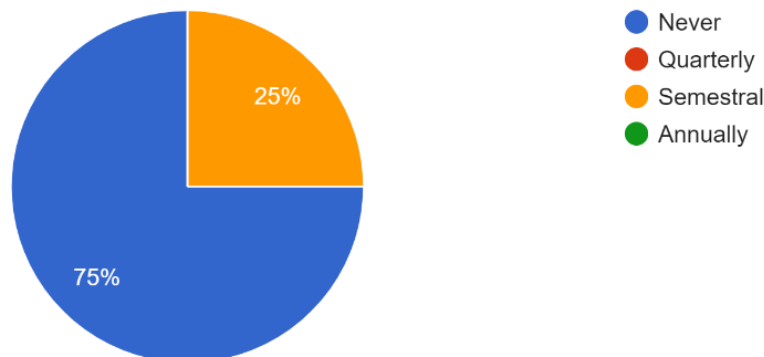


Figure 25: Results question 9

(Source: Created by the author)

Norway: two semestral, and two never

Spain: all never

The literature recommends tracking the progress of benefits realization at regular intervals during the construction phase. This allows organizations to monitor the actual achievement of benefits against the planned targets and identify any deviations or risks. The frequency of tracking can vary depending on the project's duration, complexity, and the specific benefits being tracked.

75% of the organizations and 100% of the Spanish respondents do not track the benefits. This means they miss the chance to monitor the actual achievement of benefits and identify any deviations or risks compared to the planned targets. Tracking benefits is crucial for the successful implementation of the benefits realization process. It seems that there is less knowledge or interest among organizations when it comes to tracking benefits. Once the benefits are identified and quantified, it looks like they forget about them. However, this is a major mistake, as tracking and transitioning of the benefits should be prioritized.

10. How frequently does your organization track the progress of benefits realization after the project is finished?

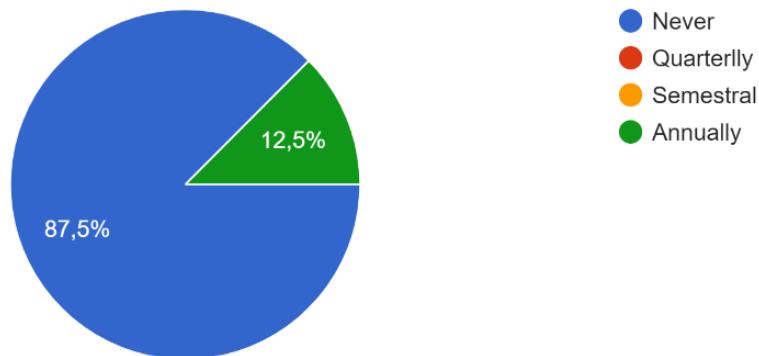


Figure 26: Results question 10

(Source: Created by the author)

Norway: one annually / three never

Spain: four never

Here we can see even more evidently with the monitoring of the benefits. Both countries fail to monitor the benefits. Only one Norwegian respondent tracks the benefits after the project, an essential fact to ensure the sustained realization of benefits over time.

11. In case the progress of the project is different from the plan. How does your organization adjust the expected benefits during the project?

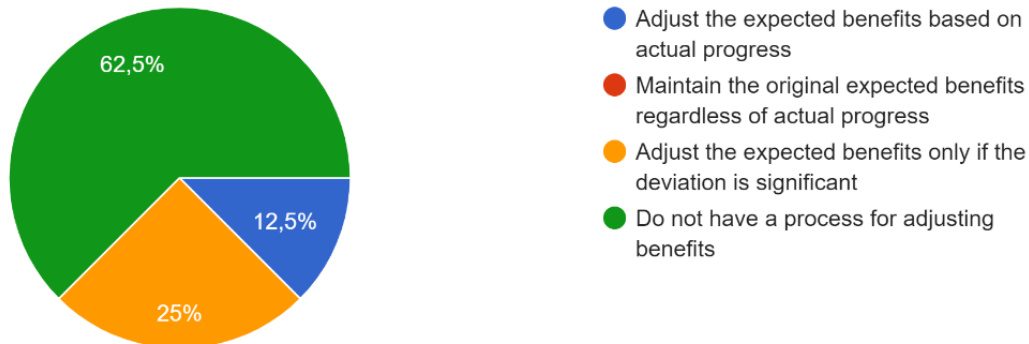


Figure 27: Results question 11

(Source: Created by the author)

Norway: one significant deviation / one actual progress / two don't have a process.

