Project Termination from a Benefit Realisation Management approach

An abductive study of IT and R&D projects

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Abstract

Bad or failing projects drain organisational resources in vain, affect team morale, and are a detriment to corporate strategy. The importance of terminating a project that will not deliver as promised can hardly be overemphasized, however it is still a major managerial challenge.

Throughout this paper a call is made to identify and terminate failing projects via a benefit realisation management process, as successful projects are only those that deliver the expected benefits. Thus, the research question to answer is:

*How can benefit realisation management aid in deciding when to terminate a project?*

The purpose of this study is to understand project termination and its relationship with benefits realisation management in the case of IT and R&D projects. This is done by tacking a critical realist view in an abductive process that goes back and forth between the merge of existing theories and data collected, which will result in a conceptual model that integrates project termination decision making into a benefit realisation management process.

In this research project termination is defined as: the cancellation and cessation of a project prior the completion of its intended activities; while benefit realisation management is conceived as: a set of processes that ensure projects, programmes, and portfolios deliver value via verifying they are realising their intended goals and benefits.

From the literature, the projects analysed and the model drawn, it was understood that benefit realisation management has to be conceived as a monitoring and evaluation process on the project performance in relation to its intended benefit. The *how* to do so, is our model: a total of 8 steps that go from the conception of the business strategy to the post mortem evaluation of a project. Each step includes different essential activities that hypothetically lead to the correct decision. This, requires active participation and communication from the primary stakeholders, focus on the organisational strategy and the reason why the project was started in addition to a well-defined goal with a clear way of measurement. The *when* is approached as the moment in time where the termination decision making process should start. A stimulus, a difference between the expected standard and the project performance trend, is what triggers the recognition that a termination decision might be needed and therefore starts the whole decision-making process. Hence, it is recommended to pay special attention to three moments in the project life that might give a clearer indication: 1) the completion and approval of the business-case, as most errors can already be spotted at this point, 2) the testing phase of the solution, being often the point where success is easier to predict and 3) on the submission of the deliverables, as their quality reflect the quality of the future product.

Key words: *project termination, benefits realisation management, IT projects, R&D projects, decision making.*
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1. Introduction

As a way to introduce the topic and present the outline of this paper, this first chapter has been written with the objective of giving the reader a general understanding of the topic and its significance. A research gap is identified and basic concepts and theories are presented (which will be further discussed in the theoretical framework chapter). Finally, the research questions, study purpose, theoretical and practical contributions, delimitations as well as the continue outline of the thesis are addressed.

1.1 Background

As of 2012, the Standish Group (p. 3) reported that a staggering 21% of [software] projects were to be either cancelled prior completion or delivered and never used. Estimations on the financial impact of this phenomenon, vary widely, but all point towards big financial loses. As an example, the PMI (2016c, p. 5) mentions that for every investment of $1 billion USD an average of $122 million USD is wasted in poor projects; moreover, only circa 50% of all projects meet the original business intent and even fewer reach their budget and schedule goals (PMI, 2017, p. 5).

However, good reasons exist for stopping projects before they are finished. Not all of them stem from poor management, but also from changes in the original project assumptions (Boehm, 2000, p. 94). Certain projects should be abandoned as they consume resources that could be utilised more productively elsewhere in the organisation (Shafer & Mantel, 1989, p. 23). Indeed, more projects should be terminated as to prevent further investment in dying causes (Staw & Ross, 1989, p. 216).

Living in a world where we are asked “to do more with less” project priorities and resources should be allocated and continuously managed (Tarim, 2013, p. 3). Thinking about it, and aiming for a positive impact to organisational goals, what would happen if instead of pursuing a failing cause, “at least a fraction of that wasted money could be redirected” to real organisational efforts? (O’Brochta, 2017, p. 1).

Under these circumstances, the importance of terminating a failing project can hardly be overemphasized (Shafer & Mantel, 1989, p. 31). Bad or failing projects drain organisational resources in vain (Shafer & Mantel, 1989, p. 33), affect team morale (Tarim, 2013, p. 4), and are a detriment to corporate strategy (Unger et al., 2012 p. 675).

Nevertheless, the decision to abort a project is considered a major managerial challenge, indeed in a study carried out by Meskendahl et al. (2011, p. 1) it was shown that 67% of managers do not terminate projects that fail to promise success. Terminating a project is difficult, strategical, and has been little explored compared to other topics such as project selection and success (Shafer & Mantel, 1989, p. 23; Cooper, 2008, p. 17).

For the above mentioned, project termination is a problematic topic among researchers and practitioners (Drummond, 2005, p. 171). Common ground for a single definition hasn’t been found, but instead multiple synonyms are used, such as: unnatural termination (Spirer, 1984), early project termination (Meredith, 1988), project cancelation (Tarim, 2013), and project abandonment (Ewusi-Mensah & Przasnyski, 1991; Pan & Pan, 2006).
As to provide clarity, the notion of project termination used in this study, is to be
understood as a mix of the most relevant definitions: not a type of project selection or a
subset of project failure, but defined as: the cancellation and cessation of a project prior
the completion of its intended activities as it’s initiative to create value has fallen short of
its goals. Such phenomenon, includes the withdrawal, release and reassignment of
resources. (Spirer, 1984 p. 73; Shafer & Mantel, 1989, p. 23; Meredith, 1988, p. 31; Pan

Commonly, projects are terminated more frequently in the Research & Development
(R&D) and Information Technology (IT) industries due to a higher rate of failure and
financial loses (Boehm, 2000, p. 94; Meredith, 1988, p. 31). Research has also
concentrated in those areas (R&D: Tadisina, 1986; Balachandra, 1996; Kumar et al.,
1996; Shepherd, et al. 2014. IT: Keil, 1995; Iacovou & Dexter, 2005; Ewusi-Mensah &
Przasnyski, 1991; Pan & Pan, 2006).

Among these studies, the reasons for keeping projects needlessly alive have been
mentioned as: sunk costs, groupthink, escalation of commitment, conflicts of interest,
missing prerequisites for termination and difficulty of timing (O’Brochta, 2017, p. 2-6;
Unger et al., 2011, p. 675-677). Thus, the managerial challenges involved in project
termination decision-making include: the involvement of various stakeholders, the effort
of redeploying resources to other promising projects (Shepherd, et al., 2014), political
factors and interests from a senior management (Shafer & Mantel, 1989, p. 23), and
predictions or beliefs on the future success or failure of the project (Royer, 2003, p. 50;

Literature also shows a series of benefits from withdrawing resources from unfitting
projects effectively, for instance: 1) Shared resources are not drained in vain, 2) Strategy
is realised and executed as only those valuable projects to strategy remain in the project
portfolio (Unger et al., 2011), and 3) Individual contributors determined in advancing in
their professional careers, wouldn’t want to work in a death-march project (Tarim, 2013;
O’Brochta, 2017).

Postponing project abandonment results in projects continuing to absorb organisational
resources without reaching its objective, the issue is known as escalation of commitment
suffer from escalation of commitment. In fact, in a study conducted by Ewusi-Mensah
and Przasnysk (1991 p. 76), 34% of the organisations under study have already spent
more than 90% of the allocated costs by the time of abandonment and the resources spent
during the project in most cases were not recoverable. Project termination then has been
viewed as a solution to tackle this problem (Pan & Pan, 2006, p. 640), a solution that has
been observed but has been largely ignored (Keil, 1995, p. 421).

But overall, when talking about project termination and escalation of commitment the
question when and how the decision to terminate the project should be made arises
inevitably. Authors gravitate around these questions when explaining project termination
decision-making. Kumar et al. (1996, p. 277) explains that the time and project stage of
the termination is important due to the amount of resources already committed to the
project. And Meredith (1988, p. 31) mentions that projects should be cancelled at the
moment when “the costs and disadvantages of continuing the project outweigh the benefits and advantages of project completion”.

Thus, the decision to terminate a project becomes strategic in nature as it is about identifying projects that won’t deliver their promises (Lechler & Thomas, 2015, p. 1452), won’t met their expectations, and won’t reach their claimed benefits (Drummond, 2005, p. 174).

In this sense, the mere reason of being of a project is for the creation of value (Shepherd et al., 2014, p. 513). According to Turner and Müller (2003, p. 1), projects are organisational entities that employ resources to enable positive and clearly defined change in the business. These positive changes look for the accomplishment of organisational objectives and strategic improvements which are known as ‘benefits’. Thus, benefits are increments in the business value from a customer’s, supplier’s, shareholder’s and societal view (Serra & Kunc, 2015, p. 55).

Under these circumstances, successful projects deliver the expected benefits, and ultimately create strategic value for the business (Serra & Kunc, 2015, p. 55). Accordingly, their termination should come when the initiative falls short of its goals and benefits (Shepherd et al., 2014, p. 513).

In this sense, assessing and measuring the benefits, and ultimately realising how valuable a project is, belongs to the realm of Benefit Realisation Management (BRM) (Serra & Kunc, 2015, p.55) Therefore, BRM is defined as set of processes that ensure projects, programmes, and portfolios deliver and embed business strategies requirements into the current day-to-day business, in order to create value in a meaningful and sustainable way (Serra, 2013, p. 3), via verifying they are realising their intended goals and benefits (Bradley, 2006, p. 23 as cited in Breese, 2012, p. 342).

BRM takes place before, during and after the project life cycle (Musawir, et al., 2017, p. 3). Initially, it targets, formulates and states the benefits in the business case (Chih & Zwikael, 2015, p. 356). Then, it monitors, analyses, and reports whether the project is on track on delivering the value and intended benefits during its life cycle (PMI, 2016b, p. 7, 17), and finally it harvests the benefits and makes sure they are taken into the organisation (Morrison, 2014, p. 11).

The importance of BRM relies in its ability to make the value and the strategic relevance of each project clear (Bradley, 2010; Jenner, 2010; Melton et al., 2008). It supports better decision making on the right projects to fund, and it helps in reducing project failure rates and related financial losses (PMI, 2016, p. 7). In general, organisations with mature processes of benefits management have executive boards prioritising those projects that can deliver the most relevant benefits (Serra & Kunc, 2015, p. 54).

Attention in BRM has growth among organisations (PMI, 2017, p. 2). However, BRM is further applied in the IT and Information Systems (IS) fields (Andresen et al., 2000; Khampachua & Wisitpongphan, 2014; Remenyi & Sherwood-Smith, 1998; Ashurst et al., 2008; Bennington & Baccarini, 2004), due to its high corporate investment, low return on investment, and high percentage of IT projects failing to meet their goals (Clegg et al., 1997, p. 851).
But implementing effective BRM is also challenging. Mainly due to the setting of poor business cases; unverifiable, unrealistic or incommensurable benefits (Melton et al., 2008, p. 78), and missing accountability and ownership in the process (PMI, 2016b, p. 14).

Practical implications of the topic realise that as a manager of the organisation it is a responsibility not to lose sight of why a project was authorized and to question if the reasons for it to continue remain true and valid. A responsibility when knowing the facts prevents wasting resources in projects that will no longer provide added value, either qualitative, quantitative, financial or social (Tarim, 2013, p. 4). Its difficulty means accepting failure (Kumar et al., 1996, p. 273) and lacks simple explanations (Ewusi-Mensah & Przasnyski, 1991, p. 83).

Thus, a BRM process could help in taking project termination decisions by constantly monitoring and evaluating if projects are failing to accomplish its planned benefits and goals. The combination of a view were projects should create value and deliver benefits (Serra & Kunc, 2015, p. 54), while there is a need to identify and terminate infeasible projects early (Boehm, 2000, p. 96), lead us to ask: *If the ultimate end of a project is the creation of value and/or the realisation of a benefit, shouldn’t this be determining when deciding to terminate a project?*

In general, and throughout this paper a call is made to terminate failing projects taking into consideration that the successful execution of business strategy depends on projects delivering the expected benefits (Unger et al., 2011, p. 675; Serra & Kunc, 2015, p. 55).

**1.2 Research gap**

While studies on both topics, Project Termination and BRM initially arose during the 1980’s. Both topics have received little joint attention in the literature of project management. As previously stated, the empirical focus of both topic concerns the field of R&D (Meredith, 1988; Kumar et al., 2006; Shepherd et al., 2014; Lechler & Thomas, 2015) and in the return on investments in IT (Breese, 2012; Ewusi-Mensah & Przasnyski, 1991; Boehm, 2000; Drummond, 2005; Pan & Pan, 2006), rather than in the projects in general.

According to Marnewick (2016, p. 759) a limitation in current BRM literature is that there is no benchmark to determine how non-IT projects are realising benefits and whether benefits management is taking place. The same goes in the field of project termination as there is no evidence of its appliances in non-IT or non-R&D projects (Boehm, 2000, p. 94; Meredith, 1988, p. 31) Nevertheless, it is recognized that all types of projects are built to deliver a benefit to the organisation (Serra & Kunc, 2015, p. 54) and all of them are susceptible to abandonment, not only those with high risk, complexity or unstructured ones (Ewusi-Mensah & Przasnyski, 1991, p. 83). Leading to an urgency on developing managerial techniques and applications on the issue (Shafer & Mantel, 1989, p. 23).

Indeed, the construction of this research revealed the existence of different models and approaches to project termination; ranking from those that are systemic, mathematical and make use of discrimination analysis as Kumar et al. (1996), Shafer & Mantel (1989), to those that are expressed more as a set of questions to be answered as Meredith (1988) or based only in their level of strategic fit like Unger et al. (2012) and Lechler & Thomas (2015).
Nonetheless, these approaches are not widely used perhaps because project termination is perceived as a failure (Shepherd et al., 2014; Kumar et al., 1996). Instead of terminating failing projects, it is frequently seen that organisations avoid the decision and therefore continue to pour more resources on them (Keil & Montealegre, 2000, p. 55).

Additionally, all of these models have mainly focused on project related factors or psychological determinants of the termination decision (Werner, 2012, p. 2-3); with limited evidence on the impact of having a benefit realisation management perspective, even though when as early as 1988, Meredith (p. 33) stated a pressure to get the projects done as to realise their benefits.

Thus, within the academic literature and to the best of the authors knowledge, it is only Boehm (2000, p. 96) who actually suggested the use of benefit realisation management as to monitor the project business assumption (benefits), detecting infeasible projects earlier and in consequence terminating them, however the author didn’t develop the idea further. In this sense, the inquiry on how management can be aided in deciding on project termination remains unresolved (Greet el al., 2003 and Montoya-Weiss & Calantone, 1994, as cited in Unger et al., 2012, p. 676).

On the other hand, when researching on benefits realisation management. It is only Remenyi & Sherwood-Smith (1998, p. 96) in his active benefit realisation process who named the possibility of project termination if it becomes irrelevant to the organisation’s business requirements, and even though it attempts to vaguely combine these two concepts, he doesn’t explore in detail how and when is the project termination decision made.

Other benefit realisation management theories, pay even less attention to the importance of terminating projects. In general, they tend to focus in the importance of benefit definition (Breese et al. 2015, p. 1438) the lack of formal benefit realisation processes, and the absence of having the right people involved (PMI, 2016a, p. 13).

Nevertheless, there’s a case for BRM practices, as it has a positive impact on project success rate, and on the creation of organisational value (Serra & Kunc, 2015, p. 53). With growing relevance for practitioners, as the PMI’s Pulse of the Profession® Report (PMI, 2017, p. 3) states a “growing attention to benefits realisation management… one in three organizations (31%) reports high benefits realization maturity” through purposeful actions during implementations that ensure benefits are realised.

As it can be discerned there’s a need of an integrative framework between project termination and benefit realisation management that fills the gap on how and when organisations can take this termination decision in a timely manner, see potential warning signs, and avoid costly postponed projects by focusing on the expected benefit.

The filling of this gap becomes crucial as a way to make sure that project objectives are being met, and to notice failing projects and ultimately prevent unnecessary expenditure in death causes with the correspondent reassignment resources into more profitable projects (Raelin & Balachandra, 1985, p. 16).
1.3 Research questions and purpose
Based on the problem background and research gaps found in the literature review, the following research question was drawn by the authors:

*How can benefit realisation management aid in deciding when to terminate a project?*

The purpose of this study is to understand project termination and its relationship with benefits realisation management in the case of IT and R&D projects. This is done through an abductive process that goes back and forth between the merge of existing theories and data collected, which will result in a conceptual model that integrates project termination decision making into a benefit realisation management process.

Through-out this research, project termination is defined as: the cancellation and cessation of a project prior the completion of its intended activities; while benefit realisation management is conceived as: a set of processes that ensure projects, programmes, and portfolios deliver value via verifying they are realising their intended goals and benefits.

Ultimately at this stage of the study, the *how* part of the research question is perceived as the process, stages and activities needed to reach the right decision. While the *when* is the moment in time when the project termination is to be considered and decided upon.

1.4 Intended contributions and delimitations
The study intends to contribute in both a theoretical and practical standpoint. From a theoretical standpoint, the authors want to contribute to existing research on project termination from a benefit management perspective. The main theoretical contribution of this paper is the development of a comprehensive joint conceptual model by combining existing frameworks on benefit realisation management and project termination. The document and specifically the model produced by this thesis is to be a complement and expansion of previous research in the field of project management. The literature will be bridged and therefore the identified gap between project termination and benefit realisation management is to be filled.

From a practical point of view, the findings are to aid organisations in improving their project management and benefit realisation management processes. The findings could be a start point for project-based organisations to view project termination as a viable alternative when projects will no longer provide value to the business and if so, on how this decision could be reached. A call is also to be made on the relevance of aligning benefits towards the business strategy resulting in more assertive decisions. Overall it is also to aid business on when is the proper moment to consider stopping a project in a search for organisations saving resources.

In order to set a clear research scope, the study was forced to make some delimitations. This study will be delimited to project-based organisations, meaning only focusing on organisations that are currently running projects. The research is to be focused in IT and R&D projects as the literature is wider in such industries and thus the results will be of greater value. Additionally, it is not the aim of the researchers to explain in detail how projects are selected, initiated or how an exit strategy is formulated (once they are ought to be cancelled); nor the specific decision-making models around selecting an alternative.
The conceptual model is not to be tested during the study, it is only ought to collect data to be redefined, and thus the final result is to be considered as theoretical.

### 1.5 Continued outline of the thesis

Chapter 2 – After the introduction chapter, the chosen research philosophy is presented in an effort to explain the basis of the research process, the strategy, and the point of departure to solve the intended research question.

Chapter 3 – Goes over the theoretical framework used for the development of the model and the understanding of both topics is presented. In this same chapter the initial conception of the model is showcased and explained as a conclusion of this literature review.

Chapter 4 – Following the presentation of the model, the practicalities on the research are presented, including the way on how it was proceeded during the data collection stage of the study. The strategy analysis is briefly discussed in this section as to guide the reader into the next chapter.

Chapter 5 – Goes over the presentation of the data gathered and describes in detail each case study collected, finalising with a summary of the findings in relation to the analysis strategy.

Chapter 6 – The next section starts by explaining in detail the analysis technique used and how it was formulated. Afterwards it jumps into the most relevant parts of the analysis for each theme identified and concludes with the relationship of each theme with the developed conceptual model.

Chapter 7 – As the last part of this research, the revised conceptual model is presented in the conclusions, where the research question is answered and other issues such as the validity of this study are discussed.
2. Research Philosophy

Understanding the impact of a research methodology, this chapter outlines the philosophical views upon the ones this investigation was built. In it, it is argued why those views were chosen and it is further described the course of action taken for the realisation of this study.

2.1 Pre-understanding and Axiology

Collis & Hussey (2009, p. 60) state the importance of being transparent on the values of a thesis. In this sense, this research is developed as part of the Master in Strategic Project Management (European) (MSPME) in which both authors are currently enrolled.

This programme is jointly offered by MIP Politecnico di Milano Graduate School of Business (Italy), Heriot-Watt University (UK) and Umeå University (Sweden) (MSPME, 2016, p. 6). The experience of studying in three different countries (Italy, UK and Sweden) emphasizes different teaching and working styles, giving a broad perspective of international project management (MSPME, 2016, p. 6). At the same time, it focuses efforts in the process of implementing organisational strategy and enhances the ability to make strategic decisions (MSPME, 2016, p. 13).

The specific characteristics of this master are recognised as an important source of values and ideas that directly affect the current research, and that are referred as preconceptions by Bickman and Rog (1998, p. 77). However, it is also recognised that as per the chosen ontology, these teachings provide a deep theoretical understanding of the project management discipline. The researchers are aware that this might guide knowledge about theories, concepts and organisations (Saunders et al., 2009, p. 151) and therefore the best effort is made to avoid biases, while being open to new discoveries and to challenge current perceptions (Bickman & Rog, 1988, p. 77).

Additionally, the authors recognise to have chosen the topic on the basis of their background and interests (Saunders et al., 2012, p. 137). As project management professionals and international master’s students, the authors share common qualifications, traditions and environment beyond the academic background. Both researchers are embedded in western values; culturally speaking, both are from Latin-American origins; and both are international business graduates with professional experience in international trade and logistics. Ultimately it is recognized that one author has first-hand working experience on project termination and the other one in benefits realisation management.

In this sense, the transparency of the authors profiles and values are done in an effort to showcase axiological skills (Heron, 1996, p. 11-12), acknowledging this study is value lade and biases are present, but with the aim of reducing them to a minimum through the use of reflectivity (Bryman & Bell, 2015, p. 394).

2.2 Research Approach

With the intention of exploring the concepts on project termination and benefits realisation management; identifying themes, explaining patterns and going back and forth between supporting existing theory and constructing new one; this research is to follow an abductive approach (Saunders et al., 2012, p. 145).

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In other words, a model is to be built which explains a project termination decision process with a benefits realisation management approach. In such construction, both elements of an inductive and deductive research are used (Saunders et al., 2012, p. 147). 

Ultimately elements of the strategic decision-making process theory, and project termination are to be sketched as part of a benefits realisation management model.

As per this goal, no hypothesis is tested, nor additional data is collected to test the model, thus not one approach (inductive or deductive) is used. Instead, current literature is used to draft a conceptual model and data is used to refine it (abductive).

In this sense, abduction is used to make logical inferences and to overcome the limitations of selecting a specific theory to be tested (from a deductive approach) and the difficulties on collecting a vast amount of data to enable theory-building (from an inductive approach) (Bryman & Bell, 2015, p. 27).

This process has started since the topic choice, as the authors encountered an empirical phenomenon (benefit realisation management in project termination) for which current theory didn’t provide an explanation (Bryman & Bell, 2015, p. 27). According to Mantere and Ketokivi (2013, cited in Bryman & Bell, 2015, p. 27) the aim of abduction is to select the best explanation from a range of different interpretations, highlighting the importance of cognitive reasoning. The research involves an on-going dialogue between the conclusions (results in Wuisman’s model), the theory (rules or laws in Wuisman’s model) and the data (cases in Wuisman’s model), by being constantly open to be surprised and requiring a creative leap (Wuisman, 2005, p. 381) (See Figure 1).

![Figure 1. Difference between induction, deduction and abduction. (Source: Wuisman, 2005, p. 381)](image_url)
As Wuisman (2005, p. 382-383) mentions, and being aware of the critics to this approach, such that the introduction of missing explanatory models does not prove anything, but could rather lay in a *fallacia consequentis*. It is argued that the results of this study are only part of a larger whole: “the cycle of scientific discovery”.

### 2.3 Ontology

As per the nature of reality, the operation of the world and the commitment to particular views (Saunders et al., 2009, p. 110) an objective standpoint is held in the sense that reality is independent but it is acknowledging that the objective world is interpreted through social conditions (Saunders et al, 2009, p. 119).

In this sense, critical realism plays an important role in this study as an ontology that is also a stand point for the chosen epistemology. As mentioned by Archer et al. (2016, p. 4) critical realism is conceived as a series of philosophical positions “including ontology, causation, structure, persons and forms of explanation”. This view implies there is a world out there independent from the observers, but contrary to naïve objectivists, it is socially constructed (however not entirely) and difficult to apprehend (Easton, 2010, p. 119-120).

A critical realism ontology is similar to the view of the Benefits Realisation Management discipline. Benefits are “improvements and increments in the business value” with influence in project and organisational performance (Serra & Kunc, 2015, p. 55) that provide real and valuable information for decision making (Chih & Zwikaël, 2015, p. 355). On the authors view, they are real and at the same time difficult to track and identify over time (Smith et al., 2008, p. 1455). A purely socially constructed view on the benefit wouldn’t be sustainable in this research as it would imply that the benefit cannot be used as a fact to decide on keeping the project alive or not, going against literature on project termination as Tarim (2013, p. 4).

The chosen ontology, also implies that reality is stratified in different layers of reality and perception formed by specific mechanisms that generate particular events actually taking place and that in turn are experienced (Wuisman, 2005, p. 368-369). In this research context, the partition of reality and objects of reality helps to better understand the project termination phenomena in a more structured way; where the project manager, staff and sponsor are the sensitive (first layer of reality), the event is the decision making on project termination (second level of reality), and the real and ultimate layer are the mechanisms and facts leading to project termination (See Figure 2).

It is only in this context that abduction becomes valid as to explain causation in the different ontological levels and therefore makes both ontology and research approach aligned and valid (Wuisman, 2005, p. 384) (See Figure 2).
If a model with this ontology and abductive approach is to be built, it means letting the factual world break through the complex stories created by the project participants (Easton, 2010, p. 120). In other words, while data is to be collected at an experience level (first layer of reality), the researchers are looking for the events and mechanisms (second and third level of reality). The analysis is carried out in all three layers, and it is concluded only on the mechanisms and facts on the project (third layer of reality).

2.4 Epistemology
Dealing with the question of what is perceived as acceptable knowledge (Bryman & Bell, 2015, p. 26) and considering the traditional paradigms (positivism and interpretivism) as a continuum (Collis & Hussey, 2009, p. 61). The researchers have chosen a middle point that can also be identified with critical realism. It is not to be forgotten that this view is a philosophical position rather than a single assumption or stance (Archer et al., 2016, p. 4).

Critical realism, situates as an alternative to positivism and interpretivism (Archer et al., 2016, p. 5). It argues that what is experienced are sensations of the real objects, not the things directly (Saunders et al., 2009, p. 590) as it recognises the objective reality and the events of the social world (Bryman & Bell, 2015, p. 29). This view matches previous perceptions on project termination as authors such as Tarim (2013, p. 4) haunt the question on terminating projects at a specific time, adding that there are facts (either qualitative, quantitative, financial or social) to do so. These facts are perceived as “the objective nature” in this study. While “the social view” and or “the sensation” comes from benefits realisation management and the psychological nature of decision making which is dynamic and with different meanings to various stakeholders (Chang et al., 2013, as cited in Chih & Zwikaël, 2015, p. 353).

Furthermore, if project termination is to be understood as a multidimensional issue with managerial rationalities only in the limit of their own complex project reality (Ewusi-Mensah & Przasnyski, 1991, p. 83), a critical realism epistemology will provide a
distinction between the object of the study (project experiences), the focus of the inquiry (project termination), and the terms used to describe, account and understand them (project mechanisms and facts, including BRM) (Bryman & Bell, 2015, p. 29).

