THE ROLE OF AMBIGUITY IN THE PROCESS OF ACQUISITIONS

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THESIS SUMMARY

This thesis advances the understanding of Mergers and Acquisitions (M&As) by elucidating the origins of ambiguity, unpacking the different types of ambiguity, and exploring the role of ambiguity in M&A failures. It also opens the black box of the effects and outcomes that different types of ambiguity engender, proposing effective management strategies to mitigate its impact and enhance M&A success rates. M&As are strategic decisions leveraged by diversified firms to drive growth. Despite the high volume and value of M&A deals globally, the success rate remains low, with failure rates reported between 70% and 90%[1]. Ambiguity is identified in the literature as a critical factor that hinders decision-making and integration success in acquisitions. The research utilized the Paradox theory to distinguish between positive and negative ambiguities in M&As. Positive ambiguity supports moving forward with an acquisition, whereas negative ambiguity poses challenges. The principles of 'Organizational Learning' were applied to enhance communication between the 'Acquirer' and the 'Target', while the Information-Gap theory of Feelings underscored the importance of recognizing and managing ambiguities by systematically identifying and addressing them. The methodology began with a comprehensive literature review to establish a theoretical framework, followed by two case studies using ethnographic techniques (involving interviews and observations) and targeted grounded theory to develop initial insights. Semi-structured interviews were conducted for validation, with findings compared against existing literature to analyze the role of ambiguity in acquisition failures and propose management strategies. The research highlighted that ambiguities between the Acquirer and the Target often have a paradoxical nature, creating tensions that can impede integration success. Key practical implications include the importance of managing positive ambiguities to facilitate progress and reducing negative ambiguities through open discussions on shared goals and risks. Additionally, the study found that imbalances in top-down and bottom-up communication and learning during M&As can be mitigated by engaging mid-level managers to act as communication and learning facilitators. To manage decision-makers' responses to ambiguity, the research proposed practical tools such as a non-partial ambiguity identifier, an ambiguity registry, and a matrix for tracking ambiguities. These tools aim to integrate ambiguity detection and documentation into the acquisition process, fostering a more structured and objective approach to ambiguity management. A key academic contribution of this research is the development of a typology of M&A ambiguities from the literature, categorized into four priority areas: Human Resources (HR) ambiguity, Organizational (O) ambiguity, Process (P) ambiguity, and Goal (G) ambiguity. Both positive and negative ambiguities were found within these categories, providing a framework for managing ambiguity during the integration phase of M&As. This research also offers a practical model for the business world engaged in M&As, demonstrating that effective ambiguity management through structured identification, communication, and strategic alignment can significantly enhance the chances of successful integration.

[1] M&As failures are defined as misalignment to meet expectations (*M&A activity in the 2023 market | McKinsey*, 2023), and failures to deliver the expected synergies, cost savings, or market expansion benefits they were pursued for (Christensen *et al.*, 2011). Deloitte defines failure when acquisitions do not meet their strategic goals ('The state of the deal M&A trends 2019', 2019).

Keywords: M&As Ambiguity; Ambiguity Typology; Ambiguity Registry; Ambiguity Paradox; M&As' Success and Failure; Positive and Negative Ambiguity.

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CHAPTER 1: INTRODUCTION

1.1 Introduction

This chapter sets the stage for the research by providing a comprehensive overview of the study's purpose, background, and rationale, with a specific focus on the role of ambiguity in mergers and acquisitions (M&A). It begins with an introduction to the research topic, emphasizing the critical impact of ambiguity on M&A integration outcomes. The chapter then offers a detailed explanation of the background and rationale behind the study, underscoring the need to address gaps in understanding how ambiguity affects M&A success. It outlines the justification for the chosen research focus, highlighting the significance of exploring ambiguity within the M&A context. The chapter further defines the specific aims and objectives of the research, aiming to shed light on how ambiguity can be managed to enhance M&A success. Additionally, it discusses the contributions the study intends to make to both academic knowledge and practical business applications by providing insights into ambiguity management in M&As. Finally, the chapter concludes with an overview of the thesis structure, elaborating on the contents of the remaining chapters, and positioning the exploration of ambiguity as a central theme throughout the research.

1.2 Background and Rationale

M&As are considered as a new business investment and one of four strategic decision types (Papadakis, Lioukas and Chambers, 1998; Kumar and Hansted Blomqvist, 2004; Caiazza and Volpe, 2015) exploited by diversified firms for their growth (Hitt, Hoskisson, Ireland, 1990). M&As are considered as a strategic decision when they bring competitive differentiation from competitors while reasonably priced (Calandro, 2011; van Oorschot et al., 2023).

Since the first M&As' wave in 1897, seven M&As' waves have been recorded until the year 2023 (Rudden, 2021; IMAA, 2023). The year of 2021 holds until the date of this research, the highest number of worldwide total value of M&As deals ever recorded - 5.2 trillion USD, and the highest number of worldwide total number of M&As deals ever recorded - 57.9 thousand (IMAA, 2023). Even though statistics and research papers discuss mergers and acquisitions under the M&As' acronym, this research will focus only on acquisitions. Despite such a high-volume number and values of deals globally, the success rate of M&As remain low with a reported failure rate in the range 70% to 90% (Cartwright and Schoenberg, 2006a; Christensen *et al.*, 2011; Bauer, Matzler and Wolf, 2014; Jackson, 2020; Angwin *et al.*, 2022; Kumar and Kumari, 2022). The high failure rate impacts firm's strategic growth negatively, and a lot of failure happens at the post-deal stage

(Steigenberger, 2017a). Hence, the acquisition and integration teams aim to have a successful integration.

There are three main reasons why this research will focus only on acquisitions. First, only 3% of M&As deals are mergers and the majority are in fact acquisitions (Koi-Akrofi, 2016). Second, a merger is considered a true "merger" when a balance of 50% stake exists between the two companies (Koi-Akrofi, 2016). Hence, any merger with a different percentage is in fact considered an acquisition due to the imbalance in power between the two companies (Koi-Akrofi, 2016), and mergers of equals is very rare (Buckley and Ghauri, 2002; Koi-Akrofi, 2016). Third, even though Forbes reported 70% to 90% of M&As to be failures (Garrison, 2019), the low number of mergers compared to acquisitions makes acquisitions failures the bulk of M&As failures. In fact, it has been also reported that 70% to 90% of "acquisitions" are failures (Martin, 2016). Those three points make acquisitions the bulk of M&As and the bulk of the reported M&As failures. Hence, this research work will be mainly focusing on the acquisition's integration which varies in nature from a merger's integration. However, the "M&As" acronym will be used in this research to reference acquisitions.

One of the factors that impede pre-acquisition decision making and subsequently its integration is ambiguity (Jemison and Sitkin, 1986; Faulkner, Teerikangas and Joseph, 2012). Ambiguity is defined as a type of uncertainty that a decision maker is faced with (Orlando *et al.*, 2017). Dequech (2000) defines uncertainty as the lack of clarity about cause-effect relations, the inability to predict future state which would allow to favor one alternative vs another in the current decision-making process, and a lack of predictability of decision outcome. The characteristic of a successful acquisition is a clear understanding of the acquisition decision process and the good management of the integration process (Haspeslagh and Jemison, 1991; Faulkner, Teerikangas and Joseph, 2012). Ambiguity is an important factor that impedes the process of successful decision making which would put the M&As' deal into a risk of failure (Faulkner, Teerikangas and Joseph, 2012). One example of ambiguity in M&As is the causal link between integration decisions and their performance outcomes (Cording, Christmann and King, 2008a). Another example is the ambiguity in human resources, culture and integration in M&As (Stahl and Bjorkman, 2006; Marks and Mirvis, 2011; Dao and Bauer, 2021). To be specific, this research identified ambiguities related to employees' performance and knowledge making the Acquirer's decision difficult to whether retain the employee or not. For example, the Acquirer in Case 1 of this research discussed and later claimed that "w*e have a potential person but can't tell for sure if they are to keep until we interview* *the person…" (Vice President Clinical Affairs, Alexa).*

As a result, subject matter experts were laid off in one of the acquisitions discussed in this research which is labeled as Case 1. Those should have been retained. Another example identified in the research is the ambiguity of the information technology and application systems to be integrated. This had threatened the integration processes post-acquisition by impeding and delaying processes related to sales and products distributions, which has financial implications and potential revenue delays and losses.

The literature describes the M&As' strategic decision as a specific process (Jemison and Sitkin, 1986) within the strategic decision making (SDM) sub-domain of the strategic management literature. While previous studies have identified issues related to the SDM process as a success factor in M&A, we still don't know enough about how and to what extent the "ambiguity" in the SDM process influences and affects M&As' success. There is then a gap in the literature that ties ambiguity to the success rates of M&As and it is not found in any framework that aims to provide a holistic view to improve M&As success. For example, in developing a comprehensive framework to improve M&As success, Gomes et al. (2013) had mentioned ambiguity as being under the control of M&As managers. These authors highlight that even though M&As' literature stress the importance of good communication, ambiguity control could be an important tool for flexibility and maneuverability to manage changes (Gomes *et al.*, 2013). However, there is no tie on how such controlled ambiguity would impact M&As success. More recently, other researchers have identified ambiguity as one of the success factors in M&As phases especially in the phases prior to the integration phase and describe it as helpful to have during the negotiation phase (Carpinschi, Friedman and Friedman, 2019). However, these researchers in their case studies highlight that most companies had to resolve the ambiguity during the integration phase to be successful (Carpinschi, Friedman and Friedman, 2019). There was no further elaboration on how ambiguity was resolved but it was labeled as an important M&As success factor identified in their research (Carpinschi, Friedman and Friedman, 2019). It is important to note that based on the last two published papers, ambiguity is considered either as a factor influencing M&As success factors, or as one of the M&As success factors (Gomes *et al.*, 2013; Carpinschi, Friedman and Friedman, 2019). Nevertheless, improving the M&A success rate is an important factor for firms' executives leading M&As, and since ambiguity is one of the identified less researched success factors for M&As it will be the focus of this research.

1.3 Justification for the Research Focus

As mentioned above, improving the M&As' success rate is an important factor for executives in M&As' decision making and outcome. The high rate of M&As failures discussed earlier, the immense volume and monetary value of the total M&As deals they involve and the relationship between ambiguity and M&As failures as the root cause are strong reasons to conduct this research. Examining acquisitions as decisions under ambiguity may allow a better understanding of the high rate of M&As' failures (McManus and Oklahoma, 2019). Hence, the improvement of the M&As' success rate through a proposal of how to better manage and control ambiguity found in M&As, is the aim of this research. However, the topic of ambiguity seems not be very well understood and managed in M&As. Therefore, it is compelling to explore ambiguity in M&As set-up, its formation, how is it controlled in the context of the SDM process of M&As', and how to be minimized or leveraged to improve the success rate of the acquisition process (including integration).

1.4 Research Aims and Objectives

Via a qualitative study, this study explores how and why ambiguity develops in general and M&As in particular, and as a result how it relates to success and failure of an acquisition. The research is designed to explore manifestations of ambiguity to build a new framework concerning the role of ambiguity and how it influences acquisition success. The research contributes by bringing additional input to the existing literature and for executives working on M&As to help them drive successful M&As in future. Accordingly, the research questions guiding this research are:

A. How does ambiguity develop in M&As, and what are the methods to reduce its negative impact on their success rate?
B. How could the M&As integration process be better managed to understand the impact of ambiguity and improve their success?

1.5 Contribution to Knowledge

The findings of this research reveal a paradox of ambiguity in M&As. This was substantiated by highlighting the negative and positive ambiguity through an M&As ambiguity typology, which included ambiguity priorities, its root causes, and propose a framework to reduce the negative outcomes and improve the positive outcomes.

1.5.1 Contributions to the Academic Knowledge and Theories

Firstly, this research identifies four categories of M&As' ambiguities. These are: Human Resources (HR) ambiguity; the Organizational (O) ambiguity; the Processes (P) ambiguity; and the Goals (G) ambiguity. HR ambiguity is the individual safety and physiological/psychological needs in the acquisition. The Organizational ambiguity is linked to the belonging needs. The Process ambiguity is where acquisition and integration systems and processes reside. This type of ambiguity is typically overlooked both in the M&As practice and literature. The Goal ambiguity is where companies' goals, objectives, and outcomes are not considered reached by the executives. The research then proposes a framework for managing ambiguity based on four priority levels portrayed in a triangle (see **Figures 1.1 and 7.2**). At the lower level is the HR M&As ambiguity followed by the Organizational ambiguity. Next is the priority of M&As Processes ambiguity level followed by the priority of M&As Goals ambiguity.

Figure 1.1 M&As' Ambiguity Priorities Triangle

Secondly, the research demonstrates that ambiguity emerges from insufficient planning and information availability and provides guidance on how to better cope with it. The root causes of the M&As' ambiguity are pivoted around the weaknesses in resources planning and management, weaknesses in communications, weaknesses in the integration process and model (e.g., model to follow to integrate international subsidiary offices of both the Acquirer and the Target), and information technology infrastructure discrepancies and incompatibilities. The research identified that creating a learning infrastructure facilitates information flow and feedback, which would foster a learning culture that supports both exploration and exploitation. A lack of balance tends to happen between the top-down and bottom-up communication and learning received during an M&A. There is an opportunity to reduce the ambiguity resulting from this lack of balance by raising awareness about this learning dynamic and empowering the mid-level managers to act as the balancers of communication and learning flow.

Thirdly, the research identifies a significant gap in the literature concerning how ambiguity can be intentionally managed during strategic decision-making, particularly in M&As. The study highlights instances where one party strategically refrains from sharing certain available information—not for unethical reasons, but to navigate complex dynamics such as negotiation leverage, power imbalances, or integration priorities. This process involves balancing transparency and discretion to address specific strategic needs, ensuring that ambiguity is used constructively rather than becoming a source of confusion or conflict.

Fourthly, this research demonstrates how qualitative research methodologies can be leveraged to develop robust, context-specific frameworks that enhance the study of ambiguity in M&As. These frameworks provide practical tools for capturing dynamic, nuanced insights, addressing gaps in existing M&A literature, and advancing both theoretical and applied qualitative research in the field.

Given the complexity involved in the nature of this research exploration, I found the use of multi-theories helpful to underpin my research. First, the research used the lens of the Paradox theory to identify that ambiguity in M&As integration is paradoxical. This theoretical lens helped to identify potential solutions to reduce tensions and as a result reduce ambiguity. The solutions are a proactive communication triggered by the identification of common goals and shared risks. Second, the research also applied the lens of the Information-Gap theory of Feelings to bring awareness about the existence of ambiguity in M&As. This theoretical lens has helped to reduce the feelings of decision makers towards ambiguity by proposing an objective approach to identify it through different means such as a non-partial identifier and the use of ambiguity register and matrix. Finally, I used Organizational Learning lens which helped to apply its principals in between both companies looking forward to integrate (post-acquisition).

1.5.2 Practical Contributions to the Business Knowledge

The study offers a number of strong messages for practitioners and policy makers. First, the research identified the importance of integrating ambiguity detection and documentation in the acquisition and integration process. The ambiguity detection and documentation process are proposed to follow a cycle of four main steps during acquisition and integration. These are the Pre-Acquisition Planning, the Integration Strategy, the Integration Process, and the Continuous Assessment and Adjustment.

Second, the research highlights that the management practices of seeking positive ambiguity and reducing negative ambiguity are real opportunities for a successful M&As integration. Scholars have characterized strategic ambiguity as being a positive approach when it enables harmony amid diversity and stimulates creativity in conflicting organizations situations (Eisenberg, 2009; Denis et al., 2011; Frankenhuis, Panchanathan and Smaldino, 2023). Practically, in M&As, a positive ambiguity enables moving forward with an acquisition and facilitates the establishment of path forwards to resolve problems and create harmony. Managing ambiguity is critical to achieving a positive outcome by reaching strategic consensus among top management teams (Kumar, 2014). On the other side, strategic ambiguity is considered as negative when it can postpone important decisions and ultimately amplifies tension, hence becoming an enabler to a negative outcome and divergence (Denis et al., 2011). In other terms, strategic ambiguity is considered positive when the outcome is favorable and negative when the outcome is not desirable. For example, when the CEO of Tomika in the 2nd case study of this research was asked about the software (SW) development validation details of his medical product, he assured the acquirer team that the SW was developed with good expertise. This is an example of a positive ambiguity that was interjected by the Target firm in the discussion with the Acquirer to enable the continuation of the discussion without providing the details about the SW. The concept of positive and negative ambiguity has not been researched in detail in the literature. This research reveals ambiguity in M&As where at least one party holds back the information required by the other party, can be controlled by that party holding back the information, which the other party desires to access. This research is the first to discuss the concept of seeking positive ambiguity and avoiding negative ambiguity in M&As as a practical and useful approach to enhance M&As successful integration.

Third, the research highlights that ambiguities are paradoxical between the Acquirer and the Target. It has helped to advance the Paradox theory by moving it to the interorganizational and systemic level. This research illustrates a paradox as a powerful lens through which to further our understanding of ambiguity. The identification of positive and negative ambiguities and their common risks and goals, and the proposed reduction of such ambiguities through open discussions on common goals and risks was confirmed to be a beneficial practice for M&As' success especially in the integration phase. This theoretical lens has helped to identify potential practical solutions to reduce tensions and as a result reduce ambiguity. The research also applied the lens of the Information-Gap theory of Feelings to bring awareness to the existence of ambiguity in M&As from a practitioner's viewpoint. This lens offers help to explore the feelings of decision makers towards ambiguity by proposing an objective approach to identify it through different means such as a non-partial identifier and the use of ambiguity register and matrix. Similarly, the Organizational Learning theory lens helps to apply its principles in between both companies looking forward to integrate.

Fourth, the research highlights that ambiguity reduction starts by raising awareness of the various ambiguity categories and taking actions to mitigate them. Ambiguities would slip from leaders focusing on certain subjects during the meetings, and even if ambiguity gets identified, they do not have the time or focus to tackle it. This research identifies the importance of an external viewpoint to highlight ambiguities, where actors may be too close to the problem and do not realize what they have missed.

Fifth, the research develops the concept of an ambiguity framework, to formally record ambiguities in M&As. This draws inspiration from risk management and serves to make ambiguity visible and comparable to uncertainties.

Leveraging ambiguity seems to either not be well used or used but with no self-awareness to report it. Either way, there is an opportunity to bring awareness and highlight it to minimize ambiguity impact and improve M&As success. The ambiguities detected and discussed in this research did jeopardize the integration success.

1.6 Thesis Structure

This thesis is structured to explore how ambiguity in M&As can be better managed and controlled to improve success rates. Following the introduction in Chapter 1, Chapter 2 reviews the literature on ambiguity, particularly within the context of M&As, and proposes a typology of ambiguity by examining strategic decision-making processes and identifying gaps in current knowledge. Chapter 3 outlines the research design, detailing the philosophical and methodological approaches, including ontological subjectivism and interpretative epistemology, and provides a rationale for using qualitative methodologies.

Chapters 4 and 5 present the findings from the two case studies. Chapter 4 focuses on Case 1, providing empirical insights into the categories of ambiguities that develop and their management within M&As. Chapter 5 extends this analysis to Case 2, specifically examining paradoxical ambiguities and comparing these findings with those of Case 1, to deepen the understanding of ambiguity in M&As. Chapter 6 validates these findings using a triangulation approach, which includes a targeted Grounded Theory method for coding meeting recordings from both cases and validating the results through follow-up interviews with participants involved in the acquisitions. This chapter confirms the existence of paradoxical ambiguities across the identified categories, thereby enhancing the robustness of the study's conclusions. Finally, Chapter 7 synthesizes the findings, linking them to the research questions, and discusses the broader academic and practical contributions of the study. It concludes by addressing the limitations and suggesting directions for future research.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

As mentioned in Chapter 1, the improvement of the M&As' success rate through a proposal of how to better manage and control ambiguity found in M&As is the aim of this research. The aim of Chapter 2 is to review ambiguity in the literature and in particular in the M&As literature. This chapter provides a comprehensive understanding of existing research on ambiguity and M&As, identifies gaps in the current knowledge, and ensures that this research questions are grounded in relevant theory and past M&As studies (Webster and Watson, 2002; Boote and Beile, 2005; McManus and Oklahoma, 2019). This chapter discusses next, the strategic decision-making process stages in M&As, followed by reviewing the categories of ambiguity found in the M&As literature, in order to propose a typology of ambiguity in M&As.

2.2 The Strategic Decision-Making Process (SDM) Stages as a Framework for Understanding M&As

2.2.1 Introduction

The success factors in M&As has been linked to the M&As' stages and the M&As' decision-making process (Gomes et al., 2013; Carpinschi, Friedman and Friedman, 2019). As mentioned in Chapter 1, this research focuses on M&As' ambiguity, and the literature reviewed in this section is not only on ambiguity in the M&As' but its relevance for different stages and M&As' SDM process. Then, the analysis focuses on the M&As' integration and M&As' effectiveness. Accordingly, a typology is proposed of ambiguity for M&As that would be useful for this research and its academic and business contributions.

The literature in the top management academic journals contains very few empirical studies that cover the M&As' process in its entirety. Most of the research has focused on studying sections of the M&As' process, such as aspects of the pre-M&As' phase i.e., before the M&As' deal takes place, or the aspects in the post M&As' phase i.e., the M&As' integration. There is a serious distinction between the mergers and the acquisitions' processes, however this distinction has not been addressed in the literature (Thelisson, 2023). M&As phases are divided into at least two major phases: the first is an identification and negotiation phase, followed by a consummation phase in which firms operate together. However, the stages and focus within these phases differ between mergers and acquisitions, and those phases lack further elaboration and identification (Carpinschi, Friedman and Friedman, 2019) (also see **Table 2.1**). Since M&As continue to be best understood by case studies (Appelbaum et al., 2013; Li, Redding and Xie, 2021) and individual case studies are not in abundance to shed light on these processes, it will be helpful to analyze the M&As' decision process by analyzing the SDM process and apply it to M&As' decision phases. Hence, I will review the M&As' SDM process and its stages and the different M&As' styles. The analysis also explores the M&As' integration definition and its effectiveness.

This chapter categorizes ambiguity into a structured typology, offering a framework to understand its interaction with decision-making processes across M&A stages. Each type of ambiguity introduces distinct challenges and opportunities that influence strategic decisions. Integration characteristics add complexity, directly affecting M&A effectiveness. By exploring the pros and cons—where positive ambiguities can drive progress and conflict resolution, while negative ambiguities may cause delays and conflicts—this chapter provides a concise understanding of ambiguity's impact on M&A outcomes.