Spain: three don't have a process / one significant deviation.

If the project changes or circumstances shift, organizations should reassess and adapt the expected benefits, even if there is a small deviation. Surprisingly, 62.5% of responses indicate that there is no process in place for adjusting benefits. This highlights a common trend where organizations tend to forget about the identified benefits once they are established.

12. Does your organization ensure that the benefits realized are attributed to the construction project and not other factors?

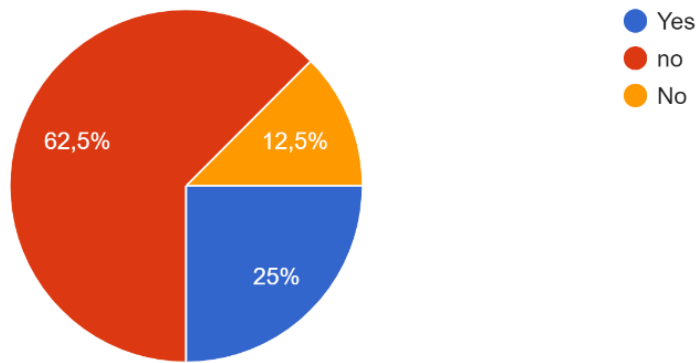


Figure 28: Results question 12  
(Source: Created by the author)

Norway: two no / one yes

Spain: all no

From the results, it's evident that Norwegian companies exhibit a higher level of maturity in benefits realization compared to Spain. None of the Spanish organizations interviewed ensured that the benefits obtained are specifically from the project and not external. However, 75% of Norwegian organizations analyze this aspect, as recommended in the literature studied.

#### 4.3.5 Section 4: Benefits Maintenance

##### 13. What are the main difficulties that arise for the maintenance of benefits?

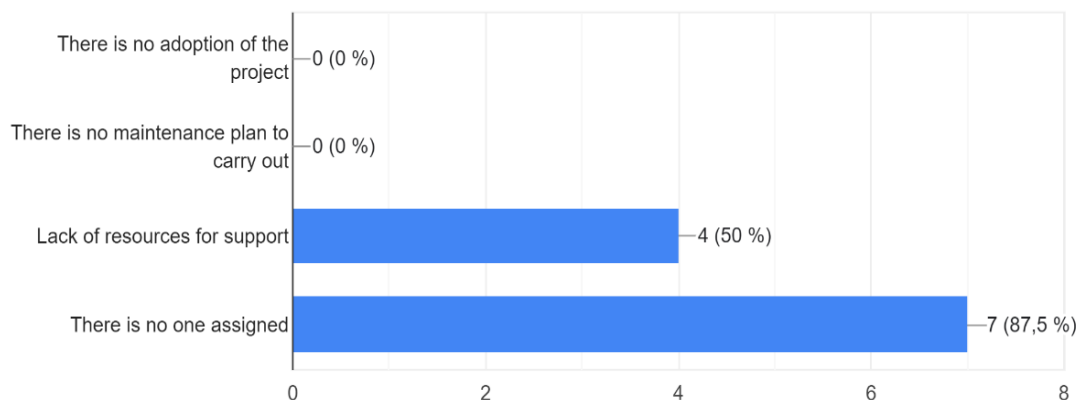


Figure 29: Results question 13  
(Source: Created by the author)



Norway: four no one assigned / one lack of resources.

Spain: three no one assigned / three lack of resources.

We can see that both countries face the greatest difficulty in maintaining the benefits due to the absence of assigned personnel for the task. According to the literature, the responsibility for benefits maintenance typically lies with the designated benefits owner or benefits realization manager. However, once the project is completed, their priorities change, and they neglect the maintenance of the benefits.

On the other hand, with this response, we can observe the difference in economic power between organizations and the overall economy of Norway and Spain. 75% of Spanish organizations lack resources, whereas only 25% of Norwegian organizations face this challenge.