Finally, the intended conceptualisation is only a way of knowing reality, accepting that the intended explanation and model delivered by this research is only to be provisional, it cannot be justified in an absolute sense, it is open to critique and that some theoretical terms might not be observable (Bryman & Bell, 2015, p. 29; Scott, 2005, p. 365).

2.5 Research Strategy

The research strategy is chosen in dependency with the nature of the object of study and the learning objectives (Sayer, 2000, p. 19). Nevertheless, with the intention of carrying out a critical realist and abductive study, Easton (2010, p. 123) offers two initial research strategy suggestions: extensive or intensive.

Due to time constraints an extensive approach, in which large scale surveys and statistical analyses are needed (Easton, 2010, p. 123) is not possible. Furthermore, no hypothesis to be tested and discriminated have been made, meaning such a quantitative approach would not be suitable. On the other hand, and intensive study focuses on individual in contexts through the use of interviews, ethnography and qualitative analysis (Easton, 2010, p. 123). This intensive and qualitative strategy is considered the most suitable according to the previously stated purpose of this study and to gain a deeper understanding of project termination and its relationship with benefits management that ultimately will help to draw a model on the topic.

Additionally, it is believed that the best way to answer the how research question is a qualitative study in which there’s no numerical data. It is important to mention, the use of a rhetorical assumption of accepting qualitative terms and limited definitions as we encounter that the leading decision-making factors in project termination decision are those of behavioural, psychological, political and organizational nature (Ewusi-Mensah & Przasny, 1991, p. 67, 83; Pan & Pan, 2006, p. 640).

A qualitative approach is in line with an abductive process of simultaneously studying different perceptions that will draw patterns for the developing of understanding with accurate and reliable findings through verification (Collis & Hussey, 2009, p. 58). Furthermore, while extracting rich qualitative data and detailed explanations it will be possible to “gain full access to the knowledge and meaning” of those involved in the phenomenon and in consequence raising the validity of this study (Collis & Hussey, 2009, p. 65).

2.6 Research Design

The use of a comparative multiple-case study in project-based organisations is to be used as it allows to explore and understand the topic (Collis & Hussey, 2009, p. 82); it can be associated with both theory generation and theory testing (Bryman & Bell, 2007, p. 71,75) and offers an opportunity to learn in the process as the authors embark in an unknown journey (Stake, 1995, cited by Bryman & Bell, 2007, p. 68).

This comparative multiple case study – indeed, a mixture of case study and comparative design (Bryman & Bell, 2007, p. 74) – retains a contextual insight while it distinguishes
characteristics (Bryman & Bell, 2007, p. 71,75). Therefore, it follows general trends in the project management literature which have an increased focus on the context and details of organising (Hällgren et al., 2012, p. 695).

It is important to mention that since the study will be carried at a single point in time; similarities with a qualitative cross-sectional study (another possible research design), could be drawn (Bryman & Bell, 2015, p. 74).

Furthermore, being intensive in a comparative case study, implies that it is possible to study a small number of cases when the analysis reconstructs complex, contingent and the conjunctural nature of causality, and thus overcomes the problem of incommensurability (Archer et al, 2016, p. 7).

In its practical implications, the comparison among different industries and types of projects will mean the need to become familiar with the object of study and to build “separate descriptions of events, opinions and phenomena, which will be used to identify patterns” (Collis & Hussye, 2009, p. 83). This study will only be successful if it draws and compares these concepts among different projects that were terminated or escalated. However, it also means a requirement to understand the subject’s understandings (Easton, 2010, p. 124).

Therefore, the intended level of analysis is at a project level, but recognising that decisions about one project are likely to influence other projects, the program and in fact the company’s strategy (Serra & Kunc, 2015, p. 54). The research follows a holistic view in strategic project management for the creation of value, after all “no project is an island” (Engwall, 2003, as cited in Laursen & Svejvig, 2016, p. 789).

2.7 Literature Search & Study

Existing literature has helped in identifying the gap to be studied and in the design of the appropriate philosophy and data collection methodology for the research question (Hart, 2001, p. 3).

As noted by Collis & Hussey (2009, p. 91), all the literature used can be regarded as a source of secondary data, which in this case, it is collected from sources such as: (1) books on the topic and on methodology; (2) research reported in articles, conference papers and reports; and (3) coverage of the topic in professional journals.

Acknowledging the vast amount of information to be reviewed, “a collection of theories and models from the literature” was used to build an initial theoretical framework (Collis & Hussey, 2009, p. 92). This theoretical framework is the basis for the abductive process of this research and was selected after applying a systematic procedure for the literature search.

Thus, the systematic procedure established for the literature search was built as suggested by Hart (2001, p. 22). The first step was to define the key terms to be research as “Project Termination”, “Decision-Making” and “Benefits Realisation Management”.

Secondly a “literature search profile” (Hart, 2001, p. 10) was developed, in which the main reference tool in the discipline was recognised as academic books and scientific journal articles; only English written material was to be considered, and the topic was
limited to not include linked issues such as: project closure phase, exit strategy, project failure, product development, market withdrawal, etc. Additionally, with the use of a thesaurus, a list of key words relevant to the search was made.

Thirdly, the search for material was organized as to commence by using universities’ search engines, akin Umeå University Library (Umeå Universitet) and Discovery (Heriot-Watt University). Then, search on databases as: ProQuest, EBSCO, Emerald Full Text, JSTOR Business and Science Direct; as well as management journals: Project Management Journal, International Journal of Project Management, Journal of Management Studies, etc. Furthermore, the search was expanded to the collections of specialized institutions in the discipline like the Project Management Institute (PMI), Association for Project Management (APM) and the International Project Management Association (IPMA), highlighting that these ones were the most effective sources of information. Also, important to notice is that serendipity – “the fortuitous accidental find” - was vital for the development of the search (Hart, 2001, p. 22).

Being the fourth step of this literature search to select the items to be reviewed by establishing proper and adequate selection criteria. The retrieved material was assessed on the base of their authority (published by a reputable publisher), seminal (or core texts, who have significantly developed the topic) and relevance (topic within the purpose of the review) (Hart, 2001, p. 26).

In this way, for the analysis of the article’s authority, the SCImago Journal Rank (SJR) Indicator was used. This indicator, developed by the Consejo Superior de Investigaciones Científicas (A joint council of the University of Granada, Extremadura, Carlos III and Alcalá de Henares), separates the journals in quartiles, depending on their influence, impact and prestige (SCImago, 2007); only Q1 and Q2 material was chosen. The articles’ seminal was addressed by the review of reference lists and the identification of those authors and papers constantly mentioned, which added to the comprehension of the topic in way that wasn’t done before (Hart, 2001, p. 27). Lastly, the list was refined by reading all abstracts, identifying the articles’ key words and excluding those that 1) were not based in a project management approach or 2) focused on side-issues in project management.

The product of the literature review is the next chapter: 3. Theoretical Framework. Which presents the collection of models and theories used to draft the initial conceptual model. Such theories were chosen in the basis of them providing a general understanding on both topics (Project Termination and Benefits Realisation Management) as well as if they mentioned one another.
3. Theoretical Framework

Throughout this chapter, the theories and concepts related to the research scope, questions and purpose of this paper are presented in detail. Initially, different aspects of Project Termination and Benefits Realisation Management are explored. This background theory serves as an understanding of both project management disciplines and consequently is used to develop the conceptual model on project termination with a benefits realisation management approach.

3.1 Literature Review Approach

On one hand, premature project termination draws from diverse areas of study (i.e. project management, decision making, psychology, etc.) (Brockner, 1992, Keil, 1995, Shore 2008 and Staw, 1997 cited by Werner, 2012, p. 2). While project management principles are applicable to every project, even if it is successful or not; project termination is commonly referred as a psychological issue (Werner, 2012, p. 2) whereas decision makers have to decide on troubled projects with inaccurate feedback, a rejection to negative information, and sometimes a refusal to take corrective action by the project team (Pan & Pan, 2006, p. 641).

Similarly, benefits realisation management is also a multidisciplinary technique, that covers aspects of stakeholder management (Khampachua & Wisitpongphan, 2014, p. 254), change management (Yates et al., 2009, p. 224), controlling (Remenyi & Sherwood-Smith, 1998, p. 83) among others.

In order to tackle the immense task of generating a thorough understanding on both disciplines; academic textbooks, peer reviewed journals and official institutional material on different project management methodologies (i.e. PMI, APM, PRINCE2) were studied in the development of this review. Conference papers, popular literature, thesis and the internet were pathfinders to more relevant sources, therefore it is only cited when they are used as an entry point or an example to a substantial argument. Further detail on the selection of literature has already been presented in Chapter 2. Research Philosophy.

The review is organised in a way it initially explores Project Termination in terms of decision-making and as part of the general project management disciplined. Followed by a prolegomenous comparison of different BRM theories, models and processes, and then explaining our proposed conceptual model.

3.2 Project Termination

3.2.1 Literature Overview

The study on project termination has widely evolved in the last 30 years. While initial authors such as Meredith (1988), Shafer & Mantel (1989), etc. present mathematical models to help decision making, more recent researchers as Unger et al. (2012), Havila et al. (2012), Shepherd et al. (2014) and Lechler & Thomas (2015) provide deeper insights into topics such as the role of senior management, the competencies of project managers while handling terminations and the impact of such decisions on the project team members. Such beliefs are reaffirmed in the literature, authors such as Pan and Pan (2006, p. 640) mention how the topic has shifted from the study of technicalities to an organisational view.
Additionally, a major drift in the topic is that until recently, termination decisions have been only studied at an individual project level (Lechler & Thomas, 2015, p. 1452); it has been authors such as Unger et al. (2012) and Lechler & Thomas (2015) who have broadened the topic to mention the importance of project termination as part of project portfolio management and in consequence it’s importance in terms of corporate strategy (Unger et al., 2012, p. 676).

It is precisely in the area of Project Portfolio and Programme Management where the first decision making models on project termination start to emerge. As it is during the portfolio balancing process that organisations decide to terminate projects (PMI, 2013, p. 4-5).

Nevertheless, confusion in the perception of project termination either as a type of project selection in a portfolio (Shafer & Mantel, 1989, p. 26) or as a subset of project failure (Pan & Pan, 2006, p. 640; Ewusi-Mensah & Przasnyski, 1991, p. 68) are present throughout the literature. In this sense, this paper takes the position of Balachandra & Raelin (1980, 1984, 1985 as cited in Shafer & Mantel, 1989 p. 23) and Shafer & Mantel (1989), acknowledging that while “project selection models, perhaps somewhat modified, are appropriate for the termination decision” they shouldn’t be applied to a termination decision as the project environment and stage changes, different data is applicable and selection models tend to be too complex and expensive for this decision (Shafer & Mantel, 1989, p. 27).

Furthermore, the researchers commonly refer to the limited research on project termination decision, in spite of being one of the most difficult management decisions (Meredith, 1988, p. 31; Shafer & Mantel, 1989, p. 23; Kumar et al., 1996, p. 273; Pan & Pan, 2006, p. 639).

It is important to mention that during the literature search and references analysis, the authors noticed a great amount of information dating from the 1980’s, subsequently a decrease in material on the 2000’s and once again a renewed interest during the 2010’s. Such impression was confirmed as Martinsuo, 2013 (cited by Lechler & Thomas, 2015, p. 1452) explained that the attention brought to the topic was in line with its recognition within portfolio management.

### 3.2.2 Identified Reasons to Terminate a Project

Common ground was founded in the reasons as why organisations decide to terminate projects. In general, authors refer to breakdowns in client or vendor relationships, a change in customer needs, unpredictable difficulty, lack of funds (Spirer, 1984, p. 73), cost overruns, schedule slippages, technical difficulty, and behavioural, political or organisational issues (Ewusi-Mensah & Przasnyski, 1991, p. 67).

An important differentiation on such reasons was noted by Balachandra & Kauffmann (1988, p. 140), who divided critical termination factors into exogenous (i.e. government regulations, raw material availability and market conditions) and those that are a function of the project (i.e. probability of technical success).

Moreover, De (2001, p. 119), offers a unique view as he considers these issues as a series of effects which are linked and reinforced. He explains that cost over-runs usually come
as a direct result of time over-run, which is caused by and generates stress on the project team, tarnishing their credibility, and therefore reinforcing the project termination.

In this sense, studies such as the one by Ewusi-Mensah & Przasnyski (1991, p. 67, 83) and Pan & Pan (2006, p. 640) state that the dominant factors leading to the project termination decision are those of behavioural, political and organisational nature; and to a lesser extent economical and technical issues.

Revising on whom it affects more, research in the Indian Industry shows that project termination is equally severe in private and public-sector companies, contrary to popular conceptions about the laxity of public sector companies (De, 2001, p.119). This is because the topic is complex in nature, and it is not considered an easy task (De, 2001, p. 119).

3.2.3 Roles and Responsibilities in Project Termination
While Shafer & Mantel, (1989, p. 24) mentions project termination as a task of the project manager. There seems to be a general consensus stating that the authority to take such a decision relies in the project sponsor or in the senior executives who authorised and have control over the investment, and who make long term decisions that affect the future of the organisation (Ewusi-Mensah & Przasnyski, 1991, p. 69).

Unger et al. (2012, p. 679) call for senior management to insert strategy in the project portfolio, and by citing Kleinschmidt (2004) and Swink (2000), state that they support the project in two ways: “passive support” – concerned with the allocation of resources – and “active support” – when they are involved as project champions.

Nevertheless, it is recognised that too much senior management involvement could lead to ineffective project termination (Unger et al., 2012, p. 681). Dysfunctional executive advocacy has a negative influence on the quality of the project termination decision (Lechler & Thomas, 2015, p. 1452). The inclusion of structural factors to diminish such influence is offered as a solution by Lechler & Thomas (2015, p. 1462).

Another important stakeholder to consider in this process is the project team. Indeed, there are important differences in reactions to project failure from “those who own the option and those who are the option” (Shepherd et al., 2014, p. 514). Psychological reasons to avoid project termination can be presence of negative emotions as the thwarting of career opportunities, no emphasised learning, fear of losing their job. However, it is also recognised that from a cognitive viewpoint, the timing of the decision impacts organisational and personal learning (Shepherd et al., 2015, p. 513).

3.2.4 Termination Decision Making Process
As mentioned in the introduction, different approaches have been identified. They vary in depth and methodology. Some of them are systemically and mathematically built (Kumar et al., 1996; Shafer & Mantel, 1989), others are expressed as question to be asked (Meredith, 1988) and lastly others are developed as tools for project monitoring and their likely of success (Tadisina, 1986).

Notwithstanding, it has been proven that adopting a termination decision process, which includes formal decision criteria and decision committees have positive effects in the quality of the termination decision (Lechler & Thomas, 2015, p. 1452). On this wise,
there is a call to develop a framework to aid managers on deciding to abandon or not a project in its various stages (Kumar et al., 1996, p. 273).

Meredith (1988, p. 32) and Ewusi-Mensah & Przasnyski (1991, p. 84) argue that such analysis must be systemic with the aim of serving to “recognize the incompleteness of our understanding” in the topic, as experience is gained and the manager’s ability to make the correct decisions is improved.

However, there are discrepancies among the literature on the notion of the criteria to use in such models, the use of thresholds, the inclusion of multiple indicators and even having a single model for project selection and termination.

While Shafer & Mantel (1989, p. 28) argue that any model criteria should be “a direct a unique expression of organizational policy”; Spirer (1988 p. 75) and Kumar et al. (1996, p. 277) are examples of opposite views that define specific criteria to be evaluated. Regarding the conflict on having one model for selection and termination, the most accepted argument is from Kumar et al. (1996, p. 277) who defends that these are decisions made at different points in time and therefore must consider different variables.

Nevertheless, it is to be remembered that the ultimate focus of this research is to use the project benefit as the criteria for monitoring the project and deciding on its termination or continuation (Boehm, 2000, p. 96).

The common step after setting the criteria is to evaluate it. However, Tadisina (1989, p. 103) mentions that the focus of the evaluation should be on the trend on how the project is performing rather than just a single result, as usually early assessments tend to be biased.

After, the project is evaluated a decision can be made. The possible outcomes that might result from such decision are: 1) continuing the project, if it is performing as it is expected; or 2) terminating the project, if the trend is unsatisfactory (Tadisina 1989, p. 98; Shafer & Mantel, 1989, p. 27). Nevertheless, it is also recognized that uncertainty can appear in the process and thus Shafer & Mantel (1989, p. 27) suggests carrying out a sensitivity analysis as to find out what is the problem causing such uncertainty and Tadisina (1989, p. 98) mentions that if management is to intervene they could focus on the specific areas or elements where the unsatisfactory progress was noticed.

Till this moment, the generalities of the project termination process have been understood. However, it is of particular interest to gain a deeper understanding on the decision-making process per se, being Werner (2012) who proposes a wider research framework to study decision-making in project termination. See Figure 3. Werner’s Research framework for project termination and escalation of commitment decision making (Source: Werner, 2012, p. 12).
Figure 3. Werner’s Research framework for project termination and escalation of commitment decision making (Source: Werner, 2012, p. 12)

In line with the rest of the literature, Werner (2012, p. 11) also states that project termination decisions are usually made in the context of a portfolio of projects. And thus, starts and ends his model with a link to the project portfolio selection.

After project selection, comes project performance, the stage where the work on the project is actually being done and connects it to the project portfolio as the last one is fed with information from the projects for further project selection and termination of projects (Werner, 2012, p. 5).

However, when the specific information on a project is retrieved to the decision-maker, it is framed in a particular way which affects the decision to be made (Werner, 2012, p. 11).

Werner takes inspiration for the rest of his model from Mintzberg et al. et al. (1976) theory on strategic decision making. The reason for doing so, and again in line with other authors such as Lechler and Thomas (2015, p. 1452) is that terminating a project could affect the whole of an organisation as strategy is translated into projects (Werner, 2012, p. 4).

In this sense, one model cannot be explained without the other one, and thus Mintzberg et al. (1976) model on strategic decision making will be only explained the relevant areas that concern to the researchers and to Werner (2012), however it is completely visible in Figure 4. Mintzberg et al.’s General Model of the Strategic Decision-Making Process (Source: Mintzberg et al., 1976, p. 266).

Mintzberg et al. (1976) mentions three general phases part of the decision-making process Identification, Development and Selection. Each of them englobes different activities that
are carried out in each stage. Werner (2012), takes exactly the same concepts and translates them to a project termination environment.

In the first phase (Identification), includes the previously recognised need for a decision. In this case, it is about the project’s future (Werner, 2012, p. 12). In this activity Mintzberg et al., (1976, p. 252) mentions that opportunities, problems and crises are recognised and evoke decisional activity, starting by a diagnosis to comprehend what is causing such situation, what determines the action to start this decision-making process is the stimuli of an action plus an action threshold.

The following diagnosis, goes over the reasons of why the project is failing (Werner, 2012, p. 12). Diagnosis is not always a formal process; indeed, it would depend on the situation as if it is evident or if further study is required (Mintzberg et al., 1976, p. 254).

After diagnosis, the decision-making process jumps to the development phase. Named by Mintzberg et al. (1976, p. 255) as the “heart of the decision-making process”, it is the set of activities that direct to the development of one or more solutions. Search refers to ready-made solutions, and design to those ones that have to be formulated in accordance to the specifics of the situation. In the project termination case they seem to be obvious, to terminate or to continue the project (Werner, 2005, p. 11), however as it is explained in this paper they might not be only outcomes.

Selection phase starts with the screen routine, however Werner (2012) ignores it without explanation. A possible reason for doing so, is that it is described as a superficial routine that relates to eliminating alternatives (Mintzberg et al., 1976, p. 257). In project termination the answer seems to be straight forward, as the aim of the termination decision-making process is precisely to terminate or not.

Werner (2012) does mention the following three activities: Judgement, Analysis and Bargaining. As part of the selection phase, and the last part of the decision-making process, selection involves the series of sub decisions made prior opting for one option over another. Thus, judgement, analysis and bargaining are these sub-decisions: judgement are the individual decisions made in the own decision maker minds, they can perhaps be explained or not; bargaining concerns to those situations where consensus tried to be reached in groups by the individuals exercising their own judgement; analysis is for those cases where factual evaluations are carried out but it is also followed either by bargaining or judgment as per the situation (Mintzberg et al. 1976, p. 258).

In this activity, Werner (2012, p. 12) argues that psychological determinants are present and influence the selection. Additionally, he further includes different decision-making models and theories that in many situations can explain on the options decided, however their inclusion on these documents falls out of the purpose of study.
Figure 4. Mintzberg et al.’s General Model of the Strategic Decision-Making Process (Source: Mintzberg et al., 1976, p. 266)

Because of its complexity, there are also different problems that arise on the termination decision process. De (2001, p. 124) also mentions that these problems are a result of insufficient emphasis on success factors, project audit, contingency plans and lack of proper communication mechanisms. And thus the most relevant issues for this research are presented in the next section.

### 3.2.5 Issues in Project Termination

In the scope of project termination, two non-desirable possible outcomes that the literature mentions: one is escalation of commitment – defined as the continuation of an investment project after receiving negative signals – (Chulkov & Desai, 2008, p. 324) and the opposite problem is the premature termination of a project that should be continued (Drummond, 2005, p. 170).

Escalation of commitment or premature termination are due to several psychological determinants, either in an individual or in a collective way (Werner, 2012, p. 7). Their consideration is relevant to the research as constant attention to them has to be paid during the data collection and analysis. Furthermore, they need to be understood and addressed in the model to be built if the aim is to reach the best outcome in the project termination decision-making process.

This section, aims to explain in detail each of these issues identified in the project termination literature:
**Escalation of Commitment**

Escalation of commitment is a problem that cannot be overlooked as it can be considered the main reason for not stopping projects that are bounded to not deliver any value (Werner, 2012, p. 1), and the cause for the extensive losses from non-terminated projects that failed delivering their benefits (Chulkov & Desai, 2008, p. 324).

The topic is often perceived as a puzzle, a decision error made by the manager (Chulkov & Desai, 2008, p. 324). Literature commonly refers to decision making mistakes ranging from missing termination criteria (Kumar et al., 1996, p. 276), “reluctance to terminate, misunderstood probabilities and personal biases” (Lechler & Thomas, 2015, p. 1453). Thus, the escalation phenomenon is influenced by: “project, psychological, social and organizational factors” (Pan & Pan, 2006, p. 640).

Staw (1997, p. 209) presents a model that explains escalation of commitment with a number of determinants (psychological, social, organisational and contextual). Such determinants are a combination of economical and psychological factors and are relevant to this study as they affect the decision maker’s ability to terminate a failing project “in the interest of the organisation performing the project” (Werner, 2012, p. 2).

In this sense they cannot be left out, but they rather have to be acknowledge at the moment a course of action is judged, analysed and decided for a project based on the created psychological state (Werner, 2012, p. 11-12).

While the topic is intrinsically related to project termination, Northcraft & Wolf (1984, cited by Werner, 2012, p. 3) mention that it is not always the case, as “escalation of commitment is not a problem when clear-cut financial information is available” to the decision maker.

**Premature Project Termination**

Premature Project Termination is a more recent strand of research where there is a decision error of stopping a project that “should be continued based on an optimal economic” ground (Drummond, 2005, p. 170)

Experts have warned about complacency over the risks associated with project failure. Furthermore, while some projects have a rapid termination, others seem to be on a “death-path” over an extended period of time (Shepherd et al., 2015, p. 514).

In this sense, an important concept is raised: Project Termination Quality – how well the termination decision is executed and its effectiveness in the cancelation process (Unger et al., 2012, p. 678). This quality is relevant in terms of accuracy and timing. Accuracy as if the cancelation was justifiable and timing as if it wasn’t made to soon or if it was (Lechler & Thomas, 2015, p. 1453).

Accuracy is also addressed by Drummond (2005, p. 170). An important critic to project termination is in not going too far as cancelling or never starting projects with potential. This is further reinforced by Kumar et al. (1996, p. 273): a wrong decision to terminate a project may give “a big competitive edge to competitors”. On this wise, organisations must question which projects are worth the risk of failure, and if there’s not more to be lost by not taking the risk; business migrate quickly and the opportunity cost of premature termination might be even higher (Drummond, 2005, p. 175).
**Psychological Determinants**

A number of different studies (Werner, 2012; Staw 1989) mention that the decision to make a project is usually surrounded and influenced by a number of psychological determinants which makes the decision makers to not turn away when their investment is not performing as they expected (Werner, 2012, p. 16). Among the most relevant are: optimism and illusion of control, sunk cost effect, project completion hypothesis and entrapment.

Sunk cost effect is probably one of the main psychological determinant contributor. It is defined as a cost incurred that shouldn’t be considered for a future new-investment decision (Amos, 2007 as cited Werner, 2012, p. 7). This issue mainly focuses in the situations where financial information on the project is available, the decision maker perception goes into thinking that action should be still carried on because a cost has already been incurred even when there is a clear indication that doing so would mean greater financial loses (Werner, 2012, p. 7).

Self-justification talks about the condition when upon failure, the decision-maker instead of changing its behaviour, cognitively distorts the conditions and consequences of his decisions as to appear rational, being reluctant to admit prior mistakes (Werner, 2012, p. 7).

The psychological determinant named as project completion hypothesis, talks about the condition when approaching the end of the project, the goal is substituted from its original focus to plainly completing the project for the sake of doing so (Werner, 2012, p. 7).

The human-being has a tendency to be optimistic, especially when facing negative situations. In general, it is common that the individuals over evaluate themselves and their abilities to perform and control situations. In the case of project termination, the managers and the staff might feel in control of a decadent situation, and somehow affect it to become positive, even when evidence shows the other way around (Werner, 2012, p.8).

Last but not least, entrapment is also a common characteristic present in escalation of commitment and premature project termination. Entrapment refers to the act of “face saving” that management pursues as to safeguard their reputation (Werner, 2012, p. 8).

### 3.3 Benefits Realisation Management

**3.3.1 Literature Overview**

Among the literature, authors use different terminologies to describe the phenomenon of the management of ‘benefits’, these defined as “the measurable improvement resulting from an outcome perceived as an advantage by one or more stakeholders, which contributes towards one or more organizational objectives.” (Jenner, 2012, as cited in Letavec, 2014, p. 3). Some authors use the term benefit management (Badewi, 2016; Zwikael & Chih, 2014, p. 1) while others use the term benefit realisation management (Serra & Kunc, 2015, p. 53; Smith et al., 2008, p. 1442), both terms according to Laursen & Svejv (2016, p. 736) are sometimes used interchangeably. The literature suggests a close relationship between the terms BRM, value creation (Zwikael & Smyrk, 2012; Andersen, 2014), and project success (Doherty et al., 2012; Serra & Kunc, 2015). Definition on BRM also varies among different contexts, and industries, but most follow the same line of thinking that BRM is a process that realises, prepares and manages
planned benefits through change (Yates et al., 2009, p. 224). PMI (2017, p. 3) defines BRM as a “collective process of identifying benefits at the outset of a project and ensuring, through purposeful actions during implementation, that the benefits are realized and sustained once the project ends.”