2.2.2 The M&As' SDM Process and its Phases

Mintzberg, Raisinghani, and Theoret (1976) were among the earliest strategic management researchers to determine the process in which managers make decisions. The process consisted of the following three phases: the phase of alternatives identification, the phase of choice evaluation development and the phase of alternatives' selection (Mintzberg et al., 1976). Later, different strategic management researchers suggested different SDM frameworks (see **Table 2.1)**.

Research seems to converge commonly into the following four phases of an SDM framework that applies to M&As: (1) an identification of issue; (2) a cause analysis and development of alternatives; (3) an evaluation of alternatives and the selection of the best and valid solution; and (4) the implementation of the selected solution (**Table 2.1**), which seems to be a good model for the M&As' process (Faulkner et al., 2012, p.84; Haspeslagh & Jemison, 1991). However, the SDM process is iterative and inconsistent (Wally and Baum, 1994; Weber, zu Knyphausen-Aufseß and Schweizer, 2019); it cycles through all phases with different fits and starts (Eisenhardt & Zbaracki, 1992); and is dynamic (Smith, 2014; Graebner *et al.*, 2017a; Manolopoulos *et al.*, 2024). By applying this process to M&As we find that it is not clear how and when (i.e., in which phase) the iteration takes place, and how it gets triggered in the M&As' process. But could such iteration be the leading sources of ambiguity due to the regularly occurring changes?

Table 2.1: Framework of Strategic-Decision-Making (SDM) Process in M&As

Authors on SDM \ phases of SDM	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**	**Characteristics of the framework**
(Mintzberg and Theoret, 1976; Welch et al., 2020)	Identification	Development	Selection		Process is intertwined and iterative
(Eisenhardt & Zbaracki, 1992)	Problem identification with adjusted rationality depending on how issues get complicated	Problem development	Problem selection		Cycle through all phases going deeper and following different paths in fit and starts
(Wally & Baum, 1994)	Intelligence activity: the environmental scanning	Design activity: define alternatives	Choice activity: evaluation and decision on an alternative		Iterative cycle and strategic decision making in inconsistent
(Nutt, 1998)	Claim issue following a problem identification by stakeholders	Decision makers weighs options and advise about a direction	Outcome: Quick fix, or innovation or radical change		
(Robert Mitchell, Shepherd, & Sharfman, 2011)	Interpretation	Planning		Implementation of goals	Decision making is inconsistent due to erratic managerial decisions
(Gomes et al., 2013; Carpinschi, Friedman and Friedman, 2019)	Pre-M&As stage (Process: strategic planning -> screening candidates -> due diligence)			Post-M&As stage	Success factors follow a decision-making process in pre-M&A stage
(Smith, 2014)	Identification of key issues	Classification of decisions' responses to key issues	Decision to embrace paradoxical strategies of exploitation or exploration		Decision making is dynamic
(Welch et al., 2020)	Initiation		Target Selection, Bidding, negotiation, valuation, announcement	Post-deal M&A phase	Static pre-deal phase lacks dynamic analysis
Common framework	**Identification of issue**	**Cause analysis and Development of alternatives**	**Evaluation of alternatives and Selection of best & valid solution**	**Implementation of the selected solution**	**Iterative, dynamic, inconsistent**
Example of Application					
(Greenwood et al., 1994)	Courtship process 1st phase: partners identified	Courtship process 2nd phase: decision to merge and negotiation	Consummation: Process of new Organization becoming an operational entity		Mergers will focus on many variable - acquisitions will focus on the fit

Or on the other side, could the iteration be the consequence of ambiguity in M&As? Or could it be both or not even related at all? The research will explore this relationship later. Other aspects discussed in this literature analysis are the M&As' alternatives' process generation, the alternatives' process selection, and the causal relationship between the decision taken and the end results achieved (see **Table 2.1**). The SDM process has a direct link to the strategic decision success (Dean and Sharfman, 1996; Ahmed et al., 2014; Manolopoulos et al., 2024), hence reviewing these processes and relationships will help shed light onto the M&As' SDM process and how it gets linked to ambiguity across the different phases and to other M&As' aspects discussed next in this review.

From the presentation in **Table 2.1**, it can be concluded that scholars seem to agree that M&As has a phase 1 that is described as the phase that would identify a problem or a need. However, they are divided about the other phases of identification of problem. Some of them combine phases 2 and 3, such as Robert Mitchell, Shepherd and Sharfman (2011) and label it as the planning phase. While others combine phases 3 and 4, such as Smith (2014) describe it as the selection of a solution which include implementation. My research will use a comprehensive four-phase process for the M&As' integration SDM process which would cover all proposed variations of phases found in the literature. The four M&As phase proposal should cover most if not all M&As proposed phases. For example, as an application, Caiazza and Volpe (2015) propose a three-stage M&A process. The first stage is M&A decision (Caiazza and Volpe, 2015) which corresponds with this research proposed M&As phases 1 and 2 in **Table 2.1**. The second stage discussed is post-merger integration decision while the third stage is assessment and performance (Caiazza and Volpe, 2015). Both these two stages correspond with my proposed research's M&As phases 3 and 4 in **Table 2.1.** The characteristics of the M&As SDM process framework in **Table 2.1** are iterative, dynamic, and inconsistent. These characteristics lead to ambiguity in the M&As' SDM process. The analysis will explore next, the known drivers in the literature that impact the SDM process by introducing changes which will render the process iterative and inconsistent in nature.

2.2.3 Factors That Influence the M&As' SDM Iterative, Dynamic, and Inconsistent Process

Different factors are discussed in the literature which tend to influence the M&As' SDM process. Researchers argue that past-experience, biases, age, individual differences, belief in self and made-commitments are strong influencers of the SDM process (Dietrich, 2010). Other scholars argue that due diligence influences the M&As SDM process (Alkaraan, 2019). While others discuss the influence of industrial policies (Shen *et al.*, 2023), focus on social, cultural, and political factors (Ciobanu and Bahna, 2015), and biases (Garbuio, Lovallo and Horn, 2010). This is not an exhaustive list, and the focus of this research is not to gather a list of factors that influence M&As' success.

To narrow down the literature review for the purpose of this research, we focus on what is known to impact the field of strategic decision making. Intuition and rationality have been discussed with a paradox perspective since both create an interplay that decision makers struggle with in their decision-making approaches (Reyna, 2004; Calabretta, Gemser and Wijnberg, 2017; Kuusela, Koivumäki and Yrjölä, 2020). Bias has been discussed in the field of decision-making for a long time (Kruglanski and Ajzen, 1983; Teng and Das, 1999; Morvan and Jenkins, 2017; Boissin *et al.*, 2021), and has been argued that it is a result of intuition (Evans, 2010). The factors mentioned earlier (i.e., past-experience, biases, age, individual differences, belief in self and made-commitments, due diligence, industrial policies, focus on social, cultural, and political factors) will fit one of these three decision-making approaches. For example, age or individual differences could lead to a biased decision's approach, and/or a logical decision's approach and/or an intuitive decision's approach. Social, cultural, or political factors will also lead to a decision's approach that is based on rationality, bias, or intuition. Hence, we will consider that intuition, biases, and logic/rationality are the three main decision-making approaches and will narrow the research further by reviewing next how ambiguity is related to any of these three approaches.

Ambiguity has been discussed in the literature in relationship to M&As style's variations, M&As' biased decisions (Norman, 2019), M&As' intuitive decisions (Kuusela, Koivumäki and Yrjölä, 2020), and decision with logic and rationality (Xu and Jiang, 2017). The interplay between bias, intuition, and rationality is well-documented, highlighting that these decision-making approaches are often interrelated rather than entirely distinct (see Teng and Das, 1999; Evans, 2010; Calabretta, Gemser and Wijnberg, 2017; Boissin et al., 2021). In the context of M&As, understanding how these approaches influence SDM is crucial, as each can shape the perception and management of ambiguity differently. By examining ambiguity specifically in the context of biased decision-making across the four M&A stages—due diligence, negotiation, integration, and post-integration—we can identify patterns and pitfalls unique to biased approaches. This, in turn, can offer insights into how ambiguities might manifest or be mitigated under rational or intuitive decision-making frameworks.

Hence, the review focuses next on the M&As' style changes across different stages, followed by a detailed examination of biases within M&As' SDM phases. It will then explore the implementation of decision-making strategies and assess their effectiveness across the M&A phases.

Table 2.2 summarizes the literature that is next reviewed on the M&As' SDM process and what is discussed about ambiguity in M&As so far in the literature. It is categorized in four main categories: M&As' SDM decision style, M&As' SDM decision biases, M&As' decision implementation and M&As decision effectiveness. **Table 2.3** summarizes what is highlighted as unknown and to be explored further about the M&As' SDM process ambiguity. The four categories of M&A SDM process used in **Table 2.2** are used in **Table 2.3** as well.

As mentioned earlier, since this research focuses mainly on the M&As' integration phase, the integration phase column in **Table 2.2** and **Table 2.3** highlighted in grey, is of interest for this purpose. The analysis contributes at least to clarify the unknowns highlighted in bold characters in Phase 4 of **Table 2.3**, i.e., the analysis and definition of the situations characterized by ambiguity, as well as the ambiguity root cause and proactive resolution. However, both Tables highlight a summary of what future research can focus on to help improve the success rate of M&As.

Table 2.2: Ambiguity in M&As' SDM Process and Factors Impacting It

M&As' SDM Process	Phase 1: Identification of issue	Phase 2: Development of alternatives	Phase 3: Selection of solutions	Phase 4: Implementation of the selected solution
M&As' decision style	-	Decision matrices models on fit Descriptive models	Decision matrices models on negotiation and fit Descriptive models	Decision matrices models on integration Descriptive models
M&As' decision biases	-	Overconfidence Self attribution Two cognitive biases: reasoning by analogy and overestimation Biases reduce probability of M&A identification Bias correction suggested: thoughts mapping and statistical algorithms basic judgment bias hard to correct	Anchoring Overconfidence to realize synergy Overly good management expectation Desperation for growth Biases are key for disappointing performance outcome Bias correction suggested: thoughts mapping and statistical algorithms Basic judgment Bias hard to correct	Management priority is the focus on designing structure and systems Cognitive bias of escalating and over commitment Single course of action Individual managers biases Biases limits the acquisition probability of being well managed or divested properly Situations characterized by uncertainty and ambiguity Bias correction suggested: thoughts mapping and statistical algorithms Basic judgment bias hard to correct
M&As' decision implementation (integration)	-	Ambiguity between decision and outcome and proposed solutions to reduce it	Ambiguity and proposed solutions to reduce it	Some Ambiguities like new firm identity - target firm employees' identification, roles of middle managers, and proposed solutions to reduce it
M&As' decision effectiveness	-	Executives experience positively linked to superior acquisition outcome Managerial bias a reason to failure	Selecting similar acquisitions and executives experience are positively related to M&As effectiveness Other influencing factors are type of merger, bidder approach, mode of financing - factors to select target - similarities	Accounting and financial variables identified to measure performance Executives experience Importance of non-accounting variables

Table 2.3: Ambiguity in M&As' SDM Process and Factors Impacting It

M&As' SDM Process	Phase 1: Identification of issue	Phase 2: Development of alternatives	Phase 3: Selection of solutions	Phase 4: Implementation of the selected solution
M&As' decision style	M&As' style model and relationship to identification of issue Prediction potential of M&As success	Lack of studies on hybrid M&As' type models Possible iterations & reasons to be identified No predictive research Impact on the selection and integration phases	Lack of studies on hybrid M&As' type models Possible iterations & reasons to be identified Predictive research Impact on integration phase	Lack of studies on hybrid M&As' type models Possible iterations & reasons to be identified Predictive research Deployment matching prediction concept?
M&As' decision biases	No research detailing biases in this phase Bias identification in a timely manner impact on the rest of the process	Unconfirmed impact on decision outcome Executives' thoughts at different stages Impact of polarizing groups before and after meetings especially in hazardous and uncertain situations Bias identification in a timely manner	Bias factors not analyzed together but instead analyzed independently No predictive model of self-selection biases Correction of basic judgment bias Bias identification in a timely manner	**Analysis and definition of the situations characterized by uncertainty and ambiguity** Correction of basic judgment bias Bias identification in a timely manner
M&As' decision implementation (integration)	Ambiguity root cause and proactive resolution Relationship between issue identification and selection of integration speed	Ambiguity root cause and proactive resolution Relationship between development of alternatives and selection of integration speed	Ambiguity root cause and proactive resolution - Relationship between selection of solution and selection of integration speed - contributing factors - decision framework	**Ambiguity root cause and proactive resolution** Best level of integration Framework and link to performance total identification Speed relationship to success identification Contributing factors Decision framework
M&As' decision effectiveness	Identification of M&As' variables related to effectiveness Identification of variables inter-influence & relationship to effectiveness	Incomplete/unidentified variables	Lack of framework between M&As' antecedents' identification and performance Non-financial variables affecting performance are unidentified	Incomplete variables identification Multidimensional criteria to be used for performance measurement

2.2.3.1 M&As' Decision Style (also Known as "Type") in SDM

The literature on M&As' decision style is mostly focused on describing the phenomenon and has not generally been able to identify success factors and conditions. Different descriptive types of M&As matrices and models on fit and integration have been studied and developed across the multiple M&As' SDM process phases established earlier (Nahavandi and Malekzadeh, 1988; Shelton, 1988; Haspeslagh and Jemison, 1991; Mocciaro *et al.*, 2012; Wanke *et al.*, 2022). However, it seems unreal or incomplete to apply one single strategy M&As' concept model to an M&A because of a possible hybrid need in one or multiple phases, hence the possible reason behind a potential corrective iterative cycle. The literature does not clarify whether the reasons behind the iterative, dynamic, and inconsistent M&As' process highlighted earlier in **Table 2.1** from an M&As' decision style lens, is tied to a change in the M&As' type. It is not clear also whether there is a relationship between the M&As process changes and the correction following further clarification on the earlier process' ambiguities. It is also not clear if it is the case, whether the change takes place in only one phase or across different M&As' phases, and what would be the reasons and triggers behind such a change as well as the prediction potential from the start of the process till the end. The relationship between ambiguity and the changes in M&As' process and style is a gap in the literature. It has not been researched whether ambiguity is one or the main driver to such M&As decision style change and how to minimize its impact to improve on M&As' integration success.

Considering the above, next, this literature analysis explores the different type of M&As' SDM biases based on the M&As' SDM phases identified above. Identifying and spotting M&As' SDM biases and providing timely feedback in each M&As' SDM phase for the purpose of learning and correction due to ambiguity and its changes is next an area of focus.

2.2.3.2 M&As' Decision Biases, Intuitions, and Reasoning in SDM in Relationship to Ambiguity

In the M&As SDM process, biases, intuitions, and reasoning play a crucial role in how ambiguity is perceived and managed. These mechanisms are often used as cognitive responses to ambiguity, with biases emerging as a mitigation approach (Garbuio, Lovallo and Horn, 2010; Butler, Guiso and Jappelli, 2014). For example, biased decisions can arise when ambiguity results from the absence of clear evidence, leading decision-makers to rely on intuition or past experiences, even if that leads to suboptimal outcomes (Rytwinski *et al.*, 2021). Research shows that biases such as self-attribution, overconfidence, and decision anchoring, prevalent in different phases of M&As SDM, can significantly affect the decision outcomes (Billett and Qian, 2008; Dhir and Mital, 2012;

Twardawski and Kind, 2023). Cognitive biases, such as overconfidence, are notably linked to poor acquisition decisions (Dhir and Mital, 2012), while group confirmation biases during integration can reinforce pre-existing beliefs, hindering adaptive decision-making (Rozen-Bakher, 2018).

By reviewing the biases across the SDM phases—identification of issues, cause analysis, alternative evaluation, and solution implementation—it becomes clear that ambiguity influences all stages, leading to various decision-making distortions. In the first phase, biases in identifying issues may skew the entire M&As process by misinterpreting the target or market context (Welch *et al.*, 2020). In the second phase, overconfidence and cognitive biases emerge when evaluating alternatives, leading to higher risk-taking and potentially poor financial outcomes (Billett and Qian, 2008). In the third phase, decision makers often anchor their decisions on initial information, which limits the evaluation of alternatives (Dhir and Mital, 2012). In the fourth phase of M&As, biases such as the escalation of commitment can significantly contribute to overconfidence during integration, potentially undermining the overall success of the acquisition (Fadhila, Mohamed Ali and Anis, 2014; Chulkov and Barron, 2019; Wahyudi, Yusnaini and Novriansa, 2021). This bias often leads decision-makers to continue investing in failing strategies due to a reluctance to admit failure, which can jeopardize integration outcomes (Fadhila, Mohamed Ali and Anis, 2014; Wong and Kwong, 2018). To mitigate such biases, corrective measures like feedback mechanisms, decision mapping, and the application of statistical algorithms have been proposed to guide decision-makers toward more rational outcomes (Hodgkinson et al., 2002; Garbuio, Lovallo and Horn, 2010; Bratnicki and Dyduch, 2020). These techniques provide a structured framework for reducing the influence of overconfidence and other cognitive biases during the critical integration phase, thus fostering more adaptive and flexible decision-making (Bratnicki and Dyduch, 2020). Moreover, timely feedback and awareness of ambiguity remain crucial in recalibrating decisions as ambiguity shifts over time.

One of the key contributions of this research (see Chapter 1, Section 1.2 on Background and Rationale) is raising awareness of M&As' ambiguities, which serve as root causes for several biases that are potentially responsible for M&A failures, as discussed earlier. This research highlights the interconnectedness between bias, intuition, reasoning, and ambiguity in M&As, emphasizing that addressing these biases at each stage of the SDM process is essential for improving M&A outcomes (Garbuio, Lovallo and Horn, 2010; Maitland and Sammartino, 2015). Furthermore, this work underscores the importance of implementing continuous feedback mechanisms to mitigate bias, thus facilitating more informed decision-making throughout the entire M&A lifecycle.

2.2.3.3 Summary of Factors That Influence the M&As' SDM Process

The M&As decision-making (SDM) process is shaped by various factors, with decision style and biases identified in the literature as key drivers. These elements introduce complexities that render the SDM process inherently iterative and inconsistent. While there are several approaches suggested to mitigate biases and stabilize decision styles, ambiguity plays a significant role in influencing these factors. This research will explore ambiguity's impact in greater detail later. The four phases of the M&As process are each affected by decision styles and biases, but the integration phase stands out as particularly crucial. Given its significant role in determining the success and effectiveness of M&As, this research will next focus on analyzing the integration phase—widely regarded as the primary source of M&As failures. Understanding how ambiguity influences decision-making during this phase is essential for improving M&As outcomes.

2.2.4 The importance of the M&As' Integration Phase in the M&A's Performance

2.2.4.1 Definition of M&As' Integration

M&As' integration, which is also called M&As' implementation in the literature, is a process to combine and manage two previously independent and sovereign firms in the post M&As' deal phase (Steigenberger, 2017b). M&As' integration is a difficult process but an important key to M&As performance (Cording, Christmann and King, 2008c; Steigenberger, 2017b). Its importance may explain the reasons behind M&As disappointing outcomes that have not been explained by traditional perspectives (Renneboog and Vansteenkiste, 2018, 2019; Paumen, Kroon and Khapova, 2022).

The integration decision is based on the process of transferring and retaining resources as well as all the non-resource-based decisions such as integration of systems and processes (Calipha *et al.*, 2018; Lee *et al.*, 2023). A resource-based view of integration M&As' SDM process in this phase is related mainly to four different decisions which will affect M&As' integration performance: integration depth, integration speed, top management team (TMT) turnover and human resource factors, and market focus (Cording, Christmann and King, 2008c). However, are all the variables surrounding these decision areas well defined in the M&As' implementation phase? The truth is they are not, as the research will explore next.

As discussed earlier, the M&As' implementation's decisions have been characterized by ambiguity which researchers tried to identify, explain, and propose ways to reduce it (Cording, Christmann and King, 2008c; Graebner et al., 2014; Herron and Izhakian, 2019; Desyllas, Goossen and Phelps, 2024). The ambiguity characterizing the M&As' implementation decisions will have an impact on the four areas of M&As mentioned earlier, hence the importance to elaborate this further.

2.2.4.2 The M&As' Integration Depth

Integration depth is the level of change in the organization chart and structural relationship between the acquiring firm and the target firm, which can be a lengthy and a costly process (Cording, Christmann and King, 2008c; Zollo, 2009a; Kroon et al., 2022). Researchers are not conclusive in defining the best level of integration and linking it to performance (Zollo and Singh, 2004), despite multiple attempts to define an implementation decision framework such as the one suggested by Pablo (1994) (i.e., integration decision based on task, cultural and political characteristics). Some researchers have found that high level of integration limits efficiency realization and as a result reduces performance (Puranam, Singh and Chaudhuri, 2009; Zaheer, Castañer and Souder, 2013). Other researchers argue the opposite by stating that high level of integration is necessary for the firm to achieve the desired performance, hence it enhances performance (Galpin, 2014; Trichterborn, Zu Knyphausen-Aufseß and Schweizer, 2016; Lozano and Hernandez, 2021). However, a comprehensive framework for such an M&As' SDM with the factors influencing it and their relationship to performance has yet to be researched.

2.2.4.3 The M&A's Integration Speed

Speed of integration has not been confirmed to be a key success in integration and researchers have not been able to confirm such a relationship between speed and success through empirical evidence (Morag and Barakonyi, 2009; Bauer and Matzler, 2014a). Researchers are divided about M&As' integration's speed benefits - some argue that speed is always good, to the extent that integration has to happen in the first 100 days after acquisition. While others stress that speed is not always good and depends on different factors; and others think that a hybrid integration speed may be beneficial in certain cases (Angwin, 2004; Morag and Barakonyi, 2009; Bauer and Matzler, 2014a; Thomas et al., 2023). With these inconclusive results regarding how should speed be decided on? To resolve these contradicting conclusions, recent research suggests that speed should be chosen through the analysis of all the M&As' processes (Bauer and Matzler, 2014b) and customized to each deal. However, the factors that should be taken into consideration to decide on the speed of integration have yet to be defined across all phases of the M&As, and their relationship to success analyzed. From what has been researched earlier, it seems that ambiguity resulting in cyclical activities could be a major reason behind struggles related to the speed of integration. Something to research further.