#### 4.3.6 Section 5: Conclusions

14. Based on your experience, has Benefits Realization contributed to achieving positive project outcomes?

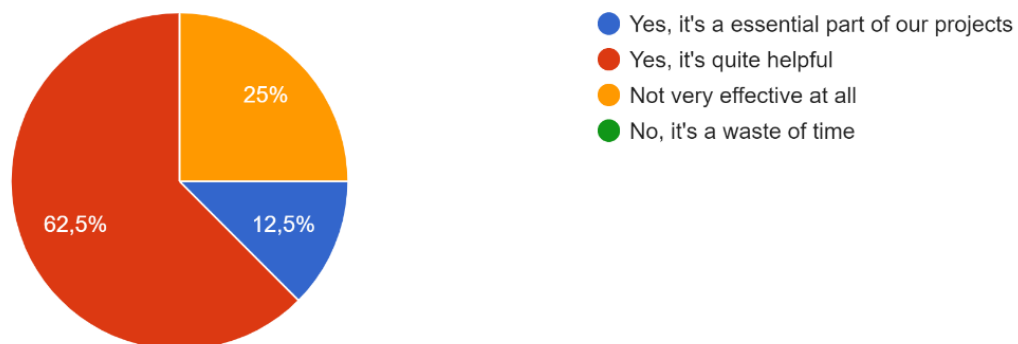


Figure 30: Results question 14

(Source: Created by the author)

This question is very personal and depends on a lot of the respondent's experiences, but we can see that 75% consider this approach helpful.

15. What were some of the key factors that contributed to the success of benefits realization in your construction project?

It was interesting to see the responses to this question because the only two Norwegian organizations that kept track of the benefits in the early phases, both answered that one of the main factors is monitoring the benefit and optimizing during the project lifecycle.

Unfortunately, only one Spanish organization answered this question, so there is not much to analyze in that aspect.

16. Based on your experience, what recommendations would you give to organizations looking to introduce/improve their Benefits Realization processes in construction projects?

In this question, I have only extracted the responses from the two Norwegian companies that have successfully carried out the benefits realization process, as they are the most suitable for providing recommendations.

The responses have been:

- Make sure benefits are possible to measure and monitor.
- Target realistic benefit.

With this, I encourage Spanish organizations to make an effort and start monitoring and transitioning the benefits because, taking the example of the organizations that followed the actual knowledge, they detected this is one of the essential parts for successful benefits realization.