The literature demonstrates a change in the terminology from project success and traditional project success criteria to a BRM approach. From 1960s to 1980s the view on project success was focused mainly on the iron triangle (time, cost, and quality). From 1980 there was a shift, broadening the concept of project success by looking beyond the iron triangle and accepting other criteria such as benefits (Ika, 2009, p. 11; Atkinson, 1999). By this time, the term BRM originally developed, between the 1980s and 1990s, in order to understand IT return on investment as these were not achieving the expected benefits (Bradley, 2006 as cited in Breese, 2012, p. 341). From 2000s project success titles dry out and more attention was given to benefits management research (Laursen & Svejvig, 2016, p. 740).

BRM field, is still in its infancy, except on the IT/IS field (Breese, 2012, p. 348) in which according to the literature review, most of the work has been developed on models and tools to guide the practice. To date, there is not enough evidences suggesting that companies are putting BRM into practice, probably due to the lack of consistency in the definitions developed (Breese et al. 2015, p. 1438), absence of a formal benefit identification process, since there is no single approach with a proven success record, not having the right people involved, and lack of guidelines (PMI, 2016a, p. 7, 12-13). According to a research conducted by PMI (2016b, p. 7), 83% of organisations lack maturity with their benefits realization. Despite this, there is a growing attention to BRM and this is becoming more relevant in different disciplines and professions (Breese, 2012, p. 341). More and more organisations are recognizing the need of having a BRM process in place and are taking steps toward implementing a BRM process throughout the project life cycle (PMI, 2017, p. 3, 8).

3.3.2 Relevant Benefit Realisation Models

Due to the increase recognition of the importance of BRM within different sectors since 1995, various approaches and models have been developed to help organisations identify, monitor and ultimately achieve the benefits they originally planned to realise (Yates et al., 2009, p. 224).

Comparison of different BRM models

Even though, there is not one single widely accepted BRM approach that should be follow among organisations (PMI, 2017, p. 8), there are many different theoretical methodologies for BRM process or for one or several phases in BRM that can be found in the literature review either developed in research or in practice. After reviewing the literature review on BRM and some of the methodologies developed by other authors to BRM, 7 articles and 2 books were shortlisted based on a) number of times mentioned and cited by other authors, b) relevance on BRM process with somewhat identified phases. An excel table (see Appendix 1 for BRM models comparative table), was develop further analysing these 7 articles and 2 books. After the analysis, it was concluded that the majority are mainly focus on the IT sector, they differ on points of view regarding roles and accountabilities in the BRM process, and have somewhat similar phases among
themselves and with project management methodologies, which are: 1) Benefit Identification, 2) Benefit Planning, 3) Benefits Realisation/Monitor, 4) Benefit Evaluation, further explained below and taken into consideration for the development of the conceptual model.

The nine approaches and processes for BRM shortlisted from the literature review are discussed below:

This is a framework for measuring benefits in IT construction, that has been validated in three UK construction organisations. It is based on the principle that benefits realisation must be managed by: planning for strategic alignment and business-driven exploitation, managing the process of predicting benefits, and by measuring resulting benefits after a system or innovation is implemented. Three distinct types of benefits are identified within the new framework associated with business efficiency, business effectiveness and business performance. The process contains 8 stages which can be perform several times in a loop, among these: benefit identification, benefit realisation and benefit evaluation. Highlights the importance of allocating responsibility for benefits management but not who should be responsible.

**Operation of Realizing Benefit in Information Technology (ORBIT) (Khampachua & Wisitpongphan, 2014)**
The framework focuses on users’ acceptance and it identifies key milestones, activities, and stakeholders that should get involved in each of the four phases of the Information & communications technology lifecycle: planning, realization, exploration, and evaluation. The framework has been applied in an extension service at Diary Farming Promotion Organization of Thailand. It identifies roles and responsibilities of each key stakeholder specifically to this case study but not for projects in general.

**Benefits Realization and Management Framework (Yates et al., 2009)**
This framework was developed focusing upon capital investments within healthcare infrastructures. It has been tested through case studies at different stages of the lifecycle of a healthcare program, and comprises four phases: 1) benefits management strategy & benefits realisation case, 2) benefits profile & benefits mapping, 3) benefits realisation plan, 4) benefits evaluation and review. The framework promotes stakeholder’s involvement and understanding through collaborative environments, but don’t mention specific roles and accountability for benefit realisation.
**Active Benefit Realisation (ABR) (Remenyi & Sherwood-Smith, 1998)**

This process was developed to manage IS development based on an iterative formative evaluation process (evaluation and learning). This process requires active participation from the primary stakeholders in which there is a review that everything is in course to realise the benefits and there is an agreement to proceed. The process requires a direct and continuous focus on business benefits realisation. It enables the finally delivered information system to support the business or organisational objectives by realising the expected information systems goals or outcomes. The process comprises a series of steps: 1) Initialisation of project, 2) Production of pictures, 3) Agreement to proceed, 4) System development, 5) Evidence collection, 6) Review and learning, and 7) Development of Updated Pictures.

**The Benefits Realization Capability Model (Ashurst et al., 2008)**

This conceptual model was populated through literature review and studied in an empirical examination of 25 IT projects. This stakeholder oriented model of a benefit realisation capability is enacted through competences and underpinned by practices that support the effective management of benefits. The four competences identified in the model are: 1) benefits planning, 2) benefits delivery, 3) benefits review, and 4) benefits exploitation. The study revealed not real evidence of identifying benefit owners, or stakeholders’ roles and responsibilities. The authors suggest this model to be further explore and validated through future studies.

**The ‘Best Practice’ framework for benefits realisation (Ashurst & Doherty, 2003)**

Best practice model for benefit realisation management in IT investments is a continuous process through an evolving organisational context. The model consists of three phases: 1) benefits planning, 2) benefits delivery, and 3) benefits review. Benefits realisation capability and benefits realisation learning are discussed, which will facilitate the effective management of benefits and contribute to their success. The research concluded that business owner and sponsor are sometimes identified but their roles and responsibilities were not clearly stated.

**Benefits Management Lifecycle (Melton et al., 2008)**

Set of tools and methodologies to incorporate benefit management in project management and the project lifecycle. Is intended to support engineers managing project benefits within the process industries with a more in-depth look at the first and final value-added stage in a project. The process is divided in three stages: 1) benefits concept, 2) benefits specification, 3) benefits realisation. The assignment of roles and responsibilities are discussed but not clearly identified, it mentioned the project sponsor as the one accountable for the realization of the benefits.

**Benefit Realization Management process (Letavec, 2014)**

Provides a practical introduction to the fundamental principles of benefit realisation management and practical information on how to implement these key concepts in an organisation. The process entails five phases: 1) benefits identification, 2) benefits analysis and planning, 3) benefits delivery, 4) benefits transition, 5) benefits sustainment. The roles and responsibilities for the stakeholders involved in the BRM process are described.
The paper reports the research findings into the process of benefits management by project managers in IT projects in Perth, Western Australia. The following steps of benefit management methodologies found in the literature review were used by the authors to conduct the research: 1) benefits identification, 2) benefits realisation planning, 3) benefits monitoring, 4) benefits realisation. The findings suggest responsibility for delivering benefits or stakeholder actions are not articulated.

**Phases in BRM**

After a thorough analysis of the literature review on BRM theoretical methodologies, and after the development of a comparative excel table among these methodologies, we concluded that although they have some differences they have somewhat similar phases that are followed among these BRM methodologies. These four similar phases are:

1. Benefit Identification
2. Benefit Planning
3. Benefit Realisation/Monitor
4. Benefit Evaluation

**Benefit Identification** – The identification and formulation of target benefits is the first and most critical step in the BRM process (Chih & Zwikael, 2015, p. 352) as this leads to more informed project selection decisions (Zwikael & Chih, 2014, p. 1) and to an ongoing project performance review (Chih and Zwikael, 2015, p. 352). Top benefits are identified and a benefit management strategy is develop forming the base of the benefit realisation case (business case) (Yates et al., 2009, p. 230). Always keeping in mind, the alignment of the intended benefits with business strategies and objectives (Ashurst & Doherty, 2003, p. 2-3). The development of metrics and measures for the identified benefits it’s also formulated (Letavec, 2014, p. 51) as well as identifying primary stakeholders (Remenyi & Sherwood-Smith (1998, p. 83).

**Benefit Planning** – This step formalises the BRM process by quantifying the identified benefit metrics, and establishing the process for monitoring benefits (Letavec, 2014, p. 10, 67). Detailing and formalising specific metrics, KPIs, and measurement mechanisms (Remenyi & Sherwood-Smith (1998, p. 89) to support benefit realisation in its life cycle (Letavec, 2014, p. 61). A key aspect is to assign roles and responsibilities to team members, who will be in charge of delivering those benefits, and who will receive them (Khampachua & Wisitpongphan, 2014, p. 257).

**Benefit Realisation/Monitor** – Ensuring benefits are actually realised by active and regular monitoring of benefits realisation is an important step to ensure benefits are being achieved during the project (Bennington & Baccarini, 2004, p. 22). At this stage, previously identified benefits are measured and tracked and emerging ones are incorporated through data collection and measurement (Yates et al., 2009, p. 230). Benefits must be monitor during the project life cycle and documented at a final stage in a way that allows comparison with predictions to allow post benefit evaluation and learning (Andresen et al., 2000 p. 64).

**Benefit Evaluation** – Evaluate if the project delivered the benefits that were planned in the beginning (Khampachua & Wisitpongphan, 2014, p. 257) and that those benefits are
actually realised at and beyond project completion (Bennington & Baccarini, 2004, p. 22). Ensure the long-term delivery of the benefits not only after the project ended, as benefits may come operational when stakeholders used the project delivered or as they become experience in its use (Ashurst et al., 2008, p. 9). Potential for further benefits to be realized are identified, including lessons learned (Ashurst & Doherty, 2003, p. 3) and further learning opportunities for improvements in future projects (Fitzgerald, 1998, p. 26).

Once the most relevant theoretical methodologies and the most common phases for BRM process were identified, the Active Benefit Realisation (ABR) process, explain below, was chosen by the authors as the best model to elaborate upon the conceptual model, since it is one of the most cited authors, it comprises all the previously explained BRM phases and it possess several unique characteristics discuss below.

### 3.3.3 Active Benefit Realisation (ABR) (Remenyi & Sherwood-Smith, 1998)

One of the most cited BRM process found in the literature review is the Active Benefit Realization (ABR) process developed by Remenyi & Sherwood-Smith (1998). It requires a direct and continuous focus on business benefits realisation, and is recognized as re-iterative in nature, and as a dynamic process of constant change in the activities, tasks and participation of stakeholders. It describes a set of 7 iterative steps (1. Initialisation of project, 2. Production of pictures, 3. Agreement to proceed, 4. System development, 5. Evidence collection, 6. Review and learning, 7. Development of Updated Pictures) based on continuous and participative evaluation and learning process during the duration of the information system (IS) investment project with the aim of increasing the business benefit delivery, reduce waste, and reduce time to market. Thought to be participative in nature, stakeholders are identified in the onset of the project and they agreed with their continuous involvement.

There are four notable characteristics derive from this process. 1) The possibility of project termination as an outcome which haven’t been found in any other model analysed by the authors; 2) the evidence collection of changes during the development of the project, giving a clear direction of progress measurement; 3) the production of pictures (Business Picture, Financial Picture, and Project Picture) as project targets in a business benefit term with the financial budget support and project plan support (p. 84, 95-96), 4) is based on an iterative formative evaluation process to ensure that the development is on course to realise business benefits (p. 82). Due to this unique characteristic found in this BRM process that other methodologies don’t tackle, plus being one of the most cited articles and as it includes all the BRM phases explained above, the authors decided that this will be the best fit to formulate the conceptual model.
Further explanation of the seven steps found in the ABR process is describe:

**Step 1 – Initialisation of Project**
This step is in line with the first phase of BRM process benefit identification, and it is a clear statement of the opportunity or problem the intended IS development plans to tackle. In this step is validate that the project is worth tackling by understanding the organisational objectives and ensuring the IS development is aligned with the organisational strategies. By doing so, the context, goals and expected benefits of the proposed system will be clear. In this step, the primary stakeholders are determined. After this step, an authorisation to proceed follows.

**Step 2 – Production of Pictures**
The second step on the ABR process is in line with the second phase of the BRM process benefit planning, and it entails the development of pictures, the Business Picture (BP), Financial Picture (FP) and the Project Picture (PP), which can be understood as a model of the business opportunity, the context, the financial impact and a project plan (p. 84). “These pictures are statements, models in a loose sense, of the context, the required benefits and the specification of the appropriate metrics to be used to evaluate, monitor and control benefits realisation (p. 85).”

The BP could be regarded as the business case for a project, and it lists the opportunities or problems faced by the organisation align with the organisation strategies. Why the project is it important for the organization (p. 87); the stakeholders involve in the project, who is responsible for what and who is going to profit from each benefit (p. 87, 89); the benefits associated with the information system’s (IS) investment (p. 89), the necessary metrics to assess and monitor if the benefits have been realised (p. 88); and the risks that could be encounter by the IS development (p. 90).

The FP will attempt to quantify in money terms the benefits and costs of the project. Financial ratios are used to understand the overall financial status of the project and monitor the financial health of the project (p. 91). Major financial risks are also identified (p. 93). The last picture, PP, reduce the BP business opportunities and threats into an
actual deliverable software product, meaning that the activities needed to deliver this final software product must be defined in terms of traditional project management process of resources, costs, time, and quality. After this has been put in place, roles of responsibilities will be specified for individuals involved in the project, and a project manager is identified (p. 93). Major project risks are also identified (p. 95).

Once these three pictures have been created, and after a feasibility study has been conducted by the stakeholders about the three pictures a decision is made and an agreement is reached whether or not to continue with the next steps of the process, to develop the system and start the project (p. 85, 95).

**Step 3 – Agreement to Proceed**
Based on the information prepared in the previous step (the production of pictures) a decision to proceed with the IS development can be made and Step 3 can be completed.

**Step 4 – System Development**
Step 4 and 5 are in line with the third phase of BRM process benefit realisation/monitor. Once IS development starts some deliverables exist, as paper deliverables or prototype, which will eventually result on life testing of the system.

**Step 5 – Evidence Collection**
In this step stakeholders become familiarise with the deliverables and are ready to discuss IS development. Evidence collection of the progress of the IS should be continuous and collected in an informal and formal way. Informal collection of evidence through stakeholders’ meetings and through formal reporting compiling changes, if there has been, to the pictures.

**Step 6 – Review and Learning**
Step 6 and 7 also are in line with the fourth phase of BRM process benefit evaluation. In this step stakeholders evaluate progress against the business, financial and project targets. Evaluation and learning sessions need to be held regularly. The objective is to ensure that the IS meets the organisation’s current business requirements, and by doing so provides processes and tools useful to maximize business benefits.

**Step 7 – Development of Updated Pictures**
After the review and learning session there are four possible outcomes: 1) the IS project is on track and no changes are required on any picture; 2) some changes are required, the initial pictures are modified (return to step 3. Agreement to proceed); 3) the changes are substantial, there is neither the budget, people or time to incorporate at this stage, these changes are arranged to be incorporated in the future; 4) proposed changes are so substantial that it is decided the project is no longer appropriate and it is decided to terminate it before completion.

These seven steps are to be kept in mind as they are one of the most relevant influences for the model built.

### 3.3.4 Issues / Common problems found in benefits management
There are several issues or common problems found among the literature review on BRM that have been discussed by different authors. Among the most discussed ones are:
optimism bias, benefit categorisation and time perspective, and roles and responsibilities, these are considered by the authors to shape the conceptual model and are further explain below.

**Optimism bias**

One mayor problem in BRM is overestimating benefits and underestimating costs (Flyvbjerg et al. 2002, p. 15) where there is a competition of funds among projects (Flyvbjerg et al., 2005, p. 13), target benefits are often overstated, and the emphasis is focused in getting project approval than on delivering the proposed benefits (Lin & Pervan, 2003, p. 20), and at the same time costs and timings are been underestimated (HM Treasury, 2003, as cited in Chih & Zwikael, 2015, p. 354). Project proponents may use creative accounting (assigning arbitrary values to benefits and costs) as a mean of passing the budgetary process in order to achieve project approval and justification when benefits are difficult to quantify (Small & Chen, 1995, p. 27-28).

Jenner (2009, p. 13 as cited in Breese, 2012, p. 343), refers to this phenomenon as ‘optimism bias’ where benefits are fraudulently inflated in order to secure their approval, and are neither robust nor realisable, rarely been measure post-implementation. Indeed, according to Ashurst et al. (2008, p. 16, 21) the majority of the companies under their study reported that the main rationale for identifying benefits in the planning stages was to facilitate the projects’ approval, getting it authorised and getting the funds, rather than as a driver for the proactive management of benefits. PMI (2016a, p. 22) reported on its study that 30% of the companies surveyed often found later on the intended benefits of a project to be overly optimistic. Such optimism bias has led to significant delays, cost overruns and large benefits shortfalls in projects (Flyvbjerg et al., 2005, p. 3-4).

Here lies the importance of the clear formulation of benefits align with the organisational strategy in the business case and metrics to monitor these benefits in order to keep track and don’t lose sight of them during the project lifecycle and be able to properly evaluate that the benefits were actually realized. For this reason, in the development of our conceptual model we are taken into account the importance of having a clear business strategy and that the project is align and validated against this strategy. As well as a clear production of pictures (business case) specifying the benefits of the intended project and metrics to evaluate those benefits.

**Benefit categorisation & time perspective**

Henderson & Ruikar (2010, p. 319) identified different categories of target benefits including efficiency, functional, informational, direct/indirect, short/long term, internal/inter-organizational, cultural and political benefits. Other authors included terms such as intermediate, end, time bound, and emergent benefits to categorize benefits (Letavec, 2014, p. 6-8). Nonetheless, the vast majority of authors categorise benefits in both tangible/intangible benefits and short/long-term benefits.

Tangible benefits can be relatively easily measured and have a cost/value associated with them, benefits in this category includes inventory, direct/indirect labour, and asset utilization (Melton et al., 2008, p. 77). They can usually be assessed in the immediate short-run, such as finishing the project in time and on budget (Andersen et al., 2006, p. 142). On the other hand, intangible benefits cannot be easily measured and/or are difficult to apply a cost/value to it (Melton et al., 2008, p. 78). Benefits that can be classify in this
category are: to improve customer satisfaction, communication, and supplier relationship. These are usually omitted from the evaluation process due to the fact that they are difficult to quantify, are difficult to determine the delivery of short-term results as they usually occur in long-term (Apostolopoulos & Pramataris, 1997, p. 295-296) meaning coming to fruition after several years (PMI, 2016a, p. 6, and are uncertain (Sassone, 1988, p. 73). If they are considered, they are too wide-ranging to be estimated with any accuracy (Clemons, 1991, p. 35) and are rarely review at a later stage (Lin & Pervan, 2003, p. 23).

The concept of intermediate benefits is barely found in the literature review and can be described as a relationship with end benefits (short or long term), in which the end benefit is dependent upon the achievement of one or more intermediate benefits (Letavec, 2014, p. 6). This end benefits directly contribute to the achievement of one or more organisational strategic objectives (Serra & Kunc, 2015, p. 55). Emergent benefits are those unplanned benefits that become apparent later in the BRM life cycle usually during the benefit monitor stage (Letavec, 2014, p. 7).

Since BRM extends beyond project/programme life-cycle, it requires a structure that survives into business as usual, long after the project/programme team has disbanded. (New Zealand Government, 2017, p. 9), likewise, benefit evaluation should ideally incorporate a long-term perspective (Breese, 2012, p. 349). There should be front-end discussion about these long-term benefits (PMI, 2016a, p. 6) and attempts should be made to break down the benefit from an unclear concept to more discrete items or add a non-financial measure to these discrete items (Melton et al., 2008, p. 78). This is especially important as long-term benefits may not come to completion months or year after the project ended (PMI, 2016a, p. 6). Still, due to the complexity of long-term benefits, these are usually not differentiated from short-term benefits (PMI, 2016, p. 14), and/or are compromise for short-term benefits (Chih & Zwikael, 2015, p. 359).

For the development of our conceptual model focus is given to intermediate benefits as they are important to evaluate if the project is on track and to take a decision for project termination. Short-term and long-term benefits are also considered in the model as part of the BRM process to ensure that the project deliver the intended benefits immediately or even months or years after its completion.

Roles and Responsibilities

To a very great extent, failure on benefits delivery can be attributed to the failure to explicitly make anyone responsible for this critical activity (Ashurst & Doherty, 2003, p. 7), not including the right people in the process (PMI, 2016, p. 13), and failing to assign clear roles in the benefits delivery plan (Lin & Pervan, 2003, p. 21). The problem is conceived at the beginning of the BRM process, in which in some occasions the person accountable for the realisation of benefits is specified in the benefit planning stage, but there is not a consistent view of who should be held responsible (Smith et al., 2008, p. 1449), nor the nature of their roles and responsibilities is mentioned (Ashurst & Doherty, 2003, p. 7), nor the actions required by the stakeholders are articulated (Bennington & Baccarini, 2004, p. 27).

Authors have different views on who should be involve and held accountable in the BRM process. Some authors, suggest the project owner is a critical governance role for ensuring
that projects achieve their required outcomes and benefits (Zwikael & Smyrk, 2015), and they should be accountable for benefits realisation as the business benefits normally occur long after the project is complete (Smith et al., 2008, p.1442). According to Chih & Zwikael (2015, p. 358) governing stakeholders, supporting stakeholders, and end users should be involved in the target benefit identification stage. For the evaluation stage, Fitzgerald (1998, p. 25) discussed that the person involved in this stage ends up depending on the nature of the project but at least a senior executive responsible for the business strategy and people from all the areas of the business been affected should be involved.

The New Zealand Government (2017, p. 47) argues that there is not only one person but many people involve in BRM process, the project sponsor, the benefit owner, and the business change manager are the ones appearing to have greater responsibility. Following the line of shared responsibility, Melton et al. (2008, p. 110) believes BRM should be the common goal for the business sponsor, customer and project manager and as such should be integrated in the early stages of a project. PMI (2016a, p. 7) suggested that benefit identification should be a shared responsibility between executive leaders, business owners and project managers.

As this has been a major problem in the realisation of the benefits, it is considered during the determination of the stakeholders to assign clear roles and responsibilities prior the project starts. However, at this stage there is no description in the model on who should be responsible of each activity in the BRM process, thus this becomes a doubt to be solved via the empirical findings.

3.4 Initial Conceptual Model

3.4.1 Model Overview

After the literature was analysed, the most relevant theories and concepts that would help in answering the research question, were selected and brought into a single model. The overview of the different benefit realisation management phases (Identify, Plan, Realise and Evaluate) were considered all along the model conception as not to miss any of them.

For the purpose of clarity, the model represents a flowchart, where the symbols denote each step in the model (Gaddis, 2015, p. 1214). The rounded rectangles represent the start and end steps of the model (step 0 and 7). The rectangles indicate the five steps of the model in between (step 1 till step 5), and furthermore, the diamond shape symbols indicate a decision to be made (step 6), and the multi-document symbol is used to explain Step 2. ‘production of pictures’ (the business case) as to reinforce the importance of this step: well-defined benefits and metrics in the onset will help monitor and evaluate the project against these intended benefits.

In this sense, the presented model is conceived as an integration of the project termination decision making process into the BRM process. From the BRM side it is based on the Active Benefit Realisation process from Remenyi & Sherwood-Smith (1998), presented in the literature review. While from the project termination process it comes from the perception of this one being a strategic decision and therefore from the Mintzberg et al. Strategic Decision-Making Process (1976), and the escalation of commitment research framework used by Werner (2012) also presented in the literature review. The whole
model can be visible in Figure 6: Project Termination Decision in a BRM process - Initial Conceptual Model. (Source: Own Collection).

3.4.2 Step 0. Business Strategy
Step 0 and 1 are line with the benefit identification phase of BRM process. Prior to the start of the project, and additional to the current models on benefits management, it is necessary to consider the business strategy formulation as an important part of the termination decision making process.

The concept builds on the idea of all projects being linked to the strategy and it acknowledges the concerns of (Unger et al., 2011, p. 675) who mention project termination as an important activity for Portfolio Management. Furthermore, it is the authors perception that all benefit generation through a project is directly related to the objectives and goals of the organisation’s strategy.

Talking about the specifics of this step, strategy formation and project portfolio review are some of the tasks involved for the coherent realisation of benefits and projects.

3.4.3 Step 1. Project Initiation
In this step the business opportunities and threats the project plans to overcome or support are stated, identifying the intended intermediate, short and long-term benefits of the project.

The stakeholders involved are also determined, stating clear roles and responsibilities, who is responsible of what, and who are receiving the benefits. Validation that the project is worth tackling is ensure by being align with the organisational strategies and organisational objectives. After this step, an authorisation to proceed to Step 2 is needed.

3.4.4 Step 2. Production of Pictures
This step is in line with the second phase of BRM benefit planning, and it entails the production of pictures, the Business Picture (BP), Financial Picture (FP) and the Project Picture (PP), which for practical considerations are considered by the authors as the Business case. The pictures are a representation of the context of the business opportunity, the financial impact of the project and a project plan.

The BP details the intended benefits to be deliver by the project and the metrics used to monitor, control and evaluate those benefits at each delivery step of the project. The FP represents a benefit/cost analysis of the project, in which those benefits specified on the BP will be quantify in money terms. The PP reduce the previous pictures into a deliverable product, meaning the activities needed to deliver this product must be defined in project management terms (time, cost and quality).

3.4.5 Step 3. Project Execution & Work
Step 3, 4, 5, 6, and 7 are in line with the third phase of BRM benefit realisation. Once the pictures are drawn, and before starting with the execution of the project according to the PP and plan, an authorisation process (either formal or informal is needed). This is in line with common project methodologies such as PRINCE2®, which suggests the use of stage/gate reviews before moving to the project execution and development.
In this sense, the third step in the model is the project execution and work, in other words, it is the continuous work on the project deliverables. After substantial work is done (a work package / deliverable is finished or a project delivery stage ends), a perception on the task’s success or failure is generated by the stakeholders, either communicated or not yet, this perception drives and biases the following steps. It is this step that reflects a constant evaluation. From step 3 to step 7, the process is not carried out once, but several times per project as the deliverables are handed out or as the project is checked in the stage-gate reviews.

3.4.6 Step 4. Project Performance Information
Stakeholders (project team, manager, sponsor, client, etc.) who have already been in contact with the current state of the project, collect information and, in consequence frame it in a way it affects the future of the decision-making process.

Werner (2012), draws on this concept and integrates views from decision making theory. The way the evidence is collected and framed to be presented to the decision makers is vital as it influences the future decision and could lead into the incorrect direction. As Werner (2012) states, the decision maker should be aware of possible biases.