2.2.4.4 Human Resource Factors and Top Management Turn Over in the M&A's Integration Phase

The human resource factor is important to review in M&As in relation to M&As ambiguity. Three aspects are important to employee's communication in M&As based on the fair process theory (Kim and Mauborgne, 1997; Chan Kim and Mauborgne, 2017). These are the open and honest communication, the employee engagement and clarity of message, and the employee participation and collaboration (Retzloff, 2023). Managers play a great role on improving on these three by being fair and engaging, by communicating the rationale behind the strategic action of the merger and comply with all laws and regulations in communicating effectively (Retzloff, 2023). These aspects emphasize the importance of a proactive versus a reactive approach in managing the human resource aspect of M&As. It is noted that employees deal with bad information better than with ambiguous information (Galpin and Herndon, 2008; Retzloff, 2023).

Top management turnover (TMT) has been mainly investigated on the target firm's side for many years and depends on different factors such as previous company performance (Walsh and Ellwood, 1991), executives' age and illness (Hambrick and Cannella, 1993), nature of the acquirer (i.e. domestic vs. foreigner) (Krug and Hegarty, 1997), perception of merger (Krug and Hegarty, 2001), and relationship and communication with acquirer's executives (Krug and Hegarty, 2001), to name few. Most of these are ambiguous to the acquirer earlier in the process and tend to get clearer with time. However, researchers are not conclusive on the TMT's relationship with the post M&As' performance. Krishnan, Miller, and Judge (1997) and Zollo and Singh (2004) argued that TMT is negatively related to post M&As performance. Krug and Hegarty (2001) expressed that the TMT process is not straightforwardly positively linked to performance but rather depends on different factors. Bilgili, Calderon, Allen, and Kedia (2016) argued that CEO's turnover has positive relationship on M&As' performance, while TMT may have a negative impact on the M&As' performance depending on the proportion of TMT loss and their variances (i.e., voluntary vs. involuntary TMT). Recent studies underscore the complex relationship between top management turnover (TMT) and post-acquisition success. TMT turnover is moderated by factors like industry similarity and the target firm's prior M&A experience (Krug, Wright and Kroll, 2014; Bilgili et al., 2017).Meanwhile, leadership turnover can mitigate overcommitment in underperforming initiatives (Chulkov and Barron, 2019). Despite these insights, a comprehensive strategic decision framework linking TMT factors to post-acquisition performance remains undeveloped. Hence, it will be valuable for the acquiring firm to have such a framework and factors to decide upon involuntary TMT and predict and perhaps reduce voluntary TMT.

2.2.4.5 Market Focus in M&As' Integration Phase

Market focus is defined as management focus on customers' needs (Homburg and Bucerius, 2005; Ahammad *et al.*, 2017), and is an area that in most of the time is not the purpose or the main goal of the management team during M&As' integration despite its positive relationship to performance (Homburg and Bucerius, 2005; Cording, Christmann and King, 2008c; Ahammad *et al.*, 2017).

The research will explore later how ambiguity can be leveraged for better M&As success and effectiveness. Next, what we know about M&A's effectiveness is analyzed.

2.3 Review on M&As Effectiveness

2.3.1 Measurements of M&A Effectiveness

Measuring M&A effectiveness is a multifaceted challenge that has been explored through various financial and non-financial metrics. Traditionally, financial indicators like Return on Assets (ROA), Return on Investment (ROI), and Cumulative Abnormal Returns (CARs) have been widely used to assess M&A outcomes (Papadakis and Thanos, 2010). However, these financial metrics tend to focus on short-term performance and may overlook the longer-term strategic impact of an acquisition (Renneboog and Vansteenkiste, 2019). The importance of including broader metrics that consider external factors, such as market dynamics or environmental risks, is growing (Lodh, Deshmukh and Rohani, 2024).

In addition to financial metrics, non-financial indicators such as cultural integration, human capital retention, and strategic fit have emerged as critical measures of M&A success (Bauer and Matzler, 2014b). Research has shown that post-acquisition integration, especially among small and medium-sized enterprises, plays a significant role in determining long-term performance (Homburg and Bucerius, 2005; Arvanitis and Stucki, 2015). The failure to account for non-financial aspects can increase the ambiguity surrounding M&A decisions, potentially jeopardizing long-term success.

It is essential to analyze the integration of both financial and non-financial performance measures in M&A research to fully capture the complexities and nuances of M&A outcomes (Capron and Shen, 2007; Cording, Christmann and King, 2008c; Abdelmoneim and Fekry, 2021; Mihaiu *et al.*, 2021; Koroleva, 2023). Understanding the role of ambiguity in these processes highlights the need for a hybrid model—combining both financial and non-financial performance metrics—to effectively capture the full spectrum of M&A results. By focusing on this hybrid approach, researchers and practitioners can better assess the success of M&As and navigate the inherent ambiguities in decision-making, ultimately leading to more informed and strategic outcomes.

2.3.2 Drivers for M&As' Effectiveness and Success

Selecting similar acquisitions has been found to be positively related to M&As effectiveness (Finkelstein and Haleblian, 2002). Also, vigilant boards rich in appropriate experience are associated with superior acquisition outcome (Kroll, Walters and Wright, 2008).

However, in their meta-analysis of post-acquisition performance, King et al. (2004) expressed the lack of framework between acquisition antecedents' identification and the acquisition performance. The non-financial variables that impact post M&As financial performance remain unidentified and under-researched (King *et al.*, 2004). Some researchers argue that the integration is impacted by serial acquisitions, the relatedness and complementarity of both the Acquired and the Target and the decision making of CEOs and shareholders interventions (see Renneboog and Vansteenkiste, 2019). Other researchers have focused on the accurate valuation of the target, the proficient management of the integration through a solid Project Management approach; and the skillful human resources management through communication, retention and culture integration (Galpin, 2021). Since many studies have confirmed that the integration is the real issue in M&A failures (Boateng, 2006; Boateng *et al.*, 2019; Galpin, 2021), this research will not focus on the accurate valuation of the Target but will assume that a good valuation took place during the due diligent phase and the focus of this research will be on the integration of a good value Target. A better learning to build competencies and strong integration teams were other proposed M&As success drivers (Marks, 2019). However, despite the absence of M&As antecedents, Cartwright and Schoenberg (2006) have pointed that the most probable reason for M&As failures, beyond biased managerial decisions to merge or acquire, is the incomplete variables which affect areas of M&As (King *et al.*, 2004; Cartwright and Schoenberg, 2006b) which remain true until today despite several efforts to identify the recipe for success for M&As' integration (Marks, 2019; Renneboog and Vansteenkiste, 2019; Galpin, 2021).

In summary, to analyze M&As' effectiveness, a combination of financial and non-financial variables needs to be identified and analyzed. These variables have not been all identified nor their inter-influence in relation to M&As' effectiveness. Hence, this is an ambiguous context in which firms need to operate in to make judgment on effectiveness. The factors and variables seem to be present in the three phases post the identification of issue. For the sake of this research, the financials variables will not be main subject of discussion, but instead will focus on non-financials variables.

2.3.3 Ambiguity's Impact on M&A Effectiveness and Solutions to Reduce It

Researchers argue that different categories of ambiguity exist which would impact the M&As' integration effectiveness. In this regard, the ambiguity of the new firm's identity (Maguire and Phillips, 2008), the ambiguity in the identification of the acquired firm's employees in the new firm (Maguire and Phillips, 2008), the ambiguity in the causal link between integration decision and outcomes (Cording, Christmann and King, 2008b), and roles of middle managers on both the Acquirer Alexand the target side (Wooldridge, Schmid and Floyd, 2008), are few examples.

Different solutions have been proposed to reduce ambiguity, such as transfer of knowledge (Heimeriks, Schijven and Gates, 2012), the construct of intermediate goals (Cording, Christmann and King, 2008b), and deliberate organizational learning (Faulkner, Teerikangas and Joseph, 2012). However, these solutions address ambiguity after it gets identified and are not solutions to find the root cause behind ambiguity and address it proactively in early phases of occurrence. This will require an analysis of the factors behind the different categories of ambiguities.

Next, I review the definition, origin, and studies of ambiguity, and explore whether authors have been discussing ambiguity or strategic ambiguity. I start by looking into ambiguity from a general lens then walk the way through the specifics, next through the strategic setting, and then farther through the SDM process until it reaches the ambiguity specifics through the M&As' narrow lens.

2.4 Ambiguity Definitions and Characteristics

2.4.1 Definitions of Ambiguity

Researchers have aimed to define and reduce ambiguity in different fields, domains and areas of research such as physics (Brodsky, Lepage and MacKenzie, 1983), communication (Eisenberg, 1984a), mathematics (Lippman and Rumelt, 1982; Slowinski and Vanderpooten, 2000a), logic (Partee and Rooth, 2008), social media and trust (Abdul-Rahman and Hailes, 1997), knowledge-intensive firms (Alvesson, 1993), in poetic texts (Aubakir, Bizhkenova and Kitibaeva, 2022), in risk assessment (Johansen and Rausand, 2015), and in the definition of creativity (Colin, 2017), to name few. We will first explore an abstract logical definition, i.e., mathematical definition, practical definitions used in the literature, and then will highlight the definition that this research is going to use.

2.4.1.1 Mathematical Definition of Ambiguity

A mathematical definition is given based on similarity: "x" is similar to "y", "y" is rejected for a certain reason, hence due to ambiguity "x" gets also rejected which is incorrect due to the ambiguity factor leading to an identical decision on both factors while both variables are not totally identical (Slowinski and Vanderpooten, 2000b). For example, a target firm F1 has not been pursued by an acquiring firm A for not having a strong financial model. A Target firm F2 has similar financial model to the target firm F1. Due to ambiguity surrounding F2 it does not get pursued by using cognitive biased decision. Another example is an integration of a Target firm F3 went wrong hence a similar size Target firm F4 integration will also go wrong due to previous experience dealing with ambiguity in the same setting. Slowinski and Vanderpooten (2000) proved that "the absence of ambiguity implies definability" but the definability does not confirm the absence of ambiguity. From a general point of view, ambiguity is the uncertainty or the unknown of things, but will be better defined later.

2.4.1.2 Various Ambiguity Definitions Used in Literature

Ambiguity has been researched in strategic planning setting and has been found in reading and writing planned strategic texts (Eisenberg, 2007; Abdallah and Langley, 2014). Literature reveals that different definitions of ambiguity focusing on different aspects are used such as indirectness, vagueness, disqualification, and non-clarity (Wender, 1967; Branham, 1980; Pascale and Athos, 1981; Bavelas, 1983; Eisenberg, 1984, 2007). Ambiguity has been defined as the "uncertainty about uncertainties" (Einhorn and Hogarth, 1986; Faulkner, Teerikangas and Joseph, 2012), and the "intermediate state between ignorance and risk" (Einhorn and Hogarth, 1986; Mosakowski, 1997). It has been also defined as the subjective experience of missing information relevant to a prediction (Frisch and Baron, 1988). Others define it as the situation where the information available to the decision maker is not sufficient to form a probabilistic view of the world (Amarante, 2017). Further, other researchers link it to the interpretation of risk (Johansen and Rausand, 2015). However, these definitions and the relationships between them are also unclear hence ambiguous (Eisenberg, 2007). Risk and uncertainty will be defined later (in Section 2.4.1.5).

2.4.1.3 Ambiguity Definition for This Research

As mentioned briefly earlier (see Chapter 1 Section 1.2), "ambiguity" is defined as a type of uncertainty that a decision maker is faced with when making decisions based on vague information available at the moment the decision is made (Orlando *et al.*, 2017). For example, when certain information is relevant for a decision maker to choose option A versus option B, however this information is hidden from the researcher for any reason, ambiguity is the uncertainty about the probability of choosing the successful option between A and B (also see Baron and Weber, 1991; Dequech, 2000).

A practical example during M&A integration is when an Acquirer's Research and Development (R&D) manager is to choose between keeping a Target's engineer on the books or letting that employee go on the first day of the takeover for performance reasons not shared with the manager by the employee previous manager. Another practical example is when an Acquirer Marketing leader needs to send a public communication about the future branding of the two companies without the details of what was the Target's Marketing strategy prior to the takeover.

For this research, ambiguity will refer to situations where the available information with the Target is not shared completely with the Acquirer, is unclear or open to multiple interpretations and vice versa. Ambiguity can be a result of insufficient shared information or a set of conflicting data and/or complex situations. However, is ambiguity the same as uncertainty and risk? The literature struggles to clearly differentiate between ambiguity and uncertainty in M&As, however there is a slight but important nuance between the two. Next the analysis focuses on the definitions and differences between ambiguity, uncertainty, and risk.

2.4.1.4 Uncertainty Versus Ambiguity

Uncertainty has been discussed and debated for a long time in the academic world and had received considerable attention, however, the literature does not contain a clear and consistent definition of uncertainty, neither a clear distinction of its different dimensions and levels (Sniazhko, 2019). In this research we will limit uncertainty definitions and discussions to decision-making which is the framework discussed earlier focusing on M&As (see Section 2.2 and **Table 2.1**). Over a century ago, Knight (1921) developed the concept of Knightian uncertainty in decision making in which he distinguished between uncertainty and risk (Knight, 1921; Simpson and Sariol, 2022). His argued distinction in decision making was that risk can be measured while uncertainty cannot (Knight, 1921; Simpson and Sariol, 2022). Some scholars describe uncertainty as the lack of clarity about cause-effect relations, the inability to predict future state which would allow to favor one alternative versus another in the current decision-making process, and a lack of predictability of decision outcome (Dequech, 2000). Others have adopted a more general definition of uncertainty as being the deviation from achieving any ideal and complete state of a project or system (e.g., Walker et al., 2003). In project management, it has been defined as an event that has some probability of occurring and that would have an impact on the ability to complete the project as planned (Institute Project Management, 2021).

Melanie Kreye (2016) defined uncertainty towards the control of a certain phenomenon and distinguishes in her definition between three states: (1) uncertainty as a controllable phenomenon; (2) uncertainty as an uncontrollable phenomenon; and (3) uncertainty as a reducible phenomenon. Kreye provides an example of uncertainty as a controllable phenomenon like learning a new skill such as knitting, in which the person has control to go find the details of which they are uncertain about (Kreye, 2016). While a reducible uncertainty is when a car manufacturer does their due diligence in inquiring about a new supplier and their business before taking the decision to engage with them (Kreye, 2016). But despite the car manufacturer research some level of uncertainty remains about the new supplier (Kreye, 2016). However, Kreye does not distinguish between ambiguity and uncertainty and describes ambiguous phenomenon also as uncertain (Kreye, 2016).

It can be concluded that no one definition of uncertainty could be used from the literature. One proposed aspect in differentiating the two, which is an important aspect of the proposed distinction, is that ambiguity refers to missing information that could be known but is not available, while fundamental uncertainty implies that some information does not exist at the decision time because the future is yet to be created (Dequech, 2000). Hence, for the purpose of this research we will consider ambiguity in decision making as a type of uncertainty but with the possibility of having access to the missing or needed information. In other terms, it will be a layer under the (1) uncertainty as a controllable phenomenon, and (3) uncertainty as a reducible phenomenon of Kreye (2016).

In summary, decision-makers often face both ambiguity and uncertainty simultaneously. They deploy different techniques and strategies to deal with such as gathering more information, using probabilistic calculation, and reasoning, or adopting a decision-making framework. However, those techniques are also used for risk mitigation and management, hence the research discusses next the difference between ambiguity and uncertainty versus risk.

2.4.1.5 Uncertainty and Ambiguity versus Risk

While ambiguity is the lack of knowledge about a certain subject or probabilistic model, risk is related to the probabilistic consequences and results of a certain decision (Dequech, 2000; Soroush Saghafian, 2021). Risk has been described as an unknown decision outcome but where the odds are measurable while uncertainty is not measurable (Knight, 1921; Simpson and Sariol, 2022). Decision making under ambiguity is different from under risk. Under ambiguity managers are missing information while under risk they have enough information to make a choice (McManus and Sharfman, 2022). Uncertainty's outcome has an unknown probability while risk has a known outcome(Simpson and Sariol, 2022). The term risk-taking exists to describe a person taking a decision while being able to measure the outcome even if it is not favorable towards the expectation (Hunt, 2021; Simpson and Sariol, 2022). M&As have been described among the riskiest decisions managers take (Hunt, 2021; Simpson and Sariol, 2022). Ambiguity and Risk are very different from each other. Decisions have been described to be taken either under certainty where information is available, under uncertainty where ambiguity or ignorance exist, or under risk (McManus and Sharfman, 2022). For the rest of the research, we will call Risk a certain result that can lead to a failure to meet a certain goal (Golman, Gurney and Loewenstein, 2021; Soroush Saghafian, 2021).

Figure 2.1 highlights the difference between ambiguity, uncertainty, and risk based on the previous definitions (Takemura, 2014; Kreye, 2016; McManus and Sharfman, 2022).

Figure 2.2: Difference between Ambiguity, Uncertainty, and Risk

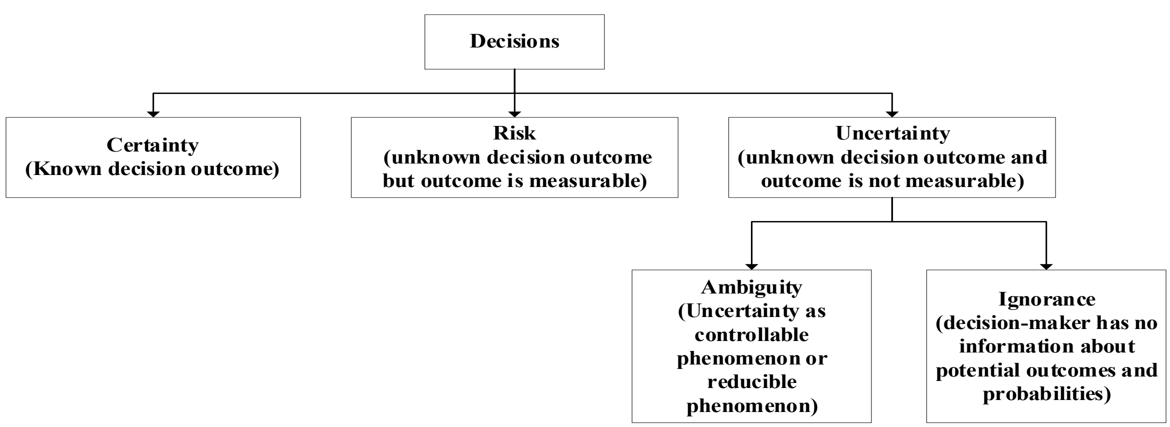


Table 2.4 highlights the differences between Certainty, Uncertainty, Ambiguity, Ignorance and Risk with an example based on the discussed literature earlier (Dequech, 2000; Takemura, 2014; Kreye, 2016; Hunt, 2021; Soroush Saghafian, 2021; McManus and Sharfman, 2022; Simpson and

Sariol, 2022). Example 1 given is about the decision of whether to take an umbrella on a certain day or not; while Example 2 is an example from the world of M&As.

Table 2.4: Differences Between Certainty, Uncertainty, Ambiguity, Ignorance, and Risk

Terms discussed in the literature	Certainty	Uncertainty	Ambiguity	Ignorance	Risk
Definition	Complete knowledge or predictability of outcomes	Lack of complete knowledge or predictability of outcomes	Lack of clarity or multiple interpretations of available information	No information available - unknown what information is needed	Probability distribution of possible outcomes, along with their associated likelihoods
Nature	Outcomes are known or predictable	Outcomes are unknown or unpredictable.	Information is incomplete or subject to interpretation	no information available about any outcome or probability	Known outcomes with associated probabilities
Cause	Sufficient and consistent information	Complexity, randomness, or variability	Insufficient or conflicting information	Complexity, randomness, or variability	Known probabilities of different outcomes
Characteristics	Future outcomes certain and predictable. Clear and unambiguous information	Future outcomes uncertain. May involve variability or unpredictability	Multiple interpretations possible. Difficult to quantify or measure	Future outcomes uncertain. It involves variability or unpredictability	Probability of outcomes can be assessed. Can be quantified and managed
Example 1: The Weather Forecast	Sunset time at local location	Weather forecasting for next week	Deciding whether to take an umbrella based on a weather forecast with a 30% chance of rain	Not knowing that weather forecasting even existed and can help with decision making	Deciding whether to take an umbrella based on the risk of getting wet if it rains, versus the inconvenience of carrying an umbrella if it doesn't rain
Example 2: From the Business World of M&As	Pre-arranged sale of a subsidiary: A company agrees to sell a non-core subsidiary to a pre-determined buyer at a fixed price, with all terms agreed upon in advance. There is no doubt about the outcome since the sale terms are locked in and will proceed as planned.	Predicting market reactions to an acquisition: A company announces an acquisition, but the market's reaction is uncertain. While the company can anticipate possible responses, it cannot predict with precision how investors, customers, or competitors will react, affecting the share price or the company's market position.	Integrating company cultures post-merger: Two companies merge, and there is ambiguity around how the differing corporate cultures will blend. Even with data on both cultures, predicting how employees will interact, adapt, or resist is open to interpretation, and success depends on handling these ambiguous factors effectively.	Overlooking a key regulation in a foreign market: A company enters a merger with a foreign entity without knowing about a critical local regulation that affects the deal's viability. The absence of this knowledge can lead to unforeseen legal or financial complications, significantly impacting the transaction.	Deciding to proceed with a leveraged buyout: A private equity firm considers a leveraged buyout of a company. The decision involves weighing the potential for high returns against the risk of financial distress due to the high levels of debt involved. The firm is aware of the financial metrics and market conditions but must balance the risk of failure against potential gains.

Certainty in example 1 (see **Table 2.4)** would involve a complete knowledge of the sunset time at the decision maker location. All information needed or required to make the decision are available. The availability of additional weather information would not alter the decision of whether to take or not to take an umbrella.

Uncertainty in this context of example 1 in **Table 2.4** refers to the unpredictability of future weather conditions. Even with a weather forecast indicating a probability of rain, there's uncertainty about whether it will actually rain or not. Weather patterns can change rapidly, and unforeseen factors such as sudden storms or atmospheric disturbances can influence the weather outcome. Therefore, uncertainty exists because the outcome of whether it will rain or not is not known with certainty.

Ambiguity in the example 1 scenario in **Table 2.4** would involve unclear or incomplete information about the weather conditions. For example, if the weather forecast predicts a 30% chance of rain, it's ambiguous whether rain will actually occur. There's ambiguity because the available information doesn't provide a clear indication of whether rain is likely or not. Additionally, factors such as the accuracy of the weather forecast can contribute to ambiguity.