## 5. BENEFITS REALIZATION GUIDE

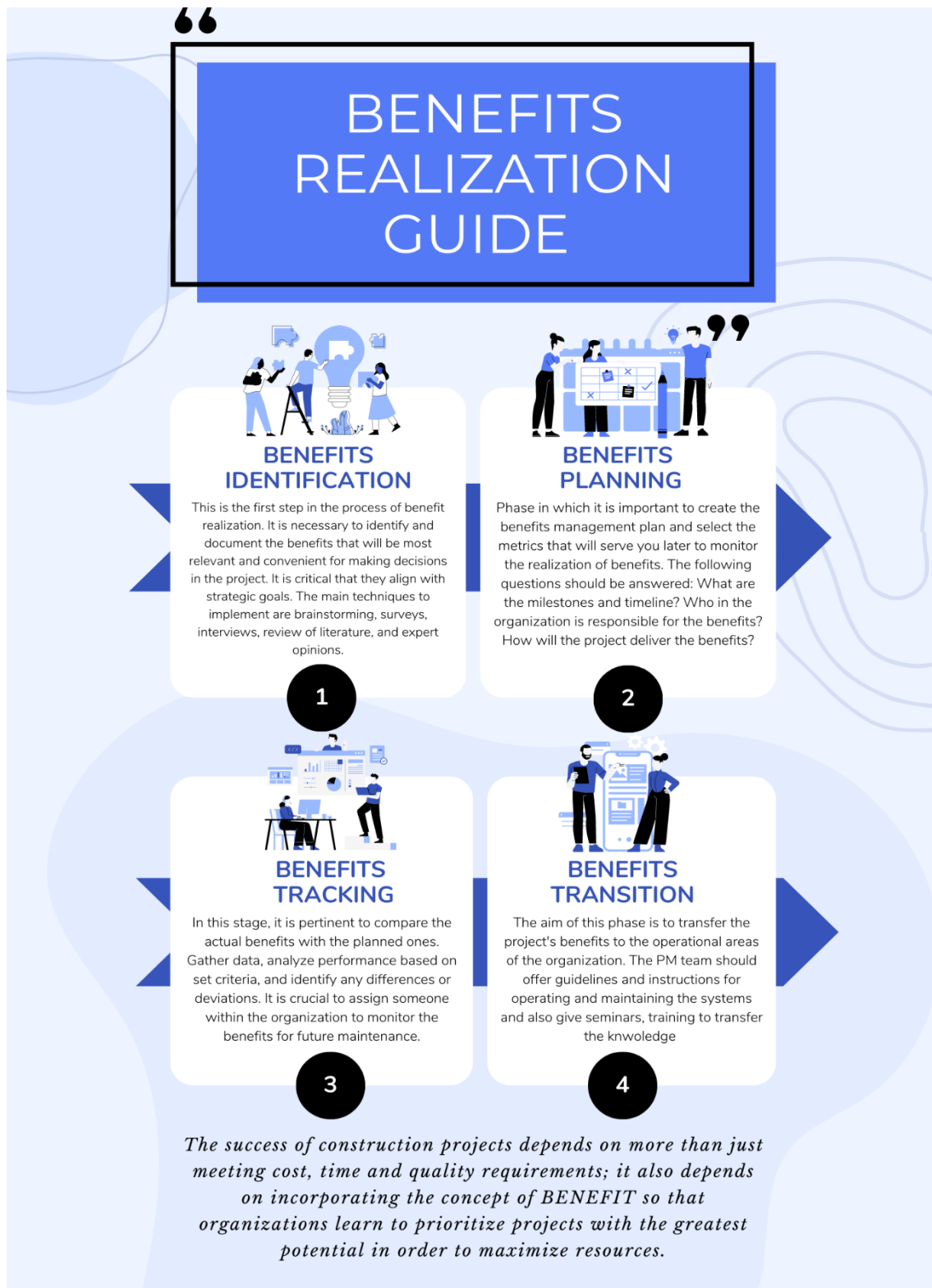


Figure 31: Benefits Realization Guide

(Source: Created by the author)

After conducting thorough research, reviewing relevant literature, and collecting survey responses, I have created a Benefits Realization Guide. This guide is designed for organizations interested in starting to implement BR in their projects. Its purpose is to provide a helpful resource with an easy-to-understand introductory guide. The guide has the steps and phases to follow and the key elements of each phase. As this is an introductory guide, the benefits maintenance phase has been omitted, because the intention is to make organizations start with the process, not master it.

## 6. CONCLUSIONS

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In conclusion, this bachelor thesis has explored the topic of benefits realization in construction projects. Conducting an extensive literature review, analysis of survey data, and comparative study between Spain and Norway, several key insights have been gained.

First of all, the main finding of the survey results indicates that Norway is more advanced in benefits realization practices compared to Spain in the context of construction projects. Norwegian organizations have demonstrated a higher level of maturity in identifying and planning the benefits, but both organizations fail when it's the moment to monitor and transfer them. This shows that there is still a lack of knowledge and practices in tracking, optimizing, and sustaining the benefits during the project life cycle.

Moreover, both countries concurred that it is essential to have personnel assigned for the benefits realization analysis because it requires a minimum level of understanding.

On the other hand, knowing that effective benefits realization practices can contribute to achieving positive project outcomes and maximizing the value delivered by the projects, organizations in both countries, but mainly in Spain, should recognize the potential benefits and try to improve their processes and methodologies.

In conclusion, I consider that the main goals I wanted to achieve with this bachelor thesis were reached satisfactorily.

### 6.1 RECOMMENDATIONS FOR FURTHER RESEARCH

- Increase the responses in the survey, to have more significant data and results.
- Conduct in-depth case studies on specific construction projects that have successfully implemented Benefits Realization practices.
- Introduce in the investigation the role of emerging technologies and thus new methodologies to explore.

To conclude, this research emphasizes the significance of benefits realization in construction projects and provides a foundation for further exploration and improvement in this field.

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