3.4.7 Step 5. Review & Learning
Step 5, 6 and 7, are the specific parts of the model that are in line with the studies from Mintzberg et al. (1976). These ones are the strategic decision-making process inside an active benefit realisation management process. Let’s not forget that project termination is a strategic decision (Cooper, 2008, p. 17).

Mintzberg et al. (1976) divide this process into 3 general stages (identification, development and selection). Step number 5, is in match with the identification of a decision.

After the project status and information is framed, it is recognised the need for a decision, directly leading to a diagnosis of the situation against the business requirements, and the project desired outcomes and benefits (the initial production of pictures). As Mintzberg et al. (1976) mentions, this includes a formative review, the analysis on the variance from the original intention and the determination of possible trade-offs.

3.4.8 Step 6. Generation of Alternatives
This step comes under the next stage in the strategic decision-making process, development. It comes from the diagnosis, and involves the consideration of three possible course of action, 1) project escalation or intervention as to solve the project deficiencies or changes in the intended benefit, update the initial pictures; 2) no intervention or in other words the continuation of the project as it is being developed, no changes, benefits are being realised according to plan; and 3) project termination, if changes are so substantial that the intended benefits of the project are no longer appropriate for the business. These courses of action are in line with most of the project termination decision making models found in the literature review (Tadisina, 1988 & Shafer & Mantel, 1989).

The generation of alternatives is part of a search and design of options, which includes the update of the pictures. It does not include the judgement of the options, it is just a
natural answer to the recognition that a decision must be made and the previous step to deciding what to do.

3.4.9 Step 7. Selection
The most complex part of strategic decision is its judgement, analysis and bargaining part, all of which form part of the decision-making selection phase.

In the case of project termination, it is the area where more issues arise. Incorrect selection could lead to either premature termination of a project that could otherwise succeed or to the unjustified escalation of a project that will eventually fail (Drummond, 2005, p. 170). The analysis shouldn’t be static, but as Tadisina notes, it must be a whole analysis of the project trend in its path to success or failure. However, during this analysis, economical and psychological determinants are present as to bias the decision maker, and they must be recognised.

Ultimately, selecting a course of action, involves multiple decision-making theories, such as agency theory, group decision making, etc., according to the specifics of the project and organizational context.

Once a decision is made, and one of three alternatives generated in the previous step is selected, an authorisation process takes place (again in line with PRINCE2®). However, it is to note that steps 3 to 7 are continuous and iterative during the project execution till the last deliverable stage is finished or till it is decided to terminate the project.

This activity is linked with step 2 production of pictures as if a decision to escalate the project is made, the pictures need to be updated, after this, the process will continue.

3.4.10 Step 8. Post Project Review & Learning
If the decision made in the previous step is to terminate the project, an exit strategy is formulated, looking to optimize and reallocate the resources. If the last deliverable is finished and the project closure is authorized, it is part of the fourth phase of the BRM process benefit evaluation, review and evaluate short and long term planned benefits were realised at and beyond project completion. Potential for further benefits to be realised are identified, including lessons learned, and further learning for improvement in future projects.

The post-project review, either positive or negative, feeds the business strategy and the project portfolio, making it a cycle on identifying and starting projects needed to achieve the organisation strategy.

It is important to notice that at this step, the project has either delivered its created product, or it is dead.

3.4.11 General Conclusion on the Model
The above is a vast comprehensive model that can be understood as an iterative one rather than a linear one in which changes can be made throughout the process. This, is a reiterative model based on the evaluation of project progress during its life cycle to ensure that the project is realising its intended benefits from a BRM perspective wherein a project termination decision making process takes place (identification, development and
selection of a decision). The model intends to help organisations to decide how and when a project termination decision can be made with a focus on benefit realisation.

However, during the elaboration of the model several doubts arouse comprising the following topics:

Roles and responsibilities, who will be in charge of what in the model? Who is the one that actually makes the termination decision? Who perceives that the project is failing? Who evaluates, sets and tracks the benefits?

The monitoring and evaluation process of the project and its benefits, what mechanisms are used to monitor the project? what mechanisms are used to evaluate the benefits?

The perception of project success and failure during the execution of the project, what predicts success or failure of a project? how is this prediction formed? How much is it psychologically affected?

And the decision-making process, are there more alternatives to just terminating, intervening or continuing with the project? When are actually projects terminated? How does actually the selection step works?

The authors will try to clear these concerns throughout the collection of the empirical data, as to provide a more comprehensible and understandable model.
Figure 6: Project Termination Decision in a BRM process - Initial Conceptual Model. (Source: Own Collection)
4. Practical Research Method

As part of this chapter, the practicalities of data collection are addressed. Starting with the research method, followed by a description and justification of the chosen sample. The details of the interview structure and process and its ethical considerations are also mentioned. Finally, the analysis strategy and limitations are described.

4.1 Research Method

Case study research is typically eclectic in respect to the type of data collected. Often, it is associated with the use of semi-structured interviews (Easton, 2010, p. 124). In the specific case of this research project, semi-structured interviews are indeed the research method used as they are highly flexible (Easton, 2010, p. 123-124) and can be used to “reconstruct the internal conversation of individuals as they reflexively interpret and navigate objective structures in which they find themselves, focusing on critical decision-pins in their lives” (Archer 2003, cited in Archer et al. 2016, p. 7).

Adopting a structured interview is disregarded as it would limit the richness of the information and would be contra productive to the research goal by imposing inappropriate frames of reference on the respondents (Bryman & Bell, 2015, p. 404). On the other hand, an unstructured interview is also left aside; because, it would draw complications in the analysis and comparison of data. Plus, the researchers have clear identified topics to cover and therefore can restrict the subject (Bryman & Bell, 2015, p. 482).

In this sense, a specific interview guide with a list of several pre-determined questions (Patton, 1980, p. 200) will be used. The questions are based on the inquiries the model raises and in the theories relevant to the research question (i.e. roles and responsibilities in project termination and benefits management, project termination decision making process, benefits realisation management framework, etc.). Nevertheless, the participants are able to speak freely in answering the open-ended questions (Saunders et al., 2012, p. 347). Additionally, the opportunity to ask new follow-up questions to the interviewee’s replies is considered inside the relevant themes (Saunders et al, 2012, p. 481).

The nature of project termination decision-making is considered as critical in regard to the corporate strategy and in the project portfolio management discipline by Lechler & Thomas (2015, p. 1452). This criticality is highlighted throughout this research and therefore a proper interview process is required as to have a coherent research. In this sense the best approach to the semi-structured interviews is through a critical incident method.

Having a critical incident interview involves asking interviewees for the description of critical events, in our case project termination, based on their recollections of key facts (Bryman & Bell, 2015, p. 226, Collis & Hussey, 2009, p. 197). The description of this particular type of event develops and understanding of their sequence and their significance. Questions are made to fill gaps in the told accounts (Bryman & Bell, 2015, p. 226) and in the identified ones in the literature. The inquiry on how this technique was used, is further explained at the Interview Guide Design section of this chapter.
4.2 Sampling

Patton (1980, p. 100) states that the research question already provides a general population to study. In the case of this study, projects that were terminated (or where there is intention to do so) seem to be a natural answer for the population to be researched.

Nevertheless, in practice that situation does not always arise (Havila & Salmi, 2009, p. 7). By cause, and in line with the comments of Drummond (2005) and the overview given in the literature research, a stance is taken on studying the two ends of the project termination decision: projects that were escalated and projects that were terminated.

Moreover, the already given context of study also frames the population to projects carried out that involve R&D and IT. As it has been previously argued, Industrial R&D and IT projects represent the biggest source of literature where project termination is considered; making it vital to study the same type of projects if the conclusions of this study are to be valid.

However, projects are open systems where the context contains an explanation for its success or failure (Havila & Salmi, 2009, p. 23). The access to this context can only be granted through the actors that may influence the termination process (Havila & Salmi, 2009, p. 32). Reason why, while the level of study is at a project level, there’s a clear need to get the information through people, who will ultimately deliver data on the project case.

As per the current location of the researchers, the first level of sampling established was on researching Scandinavian organisations, framing even more this research to projects carried out in either Norway, Denmark and Sweden.

This criterion, leads to target Scandinavian project managers, portfolio managers and programme managers who have been part of Industrial R&D or IT projects in Scandinavian organizations that were either escalated or terminated.

Given the specifics of the population to study, sampling is only possible through a purposive sampling, where the units are selected in reference to the questions to be asked (Bryman & Bell, 2015, p. 428). Furthermore, snowball sampling - the use of one person to contact more - is also used as to help increase the number of respondents (Bryman & Bell, 2015, p. 435). Both of the previous are held as the second level of sampling in this research.

It is important to clarify, that the purposive sampling process was the first step in establishing contact before rolling the snowball sampling process. However, in some cases it was found that the initial person contacted was not relevant to interview as they either lacked knowledge on the topic or have never been involved in an escalated or terminated project. In those cases, snowball sampling proved its efficiency in being redirected to the right people.

It could be argued that with a total sample of 11 cases, theoretical saturation, understood as collecting data until no new or relevant data emerges (Bryman & Bell, 2015, p. 432) is not fully achieved. Nevertheless, in line with a critical realist and abductive philosophy the conclusions are provisional, and draw an initial general understanding on the topic (Scott, 2005, p. 365).
The limitations of this sampling process are in line with the research scope in terms of time and resources. Concerning possible biases in the sampling, no respondent was known prior this data collection process and thus there is no personal interest or bias in their participation.

4.3 Data Access

A strategy to collect and access information was drawn based on the suggestions of Bryman & Bell (2011, p. 277). In this particular case it involved the use of two sampling frames. *Sampling frame 1* comes from using personal contacts and networks; while *Sampling frame 2* was the use of the professional social network LinkedIn as a mean to reach relevant subjects of study.

On the first case, the authors professional network was contacted, asking for referral to people that meet the previously stated criteria, this direct and first-hand contacts were not interviewed but rather only used as a mean to get potential interviewees. Thus, sampling frame 1 proved of great advantage in saving time and resources as to reach relevant subjects of study.

Nevertheless, with the use of LinkedIn, the second sampling frame proved to be more valuable in terms of reaching a wider and diverse audience. LinkedIn, is the world’s largest professional network with over 530 million members, including executives from every Fortune 500 company (LinkedIn, 2017). This social network contains detailed information of work experience and educational background of its members. Which, ultimately allowed to find, identify, select and reach potential interviewees.

While, snowball sampling was the main sampling method used in our *sampling frame 1*, a purposive and judgemental sampling was used in *sampling frame 2*. Potential participants were reviewed and selected through an extensive research process. In which the intended participant profile was used as filters in LinkedIn’s search engine. The search results were examined by focusing on: location of projects and organizations, professional titles, and type of projects in which they were involved.

Whichever the sampling frame used, they did not provide relevant information on the experience of the individual with projects either escalated nor terminated. Reason why, the selected interviewees were contacted, presented with the context of the study and invited to participate on the basis of the relevant information they could provide. All of the previous was done via email (Email template can be seen at Appendix 2).

Upon receiving an initial response on their interest on the topic (including having being part of projects that were terminated or escalated) and their willingness to participate in the research; more information on the thesis was shared with the possible participants. This was done in line with the thoughts of Collis & Hussey (2009, p. 43), who mentioned the importance of reaching organisations in a formal way with a letter that included the research proposal, the request for information on the person, the agreement of terms and the ethical considerations for the interviewing process. Such document can be seen in Appendix 3.

Furthermore, as a matter of respect, courtesy and preparation for the interviewee all respondents were given the “Interview Guide for Participants” (Available at Appendix 5).
The final sample size consisted of 10 project cases provided by 8 respondents out of 42 contacts made. In this sense, Figure 7, provides a better understanding on how this was reached.

<table>
<thead>
<tr>
<th>Sampling frame 1</th>
<th>People contacted</th>
<th>People interviewed</th>
<th>Cases provided</th>
<th>Notes</th>
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</thead>
<tbody>
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<td></td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>Snowball technique on researcher's professional network</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>Snowball technique from respondents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sampling frame 2</th>
<th>People contacted</th>
<th>People interviewed</th>
<th>Cases provided</th>
<th>Notes</th>
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<tbody>
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<td></td>
<td>28</td>
<td>5</td>
<td>7</td>
<td>Purposive and judgmental technique</td>
</tr>
</tbody>
</table>

**Figure 7**: Sampling process in detail (Source: Own elaboration).

While theoretically a bigger sample could have been achieved, the value provided by this data will come from the in-depth of the process and of the analysis skills (Patton, 2002, as cited in Saunders et al., 2009, p. 234).

### 4.4 Interview Guide Design

The interview guide was designed around the researchers’ doubts that emerged on the literature and the model previously built, being those: I) the roles and responsibilities in a benefits realisation framework and in the termination decision making process; II) the monitoring and evaluation of the project and its benefits; III) the perception different stakeholders have on the future success or failure of the project as it has psychological, social and structural implications (Havila & Salmi, 2009, p. 7) and IV) the termination decision making process in relation to its timing and the alternatives generated.

Furthermore, as previously stated, critical incident technique is the selected anchor of the semi-structured interview design. In this sense, it is the researchers prime interest to concentrate in one incident “where the intended purpose is clear and the effect appears to be logical” (Collis & Hussey, 2009, p. 197).

Thus, the main goal of the questions generated is to get information on the participants’ empirical experiences (1st level of reality) which helps in drawing the actual events (2nd level of reality). This meant that the what, how and when actions, decisions and events occurred, was kept in mind through the whole interviewing design and execution.

The specific characteristics of the intended target audience were also considered in the construction of the interview guide. The purposive sampling method provided a target audience which is likely to be knowledgeable about the topic (Collis & Hussey, 2009, p. 199). Thus, the use of common terminology exercised in the professional project management discipline (i.e. critical success factor, monitoring, etc.) was used in the interview guide.

Nevertheless, the complexity of the issue addressed (De, 2001, p. 119) and the rigidity of some organisations in the use of project management (Hodgson, 2002, p. 810) made it desirable to add generality to the questions asked (Collis & Hussey, 2009, p. 199). This meant, questions were written to get as much information as possible and to be applicable
to all kind of projects and organisations. A clear example was in rewriting one question from What was the opportunity or threat identified to start this project? to What was the original reason to start this project?

In this sense, a total of 13 primary open-ended questions were designed covering the previously mentioned concerns and aspects.

However, additional follow-up questions, were also considered and only asked when the respondent did not provide enough detail or got off topic in their answer. The follow-up questions were considered as probes and were used as a way to ask participants to elaborate on their initial statements (Collis & Hussey, 2009, p. 145).

The reason for doing so is to gain maximum information, allowing respondents to answer in their own words without losing focus on the intended purpose (Collis & Hussey, 2009, p. 197-200). The complete interview guide can be seen in detail in Appendix 4 (Interview Guide for Researchers).

It was also designed to start all interviews by providing a personal introduction and a brief explanation of the purpose of the research. During this first minutes, permission to record the interview was asked.

Subsequently, general questions on the background of the respondent were asked with the objective of gaining an understanding of the participants’ level of experience, and professional background. In the used critical realist approach, this knowledge helps in breaking the reality of the information in different levels as explained by Easton (2010, p. 123).

In this sense, the researchers were particularly interested in knowing if the participants held any certification or training specifically in the project management discipline. While the question: “Do you hold or have had any specific certification or training in project management?” could be considered as rude to ask, it was tried to be done as smooth as possible. Nevertheless, such question is justified as during the development of this research it was noticed that the project standard PRINCE2® (Projects IN a Control Environments) explicitly links project termination and benefits management in its principle for a continued business justification (Turley, 2010, p. 27).

Originally, the main body of the interview guide was designed having three main sections in mind, nevertheless after the pilot interview these three sections were mixed as to provide a more natural conversation. It is stills gives a valuable insight to explain the three original sections as they are the basis on how the challenge was tackled. Those three sections were divided in: i) context of the project, ii) project termination, and iii) project benefits and goals.

The first section, that includes questions 1), 3), and 4), are meant to provide a general context for the case to be built. At the same time, they already give insights and links to the researcher’s doubts, i.e.: 3) What was your role and responsibilities at the time? where the roles and responsibilities of the respondent are explored and 4) How was the project monitored? on the monitoring and evaluation processes, belonging to the developed model step 5. Review & Learning.
It is to note that question 1) *Can you describe a project in which you were involved that was terminated (abandoned / cancelled) or was carried out till the end but failed (escalated)?* Is a particularly complex and difficult to grasp question. However, that is the same reason why the participants were handed a research brief and the questionnaire prior to the interview, so they could understand the context and the interest of our study. This context was also remembered to them during the interview introduction and all doubts were clarified prior start asking questions.

The next set of questions comprising 2), 5), 6), 8), and 9) go around the topic of project’s termination. Question 5) *Who made the decision on terminating or carrying on with the project?* goes into the theme of roles and responsibilities. Question 6) *Do you consider the decision was made at the right time (not too son or too late)?* Gives a deeper insight into the respondent experience and the timing of the decision, while it is connected to the prediction of success or failure. Also of particular interest, Question 9) *Were other alternatives formulated on the project’s future?* Is set as to find out what else do organizations think about when a project is to be terminated and is directly linked to the model developed in *step 6. Generation of alternatives.*

The third section included questions 7), 10), 11), and 12), which provided an insight on the benefit set for this project. In Question 7) *What was the original reason to start this project?* The researchers are looking for the opportunity or threat identified according to the developed model and to Remenyi’s (1998) *activity 1. Project Initiation.*

Question 7) and 10) *Were there any specific goals or benefits that the project wanted to achieve?* Could be considered as a checking point for alignment between what was the need addressed against the intended benefit and goals of the project. But also, question 10) serves to discover what was the business, financial and project picture in the particular case and therefore linked to Remenyi (1998) and to the developed model in *step 2. Production of pictures.*

Question 12) *Were these goals or benefits considered in the project decision making and evaluation?* Could be regarded as a mixed question. The main interest in this question is to juxtapose the decision making either on termination or escalation with the benefit to be achieved; and it is directly linked to the model *step 7. Selection.* On the other hand, Question 11) *Do you consider they were aligned with your organisation’s strategy* has a similar situation were the whole reason to be of the project is compared against the organisation’s strategy.

Further detail on the interview guide as to the doubts they cover; the parts of the model that researchers believe could be affected by each question; and the authors from whom those topics come from can be seen in the Table 1. Please note that eventually the researcher’s doubts transformed into themes of analysis. However, such process is further explained in the next sections of this chapter.
4.5 Pilot Interview

A pilot interview was carried out with the first respondent (Respondent 0 who provided case 0) as to test the validity and clarity of the questions in terms of the respondent’s understanding, it’s difficulty, sensitivity and time to answer (Ghauri & Gronhau, 2011, p. 125). The resultant information was not used for the general analysis, however this activity, resulted in changes to the interview guide and served more as way of making the researchers feel comfortable.

As per the outcome of the pilot interview. It was realised that the order of the questions needed to be changed to make the whole interview more conversational and that some questions were answered by the participants when they extended their answers on other questions. Such is the case of question 1) and 2). While the participants were describing the event at some extent they were mentioning the reasons for the project to terminate, reason why it made more sense to directly ask at this point to expand on the reasons to stop the project.
The pilot interview also helped in developing an understanding of the specific concepts and theories held by the respondents (Maxwell, 2013, p. 67). Such case was in realising that it could be possible to introduce project management terminology into the questions, and that some follow-up questions could be based on such things depending on the depth of the answer given by the respondent. As an example, question 10) lead to the consideration of also exploring critical success factors and key performance indicators as the respondents mentioned them as goals of the projects.

Based on these findings, the interview guide was revised accordingly. The data obtained from this first interview is not included in the empirical findings or analysis as it wasn’t used in a quest for guaranteeing consistency and quality in the findings.

4.6 Interview Process

Upon a date and time agreed with the interviewee, different means of contact were used to conduct the interviews, such as: face-to-face meetings, telephone and videoconference. At all times it was the participants who chose the mean of contact and location of the interview based on their convenience. This is relevant to the research as it allows respondents to participate in the comfort of their homes or offices and therefore easing the interview process (Braun & Clarke, 2013, p. 98).

The relationship between the researchers and the respondents was critical as a mean to get the research done (Maxwell, 2013, p. 91). In order to guarantee so, courteous and transparent communication was established since the beginning with all respondents, the main goal was to establish trust and to encourage participants to speak openly about their experiences. In this sense, anonymity played a key a role in providing a more relaxed environment (Saunders et al., 2012, p. 389). Anonymity and confidentiality were guaranteed since the first contact was established and reassured at the beginning of the interview.

Table 2. Interviews data summary provides an overview of the key characteristics of each interview held. From where it is to highlight a relevant mix between project managers, programme managers and project consultants; a majority of IT related projects and expertise; a preference for telephone interviews over other means of communication; and an average duration between 30 and 45 minutes. Additionally, it is to state that all interviews were held on weeks 49, 50 and 51 of 2017.

A majority of interviewees are currently working in Sweden, this sample difference can be explained as Sweden is the country of residence of the researchers and it makes it geographically easier to access a wider number of participants. Nevertheless, respondents from Denmark and Norway are also involved in the research.

Talking about the interviews duration the effects of the pilot interview are obvious as this one was the shortest one and provided enough feedback to increase the depth and length of the interview. The longest interview was held with respondent 2 (R2) and it is attributed to the fact that it was the first face to face interview and where there was more engagement with the participant as it was in his office. Furthermore, the interviews with respondent 3 (R3) and respondent 6 (R6) are also longer than the rest since 2 cases were provided in each interview requiring more time for explanation.
At the beginning of the interviews, participants were greeted and thanked for their time. As noted in the interview guide for researchers, a brief introduction was given on the researchers’ background and on the thesis objective and context. To comply with the ethical standards, the interviewees were informed on the anonymity and confidentiality of their answers. It was also at this point, where permission to record was asked with the objective of transcribing their answers afterwards. Consent was granted in all cases; however, the audio record did not start till this permission was explicitly granted.

The interview guide and follow-up questions were pursued throughout the interview. At all times a friendly and respectful tone was used, including some laughs, surprise and interest expressions that made the atmosphere relaxed and honest.

Written notes also played a key role during the interviews. Even though the audio was being recorded, real time notes on the respondents’ comments were taken on a hard copy of the interview guide. This was beneficial as to follow the conversation, and making sure all the questions and probes of the interview guide were being covered.

The interview was brought to an end when all questions in the interview guide were covered and a last chance to add any comments or clarifications or make any questions was given to the participants. Something that commonly came up, was the request of sharing the research conclusions upon completion.

Immediately after the interview ended, contextual data of the interview was noted and commented upon, such as: location, timing, setting, background information on the.

Table 2: Interviews data summary (Source: Own elaboration)

<table>
<thead>
<tr>
<th>Respondant Code</th>
<th>Case(s) Provided</th>
<th>Role</th>
<th>Industry of Expertise</th>
<th>Decision made</th>
<th>Country of Work</th>
<th>Mean of Contact</th>
<th>Location</th>
<th>Duration</th>
</tr>
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<tbody>
<tr>
<td>R0 (Pilot-Interview)</td>
<td>C0</td>
<td>Project Manager</td>
<td>IT</td>
<td>Project Terminated</td>
<td>Sweden</td>
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<td>-</td>
<td>27:49</td>
</tr>
<tr>
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<td>C1</td>
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<td>IT &amp; Change Management</td>
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<td>Telephone</td>
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<td>C2</td>
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<td>IT in the Public Sector</td>
<td>Project Escalated</td>
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<tr>
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<td>C3 &amp; C4</td>
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<td>IT &amp; Innovation</td>
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The table above provides a summary of the interviews conducted, including the respondents' code, case(s) provided, role, industry of expertise, decision made, country of work, mean of contact, location, and duration. This data is crucial for understanding the context and outcomes of the interviews.
participant and the researchers’ immediate impression on how the interview went (Saunders et al., 2009, p. 334). This process proved its relevance in going over the participants’ experience into describing and analysing the project and its events.

As per the approach selected that required detailed attention to language, a transcription of the interview recording was a useful task in its analysis and understanding (Bryman & Bell, 2015, p. 493). The transcription was made within 3 days of the interview. Each one of them was transcribed fully, including non-semantic sounds as ‘um’, ‘eh’, ‘mm’, etc. (Braun & Clarke, 2013, p. 163). The whole processed consumed a vast amount of time however it helped in correcting the natural limitations of the researchers’ memory and a deeper comparative analysis in the what was told and the way it was said (Bryman and Bell, 2015, p. 494-495).

The whole interview process wasn’t absent of limitations. All interviews were held in English language which is not the native language for the participants, nor the researchers. This meant a difference in accents and brief moments were participants were silent looking for a translation. There were also a few instances where clarification was needed as to grasp the idea the respondent was stating. Additionally, there were two occasions were the interview had to be rescheduled due to the participants’ busy agenda.

4.7 Data Analysis Strategy

During the in-depth interviews, the participants offered their perceptions on cases that involved either project termination or project escalation. The challenge on analysing the information in a consistent, objective and structured manner in order to reach the project reality was tackled through a template analysis.

Template analysis helped in selecting key themes to explore and identify the emergent issues that arise from data collection (King 2004, as cited in Saunders et al., 2009, p. 508). A feature of template analysis is the use of a priori themes, that allow researchers to define some themes in advance of the analysis process (Brooks, et al., 2015, p. 218), it also allows codes to be shown in a hierarchical way in order to help analyse the information (Saunders, 2009, p. 506).

In this sense, the initial doubts and theories around the theoretical framework and model (explained at the end of the literature review) were the ones that later became the source of inspiration and key questions in the interview guide, and were now transformed into the a priori higher-order codes, giving consistency between the research question, the data collection and the analysis process. Such relation can be seen in Figure 8. Higher-order codes generation.

The pre-defined higher-order codes were concluded as: (i) roles and responsibilities), (ii) monitoring and evaluation process, (iii) prediction of success or failure, and (iv) decision making process. It is to note that even though the authors had an initial idea of which parts of the model could be affected by each theme, space was given to serendipity in the analysis. Reason why it was decided to approach each theme in a holistic view that could affect the whole model rather than its parts. Only after the data was analysed, the specific parts of the model to be modified were revised, discarded, refined or redefined.

The intended abductive research approach meant to also let the data speak. (Bryman & Bell, 2015, p. 27). Reason why during the conducting and analysis of the interviews, the
template coding remained open to continuous revision and modification throughout the analysis.

After all the interviews were conducted, the notes taken during the interview and the interview transcripts were analysed, and the codes were revised. Subsequently, the initial list of high-order codes was modified and the lower-order codes were included and altered based on further discussion by the authors. In essence it was always the intention to let the lower-codes emerge from the data. Such process is detailed explained in chapter 7. Analysis & Discussion.