Ignorance in this context of the example 1 in **Table 2.4** is the lack of information availability about any outcome or probability. Its cause is randomness, complexity, and variability. The decision maker does not know that there is information out there that they may need, hence it is the decision maker's blind spot.

Risk in the scenario of the example 1 discussed in **Table 2.4** involves quantifying the potential consequences of taking or not taking an umbrella. For example, if the decision maker decides not to take an umbrella despite a 30% chance of rain, there's a risk of getting caught in the rain and getting wet. On the other hand, if the decision maker decides to take an umbrella just in case, there's a risk of carrying around an unnecessary item if it doesn't rain. Risk management involves weighing the potential benefits and drawbacks of each decision and making a choice based on the perceived likelihood and impact of each outcome.

Risk and uncertainty have been studied in detail in the literature, while less focus has been given to ambiguity (McManus and Sharfman, 2022). Overwhelmingly decisions made by managers are decisions under ambiguity versus under ignorance because they have some of the information that they need to make the decision and rarely have no information at all (Golman and Loewenstein, 2018; McManus and Oklahoma, 2019). Hence, a more comprehensive and precise study of ambiguity will be helpful in improving M&As decision making process (McManus and Sharfman, 2022). For the rest of the research, ambiguity will be considered in M&As as an uncertainty that is controllable or reducible.

2.4.1.6 Ambiguity versus Controlled Ambiguity

The literature does not explicitly differentiate between ambiguity and controlled ambiguity. Researchers have discussed the response to ambiguity such as the impact of illusion of control on deciding under ambiguity (Berger and Tymula, 2022) or the cognitive control to manage ambiguity and uncertainty (Mushtaq, Bland and Schaefer, 2011). Other researchers have highlighted that there is a preference how decision-makers seek further information depending on what information they have and what they are missing(Golman and Loewenstein, 2018; Golman, Gurney and Loewenstein, 2021). The information-gap theory highlights that decision makers tend to reduce the gap between what they know and what they don't know, and feelings about information gap is the source of curiosity (Golman and Loewenstein, 2018). The discussion in the literature has been about the control in seeking to reduce ambiguity and closing the gap between what is known and what is unknown to the decision maker.

However, the literature has a gap on the control of the source of ambiguity in decision making in general and in M&As in particular. In M&As, the party that has the information i.e., the Acquirer or the Target, decides what detail to share or hold back. The party holding the information back is controlling the level of ambiguity towards the other party on a certain subject or detail required by the other party to make a certain decision. Such control of ambiguity by one party lead to decisions without certainty by the other party in the M&As SDM process, and in particular in the M&As integration phase. The literature does not discuss how the management of the access to information can play a role in decision making and the success of M&As integration. There is a gap in the literature on how to manage ambiguity in M&As and reduce it at the root. An example of that is the ambiguity on the Acquirer side about the technical resources in R&D and who to retain during the integration phase. The literature discusses how to manage decision making in such human resource ambiguity, but it does not discuss how to reduce it at the root, i.e. avoid having the ambiguity there from the beginning during the integration phase. This research proposes to bridge this gap by finding common ground for goals and risks between the Acquirer and the Target to reduce such ambiguity and improve potential of a successful integration.

Now that ambiguity has been defined, next the characteristics of ambiguity are reviewed.

2.4.2 Characteristics of Ambiguity

Ambiguity in M&As decision-making can be characterized by relational ambiguity, causal ambiguity, and the distinction between controlled and random ambiguity. These characteristics are interconnected and collectively influence the complexity of strategic decision-making during M&As.

2.4.2.1 Relational Ambiguity

In a strategic setting, ambiguity is argued to be more of a relational method used by communicators rather than a static qualification or description of a particular message or text (Eisenberg, 2007; Rönnberg Sjödin, Parida and Wincent, 2016). The relational attribute of ambiguity (Eisenberg, 2007) introduces the fact of a certain control by the sender of the message, whether written or verbal or other type, hence an induced and rational reason behind that message. Having this in mind, does it mean that ambiguity is more of a controllable than of a random variable? Or there are both aspects of ambiguity and that depends on the setting and context?

The Positive and Negative Impacts of Relational Ambiguity

Despite the variations in its definition, ambiguity has been researched and found on one side to be a benefit in a strategic organizational planning such as “the capacity to promote unified diversity, to preserve privileged positions, to foster deniability, and to facilitate organizational change” (Eisenberg, 2007). But it was also argued that ambiguity has two faces resulting in paradoxical consequences (Abdallah and Langley, 2014). On one side, it does enable strategic development and change especially when it gets exploited (Sillince, Jarzabkowski and Shaw, 2012), while on the other side it does lead to a cyclical interaction and potential change in direction (Denis, Langley and Cazale, 1996; Abdallah and Langley, 2014) especially when multiple interests are in the play (Jarzabkowski, Sillince and Shaw, 2010). However, the impact of the potential delays and cyclical correction introduced as a result of ambiguity have not been researched.

Future research had been suggested to tackle the subject of ambiguity whether it is a problem and or a feature for the organization (Sillince, Jarzabkowski and Shaw, 2012). On one side, it is a problem since it does continuously shift goals without allowing a consensus reach or goal achievement; while on the other side it is a strategy construction enabler (Sillince, Jarzabkowski and Shaw, 2012).

The Management of Relational Ambiguity

It is also argued that identifying and tackling ambiguity will help resolve tasks and processes' related conflicts in strategic setting (Lê and Jarzabkowski, 2015). In fact, Lê and Jarzabkowski (2015) demonstrated that responding to task conflict helped identify problems in strategy content and as a result helped the actors to refine what the strategy task is (Lê and Jarzabkowski, 2015). The authors also stressed that on the other side responding to a process conflict helped actors identify ambiguity and problems in the strategy process, and as a result helped actors manage better how they would best manage and deploy the strategy task (Lê and Jarzabkowski, 2015). These authors have argued that the reason actors go through recursive cycles of task and process conflicts is ambiguity (Lê and Jarzabkowski, 2015). The actors making the strategy go through a chain of cyclical changes. It starts from ignoring the strategy content due to ambiguity, which will eventually lead to a crisis in implementation forcing them to go back and define the strategy content with more clarity based on the crisis circumstances, and as a result reduce ambiguity and move forward with implementation (Lê and Jarzabkowski, 2015). But the authors did not specify whether the ambiguity identified in the tasks and processes where something that can be proactively identified and reduced earlier in the strategy. There is also no mention about the specificities of such ambiguity detected and reasons behind the found "ambiguity" and whether a causality or a proactive mitigation can be determined.

2.4.2.2 Causal Ambiguity

Causal Ambiguity Definition

Causal ambiguity is an unclarity regarding causal relationships between actions taken and results (Brauer, Mammen and Luger, 2017). It is also described as the driver of difficulty to determine what factors produce a certain result (Mulotte, Dussauge and Mitchell, 2013). But is causal ambiguity an ambiguity or an uncertainty. The review next attempts to answer this question.

Causal Ambiguity an Ambiguity or an Uncertainty?

Based on the definitions of ambiguity and uncertainty identified earlier, it is important to know whether the information exists somewhere, and it is not accessible to the decision makers, or whether the information does not exist at all. The literature uses the term "ambiguity" versus "uncertainty", but in fact researchers refer to it as uncertainty when causal ambiguity is a state of uncertainty that is the result of incomplete understanding and knowledge (Einhorn and Hogarth, 1986; McIver and Lengnick-Hall, 2018). In fact, it was argued that uncertainty is present in causal ambiguity to varying degrees in every process, procedure, and resource decision (McIver and Lengnick-Hall, 2018). Hence, some researchers like McIver and Lengnick-Hall (2018) use “causal uncertainty” to describe a causal ambiguity where information is not known to exist (McIver and Lengnick-Hall, 2018). The literature analysis describes next the positive versus negative impact of causal ambiguity in decision making.

The Positive and Negative Impacts of Causal Ambiguity

Causal ambiguity is argued to be dynamic and changes over time and as a result managers may not differentiate between the different types of causal ambiguity nor spot the changes that may have occurred (Mosakowski, 2013). Causal ambiguity is argued to have a mixture of positive impacts and negative impacts (McIver and Lengnick-Hall, 2018; Huang, 2020). How is causal ambiguity managed then if it has dual impacts, positive and negative? And can positive impact be maximized in decision making? The research reviews next the discussion of the management of causal ambiguity in the literature.

The Management of Causal Ambiguity

Some solutions such as diversification and resource-base management for example have been proposed and suggested to be researched as a mean to reduce causal ambiguity (Mosakowski, 2013). But this seem to contradict other researchers who have argued that diversification is in fact one of the reasons behind ambiguity. In fact, ambiguity is allowed in strategy by masking divergence to make room for divergent and irreconcilable stakeholders interpretations and preferences (Eisenberg, 1984b; Davenport and Leitch, 2005; Denis et al., 2011). Hence, practices of ambiguity create short-term comfort for divergent interests to allow a project to move forward (Denis et al., 2011). As a result, ambiguity is seen as a positive approach in strategy to enable harmony (Eisenberg, 1984b; Davenport and Leitch, 2005; Denis et al., 2011; Martínez-Díaz et al., 2020). In contrast, which complicate things further, is the outcome of ambiguity in this context. The reason is that strategic ambiguity can also be seen as a short-term thing to get the players on board before things start to get complicated, however the consequences are prolongations to the problem and agony, which is a contrast that would require further research attention (Denis et al., 2011).

McIver and Lengnick-Hall (2018) have argued in their research on the causal ambiguity paradox that actions such as the use of comprehensive controlled duplication of resource would help decision makers leverage causal ambiguity as a strategic capability to limit imitation of products by competitors. This is not the subject of this research however, their research opens the door to review the management of causal ambiguity as a strategic target for decision making and that needs deliberate management attention (McIver and Lengnick-Hall, 2018).

2.4.2.3 Ambiguity Driven by a Controllable vs. Random Setting

Are the benefits of ambiguity mentioned above more related to a controllable setting either induced or driven by the sender of a message in a message setting for example as opposed to a random occurrence in a variable setting without any control over it? That is an open question to be researched (Denis et al., 2011).

Denis et al. (2011) mention four possible conditions leading to strategic ambiguity which merit further research: a context associated with pluralistic decision makers, a passive acting group of potential leaders, an unclear availability of resources, and an undefined long timeframe to make a decision. Click or tap here to enter text.In relationship to the first two mentioned conditions, it is also argued that actors did not change the way they constructed the contexts to exploit ambiguity, but instead are holding and using simultaneously different contexts to accommodate their own views and accommodate the organization's view, sometimes switching from one to another in the same meeting without a clear and defined structure behind that change (Jarzabkowski, Sillince and Shaw, 2010).

Since positive and negative aspects of ambiguity have been discussed in the literature, this literature analysis further explores these aspects. Next, the possibility of fostering positive ambiguity and retaining negative ambiguity is discussed.

2.4.3 Positive vs. Negative Strategic Ambiguity

2.4.3.1 Definitions of Positive and Negative Strategic Ambiguity

The literature does not explicitly define the positive or the negative strategic ambiguities. However, scholars characterize strategic ambiguity as positive approach when it enables harmony amid diversity and stimulates creativity in conflicting organizations situations (Eisenberg, 1984b; Denis et al., 2011; Martínez-Díaz et al., 2020). On the other hand, strategic ambiguity is considered negative when it can postpone important decisions and ultimately amplifies tension, hence becoming an enabler to a negative (Denis et al., 2011; Kops and Pasichnichenko, 2023). In other terms, strategic ambiguity is considered positive when the outcome is favorable and negative when the outcome is not desirable. This research will use these definitions for positive and negative strategic ambiguity going forward and will help clarify further the notions of positive and negative ambiguities in a strategic setting.

Next, the literature review explores whether fostering and enabling positive strategic ambiguity as well as avoiding and discouraging negative strategic ambiguity are possible opportunities in M&As.

2.4.3.2 Seeking Positive Ambiguity and Avoiding Negative Ambiguity in M&A

In M&A decision-making, seeking positive ambiguity involves recognizing ambiguous situations as opportunities for creativity, innovation, and strategic flexibility (Raitis *et al.*, 2017; Martínez-Díaz *et al.*, 2020), while on the other hand, avoiding negative ambiguity means identifying and addressing ambiguity that can lead to confusion, poor decision-making, and conflict (Kops and Pasichnichenko, 2023). Ambiguity seems to be constructed to either constrain specific actions through rhetoric such as doubting, distancing, and fogging (Sillince, Jarzabkowski and Shaw, 2012). It can be constructed to enable action thorough rhetoric of responsibility, conformity, and impression management (Sillince, Jarzabkowski and Shaw, 2012; Yang, 2015). Knowing that, is ambiguity an induced phenomenon or a random phenomenon? From the literature review so far, it seems to be quite paradoxical, and depends on the context and objective. Yang (2015) argues that logic ambiguity also varies in its shape and logic between three types of stakeholders in an organization depending on their objectives - management, internal stakeholders (internal employees) and external stakeholders (target firms for example) (Yang, 2015). However, Yang's model has not been empirically verified, and further research is needed to verify this context and measure its benefits and how organizations respond using ambiguity logic depending on situations and point in time (Yang, 2015), and how ambiguity changes over time (Giffords and Dina, 2003).

2.4.3.3 The Marriage of Positive and Negative Ambiguity in M&A

From what has been discussed earlier, another question worth exploring is how a positive seen ambiguity gets married with a negative ambiguity, when the latter is argued to be a leading cause to failures, to postponed decisions and to increased tensions? Is one of the two induced while the other one is random? Or is one of them well controlled while the other one is out of control? A further question to explore is whether an induced ambiguity is wrongly introduced by actors to meet objectives? While on the other side if ambiguity is random were mitigation plans not possible? Was it spotted earlier in the process or tasks? Keeping these open questions in mind, does this get clearer in a SDM setting since it is a relational setting that goes beyond only verbal or written texts? This will be explored next.

2.4.3.4 Difficulties Decision Makers Face When Dealing with Ambiguity

When faced with ambiguity, decision-makers often avoid it, and failure to recognize the underlying causal ambiguity in firm performance can lead to poor strategic decisions (Mosakowski, 2013; Arend, 2022). The process of addressing ambiguity typically begins with an initial probability assessment, which serves as a benchmark. This is then adjusted as more information becomes available, with the level of adjustment depending on the size of the initial ambiguity (Gigerenzer and Gaissmaier, 2011; Soll, Milkman and Payne, 2015).

Reactions to ambiguity vary based on the risk involved. Decision-makers tend to be more conservative in low-probability situations, while in high-probability contexts, they may opt for less familiar solutions(Johansen and Rausand, 2015). The reactions to ambiguity are complex and context-dependent, making them difficult to predict (Herron and Izhakian, 2019; Desyllas, Goossen and Phelps, 2024). While ambiguity can sometimes drive short-term progress, its long-term impact remains debated. Within M&As, ambiguity can either foster innovation and flexibility or lead to delays and misalignment. The adjustment or correction of initial assessments during SDM can also contribute to M&A failures if not properly managed (Denis et al., 2011). Ambiguity is further complicated by the lack of information and the difficulty of isolating units of analysis in qualitative data. Even with more data, executives may face ambiguity in their decision-making, leading them to deploy risk-reduction strategies (Petkova *et al.*, 2014). Despite the availability of data, ambiguity in the SDM process remains a significant challenge, influenced by biases, intuition, and reasoning (Herron and Izhakian, 2019; Desyllas, Goossen and Phelps, 2024)

Thus, the reaction to ambiguity depends on multiple factors, including the context, data available, and whether the decision is influenced by probabilistic assessments. Although ambiguity can aid short-term progress, its strategic management, especially in M&As, requires further research to understand its long-term implications on success (Denis et al., 2011; Herron and Izhakian, 2019; Desyllas, Goossen and Phelps, 2024).

2.5 Ambiguity's Presence in M&As and Its Impact on M&As' Success

2.5.1 Manifestations of Ambiguity in M&As

Ambiguity is one of the major reasons behind slow post-merger integration especially when the communication is poor about a significant change that is coming (Vaara, 2003). Ambiguity is then manifested in confusions about the roles, responsibilities, and hierarchy when different backgrounds are brought together leading to organizational hypocrisy and politicization in which each party involved tries to clarify things in its own way for its own benefit (Vaara, 2003b; Herron and Izhakian, 2019; McManus and Oklahoma, 2019; Desyllas, Goossen and Phelps, 2024). Hence communication plays a major role in clarifying ambiguities. However, communication is not the only mechanism to clarify ambiguity, if ambiguity is observed as a bad thing to have in an M&As, because communication is subjective and situation dependent (Risberg, 2001). In fact, ambiguity does not seem to be a bad thing since it is likely to facilitate identity change during post-merger integration, as Corley and Gioia argued in their research on corporate spin-offs (Corley and Gioia, 2004).

2.5.1.1 Characteristics of Ambiguity in M&As

As discussed earlier (see Chapter 2, Section 2.4.2), ambiguity in M&A decision-making is shaped by the interplay of relational ambiguity, causal ambiguity, and the distinction between controlled and random ambiguity. Relational ambiguity arises from uncertainties in relationships and dynamics between the Acquirer and Target, such as unclear roles and misaligned expectations (Steigenberger, 2017b).Causal ambiguity involves uncertainty regarding cause-and-effect relationships within the M&A process, making it difficult to predict how specific actions will impact outcomes (Junni and Sarala, 2011). The distinction between controlled and random ambiguity reflects whether ambiguity can be managed deliberately or arises unpredictably, posing greater challenges (Angwin and Meadows, 2015). These interconnected dimensions collectively add layers of complexity to strategic decision-making in M&As, highlighting the importance of effectively managing uncertainty throughout the integration process.

2.5.1.2 Ambiguity Introduced or Inherited in M&As?

Ambiguity is inherent in business environments, and acquisitions tend to intensify and expose it further, as argued by Risberg (2001). While it may seem that acquisitions introduce new ambiguity, the ambiguity often pre-exists and is merely amplified during the M&A process. If this is the case, then the success or failure of M&As may depend on the level of pre-existing ambiguity, which becomes more visible due to the pressure placed on decision-making during the acquisition. Understanding and predicting ambiguity early in the M&A process could provide insights into the potential success or failure of the acquisition. Despite this, one key area of focus is raising awareness about ambiguity, as this can play a crucial role in mitigating negative impacts, such as reducing key personnel turnover in acquired firms (Risberg, 2001a; Hewitt, 2013; Naz, Asim and Sarim, 2022).

There are multiple areas to focus on and should not be limited to communication, or power. Hence, on the one side authors argue that ambiguity exists in corporations, and it is enhanced in acquisitions. However, it is important to focus on it by bringing awareness to facilitate change. On the other side, authors argue that ambiguity is behind delays in post-merger integrations leading to failures. Resource ambiguity in high techs firms is one of the major causes since firms tend to embed and hide their resource competitive advantage to make themselves attractable to be acquired (Ranft and Lord, 2002; Faulkner, Teerikangas and Joseph, 2012). To address the resource ambiguity, which is high in high tech firms for example, an expectational ambiguity is developed by the acquiring firms' executives during due diligence and as a result is inherent to the acquisition process (Jemison and Sitkin, 1986; Faulkner, Teerikangas and Joseph, 2012). As a result, the speed of integration depends on the speed with which post integration ambiguity, which is related in nature to resource ambiguity, is reduced through learning in the post-acquisition integration phase (Faulkner, Teerikangas and Joseph, 2012).

2.5.1.2 Responses to Ambiguity in M&As

It seems that there are different categories of ambiguity during different phases of the M&As' process and the response to each one of them varies, however their presence impacts the speed of integration and post-acquisition firms' performance. Risberg (2001) stated that ambiguities could be reduced if communication is the focus all over the M&As' process, and culture differences are taken into consideration (Risberg, 2001). Ambiguity in M&As does change over time but that need to be further explored with reasons behind the change such as trust, identity change, culture (Giffords and Dina, 2003) and managers experience (Zollo, 2009a).

Since strategic ambiguity is defined relationally as stated earlier (Eisenberg, 2007) our research on M&As will avoid exploring ambiguity as a property of messages and will instead explore it in a relational setting. As discussed earlier, since ambiguity, its dynamic variations, and the responses to these variations in the M&As' phases are related to the factor of time (T) it will be analyzed across the M&As' process phases. To explore responses and reactions to ambiguity, it is important to explore next the categories of ambiguity in the M&As' literature.

2.5.2 Categories of Ambiguity in M&As' Literature

Ambiguity exists when there are multiple ways of thinking about the same state or phenomenon (Sillince, Jarzabkowski and Shaw, 2012). Ambiguity in leadership has been identified as having three main components: ambiguous authority, ambiguous goals, and ambiguous technology characterized by a lack of clarity between causal relationships between the means and the ends (Denis, Langley and Cazale, 1996). Ambiguity logic is defined as a decision made with logic in a complex environment with an unprecise definitions and information available (Yang, 2015). An environment like that is found in mergers for example where an initial logic decision with ambiguity early in the process would help get things moving forward (Yang, 2015). Outcome ambiguity in strategic setting such as M&As, is the perception of managers of a certain successful performance (Zollo, 2009a).

From these highlighted ambiguity categories, and the various ambiguities found in the literature, the question to answer is whether there is any commonality between these ambiguities in a strategic setting and in M&As? Hence the importance of defining a comprehensive grouping framework to managing M&As ambiguities.

There are several frameworks discussed in the literature that states that addressing the "who," "what," "why," and "how" questions provide a complete model for managing M&A ambiguities. In their study on the antecedents of M&A success, Bauer and Matzler (2014a) highlight the importance of strategic fit, cultural alignment, and integration speed—key elements that correspond to the "what," "who," and "how" questions. Gomes et al. (2013) propose a framework for M&A integration that covers strategic, organizational, and human aspects, closely aligning with the questions of "what," "who," "why," and "how. Graebner et al. (2014) studied the complexities of post-merger integration; and emphasized the need to address strategic intent ("why"), organizational design ("what"), and the human side of mergers ("who"), along with integration tactics ("how"). Weber and Tarba's framework focused on dynamic capabilities in M&As, suggesting that addressing strategic alignment ("why"), organizational processes ("what"), human resource integration ("who"), and procedural clarity ("how") is critical for success (Weber and Tarba, 2014). These references reinforce the idea that addressing the "who," "what," "why," and "how" questions provide a comprehensive framework for understanding and managing the complexities of M&A integration. They align with the notion that this approach captures the full range of ambiguities, ensuring a thorough and effective integration process.

To comprehensively address the M&As' ambiguities, we categorized them into four key groups: Human Resources ambiguities, Organizational ambiguities, Goals and Outcomes ambiguities, and Process ambiguities. These categories were developed by addressing the questions of "who, what", "why" and "how". The Human Resources ambiguities category addresses the "who" and "whom" involved in the integration, focusing on uncertainties related to people, roles, identities, and leadership within the merging entities. The Organizational ambiguities group deals with the question of "what" concerns arise regarding the organization, including brand, governance, and structural integration. The Goals and Outcomes ambiguities category addresses the question of "what" goals, outcomes, strategy, and future directions are expected from the M&A, covering strategic objectives - the "why", financial targets, and performance benchmarks. Lastly, the Process ambiguities group tackles the "how" of the integration, focusing on the procedures, decision-making processes, and operational alignment required to successfully merge the entities.

By addressing these fundamental questions— what, who, why, and how— this logical framework provides a robust and comprehensive understanding of the ambiguities encountered during M&A integration. Next, the research develops a typology of the ambiguities found in the M&As literature categorized based on the four categories identified earlier of: A- Human Resource (HR) ambiguity; B- Organizational (O) ambiguity; C- Goal (G) ambiguity; and D- Process (P) ambiguity.

Tables 2.5 summarizes the various types of Human Resources (HR) ambiguities discussed in the M&As literature.

Tables 2.6 summarizes the various types of Organizational (O) ambiguities discussed in the M&As literature.

Tables 2.7 summarizes the various types of Goal/Strategies/Outcomes (G) ambiguities discussed in the M&As literature.

Tables 2.8 summarizes the various types of Process (P) ambiguities discussed in the M&As literature.

Table 2.5: Types of Ambiguity in M&As' Literature - Human Resource (HR) Ambiguities

Type of Ambiguity	Definition of Ambiguities in M&As	*Literature References*
1- Cultural Ambiguity	Ambiguity around integrating different corporate cultures. This can lead to conflicts and challenges in establishing a cohesive work environment	*(Goulet and Schweiger, 2006; Junni and Sarala, 2014)*
2- Human Resource Ambiguity	Concerns related to staffing, retention, compensation, and employee benefits during M&As, which can cause uncertainty among employees	*(Goulet and Schweiger, 2006; Yaakov Weber, Christina Oberg, 2013)*
3- Leadership Ambiguity	Ambiguities regarding leadership roles, decision-making authority, and changes in management structure, affecting overall direction and stability	(Graebner et al., 2014; Junni and Sarala, 2014)
4- Emotional Ambiguity	Mixed emotions such as fear, anxiety, and resistance to change among employees and other stakeholders, affecting morale and engagement	*(Colman and Lunnan, 2011; Klok, Kroon and Khapova, 2023)*
5- Identity Ambiguity	Ambiguity about the combined identity of the merged entities, affecting employees' sense of belonging and the brand's external perception	(Clark, D. A. Gioia, et al., 2010; Tienari and Vaara, 2016)
6- Relational Ambiguity	Ambiguities in inter-organizational dynamics, trust, and collaboration between merging entities	(Lee, 2013; Raitis et al., 2017)
7- Stakeholder Ambiguity	Conflicting demands and expectations from various stakeholders, such as employees, customers, and suppliers, complicating the integration process	(Cording et al., 2014; Segal, Guthrie and Dumay, 2021)
8- Learning Ambiguity	Ambiguities regarding the transfer, retention, and integration of knowledge between merging entities, which can hinder synergy realization	*(Martinkenaite, 2012; Reus, Lamont and Ellis, 2016)*
9- Ambiguity of Employee's Identity	Ambiguity among employees from the acquired firm regarding their identity and role within the newly formed organization	(Risberg, 2001c; Clark, D. A. Gioia, et al., 2010)
10- Roles' Ambiguity	Ambiguity concerning the roles of middle managers on both the acquirer and target sides, affecting responsibility clarity and authority	*(Myeong-Gu Seo, 2001; Kroon and Reif, 2023)*
11- Ambiguity of Responsibilities	Ambiguity around job responsibilities, roles, and accountability among employees, impacting performance and morale	*(Sarala, Vaara and Junni, 2019)*
12- Ambiguity of Leadership Authority	Ambiguity concerning the distribution of authority and leadership roles post-merger, affecting strategic direction and decision-making	(Graebner et al., 2014; Park, 2015)
13- Ambiguity of High-Tech-Firm Resources	Ambiguity about high-tech firms' employees' skills and experience such as engineers and subject matter experts - a skills related ambiguity in High-Tech firm	*(Rossi, Tarba and Raviv, 2013)*
14- Layoff Causal Ambiguity	Ambiguity about establishing a clear cause-and-effect relationship between decision to layoff employees and the specific outcome it generates in M&As	*(De Meuse, Marks and Dai, 2010)*

Table 2.6: Types of Ambiguity in M&As' Literature (Continued) - Organizational (O) Ambiguities

Type of Ambiguity	Definition of Ambiguities in M&As	*Literature References*
15- Organizational Ambiguity	Ambiguity in roles, responsibilities, and structures within the newly combined entity, leading to confusion and inefficiencies	*(Vuori and Huy, 2016)*
16- Brand Ambiguity	Concerns about the brand strategy post-merger, including decisions on maintaining, merging, or rebranding, affecting market positioning	(Lambkin and Muzellec, 2008; Liu *et al.*, 2018)
17- Reputational Ambiguity	Ambiguities about the impact of the M&A on the reputation of the involved companies, influencing stakeholder perceptions and brand equity	(Brandtzaeg, 2014; Chalençon *et al.*, 2017)
18- Governance Ambiguity	Ambiguities around corporate governance structures, such as the roles of the board of directors, executive teams, and shareholders	*(Kuusela, Keil and Maula, 2017)*
19- Geographical Ambiguity	Ambiguities in cross-border M&As regarding regulatory environments, market conditions, and cultural differences across regions	*(Bertrand, Mucchielli and Zitouna, 2007; Li, Liu and Xu, 2023)*
20- Technological Ambiguity	Challenges related to the integration of technological systems and platforms between merging entities, leading to potential disruptions	*(Hagedoorn and Duysters, 2002; Rossi, Tarba and Raviv, 2013)*
21- Social Ambiguity	Ambiguities regarding social dynamics within the new organization, including changes in social networks and group cohesion	(Raitis *et al.*, 2017)
22- Ambiguity of New Firm Identity	Ambiguity about the identity of the newly formed organization, which can affect internal alignment and external perception	*(De Bernardis and Giustiniano, 2015)*
23- Ambiguity of Hierarchy	Ambiguity regarding the new hierarchical structure, reporting lines, and levels of authority within the merged entity	*(Vrontis, Weber and Yedidia Tarba, 2012)*
24- Ambiguity Variations	Different forms or degrees of ambiguity that can arise in various contexts during M&As, affecting both internal and external aspects	*(Vuori and Huy, 2016)*
25- Inherited Ambiguity	Ambiguity passed down from previous organizational decisions or legacy issues that persist into the M&A, complicating current efforts	(Graebner *et al.*, 2014)

Table 2.7: Types of Ambiguity in M&As' Literature (Continued) – Goal /Outcome (G) Ambiguities

Type of Ambiguity	Definition of Ambiguities in M&As	*Literature References*
26- Strategic Ambiguity	Unclear strategic goals or misalignment between the merging entities regarding the purpose and expected outcomes of the M&A	*(Bauer and Matzler, 2014a)*
27- Financial Ambiguity	Ambiguities related to financial implications, such as valuation, expected synergies, and financial stability of the combined entity	(Lan, Yang and Zhu, 2015; Bris *et al.*, 2021)
28- Market Ambiguity	Concerns about market reaction, competitive responses, or changes in customer behavior post-merger	(King, Slotegraaf and Kesner, 2008; Bris *et al.*, 2021)
29- Synergy Ambiguity	Ambiguity about realizing expected synergies, such as cost savings or revenue enhancements, due to integration challenges	*(Bereskin et al., 2018a; Bris et al., 2021)*
30- Performance Measurement Ambiguity	Ambiguity about the metrics and benchmarks used to evaluate the success of the M&A, which can lead to misaligned goals	*(Bauer, Matzler and Wolf, 2014)*
31- Innovation Ambiguity	Ambiguity about how the M&A will impact innovation activities, such as R&D efforts and the ability to sustain a competitive edge	*(Bauer, Matzler and Wolf, 2014)*
32- Paradoxical Ambiguity	Conflicting demands or contradictory strategies present simultaneously, creating tension that is difficult to resolve during M&As	(Schad *et al.*, 2016)
33- Causal Ambiguity	Ambiguity about the causal link between integration decisions and outcomes, making it difficult to predict the success of actions	*(Cording, Christmann and King, 2008a; Hansen, McDonald and Mitchell, 2013)*
34- Outcome Ambiguity in Strategic Decision	Ambiguity about the potential outcomes of strategic decisions during the M&A process, affecting risk assessments and decision-making	*(Zollo, 2009a; King, Bauer and Schriber, 2021)*
35- Ambiguity of Leadership Goals	Ambiguity regarding the goals and vision of leadership, potentially leading to misalignment and confusion within the organization	(Vaara *et al.*, 2012)
36- Induced Ambiguity / Sought Ambiguity	Ambiguity that is intentionally created or embraced as a strategic tool to provide flexibility or delay commitments during integration	*(Lan, Yang and Zhu, 2015; Clark and Collins, 2017)*
37- Expectational Ambiguity	Ambiguity about meeting the expectations of various stakeholders involved in the M&A process, which can affect satisfaction and support	*(Cool, Dierickx and Jemison, 1989; Capron and Shen, 2007)*
38- Positive Ambiguity in Strategy	Ambiguity that provides strategic advantage or flexibility, allowing the organization to adapt and navigate uncertainties effectively	*(Martínez-Díaz et al., 2020)*
39- Negative Ambiguity in Strategy	Ambiguity that creates confusion and undermines strategic clarity, leading to misaligned actions and potentially poor outcomes	(J. L. Denis *et al.*, 2011)

Table 2.8: Types of Ambiguity in M&As' Literature (Continued) – Process (P) Ambiguities

Type of Ambiguity	**Definition of Ambiguities in M&As**	***Literature References***
40- Operational Ambiguity	Ambiguity in integrating operational processes, such as supply chains, information systems, or production methods, leading to inefficiencies	*(Wong, Boon-Itt and Wong, 2011)*
41- Product-Design Ambiguity	Ambiguity about the integration of product development processes, technologies, and design standards between the acquiring and target	*(Graebner, Eisenhardt and Roundy, 2010)*
42- Process Ambiguity	Ambiguity about the integration processes, including unclear procedures, decision-making protocols, and governance structures	*(Angwin and Meadows, 2015)*
43- Integration Speed Ambiguity	Ambiguity regarding the optimal speed of integration, where moving too quickly or slowly can have negative consequences	*(Angwin, 2004)*
44- Supply Chain Ambiguity	Challenges in aligning supply chain operations, suppliers, logistics, and inventory management between merging entities	*(Ellram, Tate and Petersen, 2013)*
45- Technological & Systems Disruption Ambiguity	Ambiguities related to technological changes that may impact integration plans or market relevance during M&As	(Bereskin *et al.*, 2018b)
46- Communication Ambiguity	Ambiguity about the accuracy, completeness, or reliability of information shared during the M&A process, leading to potential missteps	*(Norman, 2019; Bris et al., 2021)*
47- Decision-Making Ambiguity	Ambiguities in decision-making processes during integration, including unclear authority, conflicting styles, or delayed actions	*(Vuori and Huy, 2016)*
48- Temporal Ambiguity	Ambiguity about the timing of integration activities, milestones, and realization of expected benefits, leading to frustration and misalignment	(Graebner *et al.*, 2014)
49- High-Tech Firms' Ambiguity	Ambiguities specific to high-tech firms about how to integrate specialized resources, such as intellectual property and R&D capabilities – an integration process ambiguity	*(Rossi, Tarba and Raviv, 2013)*
50- Ambiguity of Context	Ambiguity about external and internal contexts affecting the M&A, such as market conditions, competitive landscape, and organizational dynamics	*(Vaara, 2003b)*
51- Dynamic Ambiguity	The changing nature of ambiguity as the integration process evolves, where clarity can shift into uncertainty and vice versa	*(Eisenhardt and Martin, 2000; Eisenberg, 2009)*
52- Linkage Ambiguity	Ambiguity about how different parts of the organization will connect and interact post-merger, impacting cohesion and operational flow	*(Angwin and Meadows, 2015)*

Based on earlier discussion about positive and negative ambiguities in M&As, if the ambiguities in **Table 2.5; Table 2.6; Table 2.7; and Table 2.8** can be fostered, then those ambiguities will be considered as a potential or opportunity of positive ambiguity and will be marked later in the research with a (+) sign. The ambiguities which should rather be avoided, hence considered negative ambiguity, will be marked with a (-) sign later in the research.

2.6 Theoretical Lens

Ambiguity in mergers and acquisitions (M&As) is a complex phenomenon that spans multiple dimensions, including structural, emotional, and organizational aspects. Addressing this complexity requires a robust theoretical foundation. The use of multiple theories was essential due to the intricate and multifaceted nature of my research on M&As' ambiguity phenomenon and the inability of one theory to comprehensively explain it. This study adopts three complementary theoretical frameworks—Paradox Theory, the Information-Gap Theory of Feelings, and the Theory of Organizational Learning—to provide a holistic lens for analyzing ambiguity in M&As.

These frameworks were selected after a careful evaluation of their relevance and ability to address the dynamic and multifaceted nature of ambiguity. Paradox Theory explores the structural and strategic tensions inherent in ambiguity, such as the interplay of competing priorities and conflicting forces between the Acquirer and the Target. Information-Gap Theory of Feelings examines the emotional and cognitive responses to ambiguity, providing insights into how decision-makers perceive and respond to uncertainty in M&A contexts. The Theory of Organizational Learning focuses on the adaptive and knowledge-based processes that organizations use to manage and learn from ambiguity during the integration phase.

The selection of these three frameworks was guided by their distinct contributions and their ability to complement one another. Paradox Theory provides a foundation for understanding the structural and strategic conflicts created by ambiguity, while Information-Gap Theory delves deeper into the emotional and cognitive dimensions, exploring how decision-makers' perceptions influence their responses. The Theory of Organizational Learning adds a layer of practicality by addressing how organizations adapt and learn in ambiguous environments, emphasizing the importance of mechanisms like feedback, feedforward communication, and shared knowledge to navigate the challenges of integration.

Each framework provides unique insights that, when combined, offer a comprehensive understanding of the ambiguities involved. For instance, Paradox Theory illuminates the structural and strategic conflicts of ambiguity, Information-Gap Theory of Feelings delves into the emotional and cognitive responses to ambiguity, and the Theory of Organizational Learning provides a lens for understanding adaptive and knowledge-based responses in managing ambiguity. Together, these theories enable a nuanced exploration of how ambiguity develops, evolves, and is managed in M&A integration processes.

The data from Case 1 and Case 2 for this research were analyzed using the tenets of these lenses during the focus ethnography exercise as well as during the targeted grounded theory and the interview data analysis. This multi-theoretical approach acknowledges that no single theory can fully explain the complexities involved, offering a richer, more nuanced analysis and enhancing the validity and depth of the thesis findings. The integration of these frameworks ensures that ambiguity is examined from multiple perspectives, enabling the development of actionable strategies to leverage its potential benefits while mitigating its risks.

These are next discussed and further elaborated in Chapter 3.

2.6.1 Paradox Theory

The paradox theory refers to the exploration and analysis of paradoxes within a particular field or topic of study (Lewis, 2000a; Smith and Lewis, 2011a). Paradoxes often arise when there are tensions or conflicts between seemingly opposing forces or concepts, but upon closer examination, reveals deeper complexities and insights. (Lewis, 2000; King and Zeithaml, 2001; O'Driscoll, 2008; Smith and Lewis, 2011; McIver and Lengnick-Hall, 2018). Ambiguity is argued to be at the center of the paradox by many scholars (King and Zeithaml, 2001; O'Driscoll, 2008; McIver and Lengnick-Hall, 2018), however "engaging ambiguity" is a key in addressing the paradox and reducing tensions (Smith and Lewis, 2011a).

The study of paradoxes led to practical implications to reconcile conflicting perspectives and divert created tensions to foster innovation and change (O'Driscoll, 2008; Smith and Lewis, 2011a). The paradox theory offers a framework for grappling with ambiguity in decision making (Lewis, 2000a; Smith and Lewis, 2011a; Rytwinski et al., 2021), and to understand complex phenomena (Lewis and Smith, 2022). Lewis (2000) argued that recognizing the paradox, balancing the tensions, leveraging dialectical thinking and adaptive capacity were a strong framework for organizations to better manage ambiguity and complexity (Lewis, 2000a). Paradox can lead to creativity, energy and learning depending on how decision makers respond (Lewis, 2000a; Smith and Lewis, 2011a), and can generate insights that would inform practice (Lewis and Smith, 2022).

However, this research expands on the positive and negative ambiguities as a paradox in M&As' integration. This is a gap in the literature and an opportunity to look at the ambiguity and tensions created between the M&As' Acquirer and the Target. The research uses the lens of the paradox theory to propose a framework on the management of paradoxical ambiguity found in M&As.

2.6.2 Information-Gap Theory of Feelings

The information-gap theory of feelings was introduced by Golman and Loewenstein as a concept to describe someone's information-gap as an uncertainty that the person would recognize and is aware of (Markey and Loewenstein, 2014; Golman and Loewenstein, 2018; Golman, Gurney and Loewenstein, 2021). Golman and Loewenstein suggested that emotions arise when there is a gap in between the information the decision maker has and the information they would like to have (Golman and Loewenstein, 2018; Golman, Gurney and Loewenstein, 2021). A greater gap leads to a stronger emotional response to resolve the uncertainty and ambiguity (Markey and Loewenstein, 2014). Hence, feeling of curiosity would lead to explore new opportunities or methods to acquire and gather information while feeling of anxiety would lead to avoidance (Markey and Loewenstein, 2014; Golman and Loewenstein, 2018; Golman, Gurney and Loewenstein, 2021).

The response to ambiguity varies from one decision maker to another, and differences are shaped by different factors such as past experience, personality, culture background, and education (Markey and Loewenstein, 2014). These authors suggest that there is an optimal level or sweet spot where ambiguity is neither low or high, and it would result to an optimum response outcome in motivation, curiosity, and creativity (Markey and Loewenstein, 2014; Golman and Loewenstein, 2018; Golman, Gurney and Loewenstein, 2021). To find the sweet spot of ambiguity level would require first exposing ambiguity to the decision maker, which would encourage curiosity and exploration, and would promote collaboration. Also, people will seek to clarify ambiguity if they like the subject, they lack information about, while the opposite, i.e., will avoid seeking information to clarify the ambiguity if they do not like the subject (Golman and Loewenstein, 2018; Golman, Gurney and Loewenstein, 2021). The application of this framework in this research would be to expose ambiguity and define an objective way to manage outside of the decision maker to control the emotions in the sweet spot balance of this theory as mentioned earlier.

2.6.3 Theory of Organizational Learning

The theory of organizational learning provides a framework on how an organization would learn (Crossan *et al.*, 1999; Basten and Haamann, 2018). Appendix B in this thesis illustrates this framework. This theory suggests that organizational learning can be enhanced by developing a learning culture that supports both exploration and exploitation, by creating a learning infrastructure that facilitates information flow and feedback, and by fostering a learning leadership that encourages inquiry and innovation (Crossan *et al.*, 1999). Feedback is the exploitation of learning based on information flowing from the organization down to the group down to the individual employee. Feedforward is the exploration based on information flowing from employee up to the group up to the organization. In M&As, the communication at either the Acquirer side or Target side tend to compete and would lead to ambiguity. Different approaches to organizational learning exist and not one approach can be used all the time (Schilling and Kluge, 2009; Basten and Haamann, 2018).

Others discuss barriers to organizational learning, such as biases and lack of clear goals (Schilling and Kluge, 2009). Risk is identified as a factor that would impede learning, and as a result the lower the risk, the more likely is the emergence of opportunistic learning (Schilling and Kluge, 2009).

However, Crossan et al. (1999) and Schilling and Kluge (2009) had proposed the information learning framework and their barriers within an organization. They have not discussed though how their framework would apply in between two organizations during acquisition, and in particular, during the integration phase. This research extends on the work of Crossan et al. (1999), and discusses further how in between two organizations going through the acquisition integration SDM process to integrate one firm into another, the risk factor could play a role for learning. This is the opposite of what Schilling and Kluge (2009) proposed, in a way the higher the risk the higher the opportunity to learn in M&As integration.

2.7 Summary of Literature Discussion on Ambiguity

The literature analysis summarizes four main phases in the SDM process of M&As. It highlighted that the failure rate of M&As remained high, i.e., in the 70% to 90% of total global M&As, despite over 30 years of experience of the M&As field. The struggles in the M&As' integration phase continue to be the main driver of M&As failures. The research highlighted that the four decisions that affect the M&As' integration are the integration depth and speed, the retention of top management and the focus on the firm customers. The analysis identified that the success of M&As should be measured with both financial and non-financial means. However, the variables for both measurement means are yet to be all defined and agreed on by researchers and M&As business executives. For the sake of this research and time constraints, the discussion of this research will only focus on non-financial measurements of success. The literature review also highlighted that ambiguity is an important driver in decision making of M&As especially in the integration phase, and as a result a contributor to the success and failure. The analysis then defined ambiguity vs. uncertainty and reviewed all type of ambiguities linked to M&As in the literature. A typology of ambiguity is developed, and ambiguities found in M&As are separated into four main groups, i.e., Human Resources, Organization, Processes and Objectives. The literature defines positive ambiguity and negative ambiguity and the potential to have both married together in M&As.

Three theoretical lenses have been selected to be used in this study. The first one was the lens of the Paradox theory to identify that Ambiguity in M&As integration was paradoxical and used its proposed solutions in the literature. The second is the lens of the Information-Gap Theory of Feelings to bring awareness to the existence of ambiguity in M&As and manage the feelings of the decision-makers to seek ambiguous details. The third is the organizational learning lens to apply its principals in improving knowledge in between both companies looking forward to integrate.

As it can be inferred from what has been discussed so far, ambiguity can be found in all phases of M&As' SDM process. **Table 2.9** contains the key descriptive points to retain about Ambiguity.