**Research Questions**

- **Doubts from Theory and Model**
  - I) Roles and responsibilities in a benefits realization framework and in the termination decision making process
  - II) The monitoring and evaluation of the project and its benefits
  - III) The perception different stakeholders have on the future success or failure of the project as it has psychological, social and structural implications
  - IV) The termination decision making process in relation to its timing and the alternatives generated

- **Higher-order Codes**
  - i) Roles & Responsibilities
  - ii) Monitoring & Evaluation Process
  - iii) Prediction of success or failure
  - iv) Termination Decision Making Process

**Research Questions**

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**Figure 8: Higher-order codes generation** (Source: Own elaboration)

**4.8 Ethical Considerations**

This research study was conducted in compliance of the code of ethics of Heriot-Watt University, Politecnico di Milano and Umeå University.

Nevertheless, it is not absent of ethical dilemmas. In principle, the previously mentioned anonymity and confidentiality emerge as a situation of giving participants in interviews the opportunity to not be identified with the opinions they express (Collis and Hussey, 2009, p. 45). However, the final document of this research will be publicly available; furthermore, the industries and the roles of the people interviewed also have to be clearly stated as to properly frame and analyse the data. Reason why confidentiality and anonymity can be provided only in relation to the companies and project names as well as personal data of the participants.

Other important ethical issue was voluntary participation. The data collection phase faced delays, by not having consent of participation on time (Collis and Hussey, 2009, p. 45).

Furthermore, the complexity of the phenomenon under study involves sensitive questions that could have offended, harm or discover unethical practices in the project termination and benefits management (Collis and Hussey, 2009, p. 46). Participants may refuse to answer specific questions, making it important to be courteous at all times.

In this sense, as suggested by Collis and Hussey (2009, p. 46), four ethical principles have been established in order as to carry this study:
1) Respect and assurance of anonymity and confidentiality of research respondents.
2) Informed consent and voluntary participation.
3) Avoidance of causing physical or psychological harm, embarrassment or ridicule of participants.
4) Quality and integrity of the research, which is also transparent, independent and impartial.

5. Empirical Findings

This section “lets the project cases speak”, providing the reader with the context and the events that happened around each project case described by the respondents. Initially the way on which each case is built and presented is explained, following by the total 10 cases and finalising with a summary of the main findings according the previously presented higher-order codes.

5.1 Empirical Findings Presentation Strategy

The empirical findings are written in the way they were collected and analysed: as individual project cases, only in the case of 7 and case 8 they are presented together as they have great similarities and were provided by the same respondent. By presenting the data in this format, rather in a compilation of questions and answers from the interview guide, it is possible to derive a higher value which is objective and breaks into the events of each case while not ignoring the experience those events caused on the participants and on how they interpreted them. At the same time, it provides a focus on the features, sectors, similarities and differences which will be helpful in the analysis stage of this study.

The cases are built in a narrative way with the inclusion of direct quotations from the transcripts of the specific interview to which each case belongs. Thus, giving the reader an overview of a chain of evidence on the data source and supporting examples (Lapan et al., 2013, p. 29). Additionally, this allows a balanced and fair view of the respondents’ perspective (Lapan et al., 2013, p. 29). Some quotations are simplified, omitting fillers such as “mmm, ah, eh”, pauses. Repeating phrases are not reported as to make the text easier to read, however the main part of the answer given is kept intact.

All cases start with a general description of the respondents, including their current work location, professional and educational background. Serving as important information to read the cases in a more critical way. Ultimately, a chart is presented in which a summary of the cases in relation to the four analysis themes is presented.

5.2 Description Case 1

Respondent 1 is currently based in Copenhagen, Denmark. She currently performs as a Project Management Consultant specialized in the implementation of IT Projects, especially in a SAP Environment, where she has over 10 years of experience. As per her background knowledge and training in the project management discipline, she is certified in PRINCE2, ITIL, Change Management and as a Lean Manager.

The project case presented developed a couple of years ago. When organization X rolled out a project to implement a new SAP System with the goal of replacing a previous
solution which had become inefficient. Before starting the project, they had realized continuous constraints the previous system had. Some of them were that this old system was custom built for the organization, making it extremely difficult to further develop or grow; technical support for it was limited and it failed to connect with other customer’s solutions.

In order to tackle this problem, a general team was built composed of internal and external specialists. The respondent took the role of senior project management consultant who was “assigned to one of the tracks of the project and into doing the business specifications, talking with vendor backgrounds and reporting to the client and the project management team”.

Initially the project was intended to achieve more than replacing an old system, it was part of a strategy to create efficiencies and better processes for the business – “Several business units were considering cost savings... there were plenty of benefits”.

The project was carried out till the moment before implementation, stopped at the time it was being tested. According to the respondent “the project was abandoned. Some time was taken and a new project was started in implementing the same system but with a different approach”.

“In my experience this is kind of a classic situation” – During the specification and build-up of the solution, old and outdated functionalities that the organization had been using and complaining about, were ironically copied into the new system. “The new system was being built exactly to act like the old system, which is not good”.

However, the problem wasn’t noticed till the moment the different chunks of the project were put together. The project teams were working on the same project but from different ends. Until the moment when an entire review on the project status was made, the issue arose. “When we did the entire review is when we realized how much we replicated the old system, because we were split in some teams that cover certain areas, you may think, well it is ok to replicate some things if that makes it easier for us, and when everybody does that it ends up with an actual replication of the whole system”.

“We had an end of stage review. Usually at each stage we had some kind of review. We had the PMO office and of course we had representatives from different teams, the project management team, and basically it was at that point when we realized the direction we were heading too, wasn’t’ good”. The project was monitored by gate reviews and it was at this point when the decision to cancel the project was made.

Decisions and reviews on the project were made by a project steering committee which used to meet at the end of every project stage or when an issue was escalated. Nevertheless, such issues didn’t happen that often.

The decision to terminate the project was not the only one considered by the steering committee; in fact: “the alternative that was considered was on cutting back on the scope, leaving back some areas and continue with the rest, but it didn’ solve the problem ... so as far as I recall the decision to scrap the project and start a new seemed more viable”.

While it is not possible to conclude on what other project stakeholders thought about the termination decision, the respondent believes terminating the project was correct and that
even thought there might have been backlashes, top management was willing to do it: “I think it was right that the project was terminated, absolutely”, “They [the steering committee] were reprimanded I think, but they made the decision”.

In terms of the decision timing, the respondent points as ideal to have made this decision earlier after the specification of the project — “What was built was what was specified”. Nevertheless, the case wasn’t absence of scope creep “during the implementation, people on the organizations says cut it this way, make it this way or twist it that way”.

5.3 Description Case 2

Respondent 2 has over 20 years of experience as Project Manager, particularly involved in IT and transport projects. He has worked for local and regional governments in Sweden as well as in the private sector. His theoretical project management background comes from in-house training as well as from courses in SCRUM. The project case described is of interest, because it is a case of an IT related project carried out in the public sector for and by a local government in Sweden.

In this sense, in a general conversation about IT projects in the public sector, the respondent mentioned: “The normal way is that if things don’t go as planned you kind of shrink the project; adjust the goals so that the project delivers something, perhaps not what was initially expected but something”.

The project presented could be considered a project where escalation of commitment was present. The project started with the goal of boosting innovation — “The idea was that by publishing open data, innovation was going to start taking place...that really didn’t happen... it never took off “. The project fitted into being part of a bigger strategy which involved improvement in openness and transparency in the local government.

On this occasion respondent 2 participated as project manager. Where he was able to finish and accomplish each of the project tasks as well as deliveries. Nevertheless, in the eyes of the project manager, it was still a failure because the intended purpose was never achieved — “That was a failure, because it didn’t achieve the ultimate goal”.

“The main problem, I guess was the fast, evolving and changing behaviours and traditions”. External and internal factors leading to this condition are identified. From one side decision making on the project was centred in senior management, being disconnected from the project and user reality. The project was run from an IT department that had no mandate to decide upon the project. The project owner was not placed in the correct place in the organization, whom could only make technical decisions. While there was still potential to use the project in different ways “It became a technical project that no one outside the technical environment was interested in”, as described by the respondent.

While decisions were made by a steering committee. The project had a leading decision-making figure: the project sponsor - “the one who is putting the money, is the one who gives a green or red light... but before you try to get consensus”. The monitoring process implemented by this leading figure and the steering committee was only based according to the project timeline and development. The goals were listed and reporting was made upon them every month by just describing the progress in each of them – “you are delivering something on each goal”. On the other hand, the overall evaluation process
was economic based on “the project being within budget, at least in the public sector that’s 90% of the cases, on the money and maybe 10% on actually achieving something”.

Nevertheless, the project’s poor capability to achieve the intended benefit was visible throughout the project development – “you could see that nothing really happened ... the first data had been available for a couple of months but no one used it anyway”. The project kept going as the situation of the real effects coming later was not discarded.

However, respondent 2 states that there was no other option on the table rather than delivering the project perhaps it was already perceived that the benefit wouldn’t be achieved – “I think it was the right thing to do and the only thing to do, because we had a mandate from the state”. Problems could have also arisen from cancelling the project. In the case of this project funded by different parties (city councils, state agencies, EU, etc.) there was a greater pressure on delivering the project – “If you have got money from them and then you don’t deliver I guess you would have a lot of problems getting money a second time because you have proved you are not able to deliver, you have to build reputation”.

After delivery, the project was not evaluated, indeed it was just delivered – “No one has ever wanted a post-portem analysis ... they want to move forward... in case there is some kind of analysis it is because something has come incredibly wrong”. After project reviews have a perception of consuming a vast amount of resources “there’s limited amount of money, why should we spent that on looking back when I can use the money in new projects that create new value?”.

Thus, the only evaluation process for the project was the one held during the project lifetime and is closely linked to the project metrics the steering committee has approved, but not to the achievement of the goal. “It was in the overall goals that this uptake should place, that someone should use the data, it was in text but not in a goal that you could measure”.

5.4 Description Case 3

Case 3 and 4 were provided by respondent 3, who has worked in Denmark and Sweden as Senior Project Manager and Programme Manager. He has experience in product and business development, IT deployment projects and change management in tools and processes, where he mentions “When you change an organization is more challenging on the people side and that’s where benefits realization is more important”. He counts with over 10 years of experience in the field and holds the Managing Successful Programs (MSP®) certification by APMG International.

The first case described took place approximately 5 years ago with a goal of changing and developing tools and processes. The goal of the project was “improving the development tools to address some pin points regarding the transition from one way of working to another way of working”. The scope of the project was based on specific items to be delivered.

Respondent 3, didn’t start the project, and took over when at least 80% of the deliveries were done. “My challenge was to close it down and say move on... it was about getting feedback now on how things were changing and getting objective information on whether things were better or worse than before”. The task included a vast amount of stakeholder
management and negotiation “people had different opinions on the project and it was top management’s goal to stop people complaining about those tools and that’s a very abstract and intangible goal”.

Rather than including this case as an escalation or a termination. It offers a view of doing damage control on a project that was being escalated and on a path to failure – “I ran that information [on project status and results] to a steering group that was able to decide to close the project in a timely manner”, “I had some of that theory in mind [on benefits realization] back then”.

Decisions and instruction on the project were made at a board level with only a top-down approach, which caused misalignment between the project vision, reality, results and its initial goals – “the painful journey was that the goal was given as a top-down statement and then it was executed by people who only believed in it to a certain degree”.

“When you do a change project it is important to involve the people who will own and use the tools, helping in defining the projects objectives and the goals and tracking on how to get there” In this sense, there were different realities in terms of the project goals and in the way to measure them. This also implied changes in the project goals throughout its lifetime: “There are differences on what is the objective from a Management perspective and what is the economic perspective, normally when you are establishing a new process you want efficiency, but measuring that is in the development of productivity, and at the end what mattered was people complaining, when people stopped complaining was the time to close the project”.

In this particular case all project objectives were really benefits for a broader program, which had as a strategy to increase productivity and to allow growing development for the organization. Nevertheless, either if the goal was achieved or not, remained unclear “When we got to the point of asking: how do we actually measure productivity? there was no indication ... that measurement was never defined. And the overall goal of developing productivity wasn’t achieved. I don’t think that was achieved”.

5.5 Description Case 4

Case 4, also provided by respondent 3, took place circa 3 years ago. In this occasion, the participant took the role of a senior analyst, with the objective of proposing a project scope, changes to the portfolio and future projects to help the business line grow.

By the time, the project he was analysing had the intention of establishing a new business line. It had been performed for a long time and was passing through its fifth project manager. The overall strategy was to build capability for the company.

The respondent task included finding what was wrong either the product or the project, bringing facts to the table and understanding the details of the organization, the product of the customer in an effort to actually deliver the project. In this sense, this project could be considered as one that was escalated but that there was an intention to correct it.

The project was trying to transform part of the business from selling Software as a Product (SaaP) to Software as a Service (SaaS). It was started due to a market need “there is a change in the market... people are becoming more cost aware, and that’s exactly what we want to address”. And had such a strategic importance that impede its termination
“The strategic thinking was: If we do not do this on time, there will be no company. It is at that level of decision. It is almost at any cost.”

Several factors were troubling the project in not achieving its objectives. But the principal ones were a not-well done business case – “So, then it happened that the realization of the business case was worse than expected, and that was part of the urgency on acting on that” – in addition to miscommunication, misalignment between top management and the lower levels of the organization, to the point there was a disbelief in the solution – “If you have a board level decision that says we want to do this at any cost, and then it goes down in the organization and it ends up meaning many different things… it ends making no sense because at one end of the company becomes different from that at the board level. And then it becomes difficult to know what is it that you wanted to achieve and what is the goal”

Thus, the project monitoring became difficult as there was a lack of clarity not only in the way to perform the project, but on its goals and on its evaluation.

Options on how to act upon the troubled and escalated project were formulated but not taken as stated “An option could have been to abandon that model... but that decision would have impact the financial markets”, or “Can we do it slower and what the cost would be? That could have been an alternative as well”.

The project was drawing its perception on success or failure based on its economic performance and future of operations: “it was more a classical business case where you can put numbers together. For this X millions you will get Y millions back. You could base everything in numbers: Markets, Costs and Returns”

However organizational politics also played an important role in both, continuing the project and in the perception, that was on the project: “there is also some politics involved in here. If they themselves [top management] are the ones that say if it is a success or a failure ... they are trying to avoid being caught in something that was unattainable ... people protect themselves”

Concluding on the case it was mentioned that “the key is about being able to measure, finding a measure of what you are going to get here. It can be very hard to find a tangible measurement but you have to be very clear with the goal and be sure that this goal. It needs to be ambitious enough and have some push from management but also something that makes sense on the floor. So, having this in the organization and making them buy this idea is something that you need to be aware of”.

5.6 Description Case 5
Respondent 4, is currently based in Copenhagen, Denmark. He has 20 plus years of experience in project management, with an educational background in Project Management Professional (PMP), Portfolio Management Professional (PfMP), PRINCE2® and agile certifications. He has been involved in organisational development and IT projects (Global Enterprise Resource Planning, IT, Human Resources solutions implemented in organisations) and currently performs as Management Consultant and Project Manager.
For this project case presented, respondent 5 was a Portfolio Manager responsible for the total budget and of overseeing if the organisation’s started the correct programs and projects beneath that. He was involved in a Human Resources (HR) Solution project (IT project) rolled out in a global consulting company. The project was started due to a need of a coherent HR solution, and the opportunity identified was that there were some technologies, some solutions that could optimize the whole business model of this consultancy company by giving an overview of its employees, resources and competences in much more detail.

The project was just beginning (the start period was approximately 2 or 3 months) by the time it was “delayed”. Even though it was called a delay at the time, everybody knew it was in fact cancelled. “Often, it’s too hard to cancel or say ‘no go’, people say it’s not a bad idea, but not right now. So, these are the reasons ... you postpone for a half a year, 2 years. In all practice manner it might be a ‘no go’ decision. It is actually a termination because you take the resources off the projects. Terminology wise, people talk about postponing”

The cancelation took place for two reasons: a lack of resources for the project, and the belief that the business case vanished. The people that made the business case were no longer part of the organisation. Doubts crept in and the value of the business case was questioned – “The business case is always difficult; it sorts of say something about the future”

The respondent, as a portfolio manager, was the one that came up with the recommendation to stop the project. The portfolio management board, top management and key managers in the project took the final decision. Among other alternatives considered before terminating the project, was to continue the project anyways but at a slower pace.

There were intended benefits and success criteria for the project, but these were not clearly written, were vague and were very textual and not well quantify. “Too high level, too abstract...it ended up with arguments that [you] could believe or not believe, so it came up to a believe situation and not something that you could logically argument”. The person responsible for defining these benefits was the HR organisation (the client/end user), which according to the respondent was one of the problems as there should be split responsibility. He believes, a project, program or portfolio office taking an objective view of the project, defining some objectives and measures and that can see more clearly across a number of projects.

There was not a real monitoring on the business case or measurement on the business case benefits. “Very much words on paper that each person in the portfolio formally needs to find out: Do I believe these words or not? Do I believe we can deliver these benefits? They [the project benefits] were mostly stated like a good story and then you could believe them or not”. In terms of the decision timing, the respondent considered the decision to terminate the project should definitely have been done earlier. Since when the business case was being built, it was clear to him that it was too weak. The respondent assured he already knew that at some point in time they would have to do some project prioritization and that this specific project could be, one of those in path to termination
“You need to substantiate it more [the business case] otherwise you risk of being underfunded or terminated down the line”.

He additionally stressed the importance of the project management office or the portfolio office as they prioritize across companies; the importance of having a BRM in place. Not being absent of issues such as: benefits not detailly discussed until there is a need to mention them at the end of the project. “I want people to make benefits concrete already at the business case level, and I want somebody else than the project itself to measure those benefits”.

The respondent said that another problem faced, is that projects and programs need to map their outputs against the very abstract strategic goals of the company. He suggested to build a number of goals on a central level. Making them more concrete and relatable so that projects can deliver on something. “Sort of have an abstraction level... between the projects outcome and this very high-level enterprise goal, put some business goals in there that is easy for the projects to show that they have actually deliver and then we can argue these intermediate goals actually have something to do with these strategic goals”.

In this case and according to the respondent, benefits are usually long-term rather than short-term long after the core project has ended. Usually produced in the line organisation meaning that the project could only enable the delivery of benefits and deliver some outputs but the concrete creation of the value is done in the line organisation. “8 out of 10 of the benefits that we are trying to achieve are always long term and they are only produced in the line organisation”. “I don’t want the measuring to be done in the project, because the project is over and done when we start measuring the benefits, so I want the project to deliver a benefit measure model, but they need to deliver to an organisation that can after that measure the benefit”.

5.7 Description Case 6

Respondent 5 has approximately 3 years of experience in project management, having a PMP certification and several project management courses. He is currently working as a Commercial Project Manager (the organisation has its project management team divided between technical and commercial). Belonging to a big multinational organisation, he is part of the mobility division which focuses on the development and construction of rail products. His main responsibilities include offer process, logistical coordination, project planning, reporting, revenue recognition, and “basically everything which belongs to the project itself”.

The project case presented consisted of a bid to a French customer. The company has to participate in certain bids. The plan is to give an official offer showing their interest in the contract and the project. This specific bid started at the beginning of September 2017 and at by the end of the same month there was sudden call to its cancellation and into stop participating in the bid.

Currently, the organisational strategy relies on the merger with another company. The overall strategy is to hold the current market and to grow on markets in which they are currently not that present, i.e. Latin America and Asia Pacific. According to the respondent, the opportunity identified for participating in the bid was to get a foot hold in
the French market, generate revenue, and to create some work. Being all aligned with the organisational strategy and focusing on strengthening the European market.

The decision to terminate the project was due before giving a final offer to the customer for two main reasons: 1) top management decided that the chances to win the project (the bid) were very low because of the market being dominated by a competitor, and consequently: 2) the resources were also needed for another project or another process within the company. This decision was taken by the upper management, so the respondent couldn’t actually describe if there was a monitoring process applied, and he doesn’t know how they decide to participate in a bidding process or not, or in this case to withdraw.

According to him, the termination decision didn’t affect the organisational strategy, as the company is very big and they participate in many bidding processes across Europe. “I don’t think one specific project can have an influence in the company strategy”. The respondent expressed that in his opinion the project was going well until the point it was cancelled. Being cancelled based on someone’s decision not based on project performance. But he also thinks, that this decision should have been made earlier “so of course, it would have always been better to terminate the bid earlier, because time and resources were already invested [in the project]”.

The respondent pointed out that an alternative would have been to continue the process and to hand in a bidding offer to the customer. But ultimately it was the management terminating decision what prevailed. The project was stopped during its conception and definition phase, “the offer process is part of the project but of course it’s a real project in our case if the customer orders”, reason why there were not any specific intended benefits for the project draw yet.

For this specific project, there was no benefit evaluation process in line as the project was cancelled before any actual delivery. However, for other projects within the organization and after their execution, there are ‘lessons learned workshops’ where - “all the project members basically reflected everything on the project: what was achieved, what went well and what went not that good... the aim is basically to learn from it for the future projects in order to execute [them] with a higher quality”. These workshops are done between 10 days to 3 months after the project is done; depending on the availability of the project members; also varying from project to project. The person responsible for organising and executing these workshops is the technical project manager but the moderation is done by somebody else.

The respondent thinks that a requisite for a project to be executed well is that “specifications are defined in a clear and transparent manner, and that we really know what the customer wants to have”. Most of the time, the problem is that the customer doesn’t actually know what they really want and therefore the specifications are not enough to properly carry out the project or deliver what is really needed and wanted.

**5.8 Description Case 7 & Case 8**

Respondent 6 provided Case 7 and 8. Having over 15 years of experience in project management and accounting with the PMP, and PRINCE2® certifications. He has been involved in a range of different projects including: drug research, drug development,
medical technology, diagnostic devices, telecom, nuclear, medical technology, and change management projects.

On Case 7 he was part of a project team in a drug development project. Project case 7 was developed until the middle of the project: the animal trials, in which they checked and confirmed that they couldn’t achieve the expected effects that were needed. “In such projects, if you think there is a risk you cannot do it, you try to do the experiment to show that it doesn’t work, cause you want to terminate as soon as possible”.

On project case 8 he acted as a project manager in a drug development project. The project advanced until the last stage: the clinical trials. After a one year of clinical trial on patients, the drug under development passed the first phase with trial volunteers, however it was noted that the data collected from the animal tests and the model created with it was not the best for humans. Therefore, failing the clinical trial and terminating the project immediately - “It is quite common to terminate a drug development project”.

The opportunities identified to started both case 7 and case 8 were: upcoming evidence of being able to cure or treat the intended diseases; a desire for scientific contribution; the feasibility of developing and delivering the drugs; and the belief on the specific drug development.

The respondent explained that there were some intended benefits for the projects, however they were mainly on the market needs. On both cases there was a clear distinction between critical success factors and benefits as a way to track the project and to achieve its goal – “success factors [are] what makes the benefit possible”.

The organisational strategy changed over the years, but it was mainly about patient growth, lower development costs and ultimately the search and development of drugs that can treat diseases. The intended project benefits had a strong connection with the strategy, being aligned and considered when taking a termination decision.

Beside failing the animal and clinical trials, other factors considered to terminate projects were changes in the market situation as competitors coming up with other drugs and launching them first. However, as an internal issue it was mentioned that if other drugs failed to pass clinical trials it was to be understand that the process is not working.

The way to monitor both projects’ performance was to collect and analyse data on the drug performance. If the conclusions were that such developed drug was not good for human consumption, the decision to terminate was made – “this is quite different from other projects in which you check the cost vs benefit, it is not really that situation in medical research”.

For these two cases there was a benefit evaluation process in stages, which differed from the project performance monitoring - “Before moving on to the next stage there was an evaluation process in place...these types of projects are extremely long so you have to be sure that is worth continuing it”. The evaluations took into consideration the products capability to reach the market and their return on investment. The people involved in the evaluation process was the research & development team, the head of the clinical department, and the marketing department. Usually there is not a benefit realisation.
process in place for long-term benefits - “in some projects it is harder to do such an evaluation process”.

According to the respondent, the future failure of success of the projects can be somewhat predicted at the testing stage. When failing the clinical experiments, and the animal experiments the project might be doomed, however even in the case of success there is still a chance for future cancellation - “You don’t know if it [is] succeeding until you get approval to start selling the project even if you pass all the clinical trials. Even then, they can fail”. Before the actual experiments take place usually it is not perceived that the project is failing, “if you [are] expecting it to fail in the clinical trials, you wouldn’t do the experiments as they are expensive”.

The decision to terminate both projects was jointly made by the head of the department and the head of research and development. In some cases, other alternatives are made before a terminating decision takes place: fundamentally transferring the knowledge to the development of other drugs, “because in some cases you can say: ok we can’t affect this drug enzyme... it didn’t have the effect in the affected sample, it fail the medical trials..., but then we have ideas about other diseases that might be affected by treating the same enzyme but probably in a completely different way”.

In some situations, the termination decision is made too late because there is a strong belief in the project - “I think most people involved, ... will try to build and test their hypothesis, but if it fails, everybody knows it is much better to terminate.” As per the reasons to delay the decision he stated a “strong emotion in a project that they are reluctant to terminate it”.

5.9 Description Case 9

Respondent 7 is currently working in Umeå, Sweden as a project manager for a start-up incubator. Prior to that she has also worked over 4 years as project consultant, brand and communication coordinator. She counts with experience in entrepreneurship, coaching digital strategy and general consultancy. Her training in project management comes from in-house training in previous firms and from academia during her degree studies.

The project described was developed for a company focused on organizing workshops for companies, students, summer camps and more, with the goal of people to come together around their values. The project consisted of digitalizing part of the workshop. While the overall processes were very manual, there was a tool used for the workshops that the company was buying from a third party and took over two hours to complete, giving a series of complications if the participants were not completing it on time.

The project was perceived as a chance to improve the current process and to outstand competition - “It was an opportunity, because the other tools were taking time and money... they [the company] could be saving money but also doing something where there was no competition. They already had the clients... they could have even sell small packages, instead of selling a 5-hour workshop, sell a 3 hour one and so reach more people”. For this, the ultimate benefit set was to increase customer engagement, as well as product and service feasibility and availability.

The respondent took the role of the project manager who “lead the digitalization project. set the structure of the project and what it would entail ... and drive people though the
process”. Other consultants and professionals were also brought in to do more technical work. Resources were laid in by the organization, who also provided customers and people for testing and interviewing.

The project development was tracked in an informal way – “we definitely did check-ups on the project status, for myself and for the people who were more involved in the process, keeping implementation sheets and seeing what was going on and at what time to match the activities”.

“We had regular meetings and it was in the beginning that there was a lot of enthusiasm. - Whatever resources you need - and this kind of things; and then it started to cool off. The meetings got shorter and it wasn’t interesting in the same way”. A lack of enthusiasm is described as the project developed. However, the real concerns came from different actors in the company whom main concern was on the project threatening the core of the company in the process. The effects of digitalization started to be evident, and so resistance on the project.

“I began to notice that all the resources I was getting in the beginning to let this happen started to drift to other ways”. Resources were slowly withdrawn from the project, till the moment it was the CEO of the company who called for the project termination. The project manager was part of the discussion but wasn’t involved in the decision to terminate the project – “For me it made total sense to keep working on the project... it seemed like it was something else going on. It wasn’t clear, it’s possible that they came to some realization that they didn’t shared with me. But it seemed to me that it came out of the blue”.

Such decision was made prior to testing. The project manager considers the decision could have been done later – “We had already created something. We have done the majority of the work: done the pre-study, produce the tool and just going into testing, it would have made total sense to me, to at least make sure that the first version was working correctly, and let the user test finish and see what is that you have”.

Originally the decision was passed as postponing the project, however it was never picked up again. The respondent mentions that if the real intention was to actually postpone it that it would have also been more efficient to do it after it was being tested, as there would be less costs to pick up the project again. Additionally, the project had implications with the overall strategy of the company, while the participant thinks there was not a clear one. It was mentioned that the conclusion of the project had as a consequence the assessment of the current business direction and structure.

On the value and benefits created by the project - “I think there’s a lot of value throughout the process... I think there were benefits through it... the result is very small but if you keep using it, you can create more value from it... If you come to a delivery and they [the end users] are not using it or not moving forward, I think that as a project manager, as a project team, there’s not much you can do”.

In this sense, the importance of the project brief was highlighted – “I find it that they [top management] might have not read well the brief, they might have not got much of an understanding of what really the problem is. Or what it is that they actually want out of it … if we look at it from a strategic view, what is it that we are trying to do here?”.
Giving a final comment on project termination the participant mentioned - “Sometimes it is just thrown away, because you did not have enough time or did not have the engagement of someone who is higher up in the company, who can pull it all the way and make it happen. A lot of times as a project group or a project manager you are too low in the structure to really make things happen”.

5.10 Description Case 10

Respondent 8 works as a project manager and counts with over 3 years of experience in the position. Graduated from a MSc in economics and bachelor in industrial engineering, she has had several academic courses on project management. Her areas of expertise are in the field of IT business and communication.

The case described took place in an IT company, focused on domain systems, software development and data centre operation. The project described was about receiving the ISO 27001 certification, which is an international standard concerning information security. Once the project was launched, it was stopped after a couple of months. However, years later it was brought to life again, this time being successful.

Being the company’s strategy to “get more important into the very small industry we are working in, which is the domain name industry”, there were several reasons to start the project such as gaining more customers: “We have a lot of things going on in that part but we needed something that tells our customers and external parties, hey look this company has a stamp on the outside saying they are the good ones”.

With the role of the project manager, the respondent started the project alongside a technical responsible officer, in charge of internal processes; the project team which was part of other projects at the same time, and a hired consultant specialized in the certification, who was playing a key role in assisting the project team.

“We had three different consultants and we discussed that with them. We decided on one of those, that actually was one of the reasons why we stopped after some months, because it was a pretty bad choice” – The respondent mentions that the consultant chosen started failing in his deliveries both in quality and timing, which were slowly doom the project. Nevertheless, while the possibility to change the consultant was addressed, there were further issues at the organization at that time: resources were limited and other projects were gaining importance over the certification one, prioritization was needed on the portfolio – “Another thing more important was that this was an internal project. Internal projects in smaller companies as far as I know are sometimes not as highly prioritized as external or customer projects so when a different project comes in and you can actually earn money right away on the spot, your management might choose to change priorities and go to a different project”.

The final decision on stopping or postponing the project was done by the manager. However, this decision was influenced by the project manager and the project team after noticing the project was not achievable in the short term. “If you dig deeper I would say the main people that lead management into that decision were probably my colleagues and me. We discussed if it makes sense to go on like this, maybe we didn’t have the time to really dig into this project anymore because other projects got more important and it is very frustrating that after two weeks everyone said: - no I couldn’t do anything because
I had other things to do - and so at one point we sat down and discussed with the management, but the hard decision itself, could only be taken by management”

Regarding the timing of the decision, it is mentioned that it was made on time as the work done before stopping the project was necessary as to see the potential of the project. Expectations also played a big role, both in the way the consultant was to perform and help the team and in the team involvement into the project, eventually this failure of meeting the expectations lead to the project to be cancelled – “I got the feeling that something wasn’t working”.

The project progress was measured in terms of milestones achieved with regular meetings (weekly) to check on the project status. – “we had milestones but actually the controlling might should have been deeper than that, on the other hand I would say that in such projects you can’t discuss about the project development all the time so my vision was to wait for the milestones too”.

Postponing the project was in line with a short-term strategy of prioritizing resources. In the long term it was visible that project was needed and would be retaken. The second time the project was started things were done different, learnings where taken from the first try and implemented in the second project – “in that second project when we started the certification we actually had some experience and we changed those things against the experience we had”.

Besides choosing a different consultant, top management involvement and prioritization of the project were key to successfully accomplish the goal and the intended benefit – “I drove to an exhibition with my management, we had four hours in the car and I said ... if we want to do it we are going to do it right and that means we have the resources prioritized and whenever we need to take decision we will be getting those decisions on time, it was about making the priorities clear and we did it really good”.

The project benefits were categorized as external and internal, while there was no evaluation once the project was delivered on the second time – “on one hand we were able to gain more customers... on the other hand it was an internal benefit because people who dealt with that project made progress in others were involved too”.

5.11 Summary of Empirical Findings
Table 3: Summary of empirical findings presents relevant material of each case as per the initial high-order codes presented in the previous chapter. It also includes general information on the project with the objective of providing easiness in the reading.
<table>
<thead>
<tr>
<th>Case 1</th>
<th>Building and implementing a new SAP System that would replace an old one no longer useful.</th>
<th>The respondent performed as part of the project team. The project was divided into subteams and each of them was taking part of a section of the project in defining the specifications. Additionally there was a steering committee who was responsible of making important decisions on the project.</th>
<th>The project was evaluated in stages. Such stages included a comparison against the project schedule and revision of the accomplishment of tasks. It was an overall stage review that it was noticed that the project was not heading in a good direction. The project goals and measure of evaluation were defined upfront during the business case.</th>
<th>The future not realisation of the benefit appeared before the testing, during a stage review in which it was pointed out how much of the previous system was being copied. However the signs of future failure appeared earlier, precisely during the business case which was not well defined and aligned to the real goal to achieve.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 2</td>
<td>To release data sets to the general public. Whom will be later using the information for entrepreneurial projects and therefore boosting innovation</td>
<td>The participant was the project manager. However there was a main figure described as &quot;who puts the money&quot;. Additionally a steering committee was established formed by relevant stakeholders who evaluated the project. Decision making was made by the project sponsor, and the project manager was only left with the technical tasks.</td>
<td>Monitoring was made by the steering committee and held in terms of the project budget, timeline and deliveries. The goals were designed upfront. Nevertheless, they were out of touch with the project objective of boosting innovation. Reporting was made each month just in the terms of the project deliveries. There was no evaluation once the project was finished.</td>
<td>The project was being delivered in stages. As the data sets were released it was noted by the project manager that &quot;nothing was happening&quot;; the information was not being used and it seemed unlikely someone would be using the delivery once it was finished, however there was some hope.</td>
</tr>
<tr>
<td>Case 3</td>
<td>The project consisted of improving development tools addressing the transition from one way of working to another one as to enhance overall productivity. The respondent took part in the project when it was approximately 80% finished.</td>
<td>The respondent joined as part of the project analysis team. There were a multiple of stakeholders involved. One of the most relevant was top management who gave mandate and direction on the project. However, there seems to be that they were out of touch with the project reality.</td>
<td>There were different realities in terms of the project goals and how to measure and evaluate them. There was an economic perspective included in the evaluation. However, there were constant complains and this became the point of reference for future and current evaluation - &quot;to stop people complaining&quot;. All project objectives were benefits for a broader program.</td>
<td>The general perception on the project success or failure was in term of the people complaining about it and the lack of belief in the project. It is to highlight the lack of involvement of the ultimate users in the development of the solutions and tools. This lack of involvement and constant complains was what mattered the most on closing the project.</td>
</tr>
</tbody>
</table>

Table 3: Summary of empirical findings (1/3) (Source: Own elaboration)
### I. Roles & Responsibilities

Under the role of senior project analyst, the participant had the task of finding what current mistakes the project or product were having in order to avoid further escalation and to get it done. The company board was the main participants as this was an extremely important project for the company. The board also drew the strategy, benefits and goals.

| Case 4 | With the goal of transforming part of the business from Software as a Product to Software as a Service. The project started a whole transformation and change that would affect all areas of the company and several customers. The ultimate benefit was to build capability for the company. |
| Case 5 | The project was about deploying a HR System in a global company of about 6,500 employees. The new system would optimize the operations. Acting as a portfolio manager, the participant had to decide on which projects to assign resources and on which ones to stop. A portfolio management board was also a key part in deciding on the project. The people who built the business case for the project were no longer in the organisation. |
| Case 6 | The initial elaboration a project and sale proposal as to participate in a bid for a French customer. The project was in line with the strategy of sustaining participation in the European market. The overall project team is divided into technical and commercial. The participant was the commercial project manager in charge of the offer process, logistical coordination, planning and reporting. There is also higher management involved who were the ones deciding on cancelling the project. |

### II. Monitoring & Evaluation Process

Project monitoring and evaluation became difficult because of a lack of clarity on how to perform the project. Miscommunication was primarily to blame on the this lack of clarity on what to do and how to proceed or evaluate. The goals set were merely financial, so the option left was for project evaluation was primarily done in costs vs future earnings.

| Case 4 | Project monitoring and evaluation became difficult because of a lack of clarity on how to perform the project. Miscommunication was primarily to blame on the this lack of clarity on what to do and how to proceed or evaluate. The goals set were merely financial, so the option left was for project evaluation was primarily done in costs vs future earnings. |
| Case 5 | There was no real monitoring on the business case or in the benefits to be delivered by the project. Benefits seemed to be just words. The whole portfolio was monitored in terms of resources while projects were on their performance. |

### III. Prediction of success or failure

Future economical performance played a key role on perceiving the project as a success or failure. However, problems were noticed since the business case were badly built. The realization of the business case became worse than expected. Nevertheless, top management was not willing to take a stance on the future of the project either as a success or failure.

| Case 4 | As the project was in a conception and planning phase, the respondent did not know about any monitoring done on this stage. However it was mentioned that as to check on the results of the project, and the way they were carried out it is common to have lessons-learned workshops were experiences on the project are shared. |
| Case 5 | Belief on the business case vanished and gave way to doubts on the value of the project. The business case was perceived as weak and "it sors of say something about the prokect future". However it was also mentioned that the real value of the project comes when there's is something delivered, only then the real benefit, success or failure of the project can be assesed. |

### IV. Termination Decision

The project had such an strategic importance, that it was considered to be done at any cost. Meaning the project was continously escalated in commitmnet. Options could have been formulated such as slowing the pace of the project. Nevertheless politics played an important role in deciding upon the project.

| Case 6 | There was no sign of the project being cancelled, in fact it took the staff by surprise. However it is mentioned that most of the times when specifications are not clear and well defined there are great problems in delivering what the customer wants or needs. |
| Case 5 | The termination decision was suggested by the participant himself and confirmed by a portfolio management board. As the goals were not clearly stated, the decision was based on resources, but there was room for argumentation on the future of the project. Nevertheless it became a situation of believing or not in the project rather than logical arguments. The alternative to continue the project at a lower pace was also present. |

Table 3: Summary of empirical findings (2/3) (Source: Own elaboration)
I. Roles & Responsibilities

As part of the project team, the respondent mentioned involvement of different such as head of the department, project manager, research and development team and marketing department. Decisions are usually made by the heads of departments.

Both projects had clear distinctions between critical success factors and benefits. The project monitoring was made through data analysis on the trials they had and included stage reviews. However, the project evaluation was also made in terms of their future market and return on investment. As far as it is known there are no benefit evaluations once the project is finished.

Failure or success can be somewhat predicted during the testing stage. However it cannot be 100% certain as some projects can be canceled even passing clinical trials. However if there’s a sign of failure the project is stopped as it is the most rational thing to do. The ultimate success and delivery of benefit is not seen till the whole project is completed.

The termination decision is made by the heads of the departments. In some cases other alternatives include reimplementing current knowledge and development into new projects. However it is recognized that sometimes strong emotions on projects play a key role in the decision even when the most obvious thing is to terminate.

II. Monitoring & Evaluation Process

The whole project was monitored in an informal way. Meetings were held to check on the status against planning and the results. The participant mentions that the ultimate goals of the project cannot be measured till the end of it agains the initial intention but that benefits can be evaluated and realized throughout the project development.

There was a clear path to the project completion. However, support and resources were started to withdrawn from the project making it difficult to move forward. The decision on stopping the project seemed to come out of the blue.

The decision was initially passed as ‘pausing’ the project. No alternatives were generated to stopping the project. It was single made by the CEO and just communicated to the project manager. The reason seems to be either a misalignment with the company's core strategy and business and reluctance to change. If the real decision was to carry out the project at another point in time it would have made more economical sense to pause it after the initial testing.

III. Prediction of success or failure

Expectations on the project performance were important. While it was noticed that it was not delivering, there was a recognition of a decision to be made in terms of the resources deployed to the project and its important in the short term.

The decision was made by the manager, but pushed by the project manager and the project team after they realized the current complications. Prioritization of the resources into other projects seemed to be the main reason for postponing the project. Lessons were learned from the first try and then the project was restarted, finishing successfully.

IV. Termination Decision Making Process

The termination decision is made by the heads of the departments. In some cases other alternatives include reimplementing current knowledge and development into new projects. However it is recognized that sometimes strong emotions on projects play a key role in the decision even when the most obvious thing is to terminate.

<table>
<thead>
<tr>
<th>Case 7</th>
<th>Drug development that carried out till the middle phases of the project: animal testing.</th>
<th>As part of the project team, the respondent mentioned involvement of different such as head of the department, project manager, research and development team and marketing department. Decisions are usually made by the heads of departments.</th>
<th>Both projects had clear distinctions between critical success factors and benefits. The project monitoring was made through data analysis on the trials they had and included stage reviews. However the project evaluation was also made in terms of their future market and return on investment. As far as it is known there are no benefit evaluations once the project is finished.</th>
<th>Failure or success can be somewhat predicted during the testing stage. However it cannot be 100% certain as some projects can be canceled even passing clinical trials. However if there’s a sign of failure the project is stopped as it is the most rational thing to do. The ultimate success and delivery of benefit is not seen till the whole project is completed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 8</td>
<td>Drug development that was performed till the clinical trials. Compared to case 7, this case had a long year of trails.</td>
<td>This case involved the same participants as case 7, however on this situation the participant acted as the project manager.</td>
<td>The whole project was monitored in an informal way. Meetings were held to check on the status against planning and the results. The participant mentions that the ultimate goals of the project cannot be measured till the end of it against the initial intention but that benefits can be evaluated and realized throughout the project development.</td>
<td>There was a clear path to the project completion. However, support and resources were started to withdrawn from the project making it difficult to move forward. The decision on stopping the project seemed to come out of the blue.</td>
</tr>
<tr>
<td>Case 9</td>
<td>Digitalization of a current tool in a company that organized workshops. The project aimed to provide economic and time efficiencies, while expanding the current business possibilities.</td>
<td>As a project manager the respondent coordinated the whole project. However the CEO seemed to be quite involved in the process. Additionally technical consultants were brought in. The company staff was also involved in the project development.</td>
<td>The whole project was monitored in an informal way. Meetings were held to check on the status against planning and the results. The participant mentions that the ultimate goals of the project cannot be measured till the end of it against the initial intention but that benefits can be evaluated and realized throughout the project development.</td>
<td>The decision was initially passed as ‘pausing’ the project. No alternatives were generated to stopping the project. It was single made by the CEO and just communicated to the project manager. The reason seems to be either a misalignment with the company's core strategy and business and reluctance to change. If the real decision was to carry out the project at another point in time it would have made more economical sense to pause it after the initial testing.</td>
</tr>
<tr>
<td>Case 10</td>
<td>Developed in an IT SME company. The project was trying to get the ISO 27001 certification with deals with information security.</td>
<td>A consultant was hired with the objective of guiding the certification process, eventually he started failing in his deliveries. The project manager (respondent) was assisted by a technical officer and a project team, however all of them were involved in several projects at the same time.</td>
<td>The project was controlled by milestones. Meetings would be held weekly. However, it is recognized that the process should have been done deeper than that. The goals for the project were set in advance and were considered to be in line with the company strategy.</td>
<td>Expectations on the project performance were important. While it was noticed that it was not delivering, there was a recognition of a decision to be made in terms of the resources deployed to the project and its important in the short term.</td>
</tr>
</tbody>
</table>

Table 3: Summary of empirical findings (3/3) Source: Own elaboration
6. Analysis & Discussion

The analysis & discussion chapter initially provides an explanation on how the project cases were analysed, including the development of the lower-order codes and its relationship with the developed model. Additionally, each code is discussed and related to the previous literature research. An explanation for these results is also provided.

6.1 Analysis Methodology

Template analysis is the chosen strategy to analyse the qualitative data, which was later on compared between the cases. This technique has the characteristic of being valid for multiple research approaches including abduction, and has the aim of analysing and organising textual data (King, 2004, p. 256). As per our abduction approach, this type of analysis also combines the deductive and inductive approaches to qualitative analysis, meaning that codes can be predetermined and then amended or added as data is collected and analysed (Saunders et al., 2009, p. 505).

This analysis, is to be started with the elaboration of codes or categories that represent the themes of interest and those collected from the data (Saunders et al., 2009, p. 505). A key feature of this process is the hierarchical organisation of codes. Thus, allowing the researchers to analyse text at different levels. As explained before, the set broad higher-order codes gave an overview of the general direction of the interview process while the lower-order codes allowed fine distinctions made within and between the cases (King, 2004, p. 258).

As previously mentioned, an initial coding template was built a priori with higher-order codes that were identified from concepts found in the literature review and the doubts that arose from the conceptual model. Once on the analysis stage, the interview guide developed also served in transforming the initial doubts into analysis themes. Subsequently, after all the interviews were conducted, the interviews were analysed separately by taking notes and doing the transcripts of each of the 10 cases, with the aim of providing a rich understanding of each case. Then, a set of lower-codes was developed and included on each higher-order code already agreed and developed a priori. Please refer to Figure 9: Template building process (Source: Own elaboration) for a graphic description.

![Figure 9: Template building process (Source: Own elaboration)](image-url)
After a joint discussion between the authors took place, an analysis across the 10 cases was made comparing the lower-order codes individually identified and their number of frequency to search for common patterns and unique features. It was then decided which lower-order codes should remain or change and which ones were to be grouped, eliminated or inserted in the final template. See Figure 10: Final Template for Analysis (Source: Own elaboration)

The final template includes four higher-order codes. Each code is then subdivided into three or four descriptive lower-order codes. A total of 14 lower-order codes emerged at the end of the process. The extent of this subdivision broadly reflects the depth of the analysis (King, 2004, p. 261).

The first high-order code is ‘Roles & Responsibilities’ which comprises four lower-order codes: ‘Steering Committee’, ‘Project Manager’, ‘End-user’, and ‘Communication’, this referencing to the stakeholders involved in the project termination decision and in the BRM process and the level of communication between them.

The second high-order code is ‘Monitoring & Evaluation Process’ which comprises three lower-order codes: ‘Defined goals’, ‘On-going evaluation’, and ‘Post-mortem evaluation’, this referencing to monitoring and evaluation process taken place on the project and the BRM process.

‘Prediction of success or failure’ is the third high-order code, which encompasses three lower-order codes: ‘Business case’, ‘Testing’, and ‘Deliverable’, used to describe the point in time when the project is perceived of being either a success or a failure according to its benefits.

Finally, ‘Decision Making Process’ is the fourth high-order code, which encompasses four lower-order codes: ‘Reasons to terminate’, ‘Politics in Decision Making’, ‘Alternatives to termination’, and ‘Judgement on termination’. This area is of direct relevance to the study research question on how to terminate a project, and therefore required a more in-depth analysis than the high-order and lower-order codes, hence important topics to be covered are: ‘Importance of the resources’ and ‘Support or belief on the project’ under ‘Reasons to terminate’; ‘Timing’ and ‘Outcome of the decision’ under ‘Judgement on termination’.
Once each case was analysed, the findings on each case were compared with the whole group in a process of going back and forth between all the data and individual cases as it is described by Bryman & Bell (2015, p. 71).

The researchers were looking for similarities in the information, but also extreme differences were exalted and pointed out. Bryman & Bell (2015, p. 72) also mentions the importance of this contrasting of cases as it embodies the logic of comparison in a search for a deeper logic of understanding. Thus, the analysis of the qualitative data via template and the cross-case comparison made, helped in making valuable inferences on how to refine the previously built model.

### 6.2 Roles and Responsibilities

**Step 1. Project Initiation** (on the developed model), includes the determination of stakeholders based on the ABR process of Remenyi & Sherwood-Smith (1998). While developing the conceptual model doubts raised regarding who these stakeholders should be and their roles and responsibilities. Roles and responsibilities of who should take the termination decision or be accountable for benefits realisation varies among the case studies under review as well as on the literature review presented above. Primary stakeholders mentioned by the case studies were the steering committee (top management for Case 5, 6, 9 and 10, portfolio manager in Case 5, and Head of department for Case 7, and 8), project manager, and the end-user (customer for Case 6).

Case 5 suggested that there should be a split responsibility in benefit identification and definition, between the end-user defining the benefits and specifications needed (Case 6, Case 7, Case 8 and Case 10), and a project/program/portfolio office, that can see more
clearly across a number of projects and can take an objective view of the project, defining some objectives and measures. 

As per the literature review the relevance of this is exalted by Melton et al. (2008, p. 110) who believes BRM should be the common goal for the business sponsor, customer and project manager and as such should be integrated in the early stages of a project. PMI (2016, p. 7) suggested that benefit identification should be a shared responsibility between executive leaders, business owners and project managers.

**6.2.1 Steering Committee**

On most of the cases under study, important decisions regarding whether to terminate a project or escalate it were made by the steering committee. The recommendation for a project termination decision came from a portfolio manager in Case 6, and by a project manager in Case 10; and the final decision for project termination was done by the steering committee or the top management on Case 1, Case 3, Case 4, Case 5, Case 6, Case 7, Case 8, Case 9 and Case 10.

The steering committee is also involved in the BRM process by evaluating and monitoring the project progress at each stage-gate, making sure the goals and benefits are delivered by the project and taking decisions regarding this process, this can be seen in Case 1, Case 2, Case 7 and Case 8, and comes in line with Fitzgerald (1998, p. 25) as he suggested that for the evaluation stage, at least a senior executive responsible for the business strategy should be involved.

**6.2.2 Project Manager**

From all of the cases by exception of case 10, it can be interpreted that the project manager is not too much involved in the project termination decision, sometimes they are just notified of the decision. Regarding their involvement in the BRM process it varies among cases. Usually, the project managers’ responsibility (clearer on Case 6) is focused on project planning, reporting, revenue recognition, he quoted in his role as a commercial project management “basically everything which belongs to the project itself”. On the other hand, Case 3 in his role as a project manager was involved in the BRM process as he was responsible for collecting data and gather objective information on whether project goals were being reach and provide this information to the steering committee who will be able to decide to close the project in a timely manner.

In Case 6 and 10 it is to be seen that project managers aided in technical details on the projects. And that in big corporations there is a more formal process on lessons learned sessions where knowledge is tried to be replied into new projects.

**6.2.3 End-User**

Case 6, Case 7, and Case 8 revealed that the end-user is who is actually going to use the project, and the one responsible of defining the benefits and specifications needed to deliver the project. This goes in line with Chih & Zwikael (2015, p. 358) who stated the importance of the involvement of end-users among with governing stakeholders, and supporting stakeholders in the target benefit identification stage.

The respondents consider the involvement of the end-user in the project to be important as transparent and clear project specifications and benefits aid in a good execution of a
project and ultimately project success. Case 6 stated that this can be a problem since end-users don’t actually know what they really want and therefore the specifications are not that clear “…a lot of times this is the problem, that the customer actually doesn’t know what he actually wants, and that specifications are not that clear”.

To prevent future changes in later phases of the project, the project goals and requirements should be defined in the initial stage of the project. This cannot be done without the end-user involvement in the process (Dvir et al., 2003, p. 95). A reflection of customer requirements at the initial phase of the project can then reduce the amount of changes later on (Dvir et al., 2004, p. 12). This was expressed in Case 1, Case 6, Case 9 and Case 10. Therefore, expectations of the end-user with respect to the project outcome, may be of major importance in the decision of project abandonment (Ewusi-Mensah & Przasnyski, 1991 p. 80).

### 6.2.4 Communication

The cases mentioned the importance of clear communication among primary stakeholders in order to keep them involved and for the project to run smoothly. Communication with the end-user is imperative in order to understand their requirements and needs and to assure project success, Case 4 stated that “problems with the project, meant problems with the customers, and subsequent financial loses...”

It can happen that the project is delivered, as in Case 2, but the project never accomplished it’s intended goal, perhaps because there was a lack of communication between the technicalities of the project and the upper management of the project who gave mandate. In consequence leading to a failure.

Since the end-user is who will ultimately use the project it is important to be able to effectively communicate with them, as Case 3 stated: “…it is important to involve the people who will own and use the tools, helping in defining the projects objectives and the goals and tracking on how to get there”.

Among the cases under study miscommunication between primary stakeholders was one determinant that lead up to project complications and even project failure or termination. On Case 4 miscommunication from top management on what was intended to do and decisions taken to the mid layers made it difficult to understand the goal and what was needed to be achieve. On Case 1 miscommunication of project development between project team members led to a failure by noticing the project was not achieving its intended purpose until a whole evaluation was made. On the contrary, Case 10 shows the advantages of a good communication: the management stopped the project on suggestion of the project staff considering the decision was made at the right time. The next time prior the project was started there was strong communication on the needs of the project for its success.

### 6.3 Monitoring and Evaluation Process

Monitor and Evaluation of the intended benefits or goals of the project is a significant part of the conceptual model developed by the authors as it will help decided when is the right time to terminate a project if it is not realising the intended benefits. Supporting this idea, Andresen, et al. (2000, p. 64) states that benefits must be monitored during the
project life cycle and documented at a final stage to allow comparison with predictions and post benefit evaluation and learning.

Case 1, Case 2, Case 7 and Case 8 revealed that there is a monitoring and evaluation process on benefits or goals at a stage-gate review. On the other hand, Case 5 revealed that there is no real benefit monitoring in place due to abstract definition of goals, making it difficult to compare against the intended benefits, and a lack of clear, quantifiable client requirements and benefits.

During the research process there were three main topics that arose regarding monitoring and evaluating that the benefits were actually realised or that the intended goals were achieved: defined goals, on-going evaluation and post-mortem evaluation.

6.3.1 Defined goals
Among the cases under study, there are some that used the term goal to describe the benefits that the project was looking to achieve. The majority of the cases agreed that the goals and benefits were not usually well defined, not clear, intangible, too abstract, not quantifiable or too ambitious without any well-defined metrics on how to measure them, making it difficult for projects to map their output against these goals and benefits. In this sense phrases such as “usually a lack of clear written, quantifiable benefits”, “these benefits are usually too high level, too abstract, and vague” or “the goal is more like a description and not something that can be measured” were shared.