Table 2.9: Key Descriptive Points to Retain About M&As' Ambiguity from the Literature Review

Categories of Ambiguity	Types in **Tables 2.5; 2.6; 2.7 and 2.8** categorized in four (4) groups: A- Human Resource (HR) Ambiguity B- Organizational (O) Ambiguity C- Goal (G) Ambiguity D- Process (P) Ambiguity
Characteristic of Ambiguity	Intersection of Relational, Causal and Distinction between Controlled vs Random Ambiguities
Integration Characteristics	Integration Depth, Speed, TMT Turnover, Human Factor and Market Focus
Decision Types	Intuitive; Logical/Rationale; Biased
Impact on SDM in M&As' Integration	Executing integration plans, aligning operations and culture
Leading Causes of Ambiguity's Variations	Changes in settings, contexts, intents, elapsed time, and changes in variables such as additional knowledge
Ambiguity Pros (Benefits)	Help things move forward, conflicts resolution, described as positive Ambiguity (+)
Ambiguity Cons (Disadvantages)	Delays, need for correction, conflicts, biased decisions, described as negative Ambiguity (-)
Reaction to Ambiguity	Probabilistic assessment, correction, and twin relationship between the two

2.8 Summary of Chapter

The findings of the literature review chapter provide a critical foundation for this research by identifying existing gaps and inconsistencies in the current body of knowledge to address relevant and unexplored areas. There are four stages in the strategic decision-making process of M&As in which various categories of ambiguities were found. A typology of ambiguity highlighted four different groups and categories of ambiguity in M&As' literature. Three theoretical lenses were introduced to explain the complexity phenomenon of ambiguity in M&As. Additionally, understanding the theoretical and empirical contributions from previous studies allows this thesis to build on established frameworks and methodologies, enhancing the rigor and relevance of my research. This comprehensive review ensured that my study is well-positioned to contribute meaningful and original insights to the field, and helps in refining my research design and methodology, which is discussed next in Chapter 3.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research design applied to explain and address the ambiguity gaps in M&As and explains the logic behind selecting the approaches and theories used in this thesis. It also provides details about the rationale of the philosophical choice of the applied methodology of ontological subjectivism, and interpretative epistemology and constructivist philosophical design. Further, it offers a justification for the use of a qualitative versus a quantitative methodology, the process of data management and data analysis, and the ethical considerations and limitations. And finally, it outlines the specific methods to collect and analyze data, by which it underpins the entire research process, providing a solid framework that supports the integrity and credibility of the study's findings.

3.2 Research Philosophical Choice

The research adopted a constructivist philosophical approach, which shaped how data on ambiguity in M&As was gathered, analyzed, and interpreted, reflecting the belief that reality (ontology) is socially constructed. This approach also informed the study's epistemology, guiding how knowledge was collected and acquired through methods such as semi-structured interviews, which allowed for in-depth probing and validation of insights (Bell, Bryman and Harley, 2022). This alignment with constructivism ensured that the research process was attuned to the subjective nature of understanding ambiguity in M&As.

As mentioned in Chapter 1, the research focused first on understanding what categories of ambiguity are discussed in the literature and in the practice of M&As. Second, it pivoted on how ambiguity develops in M&As, and what are the methods to reduce its negative impact on the M&As' success rate. Third, it converged on how the M&As integration process could be better managed to understand the impact of ambiguity and improve success.

To address these research questions, a qualitative approach was employed, involving social interactions through semi-structured interviews, observations, and a focused ethnography study to explore ambiguity in M&As. This approach allowed for a rich, in-depth understanding of the subjective experiences of ambiguity during the integration phase of the two studied cases. By interpreting and explaining observations and interview data, the research captured the complexities and nuanced realities faced by participants. This constructivist approach, rather than a positivist one, was essential for exploring the depth and context of ambiguity in M&As, emphasizing the value of qualitative methods in revealing insights that are not accessible through purely quantitative measures. (Robson, 1993; Healy and Perry, 2000; Park, Konge and Artino, 2020; Bell, Bryman and Harley, 2022).

The ethnography phase of the research design required observing the participants social interactions to understand their views of ambiguity. This also provided a valuable insight about addressing the gaps found in the literature review. For example, to understand the role of controlled ambiguity in the success rate of M&As and how to reduce the negative impact of ambiguity for the decision makers required observing the M&As' participants in the integration of case 1 and case 2 during their meetings. The aim was not to statistically test outcomes through observable facts using quantitative analysis in case 1 and case 2, but rather to explore and construct knowledge that captures the depth and complexity of ambiguity in M&As. Qualitative research offers the ability to delve into the nuanced experiences and perceptions of individuals involved in the integration process, uncovering insights that are often overlooked in quantitative studies. This approach allows for a deeper understanding of the subjective realities and context-specific factors that influence M&A outcomes, which are critical for grasping the intricate dynamics at play. By focusing on participants' perspectives and the meanings they attach to their experiences, qualitative research provides a rich, contextualized view that sets the stage for future studies to further test and validate these findings (Bell, Bryman and Harley, 2022).

Concepts and findings discussed in this research about M&As are not only relevant to support actions in M&As (Kaushik and Walsh, 2019; Bell, Bryman and Harley, 2022), which is a challenge when studying human and social interactions and assumptions. The research was also designed to construct a better understanding of M&As ambiguity through the typology of ambiguity and the prioritization of ambiguity management in the integration phase. The research aimed to understand the subjective meaning of reality of M&As ambiguity and the social construction (Ruel, 2017) of the interaction between the Acquirer and the Targets in case 1 and case 2. As mentioned in Chapter 1 (see Section 1.5.1) and discussed later (see Chapter 2, Section 2.5.3 and Table 2.6), this research identified four categories of M&As' ambiguities, i.e., the Human Resources (HR) ambiguity; the Organizational (O) ambiguity; the Processes (P) ambiguity; and the Goals (G) ambiguity. The research has to deal with subjective meaning of reality of M&As ambiguity and the social construction of the interaction between the Acquirer and the Targets in case 1 and case 2, to understand how ambiguity emerges in the two cases and how it impacts the integration. The focus has been to construct the reality about ambiguity in the two studied cases to recommend practical actions. Testing and validating the practical recommended actions of this research, such as the use of ambiguity registry in M&As, and the engagement between the Acquirer's and Target's mid-level managers to reduce ambiguity, are not the focus and scope of this research due to the time limitation to validate through a new M&As' study case. As a result, pragmatism was not the main approach used and was ruled out (Kaushik and Walsh, 2019; Bell, Bryman and Harley, 2022).

This research required active construction of M&As' ambiguity reality through cognition (Guba and Lincoln, 2001; Alvesson and Sandberg, 2013, 2024; Laing, 2015) hence a constructivist guided paradigm is a valid approach for this research. The research required the researcher's subjective awareness to understand the reality of M&As process and integration in both case 1 and case 2, and seek the classification of ambiguities and the explanation of drivers and factors in M&As. It requires the researcher's interpretation of observation (Lowe, 2001; Alvesson and Sandberg, 2013; Laing, 2015; Bell, Bryman and Harley, 2022), hence, I used an ontological subjectivism approach. It is important to note that an ontological constructive subjectivism approach comes with challenges pertaining to the bias and interpretation of the researcher, lack of objectivity, and ethical concerns (Guba and Lincoln, 2001; Lowe, 2001; Alvesson and Sandberg, 2013; Laing, 2015; Alvesson, 2019). The research recognizes those limitations and discuss them later in this chapter and suggest the actions to be taken to minimize each of the limitations such as sending the data collected to the interviewees for validation of the gathered content, and the use of Target Grounded Theory and the iterative comparison with the literature.

Realism was ruled out as an approach because it is concerned with a reality of observable facts that is probabilistically apprehensible (Guba and Lincoln, 1994; Healy and Perry, 2000), and independent of people's minds (Healy and Perry, 2000) which was not the case when studying human decision making and social interaction and complexity (Bryman and Bell, 2015) in the case of this research on M&As' ambiguity. Critical theory was reviewed as an option in the design due to the ethical considerations. However, due to the exploratory and explanatory dynamics of addressing the research questions with narrow focus on M&As integration and specific questions pertaining to M&As' ambiguity, it was considered not relevant for this research since the focus of this research was to identify and understand the subjective challenges of the M&As' integration leaders in case 1 and case 2 in relation to M&As' ambiguity, rather than drive change in their decision through a critical realist approach (Guba and Lincoln, 1994; Healy and Perry, 2000; Van

De Ven, 2007; Kincheloe and Mclaren, 2011; Califf, Beaulieu and Martin, 2012; Thompson, 2017; Hatfield, 2020).

In summary, a constructivist guided paradigm was applied to an exploratory and inductive methodology of ontological subjectivism, and interpretative epistemology approach which were valid for guiding the philosophical design for this research.

3.3 Justification and Selection of Qualitative Research

The purpose of this research is to shed light on ambiguity and create a better understanding of M&As' strategic decision-making processes by exploring participants' lived experiences and interactions. Through ethnography and semi-structured interviews, the research provides an in-depth study of the complex organizational constructs related to M&As, requiring the researcher's interpretation. As a result, interpretivism emerges as a valid approach for capturing these complexities. As discussed in the philosophical design section, this research follows a constructivist paradigm, using an exploratory and inductive methodology grounded in ontological subjectivism and interpretative epistemology. The study focused on both written and verbal communication shared during the M&As' integration in case 1 and case 2, as well as the validation of findings through interviews. Emphasizing interpretation and understanding of the social world of M&As decision-making, the research values the in-depth exploration of ambiguity during the integration phases of these two cases. Also, the research questions mentioned earlier in Chapter 1 (see Section 1.4) mandate an in depth inductive analysis. Hence, a qualitative methodology has been applied (Marshall and Rossman, 1999, 2020; Schweiger, 2007; Aspers and Corte, 2019; Bell, Bryman and Harley, 2022; Bhangu, Provost and Caduff, 2023). The research is qualitative in nature because it focused on answering the questions of why and how ambiguity exist in M&As' integration and used participant observations and semi-structured interviews (Hammarberg, Kirkman and De Lacey, 2016; Busetto, Wick and Gumbinger, 2020). It focused on how M&As participants of case 1 and case 2 experienced ambiguity in decision making and how interactions shaped decisions (Teherani *et al.*, 2015; Hammarberg, Kirkman and De Lacey, 2016).

3.4 Justification of the Selection of a Qualitative Versus a Quantitative Approach

Qualitative research was chosen for this study because the research questions focus on exploring the experiences, perspectives, and meanings from the standpoint of participants involved in the M&As' integration in case 1 and case 2 (Hammarberg, Kirkman and De Lacey, 2016). This approach provided significant value in assessing the lived experiences of M&A participants, offering insights into the complexities of integration that a quantitative approach would not have captured (Hammarberg, Kirkman and De Lacey, 2016).

However, as Guba and Lincoln (2001) and others (Long and Johnson, 2000; Morse *et al.*, 2002; Golafshani, 2015) emphasize, the use of a qualitative approach brings questions of reliability and validity to the forefront. Guba and Lincoln's framework, which focuses on trustworthiness through credibility, transferability, dependability, and confirmability, guided the process of ensuring rigor in this research. To establish credibility, participants in the M&A cases were engaged in member checks, allowing them to review and comment on the data collected, helping to eliminate researcher's bias. Dependability and confirmability were reinforced by using multiple research methods—specifically a Targeted Grounded Theory approach alongside a focused ethnography approach based on observations. The findings were further validated through semi-structured interviews, employing triangulation to strengthen the robustness of the conclusions. As Guba and Lincoln (2001) advocate, these methods together ensured the trustworthiness of the research findings. The process for addressing these concerns and enhancing the rigor of this qualitative research will be further discussed later in this chapter.

3.5 Sequential Integration of Theories in Analyzing M&As' Ambiguity

The three theoretical lenses used in this research mentioned in Chapter 2 (see section 2.6) were utilized in a complementary sequence to provide a comprehensive analysis through the identification, exploration, and application of key concepts. First, the lens of the Paradox theory was applied to identify and understand inherent contradictions within the M&A decision-making context. Following this, the Information-Gap theory of Feelings was employed to explore the emotional responses triggered by ambiguities in the M&A process. Finally, the Organizational Learning theory was incorporated to apply the insights gained from the previous mentioned two theories to help leverage and navigate identified paradoxes of ambiguities in M&As. The seamless interplay of these theories ensured a comprehensive and multi-faceted approach to analyzing M&A decision-making, emphasizing the importance of identifying paradoxes, exploring emotional responses, and applying adaptive learning strategies throughout the process.

3.6 Research Design

3.6.1 Introduction

The purpose of this research has been to determine the ambiguity and its interactions with the M&As' key success factors, their interrelationships and the link between success and the strength of these relations at different stages of the M&As' SDM when possible, but mainly and with great focus on the M&As integration phase as mentioned in Chapter 1 and 2 (see Sections 1.3; 1.4; and 2.2.4). As stated in Chapter 1 and 2, since the research is about to answer a "how" and "why" questions about ambiguity in M&As, a case study accompanying the M&As SDM process in the cross functional activities during the M&As' integration phase case, is considered as a valid tool to use (Yin, 1984, 2013). The research analyzed an acquisition at multiple levels, also called "units" of analysis (Yin, 1984, 2013; Bourgeois and Eisenhardt, 1988).

Furthermore, this research aimed to develop insights about ambiguity in M&As by using a multiple-case study approach, incorporating various data collection methods such as interviews, presentations, archival data, and observations (Ridder, 2017; Yin, 2018). The use of multiple case studies allowed for a comprehensive examination of strategic decision-making processes across different levels, including top management, firm-wide decisions, and recent strategic decisions. This approach is well-established in previous research on decision-making in firms (Tsang, 2013; Ketokivi and Mahoney, 2017; Eisenhardt, 2021), providing a solid foundation for understanding the complexity and nuances of ambiguity in M&A integration.

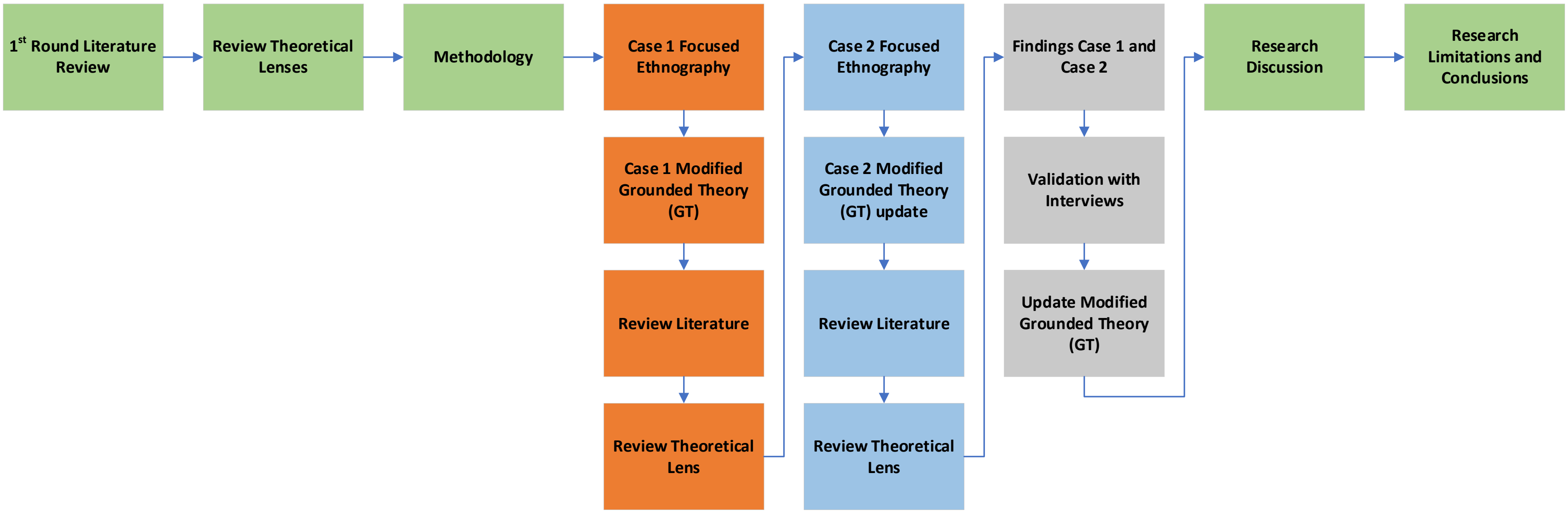
The research design employed focused ethnography within a acquisition case study to gather data relevant to the multi-levels of the firm's M&A strategic decision-making (SDM) process. Additionally, a Targeted Grounded Theory approach was applied, utilizing the constant comparative coding method to analyze the data. Focused ethnography (Roper and Shapira, 2000; Bryman and Bell, 2015) was selected to observe aspects of the M&As and its SDM. In focused ethnography, the researcher enters the field with a focused question compared to the mainstream ethnography where a research question is not an important driver (Roper and Shapira, 2000). Questionnaires and semi-structured interviews were used to collect data. Different departments (finance, service, quality, regulations, business development, etc.) in the organization were explored at different levels (executives, middle managers, employees), and during three different phases when possible (pre-acquisition, deal time, post-acquisition integration) but with great focus on the post-acquisition integration phase due to its importance in the failure rates in MA&s as discussed in Chapter 1 and 2 earlier.

In summary, the research used a case study with focused ethnography approach and modified GT. Semi-structured participant interviews, designed specifically for this research, were conducted for data collection and validation following the analysis of the case studies and their findings. Additionally, to validate the findings and explore potential gaps in the case studies, the critical incident technique was employed as a qualitative research method (Byrne, 2001; Butterfield *et al.*, 2005; Viergever, 2019).

The research collected data from two acquisitions, labeled as Case 1 and Case 2, through site visits, meetings, and observations. Case 1 involved an acquisition and its integration processes that spanned 18 months, occurring between January 2019 and July of 2020. Case 2, by contrast, was conducted over a shorter period, with the acquisition and integration taking place from January 2019 to December 2019. Data is analyzed using QSR NVivo coding, which is a computer- assisted qualitative data analysis software. Findings have been deducted using conceptualization of the data coded in NVivo. Findings have been validated through semi-structured interviews and discussion with the research participants. The details of the two case studies, the participants selection and recruitment, and the semi-structured interview process are discussed next.

Figure 3.1 below highlights the research detailed process that was followed.

Figure 3.1: Research Detailed Process



3.6.2 Case 1 Context: Project "Xia" - Acquirer "Alexa" Acquisition of Target "Talia"

3.6.2.1 Introduction

Project Xia is the fictious name given to an acquisition in which the Acquirer Alexa Corporation (name changed for anonymity) acquired the Target Talia Corporation (name changed for anonymity) in the USA and its assets globally. Both companies are medical equipment manufacturers and distributors with headquarters based in the USA, and operations' footprint globally. Acquirer Alexa had a broad spectrum of products, operated, and sold in at least four different markets globally. Target Talia sold in one of these four markets globally and compete with Target Talia in that market segment. The deal was in hundreds of Millions of $ USD. Acquirer Alexa's main goal has been to achieve "synergy" in the integration. Acquirer Alexa defines synergy by the goal to save 75% on the expenses of Target Talia. **Table 3.1** represents the scale of details and scale of both companies:

Table 3.1: Comparison of Research Companies Alexa and Talia

Comparison Between Both Companies	Acquirer Alexa	Target Talia
Headquarter location	USA	USA
Size in number of employees	In Thousands	In Hundreds
A division of a large parent company	Yes	No
Parent company size in number of employees	In Tens of Thousands	Not applicable
Previous acquisition experience	Yes	Yes
Description of previous acquisition experience	Acquirer and Target	Target
Operation	Global	Global
Product type	Broad spectrum of products	One line of products
Market channels	4 channels globally	1 channel globally
Channel type	Healthcare 4 channels	Healthcare one channel
Acquisition deal value	In 100s of Millions of USD	

3.6.2.2 Participant Selection and Recruitment of Case 1 – Alexa-Talia

Appendix D contains the list of participants who were involved in the project Xia. The list incorporated only two participants from Talia's employees due to the smaller size of the Target's team and the nature of their organizational structure, where individuals often held multiple roles and responsibilities. As a result, the perspectives of these two participants were deemed representative of the broader experiences within Talia. To ensure the validity and reliability of the findings, all interviewees—including those from Talia—were given the opportunity to review the collected data and provide comments, request changes, or suggest additions. This validation process allowed for cross-verification of findings across participants, reducing the potential for bias and ensuring that the insights accurately reflected the perspectives of both the Acquirer and the Target. While this constraint introduces a potential limitation in the proportional representation of the Target's voice, the methodological steps taken to validate and contextualize the findings minimize this impact, offering a balanced and credible analysis.. Alexa's business development team was leading the negotiation with Talia's chief executive officer (CEO), who kept all details of the acquisition negotiation away from their team. On Day 1, after the acquisition deal's signature, all Talia's executives were packaged out. Hence, none of Talia's executives were available or accessible for interviewing or to participation in the integration activities. Also, during the first 8 weeks of the integration activities, Talia's middle managers were not included in all the integration update meetings and decision making.

3.6.2.3 Participants Selection for the Interview

The research did not aim to conduct a large number of interviews, as the primary purpose at this stage was to validate the findings from the observations in case 1 and case 2 (covered next in Chapter 3 Section 3.6.3). Also, the challenge in a case study research such as this one is that the research did not have the possibility to interview similar respondents such as 15 service managers or 20 CEOs from several different companies, and as a result there was no opportunity to evolve the scope after a handful of interviews. There were limitations on the pool of employees who were involved in the acquisition of case 1 and/or case 2. Many of the employees had moved out from the firms (i.e., Talia and Tomika). The logic behind the selection of the participants was their availability and accessibility, their impact on the larger functional teams, their role in the acquisitions as lead for the acquisition and/or integration and their dual work on the integration of both case 1 and case 2. However, saturation in GT of the data collected from the interviews was reached in validating the findings of case 1 and case 2. The interviewees' roles are listed in **Appendix F**.

3.6.2.4 Methodology

This research followed an inductive process approach, which means the study began with the collection of data to develop patterns and insights, rather than starting with a pre-existing theory. The inductive approach allowed for the identification of themes and conclusions emerging directly from the data, grounded in real-time observations and interactions. The data was analyzed based on a combination of semi-structured interviews and direct observations. A total of forty (40) observations were conducted across forty (40) meetings, all of which were focused on integration updates related to Project Xia. These meetings were pivotal to the acquisition process, serving as the primary forums where critical integration decisions were discussed, negotiated, and finalized. The meetings involved key stakeholders from both the Acquirer and the Target who were directly responsible for decision-making, holding budgets, and determining the success or failure of the integration process. By observing these meetings, the research captured real-time comments, questions, answers, and decision-making processes of executives at the heart of the acquisition.

The selection of these meetings was based on their direct relevance to the integration process. All integration update meetings in which I was present were included in the study, ensuring that every key discussion related to strategic alignment, operational challenges, and performance goals was covered. Additionally, all stakeholders invited to these meetings were automatically included as participants. These individuals represented the leadership teams tasked with overseeing and implementing the integration, ensuring that the observed discussions were both highly relevant and reflective of the core decision-making dynamics in the acquisition.

To complement these observations, semi-structured interviews were conducted with participants to further explore and validate the themes identified during the meetings. This combination of methods ensured a comprehensive understanding of the strategic decision-making processes in real time while addressing any gaps in observational data.

Throughout the study, confidentiality was maintained by removing all names and identifying information related to employees, executives, and companies. This approach not only ensured ethical compliance but also fostered open and honest participation from stakeholders. By capturing the perspectives of the decision-makers directly responsible for driving the integration process, this research offers a robust and detailed account of how strategic decisions were made, challenges were navigated, and ambiguity was managed during Project Xia.

This section will be further expanded and integrated into the methodology chapter to provide greater clarity on the research process, detailing the number of interviews and meetings and offering more insight into how the inductive approach was applied in analyzing the data.

3.6.3 Case 2 Context: Project "Mia" - Acquirer "Alexa" Acquisition of Target "Tomika"

3.6.3.1 Introduction

Project Mia was the fictious name given to an acquisition in which the Acquirer Alexa Corporation (name changed for anonymity) acquired all the assets of Target Tomika Corporation (name changed for anonymity) in the USA. Both companies were medical equipment manufacturers and distributors with headquarters based in the USA and operations' footprint globally. Acquirer Alexa had a broad spectrum of products, operates, and sold in at least four different markets globally. Target Tomika sold in one of these four markets, mainly in the USA and Canada. The deal was in tens of Million $ USD. Acquirer Alexa main goal was to broaden its portfolio on one of the 4 market segments. Acquirer Alexa wanted to add the products of Target Tomika to its existing product portfolio to make it a new product for its customers. **Table 3.2** represented the scale of details and scale of both companies:

Table 3.2: Comparison of Research Companies Alexa and Tomika

Comparison Between Both Companies	Acquirer Alexa	Target Tomika
Headquarter location	USA	USA
Size in number of employees	In Thousands	In Hundreds
A division of a large parent company	Yes	No
Parent company size in number of employees	In Tens of thousands	Not applicable
Previous acquisition experience	Yes	No
Description of previous acquisition experience	Acquirer and Target	Not Applicable
Operation	Global	Mainly USA and Canada
Product type	Broad spectrum of products	One line of products
Market channels	4 channels globally	1 channel mainly in USA and Canada
Channel type	Healthcare 4 channels	Healthcare one channel
Acquisition deal value	In Tens of Millions $ USD	

3.6.3.2 Participants Selection and Recruitment of Case 2 – Alexa-Tomika

Appendix E contains the list of participants who were involved in the project Mia.

The list includes two senior executives from Tomika's side as well as Tomika's banker. The inclusion of only these participants was due to practical constraints and the specific limitations imposed during the due-diligence phase of the acquisition. Tomika's leadership structure and the nature of the negotiations restricted access to personnel beyond the CEO and the president, who were directly involved in the integration and strategic discussions. Alexa's business development team, which led the negotiation, primarily interacted with these two executives from Tomika, making them the central representatives of the Target's perspective in the project.

This limitation is contextualized by the role of the two selected executives, who held the ultimate decision-making authority at Tomika during the acquisition process. Both executives were responsible for defining the strategic goals, approving financial budgets, and determining the success or failure of the integration activities. Their inclusion ensured that the most relevant and influential voices from Tomika were represented in the study, even if broader participation from the Target's side was constrained.

Additionally, due to the confidentiality and access restrictions inherent to the due-diligence process, personnel from Target Tomika were unavailable for interviews or participation in integration activities. However, to mitigate potential bias and validate findings, the data collected from Alexa's business development team and Tomika's executives was cross-verified through iterative discussions. This process ensured that the insights accurately reflected the dynamics and challenges of the integration phase, even in the absence of broader participation from the Target's side.

Despite the practical constraints, the inclusion of Tomika's CEO and president, as well as their banker, ensured that the study captured the perspectives of the key decision-makers most directly involved in the negotiation and integration processes. These individuals provided valuable insights into the strategic and operational considerations that shaped the acquisition, enabling a comprehensive analysis of Project Mia's integration dynamics

3.6.3.3 Participants Selection for the Interview

The participant selection for the interview is similar to the one explained earlier (see Chapter 3 Section 3.6.2.3)

3.6.3.4 Methodology

The methodology used in Case 2 is similar to the methodology used in Case 1 (see Chapter 3 Section 3.6.2.4).

3.6.4 Case Studies: The Use of Focused Ethnography in Observations as a 1st Technique to Analyze the Data

Focused ethnography was conducted by immersing my presence in the lives of a group of participants working on integrating two acquisitions. Due to the need for an in-depth exploration of M&As ambiguity as mentioned in Chapter 1 (see Sections 1.3 and 1.4) and Chapter 2 (see Sections 2.4 and 2.5), ethnography included participants observations in integration meetings, which enabled me to explore the social interactions, routines, and challenges faced by these M&As' integration players by using focused ethnography (Cruz and Higginbottom, 2013; Higginbottom, Pillay and Boadu, 2013; Rashid, Hodgson and Luig, 2019; Cubellis, Schmid and von Peter, 2021; Trundle and Phillips, 2023). As shared above, two case studies were conducted for two acquisitions, and included meetings notes and observations coupled with site visits. Site visits have been an approach used in acquisitions to reduce ambiguity (Risberg, 2001). The goal of applying ethnography to both the acquiring company and the target company, was to understand first the differences in operations, i.e., processes, layout, goals, objectives, metrics, level of resources, and level of expertise. Ethnography provided the research tool to understand how things were unfolding and why choices were made this way for the integration, and what were the areas spotted with ambiguity across the M&As' integration phase. The research investigated the presence of ambiguity and its impact on the decision taken through the lens of the decision maker.

However, this ethnographic approach presented challenges since the details about the acquisition were kept confidential at the executive level. As a result, site visits could only occur after the public announcements were made. In addition to site visits, objective passive observation (Bell, Bryman and Harley, 2022) was used as a key tool to collect data, especially during the initial phases of the acquisition on the acquiring company's side. According to Hammersley, objective passive observation involves observing events and interactions without direct involvement or interference from the researcher, allowing for a more authentic capture of natural behaviors and decision-making processes(Hammersley and Atkinson, 2019). This approach enables researchers to minimize their influence on the environment while gathering rich, contextual data. In this study, I attended and observed meetings, taking notes on the discussion process, identifying key players, spotting potential biases, understanding how decisions were made, who contributed to those decisions, and how ambiguity was managed (Bell, Bryman and Harley, 2022). The data collected on ambiguity and related subjects, as discussed in the literature review (see Chapter 2 section 2.5), were tracked across the four phases of the acquisition process to better understand how they impacted the acquisition's outcomes.

Observation (Bell, Bryman and Harley, 2022) came with some challenges such as the time constraints which made it impossible to join all meetings related to the acquisition discussion at the same time, or to join all cross functional departments meetings such as finance and business development. Hence, the priority in the first two phases was to join the business development meetings when possible, and in the last two phases to join the other departments such as service, quality, marketing, and sales, where middle and lower level of management were working on the integration. The other potential challenge was my presence as a researcher to collect data from observation at the target company. People's behavior risked being distorted knowing that an observer was on site. Hence, I introduced myself as an ethical researcher collecting data that would be anonymous for the DBA research. I risked being seen untrustworthy by the interviewees. Hence gaining trust needed to be achieved as early as possible in the interview process through discussion and demonstration of trustworthiness (Shenton, 2004; Elo et al., 2014; Stahl and King, 2020). Another challenge was the ability to visit both the acquiring company and the target at the same time. Hence, other data collection methods such as semi-structured interviews helped to add more details to the data and site visits limitations.

3.6.5 Semi-Structured Interviews

The earlier findings from case 1 and case 2 were validated through semi-structured interviews with various identified stakeholders and participants in case 1 and case 2 acquisitions. The questionnaire was designed to guide the interview discussion and not to limit the discussion to only these questions. The Questionnaire is in **Appendix C**.

Appendices D, E, and F outline the data collection process for this research. Appendix D lists the 45 participants involved in Case 1 and the 36 participants in Case 2, whose contributions were observed during ethnographic case studies, meetings, and integration activities. Appendix F contains the details of five interviewees who participated in semi-structured interviews conducted after the completion of both cases to validate the findings. These interviews included two participants from Case 1 and three from Case 2, reflecting the practical realities of access and stakeholder availability.

While there is an apparent numerical imbalance in the number of interviewees between Case 1 and Case 2, it is essential to emphasize that the interviews were not the primary data collection method. Instead, they served as tools for validating and triangulating the insights gathered from meetings, observations, and other ethnographic data. The primary objective of the interviews was to ensure the accuracy and reliability of the findings by providing participants with the opportunity to review, refine, and comment on the conclusions drawn from real-time data.

This approach ensured that the conclusions were firmly grounded in the real-time dynamics of each case while maintaining methodological rigor through participant validation. The ethnographic data collected from meetings, observations, and integration activities, remain the primary basis of the findings. The imbalance in the number of interviewees does not detract from the integrity of the research, as the interviews were complementary and aimed at validating pre-existing findings rather than generating new data.

The research acknowledges that the data primarily reflects the perspective of the acquiring firm, which was the dominant participant in the integration activities. However, this focus is mitigated by incorporating and validating all available perspectives from the Target firm where possible. This ensures that the analysis remains comprehensive and balanced, even within the constraints of access and participation.

The interviewees received prior to the individual meetings an introduction letter briefly explaining the purpose of the research, the type and direction of the questions as well as how the questionnaire will be conducted (Greener and Martelli, 2008; Bell, Bryman and Harley, 2022). The details included the location details, the setting (i.e. one-on-one meeting), and the expected time length (i.e. 60 to 120 minutes). It was explained that the recording of the interview would only be analyzed by me at a later stage who would aim to avoid missed information while respecting the time constraints for the interview. Confidentiality and anonymity were explained to the interviewees as well as the right to withdraw from the study at any time they chose to do so (Greener and Martelli, 2008; Bell, Bryman and Harley, 2022). All respondents did not agree to have the interview recorded; hence I took notes manually using a laptop (Greener and Martelli, 2008; Bell, Bryman and Harley, 2022). To reduce participant resistance, the interview started with some guided questions to open the discussion then the interviewee was probed with open ended but focused questions on the M&As SDM processes phases, with great focus on the M&As' integration phase. The answers on the questions were provided back to the responded to validate the data collected then were used in a modified Ground Theory approach to update the findings.

The design of the questionnaire (Appendix C) was carefully guided by the findings of Case 1 and Case 2, with the primary aim of validating these findings and exploring additional insights into ambiguity in mergers and acquisitions (M&As). Its development followed an iterative process to ensure the questions were aligned with the research objectives and directly addressed the themes and patterns identified during the analysis of the two cases. The questionnaire comprised 15 key questions, structured to validate findings, refine theoretical insights, and identify practical opportunities for managing ambiguity in M&As.

The questions were developed based on an in-depth review of the data collected in Case 1 and Case 2, which had highlighted critical aspects of ambiguity, such as its categorization into human resources, organizational, process, and goals-related ambiguities, as well as its impact on integration processes and strategies for managing and leveraging it. These insights informed the construction of questions that addressed three major areas: validating the findings, exploring opportunities for improvement, and eliciting practical insights from participants. The questions sought to confirm the categorization, root causes, prioritization, and progression of ambiguity; validate proactive models and management practices; and explore the development of tools and metrics for assessing, monitoring, and addressing ambiguity. Additionally, participants were invited to reflect on their experiences and suggest ways to reduce ambiguities and leverage them for successful integration outcomes.

The questionnaire's design was closely linked to the research objectives outlined in Chapter 1 (Section 1.4), particularly the objectives of understanding how ambiguity evolves in M&As, its impact on integration success, and strategies for managing it. By focusing on validating the findings from Case 1 and Case 2, the questionnaire ensured that the conclusions drawn were reliable and reflective of real-world integration experiences. Additionally, the exploratory questions facilitated the identification of new approaches to ambiguity management, contributing to the development of tools and frameworks for monitoring and leveraging ambiguity in future acquisitions.

Responses to the questionnaire played a pivotal role in the study. They validated the themes and categories identified in Case 1 and Case 2, confirmed the relevance and accuracy of the findings, and provided fresh perspectives on ambiguity in M&As. These responses also advanced the research by highlighting innovative methods for managing ambiguity, including the development of assessment metrics and monitoring tools. The questionnaire's integration into the research process thus enhanced the study's theoretical and practical contributions, offering actionable insights for managing ambiguity in M&A integrations.

3.6.6 Documents Reviews

Secondary data documents, including materials from previous acquisitions conducted by the company over the last decade, were reviewed and served as a secondary resource for this research. These documents included a diverse range of internal resources such as PowerPoint presentations detailing lessons learned and best practices from earlier acquisitions, email communications between stakeholders during acquisition processes, and weekly status updates on the progress of ongoing and completed acquisitions. Additionally, integration playbooks, procedural guides, meeting minutes from key discussions, and post-acquisition evaluations were analyzed to capture a holistic view of the company's historical practices and integration efforts. Contributions from the business development department, which oversaw the acquisition processes, were especially relevant, while additional inputs from other departments such as operations, finance, and human resources added further depth to the analysis.

These materials provided valuable insights into the company's expertise and recurring challenges in managing acquisitions. PowerPoint presentations and lessons-learned reports revealed detailed accounts of strategies employed and obstacles encountered in prior acquisitions, highlighting common areas where ambiguity arose. Email communications and weekly status updates offered real-time perspectives on integration activities, illustrating how ambiguity was navigated in day-to-day decision-making and collaboration. Integration playbooks and procedural guides provided structured frameworks for managing acquisitions, while post-acquisition evaluations assessed the effectiveness of these frameworks and identified gaps and successes. These documents collectively contributed to understanding how the company's acquisition strategies evolved over time and how ambiguity was perceived and addressed within these processes.

While the secondary data proved invaluable, its use was not without challenges. Each acquisition was unique, making it difficult to generalize findings across cases, and there was no guarantee that the available documentation comprehensively captured all relevant events or decisions. To address these limitations, the secondary data was triangulated (Fendler, 2016b) with primary data collected through ethnographic observations and semi-structured interviews. This triangulation not only enhanced the reliability of the findings but also ensured that discrepancies or gaps in one data source could be validated or contextualized through others.

The contributions of the secondary data were multifaceted. It established a historical context, providing a baseline understanding of the company's level of expertise and its recurring struggles in acquisitions, particularly regarding ambiguity. It also allowed for comparisons between the observed integration processes in Cases 1 and Case 2 and the documented strategies and challenges from previous acquisitions. For example, email exchanges and weekly updates provided real-time insights that aligned with the themes observed during the ethnographic research. Moreover, the review of historical documents enabled the identification of patterns, such as the ways ambiguity was addressed in scenarios involving misaligned objectives, communication barriers, or overlapping roles.

By integrating these materials into the research, the study gained a broader perspective and deeper context. The secondary data provided an additional layer of validation, grounding the findings from Cases 1 and 2 within the larger organizational narrative of acquisitions. This approach ensured that the insights were not only specific to the observed cases but also reflective of the company's overall practices and experiences in managing ambiguity in mergers and acquisitions..

3.7 Targeted Grounded Theory Approach – A 2nd Technique to Review and Analyze the Data

Grounded Theory (GT) (Strauss and Corbin, 1990) is a commonly used method in M&As qualitative research. Researchers have employed GT in various studies on M&As including the research on acquisition implementation (Ranft and Lord, 2002) value creation during integration (Graebner, 2004) and identity change in M&As (Clark, D. a. Gioia, *et al.*, 2010). The key advantage of GT lies in its investigative approach to exploring new areas and concepts. Traditionally, GT is considered an appropriate approach when there is no pre-existing theory explaining a process (Creswell, 2003).

This study, however, employs Targeted Grounded Theory (Thornberg and Charmaz, 2014), which adapts the traditional GT method by incorporating existing literature, theoretical frameworks, and predefined categories to guide the analysis. This targeted approach allows the research to focus on specific areas of interest—in this case, the ambiguity categories identified in the literature—while maintaining the flexibility to explore emergent patterns and themes. Unlike traditional GT, which assumes findings emerge solely from the data, targeted GT integrates pre-existing knowledge as a foundation for analysis, enabling a structured yet iterative process (Strauss and Corbin, 1990;)(Glaser and Strauss, 1967).

To address the research questions mentioned in Chapter 1 (see Section 1.4), this study used a qualitative analysis approach combining focused ethnography (Chapter 3, Sections 3.2; 3.4; 3.6.1; and 3.6.4) with a targeted grounded theory method. Data collected from observations, meetings, and semi-structured interviews were iteratively analyzed using ambiguity categories as a foundation. These categories, developed from the literature review, provided a structured starting point for coding while allowing the identification of new, context-specific themes. This iterative process ensured the findings were firmly grounded in real-time observations while being informed by the existing theoretical lens (Corbin and Strauss, 1990).

The research involved two acquisitions, labeled as Case 1 and Case 2, where observations were conducted using a focused ethnography approach. Codes and themes were derived using targeted grounded theory by iteratively comparing data from the observed meetings and interviews with insights from the ambiguity literature. The focused ethnography findings were also used to refine the theoretical categories and enhance the contextual richness of the analysis. By triangulating the data from these multiple sources, the study produced a comprehensive understanding of ambiguity in M&As' integration (see Chapter 6, Section 6.2).

It is important to acknowledge the inherent limitations of grounded theory, particularly when applied in its targeted form. These limitations include the risk of data dilution or fragmentation, limited generalizability, and potential subjective interpretations (Timonen, Foley, and Conlon, 2018; Bell, Bryman, and Harley, 2022). However, these risks were mitigated in this study by integrating pre-existing ambiguity categories and using validation interviews (Chapter 3, Section 3.6.3) to confirm findings. This targeted GT approach allowed for a structured analysis while ensuring the emergent insights remained grounded in the data.(Timonen, Foley and Conlon, 2018; Bell, Bryman and Harley, 2022)(Timonen, Foley and Conlon, 2018; Bell, Bryman and Harley, 2022).

The findings highlight how ambiguity evolves during M&As, addressing the "why" and "how" questions posed in Chapter 1. The targeted grounded theory method, which integrates prior knowledge with iterative data analysis, ensured the research produced practical and theoretical insights into an area that remains underexplored (McManus and Oklahoma, 2019;)(Corbin and Strauss, 1990; Kambaru, 2018; Bell, Bryman and Harley, 2022)(McManus and Oklahoma, 2019.) The next section in this chapter present examples on how Targeted Grounded Theory technique was applied to analyze data from Case 1, Case 2, and the validation process using semi-structured interviews with selected participants.

3.8 Data Management

Meetings notes and discussions of Case 1 and Case 2 were typed with anonymity then shared with the acquisition managers to confirm validity. The details were used to build the focused ethnography analysis of Case 1, discussed in Chapter 4 and Case 2 discussed in Chapter 5. The Modified GT approach was applied to the meetings narratives as a second tool in the triangulation approach (Fendler, 2016b). Interviews were collected after both Case 1 and Case 2 integration were considered completed by the Acquirer. Each interview feedback was typed and shared with the interviewee for validations. Interviewees confirmed the information gathered in the interviews and the interviews were used as well to validate the information gathered in the observation of Case 1 and Case 2. Theoretical saturation was reached in GT and interviews. Notes were used as memos during the GT iterative approach.

3.9 Data Coding

NVivo, a Computer-Assisted Qualitative Analysis Software tool is used to code the data into different themes in the focus ethnography approach and in the modified GT. **Figure 3.2** highlights an example of working transcripts and codes used in NVivo, and **Figure 3.3** highlights an example of a search of a text associated with a node. The first order of codes in GT identified the categories of ambiguities from the quotations. The second order of codes in GT identified the different categories of ambiguities. The third order of codes in GT were the dimensions or themes of ambiguity. It identified internal ambiguity versus external or paradoxical.