The following comment on Case 5 proofs this point: “I strongly believe in a BRM and I see a number of things that goes wrong, one is that we don’t talk about benefits very specifically until we need to mention them very very much at the end of the project. I want people to make benefits concrete already at the BC level and I want somebody else than the project itself to measure those benefits”.

The goals and benefits take several forms as Remenyi & Sherwood-Smith (1998) mentions. They can either be economical (Cases 4, 6, 7, and 8); in terms of the project being delivered on time and on budget (Case 2) or in more abstract way that involves gaining efficiency, stop complains, boosting innovation, etc. (Case 1, 2, 3, 9, 10). Thus, Remenyi & Sherwood-Smith (1998) seems to be correct in developing a series of “pictures” that cover all of these aspects.

Nevertheless, sometimes the goal or benefit is not clear to all the stakeholders involved and/or they have different opinions on what the project is trying to achieve, as stated by Case 3 “a lot of stakeholder management and discussion going on about what is that we are going to solve [the goal]”, “the goal was given as top-down statement...where people was saying we need to solve this and we don’t know how to solve”. It is suggested by respondent of Case 5, that the goal should be break down in more understandable and attainable goals for the projects to achieve “build a number of goals on a central level...make them all concrete, relate them all, valid for projects to deliver on something...”.

Another problem found was them being too ambitious and unmeasurable taking 2 or 3 years to achieve, usually this could happen to avoid losing face as on Case 4 “the more tangible the more measurable they make [the goal], the more they put themselves in line with failure...they are trying to avoid being caught in something that was”.
The key seems to lie in being able to find a measure on those intended goals or benefits, as Case 4 said “you need to have a clear idea on what you are going to change and improve and how you are going to measure that”.

Furthermore, a strong connection between the strategy and the intended benefit for the project was present in Cases 1, 3, 4 and 10. It is interesting to see that in Case 9, the threat of the project to the company’s core was a reason to terminate, confirming the importance of the strategic alignment mentioned by Werner (2012, p. 5).

6.3.2 On-going evaluation
This topic is contemplated in the model as an on-going monitoring of the project and benefit to be delivered. The importance of this, is to ensure that benefits are being achieved during and after the project (Bennington & Baccarini, 2004, p. 22). Cases 1, 5, 7, and 8 revealed that there is a project evaluation in stages. In such, it becomes evident if the project is worth continuing or not. As respondent 6 mentioned the objective of those reviews was “to be sure that is worth continue it [the project]”.

The way in which this on-going evaluation takes place according to Yates et al. (2009, p. 230) is through data collection and measurement. This can be seen in some cases by the collection and analysis of data (Case 1, Case 3, Case 7, and Case 8), then they are formalised during steering committee meetings in which progress is evaluated on the realisation on the intended goals (Case 2) and a decision is taken whether or not to terminate the project. Case 1 pointed out that project evaluation depended on the type of project and the type of methodology used either a waterfall or agile methodology. “[If it is a waterfall project] check on the benefit once that you deliver, but if you are working on agile then it is different, you have all this cycle where you are always looking to get something you can put into use for the organization”.

On-going evaluations seem to be a critical point where either it is realised the project is not going in the right direction (Case 10), benefits won’t be realized (Case 1, Case 4) or there are other issues with the project (Case 3, 7 and 8). Even when such issues are evident a monitoring process does not always provide the right means to stop a project (Case 4, 5).

As previously mentioned, monitoring tends to focus on the project deliverables and less on the benefit to be achieved as in Case 5 “we didn’t measure very much on those business case benefits they were most stated like a good story”.

6.3.3 Post-mortem evaluation
Referring to the evaluation done when the project had finished, post-mortem evaluation was a topic discussed by several respondents by the same name or either as “lessons-learned workshops”, “checking on the project when delivered”, and “benefit confirmation”. Several cases discussed the realisation of short-term and long-term benefits and goals.

For many of the cases this type of evaluation is considered more important than the on-going evaluation, such comments were present in Case 1, Case 2, and Case 5. In this sense, the cases argued that it is only after the project has been delivered that you can
evaluate if it has actually achieved the goal or benefit. Case 1 exalted “benefits that you want to achieve have been defined upfront, ... they might have been refined during the project and measuring as such has taken after the project has end cause that’s when you have your delivery”.

The same situation was present in Case 2 in which even though during the project execution it was evident it was not delivering the benefits, it was after the completion of the project when it was truly thought about if the project achieved its intended benefits. Case 5 also agrees on having an evaluation after the project is completed and not during project execution since it is the line organisation the one that will create the value. All of the previous resembles thoughts by Ashurst & Doherty (2003, p. 3) on the importance of this type of evaluations once the project is completed.

Case 6 explained lessons learned workshops were conducted after the project was completed and this was important to understand what went good and bad to better execute projects in the future. On the other hand, even though Case 2 said that it can be beneficial to undergo this type of evaluation, he argued that it is something that doesn’t usually happen with comments such as “no one has ever wanted a post-mortem analysis...they want to move forward rather than seeing if there’s some knowledge to be gained from those previous projects” and “it must have been something very exceptional, before you invest money in analysing old projects. The general view is that there’s limited amount of money why should we spent that on looking back, when I can use the money in new projects that create new value”.

The situation of case 10 is interesting since even when there was no evaluation once the second try on the project was finished, even more benefits that the ones originally planned were realised, boosting morale and gaining customers.

Just a small portion of benefits seems to be immediately noticed upon the delivery of the project. As an example, there is Case 5 and Case 10 – “there are only a very few benefits that are actually short term ... for example replacing one old system with a new one, but I would say 8 out of 10 of the benefits that we are trying to achieve are always long term”.

6.4 Prediction of success or failure

Step 3. (in the developed model) named as Project Execution and Work, is one of the main areas were doubts emerged as this thesis was developed. Remenyi & Sherwood-Smith (1998, p. 84) conceives this step as System Development, the point in time where the project work is done. Being at this same point of time where early signs of future success or failure emerge (Procaccino & Verner., 2002, p. 20). In fact, Mintzberg et al. (1976, p. 253, 267) mentions that most decision processes involve the recognition of a decision, and generally such comes after a stimulus: a difference between the expected standard and the trend. In the project management literature, it is commonly referred as the expected probability of success (Guan et al., 2002, p. 13).

However, it is also known that not all projects that appear to be a failure or a success at a given moment will continue to be seen in the same way in the future (Havila & Salmi, 2009, p. 7). During the research process there were three key points in the lifecycle of the project were the prediction of project success was mentioned: when the business case was
delivered; when the solution or product was tested; and when the project or parts of it were delivered.

6.4.1 Business-case

A weak or strong business case was considered by the respondents as an important determinant for the projects future success. While perhaps in all situations the project was always carried further than just reaching the business case, respondents of Case 1, Case 3, Case 6 and Case 7 constantly repeated that the imminent failure or termination of the projects was visible since reading the business case. In this sense, phrases such as “I saw it already in the business case... it was too weak”, or “the business case was not properly built” were common.

This reassures the importance of having not only a well written but also a strong, grounded and understandable one. Herman & Siegelaub (2009, p. 5) assure that “when the business case is planned and managed effectively, it dramatically increases the likelihood of success in the minds of all the project parties”. Through the project development the business case becomes the “guiding light” towards the project is heading. If this one is not properly built and understood there is likely to be disappointment at the end of the project, just as happened in the mentioned situations. Among the most common issues were business cases fail are in the estimation of the expected benefits and the relationship between the deliverables specific specifications and the expected project value (Herman & Siegelaub, 2009, p. 2), such situations are also present in Case 1, Case 3, Case 4 and Case 6.

It is important to mention that overall in the situations where the projects were terminated, the business case served as an “ongoing basis for determining whether the project is worth continuing” (Herman & Siegelaub, 2009, p. 4).

Nevertheless, there are great differences among the projects researched in the way business cases are built, the way they are communicated, and the way success is perceived. Such differences relay on the nature of the goal or benefit to be achieved by the project. The business cases of Cases 4, 7, 8 and 9 were written with an economic perspective. While on Cases 1, 3 and 6, the business case had the view that the intangible benefits to be achieved would lead to economic considerations, and only Case 2 prioritized the delivery of project scope within budget and on schedule over the value to be created.

The importance of this differences relays on confirming the thoughts of Remenyi & Sherwood-Smith (1998) on building “pictures” as statements models for the specifications and perceived success. Where the tangible and intangible benefits are specified in a Financial Picture, a Project Picture and a Business Picture. In this sense, when approaching different projects with different priorities Remenyi & Sherwood-Smith’s model (1998) helps to validate the business case in the search for minimizing its mistakes and in consequence affecting the early prediction on success of the project.

6.4.2 Testing

Case 1, Case 5, Case 7, Case 8 and Case 9 mentioned the testing or trial phase as the moment they realised if the project was to succeed or not. On Case 1 and Case 9, the decision to terminate the project was made immediately before testing, while on Case 5,
7 and 8 it was once that testing was completed and realising the solution did not performed as it was intended.

The testing of a solution is considered as a challenge in both IT and R&D projects. Indeed, it requires bringing all parts of the project together and a thorough understanding on how the product will be used and on its operating environment (Whittaker, 2000, p. 70). The whole process, from beginning to end, seems to be a decisive point for a project survival. Case 1 did not complete the process but it was bringing together the different parts of the solution that revealed that a bad product was to be delivered.

But even when a solution does not perform as planned during this testing phase and all evidence points towards failure, the decision to terminate is not always taken. Such can be seen in the statement given by respondent 1: “We noticed the problem, when the solution went into test, one of the components to be delivered simply did not perform, of course if it doesn’t perform, then benefits that we think we are going to get… that will not be possible… that was pretty clear, it was also communicating the responsible people that they need to make a decision whether to terminate or not the project… the project was not terminated it was carried on till the end… a bitter end”

For the majority of the projects going into testing meant incurring in costs, but not testing the solution is considered as an opportunity cost too. Case 9 reflects that if the project is to be picked up again there would be more costs on restarting it as it didn’t go into testing. Furthermore, the real potential of the project would have never been understood or realised.

All of the previous is pretty much in line with the thoughts of Drummond (2005, p. 175), organisations are right to question whether the project itself is worth the risk, however it should also be considered if there is more to lose by not taking the risk.

6.4.3 Deliverable

While some projects only had one delivery (the final product), others were delivered by stages or items. Case 2 was delivering data sets, Case 3 had a list of items to be given, Case 4 was transforming the business one part at a time, and Case 10 worked on milestones and documents delivered. At one point or another all of them noticed through their deliverables that the project was not going to succeed if it continued under the same path.

Deliverables are the verifiable products, results or capability required to complete a process, phase in the project or the project itself (PMI, 2013, p. 537). If they are failing in meeting their definitions and requirements, it is no surprise that he overall projects will fail to meet its benefits and goals.

However, having problems with the deliverables is not necessarily a call for termination, but rather to take action on the project. This can be noticed in Case 4, when realising the project deliverables were not as good as expected, corrective and extra effort, in addition to resources were brought into the project. Another result is on Case 10, where not meeting the standards required for the deliverables lead to question the continuation of the project, eventually deciding on pausing the project. On the other hand, Case 2 shows that even when the project deliverables are not producing the intended results, the project can still be carried out till the end with the hope of eventually achieving the results later,
nevertheless it was perceived as a failure since the first deliverable was given. This “hope” is precisely to what Havila & Salmi (2009, p. 7) refer when addressing the psychological, social and organisational determinants that affect on deciding if a project will reach it’s intended purpose.

The importance of the deliverables assessment is mentioned by the PMI (2013, p. 102) as an important activity also for phased or cancelled projects. “Success or failure of projects depends to a great extent on the quality of its product” (Guan et al., 2002, p. 15).

6.5 Decision Making Process

The research inquiry on how and when to terminate a project as well as the developed conceptual model gives a great importance to the decision-making process. This theme contains relevant material for steps 3. Project Execution & Performance, 4. Review & Learning, 5. Generation of alternatives and 6. Selection of the developed model. It is no surprise that this theme was a major source of doubts, Mintzberg et al. (1976, p. 250) mentions that strategic decisions are “characterized by novelty, complexity and open-endedness”, but furthermore organisations also seem to understand little of the decision situations they usually face.

As seen in the interview guide a great focus was given in getting information on how the organisations went over their termination or escalation decisions. The participants brought a variety of topics but mainly on the different reasons why the projects were terminated or escalated; the influence of different stakeholders, biases and restrictions on the decision made, ultimately grouped under the code politics in decision making; other options generated that were not terminating the project, and how the decision was judged and selected among all the previous options.

Even when the cases vary in scope and context, the revision of each of them, brought common similarities in their stimulus, processes and outcomes. Mintzberg et al. (1976, p. 274) had already noticed that even when the decision processes under study seemed different it was possible to capture the flavour of them in one model and analysis.

6.5.1 Reasons to terminate

Among all the different reasons why the project cases were terminated some concepts were constantly mentioned in 7 out of 10 interviews: “resources” and “support or belief”. It is to notice that in most of the cases it is not only one thing what brings down the project, in fact it is a series of things where one of them might stand out. Shafer & Mantel (1989, p. 28) had already stated that different factors lead to cancelling a project, but that usually one of them had a greater weight.

In Case 2, Case 5, Case 9 and Case 10, the resources (either economical, technological or human) played a key role either in stopping or continuing the project even when it was showing signs of future failure or success. Case 2 is of particularly interest as the decision to continue with the project was based on the resource availability and in the obligation to use them, despite the project team noticing it wouldn’t work – “If you have got money from them and you don’t deliver I guess you would have a lot of problems”.

Case 5 and 10, approached the resources with a need in prioritizing them. The projects were cancelled based on the funding and human capability available for the organisational
planning, although they were not related to the rest of the project portfolio. A similar situation happened in Case 9 where the resources were slowly moved away from the project till it was given the instruction to stop. In this sense, it is confirmed that budgets are a plausible source for termination (Drummond, 2005, p. 173).

The owner of the resources used is also commonly identified as the one who can make the decision to stop the project, a clear statement was given as – “The one that says go ahead is the one with the money, the one that can say stop as well, but before you try to get consensus”.

On the other hand, the mentioned support or belief in the project by the project manager, staff and sponsor had a direct impact in the survival of the projects studied. This is a similar concept to what authors as Ewusi-Mensah & Przasnyski (1991, p. 67,83), Pan & Pan (2006, p. 640) and Drummond (2005, p. 173) referred to when talking about the behavioural, psychological, social and organizational pressures on the project which are linked to either the project escalation or termination. The “support and belief” groups the support and involvement of the project sponsor, the importance attached to the project and the trust in the solution, among others.

Cases 3, 4, 5, 6, and 9 suffered from these psychological and social preconditions prior reaching a decision. On Case 4 it was explicitly mentioned – “The mid layers had disbelief in the solution, they said – this thing doesn’t make sense” while the top management was grasping to the project.

Belief on the project also involves support on the project solution by different stakeholders. Pan & Pan (2006) already mentions throughout their study that depending on the degree of involvement and support from senior management a project can either be escalated or abandoned. This happened in Case 5: when the project sponsor left the organisation, the project was no longer pushed to be alive. On project case 9, while on the eyes of the project manager the project was to be a success in economic and technical terms, it projected itself as a threat to the social fabric of the organisation and therefore faith in it was lost, an issue already explained by Drummond (2005, p. 174).

While the prediction of success or failure (that the stakeholders had on the projects studied) acted as a stimulus to start the decision-making process, it was this economical (resources) and psychological (support and belief) determinants that played a more active role in analysing the given situation and on ultimately deciding to stop or continue with the projects.

6.5.2 Politics in decision making

Decision making in the projects studied wasn’t absent of conflict and of the management of different relations with different stakeholders. The name of the lower-order code came as the term politics, englobes practices, policies and the total of the complex relations between people (Merriam Webster, 2017).

Within this topic, group decision making was evident in 8 out 10 cases. While in Cases 2 and 10 there was a leading figure who could ultimately claim the last decision, both participants recognized the influence or consensus that was achieved and projected by other stakeholders. In Cases 1, 3, 4, 5, 7, 8 it was a group either called steering committee or top management who made the decisions. Perhaps not knowing all the details in regards
of the who conformed the group, group decision making theory could play a significant role in how escalation or termination can be affected. Whyte (1993, cited in Werner, 2012, p. 6) gave a hint in saying that group scenarios tend to escalate projects more frequently. Such situation could have happened in Cases 3 and 4, however the rest of the projects were terminated.

On the other hand, the term politics was explicitly mentioned in a couple of cases with phrases as “there were also some politics involved here” or “I’m not aware of all the politics going on, but there might have other reasons in a very high hierarchy” where mentioned throughout the cases.

The most valuable information regarding the processes of decision making that the data brought was in phrases as: “they [the decision makers] are trying to avoid being caught in something that was unattainable”, “It’s more of a negotiation game, adjusting the project goals”, “It may have something to deal with the sunk cost and saving face”, or “it seemed to me that it came out of the blue”. All projects showed multiple factors affecting their decision-making processes and therefore the outcome of the decision.

After reading and analysing them, it was possible to identify a certain degree of entrapment in all of them (face-saving variables with influence on the project). Case 2, 3, 4, and 8, presented a sunk cost effect, the projects were pushed further because of the current investment made. Case 5 and 9 showed higher optimism and illusion of control by the project managers. Both of them were really confident on their work, despite indications of top management that it wouldn’t work. Case 9 and 10 presented symptoms of self-justification, there was reluctance to admit prior mistakes. And while mentioning on the proposal on substituting the original goal and benefit to just deliver something, Case 1 and 2 admitted to the project completion hypothesis of Boehne & Paese (2000, p. 178).

The previous issues bring into play the relevance of further studying psychological decision-making models and theories and bringing them into to the proposed BRM model. Aiming to increase the assertiveness in selecting an alternative, expected utility probability, prospect, agency and real option theories could be considered among others.

Nevertheless, as this already reaches out of the scope of this study, their only to be mentioned as players into the selection step of the model. Only to be ways on how management actually decides in one option over another.

### 6.5.3 Alternatives to termination

In 9 out of 10 situations, when it was being contemplated to terminate a project, a set of different alternatives were generated, evaluated and decide upon. This is already explained by Mintzberg et al. (1976, p. 256) as the development phase of a decision-making process where alternatives are searched and or design accordingly to the situation.

Case 3, Case 4 and Case 10 went over the option of correcting the project deficiencies against terminating the project. Case 1 considered reducing the project scope and the integration to the current system in an effort to avoid termination. In Case 5 there were thoughts about slowing the pace of the project. The options posed, are similar to the thoughts of Tadisina (1986, p. 98): after the projects were analysed and an unsatisfactory
trend was detected, the options were either focusing on the areas of unsatisfactory progress or terminating the project.

In Case 3 and 4 the intervention on the project was the ultimate decision as the projects were regarded “to be done at any cost”. Case 2 also mentions a lack of options. Ultimately these three projects had certain degree of escalation of commitment. Being in line with Drummond (2005, p. 173) who says that the availability of alternatives limits escalation.

Moreover, in Case 1, Case 5, Case 9 and Case 10, even though the projects were indeed terminated, the decision was communicated as “postponing the project”. However, the project termination literature not always includes the availability of “postponing the project”. Tadisina (1986) only mentions the options of continuing the project, terminating it or intervening in the elements of unsatisfactory progress. In the same way Shafer & Mantel (1989, p. 27) includes only three options when a project contemplates a termination decision: a) continuing the project, b) terminating the project, or c) carrying a sensitivity analysis when the decision is uncertain.

If postponement is to be taken by its definition as “to put off to a later time” (Merriam-Webster, 2017), it becomes evident that only Case 1 and Case 10 were actually stopped to be restarted later on. In the specifics of Case 5, respondent 4 mentioned – “often it’s too hard to cancel or say no go, but people say - oh well it’s not a bad idea but not right now …. So, we could postpone - and then we postponed [it] .... in all practice manner it might be a no-go decision”.

Nevertheless, another phenomenon in Case 7 and Case 8 was the incorporation of the projects to other developments or to maintenance. However, this is also considered by Remenyi & Sherwood-Smith’s (1998, p. 96) as part of a third possible outcome similar to postponement, as the original project is stopped and sections of it are reused.

The results of the cases show to be more in line with Remenyi & Sherwood-Smith’s (1998, p. 96) thoughts: the way forward after a review and learning session deliver four possible alternatives: 1) either no action is taken (Case 2); 2) some changes are required by one or more stakeholders (Case 3, Case 4); 3) the project is stopped and restarted at a later time once there are enough resources available and other problems are corrected (Case 1, Case 10), or 4) the project is terminated (Case 5, Case 6, Case 7, Case 8 and Case 9).

### 6.5.4 Judgement on termination

Throughout the cases presented, the participants constantly offered their own judgement on the decision that was made. Perhaps, because of the way the interview guide was built, the termination decision was constantly judged in terms of its timing, outcomes and on the evaluation of the possible choices. Far and wide, the selection of an alternative was the last step in any decision processes (Mintzberg et al., 1976, p. 256).

In Cases 1, 5, 7, 8 and 10, terminating the project was perceived as the right thing to do. Phrases as “I think it was right that the project was terminated, absolutely” were present during the interviews. In such projects, stopping the project could be perceived as positive as the organisations had a clearer idea of what was what the benefit to achieve. There are no regrets in the decision as it became obvious that the project expectations couldn’t be
met (Drummond, 2005, p. 174). Furthermore, in all of these cases group decision making was involved.

When analysing case 2, 3, and 4. It was noticed that escalating the project was justified by the respondents. Comments with similar as in the previous case- “I think it was the right thing”. These projects presented less clear benefits, goals and ways of measuring the project. In all three cases it was admitted that there was an exaggeration of the benefits when the project was started, but that the projects were continued in the ground of them gaining utility (Drummond, 2005, p. 174).

Talking about Case 6 and 10, the selected alternative of stopping the project was considered as not a correct decision. An explicit comment was “it made no sense, that is not normally made at that point”. Thus, both participants had a less clear idea on how the decision was reached and both mentioned that the decision was made by a single individual.

For the author’s surprise, the perception each participant provides in the right or wrong of the choice made is directly relatable to Mintzberg et al. (1976, p. 258): judgement, bargaining and analysis. The situations were the decision is not perceived as the correct one (Case 6 and 10) judgement is implicit, an individual made a choice in his own mind with procedures that cannot be explained. While in Cases 1, 5, 7, 8 and 10 a more factual evaluation was carried out followed by a managerial choice that included both individual judgement and group bargaining.

As per the timing of the decision, only Case 7 and Case 10 mentioned that the choice was made at the right time. The respondents argued in favour of having an initial experience on the project prior cancelling it. In general, on R&D projects (as 7 and 8) there are clear termination threshold values, data is a strong indicator on the project performance and future success (Balachandra et al., 1996, p. 249). In such scenarios it is easier to apply statistical models on project termination as Meredith (1988) or Kumar et al. (1996) that help in making the right decision on time.

However, in Case 1, Case 3, Case 4, Case 5, Case 6, and Case 8, there’s a general idea that the project intervention or termination could have been done earlier. The reasons for such perception is that “time and resources were already invested” and that at previous stages of the project there were recognised weaknesses in the project. It is to highlight that psychological biases to take the decision at the most efficient time are also present - “it might be that the termination decision was made a little bit too late because there was such a strong belief in it”. While there can be multiple specific reasons for each specific case, the economically rational course of action was not always evident (Drummond, 2005, p. 174).

Only in Case 9, the decision to terminate the project was considered as made too soon. The project manager also mentioned that the resources were already invested but there was still no indication on the success of the project.

Overall, the timing of a decision was considered a major factor in strategic decision making, but it is not discarded that the managers could have been purposely delaying or speeding decisions (Mintzberg et al., 1976, p. 265).
6.6 Summary of Analysis

6.6.1 Summary of Roles and Responsibilities
Determining and involving primary stakeholders, including the steering committee, project manager, and the end-user, from the onset and assigning clear roles and responsibilities to them is paramount to account who is going to be responsible for what during the BRM process and the project termination decision. This will enhance understanding, active participation, and involvement.

These three primary stakeholders should have shared responsibility in the execution of the BRM process. On one hand, the end-user requirements are the ones that will determine the benefits the project is going to deliver, against these the project is going to be evaluated. If there are changes in these requirements there should be a change in the direction of the project as well, or a decision to terminate the project if it will no longer serve to those requirements. The steering committee, like the cases suggested, should be involved in the review and monitor stages making sure the project is realising the benefits and taking a decision whether to continue the project or terminate it before its completion. And finally, we believe the project manager should be given a primary role and be more involve in the BRM process and project termination decision, among his/her responsibilities should be properly managing and executing the project, and making sure the project actually delivers on those identified benefits.

Of equal importance is communication and constant feedback between all primary stakeholders to understand and agreeing on what have to be done and how, and to be aware of any changes that could arose.

6.6.2 Summary of Monitoring & Evaluation Process
Project goals and benefits as well as the metrics on how to evaluate them should be clearly identify, well written, and understandable by all stakeholders, at the inception of the project in the business case (development of pictures). This will facilitate the on-going evaluation of the project to map it against those benefits. The on-going monitoring should be made by stages from the beginning of the project till the end or until the termination decision is made, tracking that the intermediate benefits are being realised. The post-mortem evaluation should be made of the short and long-term benefits at the completion of the project.

The short-term benefits should be evaluated immediately after the project is completed against those benefits specified in the business case and the long-term benefits should be evaluated long after the project is completed as benefits may be realised once the project is being used by the end-user. For post-mortem evaluation, lessons learned workshops could be beneficial to discover potential for further benefits and could represent opportunities for future project improvements.

6.6.3 Summary of Prediction of Success or Failure
The study shows that a prediction of success or failure usually appears much earlier than when the on-going monitoring in stages or project deliverables take place. In fact, this prediction sometimes appeared as early as in the elaboration of the business case, as this sometimes is not well defined or aligned to the goals and benefits of the project.
In some occasions the prediction of success or failure appears at the stage reviews, tests or in the form of project deliverables.

Such should be taken into consideration and a recognition of a decision should take place, it is at these early signs of failure, that it is suggested by the findings that a termination decision making should start, since these signs usually end up becoming a reality. However, the step is not absent of failing into psychological traps from any of the stakeholders involved in the process.

6.6.4 Summary of Decision Making Process

The findings suggest that a decision wasn’t usually made in a timely manner, in most of the cases it was usually made late, when resources were already committed and losses are higher. Thus, a sunk effect was identified.

The decision to either stop or continue the project usually occurs with politics involved and in a complex decision-making process. On the other hand, the most common reasons to either terminate or continue a project tend to be the resources available (lack or abundance of them) and the support and belief placed on the project.

For this reason, a rational termination decision should be made by generating alternatives before taking a final decision. The four cases identified as alternatives the following: 1) continuing the project, 2) intervening in the project with focus on correcting its deficiencies, 3) terminating the project, and a new option was 4) postponing the project to a time when more resources are available.

Special attention should be placed at the moment of selecting an alternative, while it is not possible to suggest or deeply analyse the most adequate decision model to use, there should be emphasis in not rushing into a decision since an opportunity cost can be present, but also not delaying it as it can result in escalating a project which is on a path to failure.

6.7 On how the analysis relates to the conceptual model

It was not till the moment when the analysis was completed, that it became evident which parts of the model were affected by the information gathered and in consequence redefined or revised.

In this sense, Figure 11 presents a summary of the connections made between the codes of the template and the activities part of the developed model.
The elements of the higher-order code ‘Roles & Responsibilities’ had implications on the whole model. Nevertheless, and as previously pointed, the definition of roles and responsibilities is clearly seen in Step 1. Project Initiation.

The ‘Monitoring & Evaluation Process’ code provided relevant information for Step 5. Review & Learning. However, the defined goals are directly related to Step 0. Business Strategy, as the goal and/or benefit is aligned and part of the strategy; Step 1. Project Initiation for the relevance of the opportunity or threat identified, and Step 2. Production of Pictures as the goals form part of the pictures to be produced. The ‘On-going evaluation’ is clearly part of Step 5. Review & Learning process and the ‘Post-mortem evaluation’ could be a synonym of Step 8. Post project Review & Learning.

As per the code ‘Prediction of Success or Failure’, it was argued that there seem to be a stimulus that push for a decision. Reason why the three lower-order codes form part of Step 5. Review & Learning. Nevertheless, in the extent of when they are carried out in a project, they vary between Step 2. Production of Pictures (as it is with the business case), as well as Step 3. Project Execution & Work and Step 4. Project Performance Information (for the testing and the deliverables).


The modifications made to the model are explained in the next chapter, where the conclusions on the analysis as per each step are also present.

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**Template for analysis**

<table>
<thead>
<tr>
<th>Activities part of the developed conceptual model</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. Business Strategy</td>
</tr>
<tr>
<td>1. Project Initiation</td>
</tr>
<tr>
<td>2. Production of Pictures</td>
</tr>
<tr>
<td>3. Project Execution &amp; Work</td>
</tr>
<tr>
<td>4. Project Performance Information</td>
</tr>
<tr>
<td>5. Review &amp; Learning</td>
</tr>
<tr>
<td>6. Generation of alternatives</td>
</tr>
<tr>
<td>7. Selection</td>
</tr>
<tr>
<td>8. Post project Review &amp; Learning</td>
</tr>
</tbody>
</table>

**I. Roles & Responsibilities**
- Steering Committee
- Project Manager
- End-user
- Communication

**II. Monitoring & Evaluation Process**
- Defined goals: x, x, x
- On-going evaluation: x
- Post-mortem evaluation: x

**III. Prediction of Success or failure**
- Business case: x, x, x
- Testing: x, x, x
- Delivery: x, x

**IV. Decision Making Process**
- Reasons to terminate: x, x
- Politics in Decision Making: x
- Alternatives to termination: x
- Judgement on termination: x

"All parts of the model are affected."
7. Conclusions

Fulfilling the aim of this research, the research conclusion is based on presenting the revised conceptual with the information discovered and analysed. Therefore, the final developed model is presented, followed by general concluding remarks on the main themes used for the analysis. Next, the research contributions are reintroduced, while also providing suggestions on the future research and limitations. Lastly, the validity and reliability for this study are stated.

7.1 Revised Conceptual Model

Upon the results derived from the analysis and discussion chapter, the authors revised the proposed conceptual model, changes were made and a refined conceptual model emerged available at Figure 12: Revised Conceptual Model (Source: Own elaboration)

It is not to forget that throughout the process the focus was on clarifying the when and how the termination decision is made across the benefit realisation management model. This is seen in the research question, the literature review, the doubts that emerged on it and on the originally conceived model, the derived interview guide, the conducted interviews and lastly the analysis of the data collected.

In this redefined model it is highlight the importance of explicitly adding the four phases of the BRM process: benefit identification, benefit planning, benefit realisation, and benefit evaluation. Each of the eight steps of the process is then group into one of these BRM phases aiding organisations identify on which phase of the BRM process the project being executed is, and the activities to be realised. Thus, the model is aligned with the bigger framework of benefit realisation management.

Step 0. Business Strategy does not present any change. The strong influence that the organisation strategy has on setting and realising a project’s benefit is confirmed by 5 out of 10 cases. Furthermore, there is also proved relevant that the programme and portfolio have a direct impact in the individual projects, there are occasions where the benefits to be achieved are intended for an overall programme rather than for a specific project.

Relevant changes start under the Step 1. Project Initiation. With emphasis on the importance of defining and assigning clear roles and responsibilities for all the stakeholders that should be involved. As part of the BRM process there is a clear need for guaranteeing someone is in charge of defining, planning, realising and evaluation the benefits during the project life cycle, at the moment the decision to terminate the project is considered and upon completion if the project is carried on.

In most of the cases a lack of clarity is seen on whom is defining these benefits, whom is evaluating them, how they are communicated and whom is making the decisions; was seen as detrimental to the project achieving its purpose.

In this step it was also recognised that the opportunity or threat identified before the project is executed, should not only be aligned with the organisational strategy, but the strategy should also make sense to this opportunity/threat.

There are no changes in Step 2. Production of pictures. The reason being a thorough confirmation on the need for the creation of this pictures in the way Remenyi &
Sherwood-Smith (1998) describe them: the statement of the benefit in addition to the appropriate metric for evaluation, monitor and control that can be in terms of a future state of the business, the financial aspects or the project aspects (Remenyi & Sherwood-Smith, 1998, p. 85). The data gathered showed that a vast majority of projects did not have a well-defined business case, metrics, clear goals or specifications. A well-developed business case or pictures could have prevented further escalation, and even the termination of the project itself.

The finalisation and validation of business pictures also becomes an important point in time for the project. It is not only the beginning of the real work to be performed, but the moment where the strengths and weaknesses of the project can be assessed and thus deciding if the project is good enough to commit resources to it or if it should stop or reconsidered.

However, it is on Step 3. Project Execution & Performance that the answer to the question when a project termination decision should be made based on a benefit realisation approach? becomes evident. Under this step, the activity prediction of benefit realisation acts as the stimuli to start the consideration of a decision. The name of the activity was changed from perceived success or failure to be more in line with the current project management terminology described by Guan et al. (2002), furthermore this concept talks about the probability of realising the expected goal or benefit.

The cases under study showed that it could be predicted from the project performance in deliverables and tests if the project would deliver its benefits or not. If the case reflects a negative trend the termination decision should be recognised. Thus, the immediate step that follows is to recognise that a decision on the project status has to be made.

However, this also shows problems as multiple projects do not state nor communicate their goals or benefits properly, hence reassuring the relevance of a well-developed business case.

Step 4 under the previous model named as Project Performance Information was eliminated after the revision, however its previous activities (evidence collection and framing of information) are maintained an integrated into the Review & Learning Step (which changed from being number five to being number four).

The reason for such change was evidence portraying that the decision-making process started after it was recognised that a decision on the project future was required. Then, information was collected, framed and presented for diagnosis to the relevant decision maker (either group or individual), who would have the authority to decide upon the project. A clear example is Case 10: the project team realised they wouldn’t be able to meet the goals of the project under the current conditions. Then, they collected, framed and presented this information to their manager for diagnosis, who ultimately decided on the project.

Under Step 5. Generation of alternatives, a fourth possible alternative was drawn: to delay or postpone the project on the occasion that no resources are available for its continuation but that on the basis of its importance it could be retaken at a later moment. Such conclusion came from both, the theory of Remenyi & Sherwood-Smith (1998, p. 96) and validation founded during the analysis.
The activity *development of updated pictures* was removed as it is considered that whichever the option is chosen, it will require to update the initial pictures. In this sense, all alternatives form part of a search and design for solutions, not only intervening on the project as it was previously thought, but also terminating the project is a custom-made solution (Mintzberg et al., 1976, p. 256) according to the project in place.

The activities part of *Step 6. Selection*, were initially contemplated to be either one or another depending on the situation (Mintzberg et al. 1976, p. 258), nevertheless in the context of project termination the three modes were identified in an iterative process. When different alternatives are identified, they tend to be analysed and what seems to be a factual base, however decision makers are subject of their own psychological determinants during this analysis as it is explained under the high-order code *decision making process* of the analysis. When group decision making is in place, bargaining comes into role as negotiating different options depending on the interests of the stakeholders (decision making theories come into play), but it is lastly the personal and group judgement, what leads to selecting an alternative over another one.

Last but not least, *Step 7. Post Project Review & Learning* is formally carried out only by a small fraction of the cases studied. But it is still regarded as a plausible activity that could bring value into the development of future projects and into the strategy itself.
Figure 12: Revised Conceptual Model (Source: Own elaboration)
7.2 Concluding Remarks

Project termination - the cancellation and cessation of a project prior to the completion of its intended activities as it’s initiative to create value has fallen short of its goals (Spirer, 1984 p. 73; Shafer & Mantel, 1989, p. 23; Meredith, 1988, p. 31; Pan & Pan, 2006, p. 639; Unger et al., 2012, p. 676; Shepherd et al., 2014, p. 513) - and benefit realisation management -the process that ensures that project creates value to the organisation in a meaningful way (Serra, 2013, p. 3) – are the two main topics, upon the ones this thesis rotates. The two main topics are covered and exalted throughout all the parts of this research. Their relevance comes in line with an industry need to support better decision making on the right projects to be funded, and in helping reducing project failure rates and related financial losses (PMI, 2016b, p.7).

In this sense and fulfilling the intended research purpose, this thesis has provided a general understanding of both concepts; has linked the literature on project termination decision making and benefit realisation management; it collected relevant information on Scandinavian IT and Industrial R&D projects; and ultimately has provided a model, drawn from Remenyi & Sherwood-Smith (1998), Werner (2013) and Mintzberg (1976), which showcases project termination as part of a benefit realisation management process. However, the model conceived is only the mean to answer the intended research question:

_How can benefit realisation management aid in deciding when to terminate a project?_

From the literature, the projects analysed and the model drawn, it was understood that benefit realisation management has to be conceived as a monitoring and evaluation process on the project performance in relation to its intended benefit. The _how_ to do so, is our model: a total of 8 steps that goes from the conception of the business strategy to the post mortem evaluation of a project. Each step includes different essential activities that hypothetically lead to the correct decision. This, requires active participation and communication from the primary stakeholders, focus on the organisational strategy and the reason why the project was started in addition to a well-defined goal with a clear way of measurement.

The _when_ is approached as the moment in time where the termination decision making process should start. A stimulus, a difference between the expected standard and the project performance trend, is what triggers the recognition that a termination decision might be needed and therefore starts the whole decision-making process. However, this prediction of success is influenced by economical and psychological determinants. Hence, it is recommended to pay special attention to three moments in the project life that might give a clearer indication: 1) the completion and approval of the business-case, as most errors can already be spotted at this point, 2) the testing phase of the solution, being often the point where success or failure is easier to be predict and 3) on submitting the deliverables, as their quality reflect the quality of the future product.
7.3 Research Contributions

7.3.1 Theoretical Contributions

From a theoretical standpoint, the authors contribute to the existing research on project management and on project termination by linking both topics. Thus, the main theoretical contribution of this paper is the development of the comprehensive model that combined existing frameworks on Benefit Realisation Management and Project Termination Decision-Making. Building up on Remenyi & Sherwood-Smith (1998) while expanding and putting emphasis in the option of terminating a project. This model would serve as a complement to previous research on the field of Project Termination too as it gives an answer to the inquiries raised by Boehm (2000) on using benefit realisation management techniques to terminate projects that won’t deliver value to the organisations. However, deficiencies are recognised, the model is not static nor the ultimate truth. The research community is also called to use this study as a basis to expand current knowledge in both fields by testing or modifying the model.

Furthermore, while Werner (2012) has a focus on project escalation and the decision-making process that allows and could prevent this phenomenon; this paper places these concerns in an overall benefit realisation management process. The alternatives escalation or project termination are proven to not be the only possible outcome of a decision-making process on a troubled project.

This means recognition to the work of Mintzberg et al. (1976) on strategic decision making. This research provides a practical view on how these decisions happen in the specific case of troubled projects in Scandinavia.

Ultimately, Scandinavian project management literature is expanded. While authors as Hällgreen et al. (2012) already pointed out the evolution and the important differences between the Scandinavian project management discipline and the practices in other regions. The results of this paper could later serve for a further geographical analysis.

7.3.2 Practical Contributions

Practically speaking, the findings of this thesis could be used as a starting point for project-based organisations on linking their current benefit management process and project termination decision making.

The conceptual model could be considered a guideline on how organisation can make better project termination decisions by implementing a BRM process in their current project management process. This will aid managers assess when and how a decision to terminate a project should be made, if it no longer creates organisational value, the intended benefits are not realised or it is not aligned with business objectives and strategies, resulting in more assertive and timely decisions regarding project termination based on a BRM approach.

Moreover, organisations are encouraged to consider a project termination decision as an alternative to troubled projects, since this in the long run will reduced the resources wasted. The ultimate goal is for organisations to realise that better project management practices result in better organisational value creation and a better delivery of the strategy.
7.4 Limitations

The researched made was subject to several limitations. At a first instance, the time constraint is to be highlighted as it had direct implications especially in the data collection process and analysis, such limitation can be seen in the relatively small sample gathered.

In addition to the sample size, the qualitative method used presents limitations in terms of the generalisability of the findings. Furthermore, generalisability is also affected by the limitation in the types of projects researched. As it was previously mentioned R&D and IT projects were chosen in line with the literature reviewed. Other types of projects and industries that are affected by project termination and benefit realisation management might present different circumstances, phenomenon and explanations.

Additionally, due to the researchers’ location the data gathered was only from Scandinavia (Sweden, Denmark and Norway) and thus, results might only form part of the Scandinavian approach to project management. Differences with other geographical regions are highly possible.

Lastly, as per the template analysis approach and the definitions selected for specific terms, there could have been limitations in the way the data was categorised. However, as to reduce this effect extracts of the respondent responses are shown within the Empirical Findings Chapter.

7.5 Suggestions for Future Research

Several ideas for future research arose while developing this thesis, further gaps where identified and a general call is made to fill them. As a starting point the developed model could be tested via a quantitative or qualitative study as to increase reliability and validity.

Conducting this study in different industries and with different types of projects could also be of importance as to expand the current knowledge on benefit realisation management and project termination to the whole universe of project management. Additionally, it is possible to talk about expanding the sample to different geographical regions and to analyse their differences in terms of culture and management traditions.

Talking about the specifics of the model developed, there is great interest in further understanding how is the business case built in relation to the expected benefits. This topic proved to be of great importance against the project termination decision-making and it could be useful for both academia and practitioners to further enhance the realisation of benefits and a timely project termination if needed.

Similarly, the specific negotiation and bargaining process when selecting an alternative over another when terminating a project is a complex process that requires further understanding. This process is not only in terms of its technicality but also regarding its psychological and organisational determinants and requires explanation in terms of the project management discipline and the benefit realisation management.

Lastly, the last stage of benefit realisation management, the post project or post mortem review, is an interesting activity that most of the times is not carried and where there are conflicting views in terms of its effectivity and value.
7.6 Validity and Generalisability

The validity of this research, conceived as the “credibility in the description, conclusion, explanation and interpretation of both results and findings” (Maxwell, 2013, p. 122) played an important role throughout the research design and data interpretation. While commonly it is the case of the results being plainly true (valid) or untrue (invalid), in a critical realist approach its more about being right or wrong on the explanations and to what extent (Wuisman, 2005, p. 371).

In this sense, the concept of validation for this study concerns answering why certain explanations are better than other ones. (Wuisman, 2005, p. 386). The answer comes from Easton (2010, p. 126), who stated that the best explanation would come from what is more consistent with the data. As to achieve this, the authors had explained in detail and presented the data in the ways it was sought, collected and analysed.

Reflection and systemic thought throughout the research in search for clues and hints on what was real (Wuisman, 2000, p. 386), was used to provide a plausible explanation to the phenomenon of research. Substantive abstraction of the specific elements of reality was used to arrive to conclusions. Thus, it is difficult to arrive to more than two or three different explanations since the generative mechanism used was searching beyond the domain of the empirical (Wuisman, 2000, p. 388). At the end, the ideas generated can only be tested piece by piece rather than as whole.

As to avoid the effects of biases in the process, the researchers acknowledged and addressed subjectivity in themselves an in the participants (Bryman & Nilsson, 2008, p. 355), self-criticism was adopted and transparency was pursued in all stages.

However, it is recognised that other explanations and ways of understanding the object of study are also possible. But under the critical realist approach, all explanations are partial, all conclusions can only be more or less exact and more or less detailed (Wuisman, 2000, p. 22). Following this view, for this study to be regarded as valid it is sufficient to state what in general caused the event (Easton, 2010, p. 126).

Theory and its selection, also played an important role in raising the validity of this study beyond the high level of abstraction in the analysis. The relationship with the existing developed theory, allowed this research to target specific aspects of these theories looking to advance in their understanding. Meaning that the basis of this study is useful in terms of further theory development (Easton 2010, p. 126-127).

Hence as Yin (1989, cited in Easton 2010, p. 126-127) mentions: after the comparative case study our conclusions are regarded to be generalisable only to the theoretical proposition and not to populations or universes, because of variances in the world. In other words, the findings are logically generalisable rather than probabilistic (Popay and Williams, 1998, p. 343).

In general, all issues concerning the truth criteria of the research, are addressed through a constant transparency of the research process. At all situations, there are detailed explanations in the document of how the research was followed.
Reference List


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## Appendix 1: Benefit Realisation Management Theories Comparative Chart

<table>
<thead>
<tr>
<th>Authors</th>
<th>Model</th>
<th>Project Type</th>
<th>BRM phases</th>
<th>Phases Description</th>
<th>Roles/Accountability</th>
<th>Key Features</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Identify</td>
<td>Plan</td>
<td>Realise</td>
<td>Evaluate</td>
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<td>√</td>
<td>√</td>
<td>√</td>
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<tr>
<td>Khampachua &amp; Wisitpongphan (2014)</td>
<td>Operation of Realising Benefit in Information Technology (ORBIT)</td>
<td>IT</td>
<td>1. Planning (Identify business requirement, benefits, who will receive the benefits, how to measure them, who is responsible). 2. Realisation (User engagement) 3. Exploration (Regular Benefit Measurement). 4. Evaluation (Measure realised vs planned benefit/Strategic Fit).</td>
<td>Mentioned. Who will received the benefits and who is responsible as an activity. Mentioned the stakeholders involved: Farmers, COOP Workers, Factory Workers, Extension Officers</td>
<td>IT collaborative environment (common platform to share, store and reuse information) knowledge sharing. BeReal is based on the key principal that effective communication and information flow within the organisation is vital</td>
<td></td>
</tr>
<tr>
<td>Authors</td>
<td>Model</td>
<td>Project Type</td>
<td>Identify</td>
<td>Plan</td>
<td>Realise</td>
<td>Evaluate</td>
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</tr>
<tr>
<td>Melton, Bes-Senith, &amp; Yates (2008)</td>
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<td>✅</td>
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<td>IT</td>
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<td>✅</td>
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</tr>
</tbody>
</table>
Appendix 2: Interview Request Email / LinkedIn Message

Dear Mr. [Name],

Please excuse the audacity to contact you by this means. When taking a look at your expertise and professional skills, I just couldn’t let go the opportunity of contacting you directly.

I’m a Master student in Strategic Project Management at Umea University and currently I’m writing my thesis in benefits management and its relation to project termination. As the stage of data gathering has arrived, me and my thesis partner are looking to interview renowned project managers as yourself, reason why we would like to ask to have an interview with you.

Our research is qualitative and has the main goal of explaining project termination decision making and to see if the benefits management discipline can be useful for it in any way. The context of our thesis is precisely a Scandinavian project management environment, making us believe you would make an excellent contribution.

If you need more information, such as a thesis brief, please let us know and we would be happy to share it. Additionally, if we have the possibility to meet you we would be providing you in advance with the interview guide, also guaranteeing you confidentiality and ethics throughout the interview.

We would be happy to meet you via Skype/phone call. We are also willing to accommodate to your schedule but we would prefer during week 49 or 50 at the time of your convenience.

Thanks in advance, we are looking forward to hearing back from you.

Sincerely,

[Researchers name]

[Researchers contact data]
Appendix 3: Thesis Brief shared with participants

[Date]

MSc Thesis Project:

Project Termination Decision Making:

A Benefits Realisation Management Approach

Thesis Brief for Interview Participants

As of 2012, the Standish Group, reported that a staggering 21% of worldwide projects were to be either cancelled prior completion or delivered and never used. While estimations on the financial impact of such cancellations vary widely, all point towards big financial loses. As an example, the PMI (2016) mentions that for every investment of $1 billion USD, an average of $122 million USD is wasted in failing projects.

Bad and failing projects drain organizational resources in vain, affect team morale and are a detriment to corporate strategy. Nevertheless, the decision to abort failing projects is considered a major managerial challenge. In this sense, Project termination – understood as the cessation of a project’s activity before it has reached it’s expected goals – is strategic in nature.

On the other hand, a common rationale behind projects is to seek target benefits. If successful projects are to be understood as those that deliver their expected benefits and ultimately create strategic value for the stakeholders, shouldn’t this same view be used when deciding on terminating or not a project? This, is the realm of Benefits Realization (BRM) and a strong argument sustained by Boehm (2000), behind this study.

Having a case for the Benefits Realization Management practices as they have proved a positive impact on the creation of organizational value. After revising current literature, the authors have the conviction that project termination and BRM are topics directly interrelated in terms of strategic perspective, value creation, project governance, stakeholder management and decision making.

Thus, the purpose of this study is to describe if BRM (formal or informal) is considered or can be useful in deciding on project termination. In other words, a model is to be build which links the previously mentioned concepts to one another by working with both elements of the inductive and deductive approaches. To fulfil this objective a cross-sectional study is perceived as the most suitable one.

The research is to be qualitative, subjective, humanist and phenomenological, but also acknowledging it is value-lade and that biases are present. Project termination decision making is a topic where the individual’s context becomes relevant as it involves behavioural, psychological, political and organizational factors.

As a consequence, the knowledge acquired by doing this research might not be generalizable but rather subjective in nature and in the interpretation of the context, a one-size-fits-all result does not seem realistic. Nevertheless, it will contribute in extending
the current body of literature on BRM and project termination practices, while its practical implications involve in aiding practitioners in not losing sight of why projects were initially authorized and making sure they are terminated on time, not too late as commitment is escalated or too soon with the risk of cancelling potentially successful projects.

Participation in this study is voluntary. It will involve an interview of approximately 45 minutes in length to take place either via conference call or in a mutually agreed location. The respondent may decline to answer any of the interview questions at wish, and furtherly decide to withdraw from the study at any point in time without negative consequences.

With the permission of the interviewee, the process will be tape-recorded to facilitate collection of information and later transcribed for analysis. All information provided is considered completely confidential, names (of organizations or people) won’t appear in any thesis or report resulting from this study, however, with the proper permission anonymous quotations may be sued. Data collected from this study will be only accessed by the researches associated to this project. There are no known or anticipated risks for participants of this study.

The final document resulting from this study will be publicly available at the thesis archive from Umeå University; and it will be shared at request with the participants. Furthermore, it is assured that this study has been reviewed and is in line with the code of ethics of Umeå University.

It is hoped that the results of this research will be of benefit to those individuals and organizations directly involved, other project-based institutions not directly involved, as well as the broader research community.

If there are any comments or concerns about this study or the participation on it, please feel free to contact the researchers.

Prepared by:

[Researchers data and contact details]
Appendix 4: Interview Guide for Researchers

Interview Guide for Researchers

Basic Information

Name: ........................................................................................................................................
Country of work: ....................................... Medium of Communication: ..............................
Start time: .............................................. End time: ............................................................
Date: .........................................................

Introduction

- Welcome and thank for participation
- Personal introduction
- Focus and context of the research

Participants Background and Expertise

Participant’s Organization: ........................................................................................................
Role / Title: .................................................................................................................................
Professional Background: ..........................................................................................................
Years of Experience: ..................................................................................................................
Types of Project Involved: ...........................................................................................................
Educational Background: ............................................................................................................
Project Management Training and Certifications: ......................................................................

Main topic questions

1) Can you describe a project in which you were involved that was terminated (abandoned / cancelled) or was carried out till the end but it failed (escalated)?

Follow up:
   a. What was the project about?
   b. Type of project?
   c. Organization?

2) What led up to the project termination / escalation?

Follow up:
   a. Detail reasons, if it was not explained on Question 1.
b. When was the decision taken?

3) What was your role and responsibilities at the time?

Follow up:
   a. What were your daily activities?

4) How was the project monitored?

Follow up:
   a. Could you describe it?

5) Who made the final decision on terminating or carrying on with the project?

Follow up:
   a. If it was a group decision, who formed this group?

6) Do you consider the decision was made at the right time? (Not too soon or too late)

Follow up:
   a. How come?
   b. When would be the right time then?

7) What was the original reason to start this project?

Follow up:
   a. Was there any identified opportunity or threat?

8) Did you see any early signs of success or failure?

Follow up:
   a. When?
   b. How?

9) Were other alternatives formulated on the project’s future?

Follow up:
   a. Which ones?

10) Were there any specific set of goals or benefits that the project wanted to achieve?

Follow up:
   a. Which ones?
   b. Are these considered benefits or success factors?
11) Do you consider they are aligned with your organization's strategy?

Follow up:

a. Therefore, what’s your organizational strategy?

12) Were these ones considered in the project termination decision making?

Follow up:

a. Why yes or not?
   
b. Was there something else taken into account?

13) Was there any benefits evaluation process in place (formal/informal, short/long term)?

Follow up:

a. How was it used and/or realized?
   
b. When in the project lifecycle was this done?
   
c. Who was responsible of setting, tracking and evaluating the intended benefits?

Closure

- Anything participants want to add or clarify
- Any question participants might have to us
- Ask to roll the snowball
- Thanks for participation and goodbye
Appendix 5: Interview Guide for Participants

Interview Guide for Respondents

Role:
Type of project involved:
Project Management experience and training:

1) Can you describe a project in which you were involved that was terminated (abandoned / cancelled) or was carried out till the end but it failed (escalated)?
2) What led up to the project termination / escalation?
3) What was your role and responsibilities at the time?
4) How was the project monitored?
5) Who made the decision on terminating or carrying on with the project?
6) Do you consider the decision was made at the right time? (not too soon or too late)
7) What was the original reason to start this project?
8) Did you see any early signs of success or failure?
9) Were there other alternatives formulated on the project’s future?
10) Were there any specific goals or benefits that the project wanted to achieve?
11) Do you consider they were aligned with your organization’s strategy?
12) Were these goals or benefits considered in the project decision making and evaluation?
13) Was there any benefits evaluation process in place (formal or informal)?