Figure 3.2: Working with Transcripts and Codes in NVivo

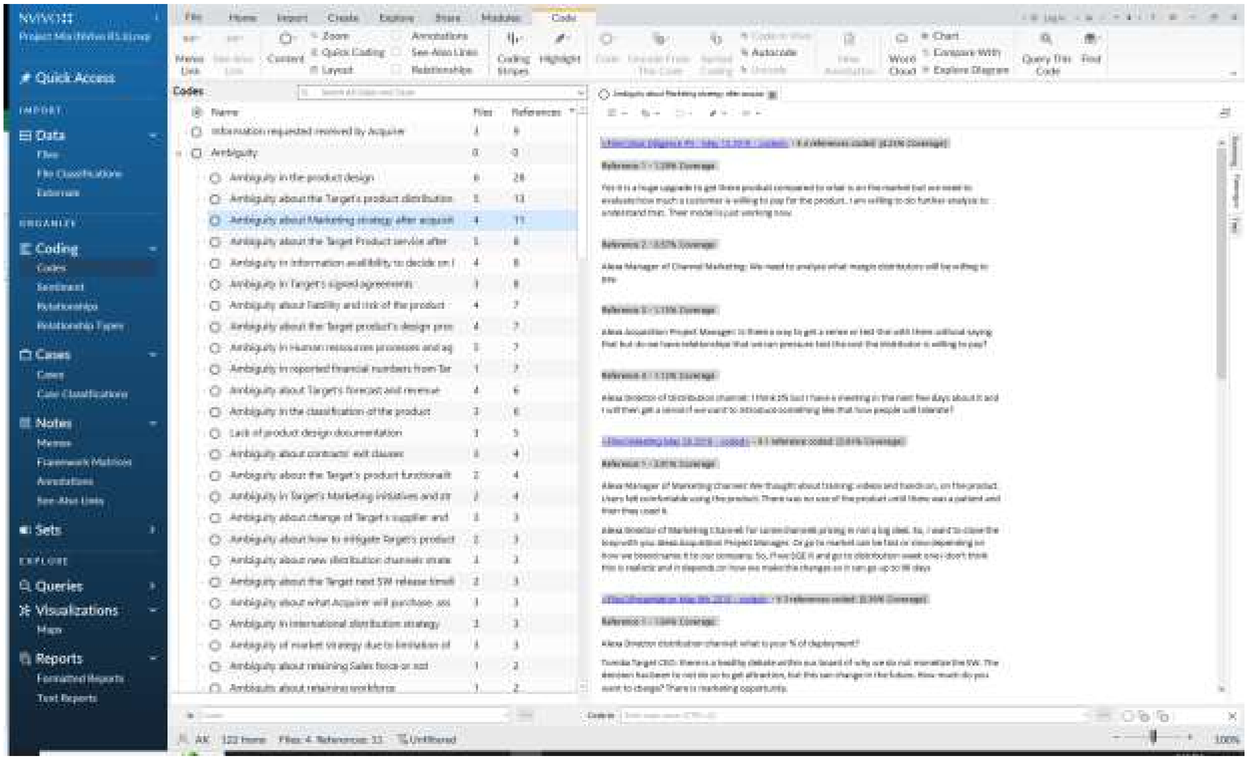
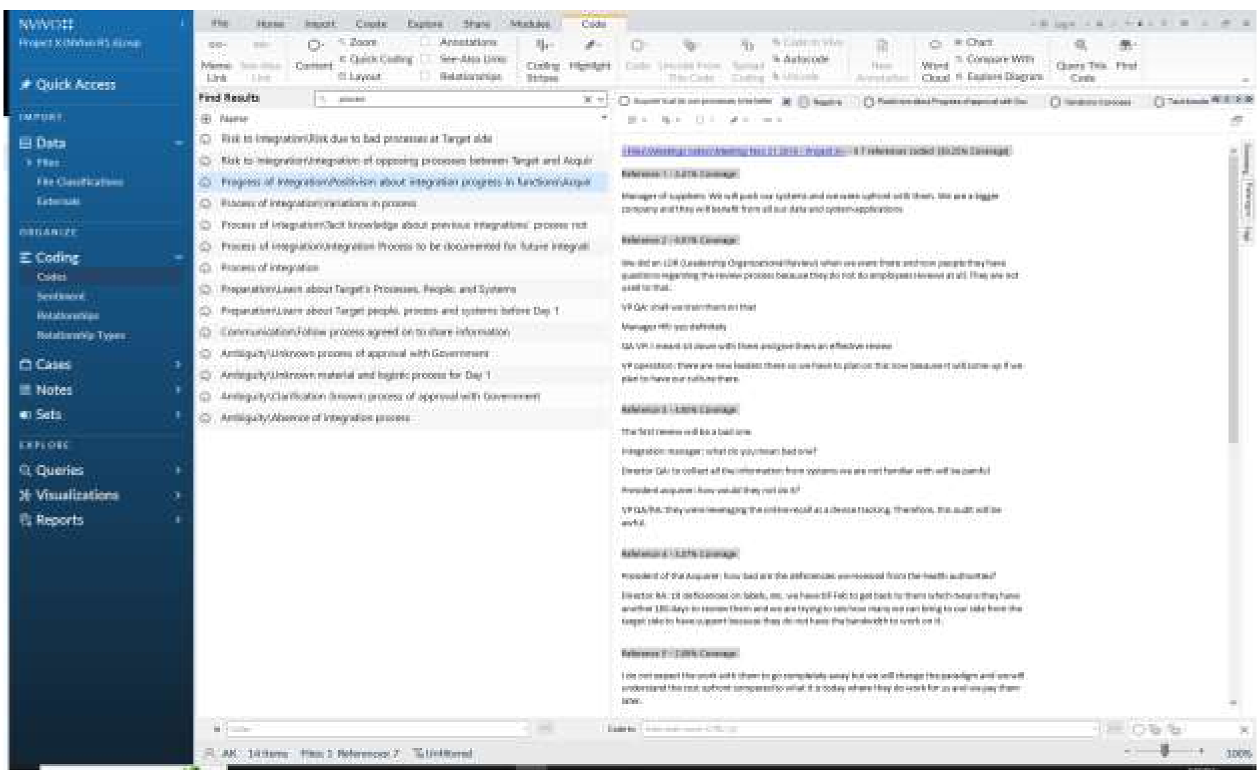


Figure 3.3: Finding Text Associated with a Node



Before utilizing NVivo for data analysis, all collected data were validated by sending the transcripts to the manager overseeing each acquisition case. This validation step ensured that the data were accurate and suitable for analysis. Once approved, the data were prepared for coding in NVivo. The initial coding involved setting up nodes and coding the data until saturation was reached, meaning no new significant insights were emerging from the data. The first phase of coding was open coding, where the text from both Case 1 and Case 2 was coded broadly based on themes present in the data.

As the analysis progressed, the coding strategy shifted to a more focused approach, aligned with the targeted grounded theory methodology, specifically focusing on ambiguity. New nodes were created based on ambiguity-related themes, and the data were continuously coded until saturation was again reached. For instance, a node related to ambiguity about product design was created, containing 28 references across 6 different files. In this node, ambiguity surrounding the product's software (SW) design became evident. As noted by one participant, "…the product's SW was not validated…," which created uncertainty. Another participant mentioned that it had been "…flagged yellow…," indicating that it needed further review and confirmation. Additionally, the Target company claimed they had "…thousands of pages for the product…," which led the Acquirer's R&D team to state that they "…needed to see the SW…" before moving forward. These quotes illustrate the ambiguity surrounding the product's SW design, highlighting the complexity and uncertainty involved in this specific aspect of the acquisition process.

The process of coding in this qualitative study was iterative and grounded in the data, with constant comparisons made between new and existing data points to refine the nodes and themes. This approach allowed for a deeper understanding of how ambiguity manifested in the acquisitions and how it affected decision-making and integration.

3.10 Data Analysis

3.10.1 Introduction

The data analysis for this research followed a structured, qualitative approach, which began with a focused ethnography to explore the lived experiences and interactions of participants in the acquisition process. Case 1 data were initially collected through meeting observations and coded using a targeted grounded theory (GT) approach. Grounded theory allowed for the identification of emerging themes by systematically coding the data and constantly comparing new data with existing codes. As new patterns and ambiguities were identified, the literature and theoretical lenses were reviewed and updated accordingly. For instance, when ambiguities in decision-making and communication emerged in the early stages of Case 1, the theoretical lens used to interpret the findings evolved, incorporating more relevant frameworks from the literature.

The same process was followed for Case 2, beginning with the focused ethnography and moving to the targeted grounded theory analysis. Each coding cycle involved refining the nodes based on the emerging data, ensuring that the analysis remained grounded in the real-time observations. Before the interview process began, the literature and theoretical lenses were updated to reflect the insights gained from the initial case analysis. The iterative process of coding and theory refinement ensured that findings were not static but evolved in response to the data being collected.

To ensure the rigor and objectivity of the analysis, triangulation (Fendler, 2016a) was employed. The findings from the focused ethnography, targeted grounded theory analysis, and semi-structured interviews were compared and cross-validated. Triangulation (Fendler, 2016a) allowed for the verification of themes across multiple data sources, ensuring that the insights drawn from the data were credible and reliable. For instance, the difficulty in identifying subject matter experts (SMEs) was observed in both Case 1 and Case 2, and was further confirmed through the interview process. Conversely, product design issues were flagged as a concern in Case 2 but not in Case 1, which prompted a review of the Case 1 data to confirm that product design was not a concern in that context.

Theoretical lenses were not pre-determined but evolved through the coding process. Initially, the Paradox theory was not part of the research framework, but the first pass of codes identified several nodes related to ambiguity. As ambiguities were categorized as positive or negative in the focused ethnography, it became clear that Paradox theory could offer a deeper understanding of these findings. As a result, the data from both cases were revisited, and the coding structure was refined to apply the Paradox Theory lens, ensuring that the analysis was both flexible and responsive to emerging patterns in the data.

The iterative nature of the data analysis is further illustrated in **Figure 3.1**, which highlights how observations, coding, and theory refinement were conducted in a continuous cycle. This process ensured that the findings were deeply rooted in the data and adapted to the evolving understanding of the cases.

3.10.2 The Observation Approach

In this research, the observation method was used as a primary data collection tool to gain insight into the real-time processes, behaviors, and decision-making during the acquisition integration phases of Case 1 and Case 2. I attended numerous meetings in both cases and maintained an unobtrusive presence, ensuring that the observation did not interfere with or influence the acquisition process or discussions. This non-intrusive approach, often described as passive or objective observation (Hammersley and Atkinson, 2019), helped me retain objectivity and allowed the natural flow of communication and decision-making within the teams to be observed.

My role during these observations was to document the interactions, discussions, decisions, and any occurrences of ambiguity without participating unless directly addressed by the team members. This ensured that the observations captured an authentic reflection of the acquisition and integration processes, unaffected by external influence.

The observational phase was concluded when the managers overseeing the integration projects declared the official end of the M&As' integration efforts, handing over the remaining follow-ups to their respective business functions for routine management. These observations were not only instrumental in identifying ambiguities within the integration process but also in understanding the dynamics of strategic decision-making in real time.

To ensure accuracy and validate the observational data, I cross-referenced these findings through semi-structured interviews conducted after the conclusion of both Case 1 and Case 2. The triangulation of the observational data with interview findings strengthened the validity of the data collected, ensuring a well-rounded understanding of the ambiguity experienced during M&A integration. This cross-validation process provided further confirmation of the key themes and ambiguities observed during the meetings.

3.10.3 Step 1 Coding: Open Coding

The first step of the analysis involved **open coding** (Strauss and Corbin, 1998) to identify key findings from the raw data. The data included transcripts of interviews and observations from meetings across Case 1 and Case 2. I categorized the raw data into "thought units" — meaningful segments of text that expressed a concept or an experience (Spradley, 2016; Garrido, 2017). For example, participants frequently referred to "ambiguity in decision-making" or "unclear communication processes," which formed the basis for several initial codes. During this phase, the data remained closely tied to participants' experiences, ensuring that their voices remained central to the analysis. Quotes like "*…I wasn't sure how the acquisition would affect my role…*" and "*…there was no clear roadmap for how we would integrate…*" were instrumental in identifying human resource and process ambiguities faced during the M&A integration process. By maintaining the authenticity of participants' language, I developed a set of first-order codes, which included key concepts such as *Ambiguity in Product Design*, *Role Ambiguity*, and H*igh-Tech Firm Resource Ambiguity*.

3.10.4 Step 2 Coding: Axial Coding

Next, I moved into **axial coding**, where I began to abstract and consolidate the first-order codes into more theoretical sub-themes (Strauss and Corbin, 1998). This phase involved comparing the initial codes across cases and within categories to determine patterns and relationships. For instance, in Case 1 codes such as *high-tech firm resource ambiguity* and *role ambiguity* at Target were grouped into a larger sub-theme: *Human Resource (HR) Internal – Ambiguity at Target*. This step allowed for the development of connections between seemingly disparate findings, revealing underlying causes and implications of ambiguity across the M&A process. Similarly, in Case 2, I identified a pattern related to *Process (P) communication Internal – Ambiguity at Acquirer*, which emerged from multiple references to communication ambiguity about the process and about the integration plan. By consolidating these insights, I created higher-level sub-themes which offered more nuanced theoretical explanations for the integration challenges observed in both cases.

3.10.5 Step 3 Coding: Aggregated Dimensions

In the final step of data analysis, I distilled the sub-themes into **aggregated dimensions** (Gioia, Corley and Hamilton, 2013), which represent the broader theoretical categories that underpin the findings. For instance, sub-themes related to *Process Communication Internal Ambiguity at Acquirer,* and *Process (P) Design Ambiguity Internal – Ambiguity at Acquirer* were merged into the aggregated dimension of *(P) Internal Ambiguity*. This dimension captures the overarching challenges faced in both Case 1 and Case 2, particularly as they relate to the strategic decision-making process and its implications on the integration success. One key insight that emerged from this analysis was the importance of processes in mitigating ambiguity during integration. For example, I found that ambiguity in the integration communication plan and ambiguity in the communication of the integration process often led to delays in product launches, as noted in Case 2. By contrast, Case 1 demonstrated that operational ambiguity could be managed more effectively when communication channels were clear, and roles were well-defined. These findings formed the basis for proposing new strategies for managing ambiguity in future M&A integrations, which are discussed in Chapter 7.

Through this iterative process of coding, reviewing, and re-coding, I was able to identify deep patterns of ambiguity and propose solutions for better management of the M&A process. The aggregated dimensions, grounded in the participants' experiences, provide a robust framework for understanding how ambiguity in strategic decision-making affects the success of acquisitions.

3.10.6 Codes Inclusion Criteria and Contribution to Research Questions

The codes in this research were derived from recorded transcripts of observations and interviews, emphasizing the qualitative nature of the study. Unlike quantitative research that requires a large number of codes or participants, this research focused on identifying the occurrence and patterns of ambiguity. In instances where a specific ambiguity was mentioned, such as issues in the shipping process for Target Tomika, a single mention was sufficient to identify and code the theme. However, many ambiguities, such as those related to human resource retention and integration processes, were recurring and supported by multiple data points. This recurrence reinforced the significance of these ambiguities, making them central to the analysis. The triangulation of findings through interviews and observations ensured that the identified ambiguities were validated across multiple data sources, adding credibility and depth to the analysis.

The identified codes contributed directly to addressing the study's research questions. For the first research question of how ambiguity develops in M&As (see Chapter 1 Section 1.4), codes such as "ambiguity in product design" and "ambiguity about contract clauses" highlighted how ambiguities arose from incomplete or unclear information during integration. These ambiguities often originated from gaps in communication between the Acquirer and the Target, as well as from misaligned expectations. For the second research question of how ambiguity impacts success and methods to reduce its negative effects (See Chapter 1 Section 1.4), codes like "ambiguity about retaining sales force employees" revealed the challenges posed by unclear human resource strategies, which impacted team morale and continuity. Additionally, the findings informed strategies for managing these ambiguities, such as enhancing communication processes and developing structured retention plans. By linking these specific examples of ambiguity to the research questions, the analysis demonstrated how such uncertainties could be identified, mitigated, and managed effectively within the integration process.

3.10.7 Thematic Saturation

Thematic saturation in this research was achieved through a rigorous and iterative coding process, focusing on the occurrence of specific ambiguities rather than the sheer number of codes or participants. In some cases, a single code or mention was sufficient to highlight a critical ambiguity, such as ambiguity in the product design or ambiguity about contract clauses. These ambiguities were significant because they directly impacted the integration process, regardless of their frequency across participants. For instance, ambiguity in product design was flagged by a single participant in the Acquirer, but its implications—delayed timelines and misaligned expectations—were substantial and validated through triangulation with observations and other data sources.

An illustrative example of how the coding process was applied can be found in Table 6.1, which details the quotations, first-order codes, second-order categories, and aggregated dimensions (third-order themes). For instance, a quotation from Case 1, "…We acquire these companies, however, we do not resource people internally, and we expect them to work…," was coded as "Acquirer’s Resource Ambiguity: Ambiguity in Acquirer’s internal resources skills and potential to execute the integration." This first-order code was categorized under the second-order category of "Human Resource (HR) Internal – Ambiguity (-) at Acquirer" and further aggregated into the third-order theme "(HR) Internal Ambiguity." The ambiguity in this example was identified as negative (-) because it hindered the integration process due to inadequate internal resourcing by the Acquirer.

Recurring ambiguities, such as those related to retaining sales force employees, were identified across multiple data sources, reinforcing their systemic significance within the integration process. Saturation was reached when no new ambiguities were identified, and all additional data consistently fit within existing codes. This iterative process involved cross-referencing findings from observations, interview transcripts, and secondary data to confirm the robustness of the identified themes.

By focusing on the depth and impact of each identified ambiguity rather than the frequency of mentions, this approach ensured that the analysis captured the full complexity of the integration challenges. The inclusion of structured tables, such as Table 6.1, provided transparency and clarity in how codes were derived, categorized, and linked to the aggregated dimensions of ambiguity. The triangulation of data sources further strengthened the credibility of the findings, ensuring a comprehensive and nuanced understanding of the ambiguities encountered in both Case 1 and Case 2.

3.10.8 Reliability and Validity of Findings: Interview Approach

To strengthen the robustness of the qualitative research findings and complete the triangulation process, semi-structured interviews were used as a method of validation. These interviews played a key role in cross-checking the themes and insights that emerged from the focused ethnography and targeted grounded theory analyses. The information collected from observations was analyzed using the targeted grounded theory technique (Corbin and Strauss, 1990) as discussed earlier, allowing emerging concepts to be established. NVivo software (version 14) was used to upload and code the gathered data from the two acquisitions separately. The findings from each case were then compared to help answer the research questions outlined in Chapter 1.

I anonymized all interview narratives to ensure confidentiality. The anonymized transcripts were then shared with each respective interviewee for review. Each interviewee was asked to verify the accuracy of the interview narrative and provide feedback on any changes or additions they deemed necessary. They were also given the opportunity to request the removal of any content they felt was not accurately representative. Once the interviewees provided their edits, comments, and final approval, the revised narratives were used in the research where relevant. This process not only ensured data accuracy but also promoted transparency and collaboration between me and the participants.

3.10.9 Confirming and Refining Themes

As part of the triangulation process, interviewees were encouraged to share their perspectives on the key themes that emerged from the initial coding. For example, ambiguity surrounding product design, which was flagged as a significant issue in Case 2 but not in Case 1, was validated during the interviews. One interviewee noted that the Acquirer's team *"...struggled to get clear documentation on the product design, leading to delays…*," aligning with the targeted grounded theory findings. Similarly, in Case 1, leadership ambiguity observed during meetings was confirmed, with interviewees highlighting that *"...decision-making processes were not always clear, leading to confusion in roles and responsibilities...*"

The feedback obtained during these interviews either reinforced or adjusted the findings, providing a richer, more nuanced understanding of the ambiguities faced during the M&A integration processes. This iterative validation process ensured that the themes were not solely based my interpretation of the observations, but also reflected the lived experiences and perspectives of those directly involved in the acquisitions.

3.10.10 Addressing Potential Bias

One of the strengths of incorporating interviews into the triangulation process was the ability to address potential researcher's bias. By seeking participant feedback, the research allowed for the identification of any discrepancies between my observations and the participants' experiences. For instance, in one interview, a participant emphasized that ambiguity in communication was more prevalent than initially coded, prompting a re-evaluation of the coding structure to better reflect the extent of this ambiguity across both cases.

Additionally, interview validation helped in identifying areas that may have been overlooked during the initial observation phases. For example, ambiguity in legal contract clauses, which emerged as a theme in Case 2, was further elaborated on during interviews, revealing its impact on revenue forecasting and integration timelines. This feedback was crucial for ensuring that all significant ambiguities were captured and that no key areas were left unexplored.

3.10.11 Enhancing Credibility of Data through Triangulation

The use of interview validation as part of the triangulation process enhanced the credibility of the findings by providing multiple data points from different sources—observations, targeted grounded theory analysis, and interviews. This triangulated approach helped to corroborate key findings and ensured that the themes identified were not isolated to a single source of data. The ability to cross-validate the findings through different methods minimized the risk of misinterpretation or overemphasis on specific data points.

By integrating interview validation into the triangulation framework, this research ensured a well-rounded, evidence-based understanding of the ambiguities present in M&As. The insights gathered from the interviews reinforced the targeted grounded theory and ethnographic findings, adding depth and clarity to the proposed solutions for managing ambiguity in M&A integration processes.

3.11 Model Development

The information collected from Case 1 and Case 2 and the data analyzed were used to develop a model of ambiguity that proposed ways to reduce it. The model is illustrated and discussed in Chapter 7, **Figure 7.1.**

3.12 Reflection on the Analysis Scope and Associated Limitations

To research the SDM processes of a M&A from start to finish, I had to be present and observe the process unfolding. However, due to the time and geographic constraints a focused ethnography

(Roper and Shapira, 2000; Bryman and Bell, 2015) focusing only on few aspects of the M&As and on its SDM was applied. In fact, as stated earlier in Chapter 1, the purpose of this research is specifically to analyze how and why ambiguity gets generated and its relationship to the key success factors of M&As SDM processes. The research focused on understanding how the decision-making process in M&As was shaped, where biases occurred, where ambiguity was detected, and what information they drew upon to select a decision, to name few. Hence an interpretative focused ethnography was a good approach for the research (Bryman and Bell, 2015). Short site visits, decision's observations in meetings and in depth semi-structured interviews provided me with data about the M&As' decisions. In this research the purpose of studying a firm during M&As' SDM process was for the goal of understanding the M&As' SDM process and not the firm, hence the goal was different than the firm itself (Lee and Lings, 2008).

3.13 Ethical Issues

3.13.1 Identification of the Ethical Issues

There were different ethical issues in this research which need to be acknowledged and should be discussed further (Howe and Moses, 1999; Healy and Perry, 2000; Cohen, Manion, and Morrison, 2007; Cohen, Manion and Morrison, 2011; Fendler, 2016). The cultural baggage that I carried influenced this research, hence was important to understand what these influencers were, why they were present and how they could have impacted the research results. The ethical questions worth answering pivoted around the participants' consent to participate in the research, the respect of confidentiality and anonymity, and the biases of the respondents and of mine. My leading ethical questions are listed below:

a. What information the informant were provided with to give their consent to provide information to the researcher?
b. How the confidentiality of the information received, and the anonymity of the respondents was managed and maintained?
c. Did the respondent's view and interact with the researcher as an auditor for the performance of the acquisition, or as a researcher?
d. How was confidentiality and anonymity of the respondents maintained?
e. How did the researcher manage their own biases, assumptions, and knowledge about the M&As' SDM subject and avoid influencing the questionnaire and the respondents?
f. How was an informed consent organized?

Next, this section discusses how these issues were addressed.

3.13.2 Management of the Ethical Issues

3.13.2.1 Participants' Consent and Voluntary Participation

As mentioned earlier, each informant received prior to the one-on-one meeting an introduction letter with a consent form to sign. A copy of the consent form is available in **Appendix A**. The purpose of the letter was to briefly explain the purpose of the research, the type and direction of the questions as well as how the questionnaire was to be conducted (Bryman and Bell, 2015). The details included the location details, the setting (i.e., one-on-one meeting), the expected time length, the goal of each question, the question, and the recording of the interview answers. The interviewee had the freedom to walk out at any moment during the interview and opt not to continue the interview if they wish so. In the case of this research none of the interviewees declined the interview request or decided to walk out during the interview.

The request to attend both case 1 and case 2 acquisitions meetings was approved by the leader of integration of each case. A consent form was approved before the start of attending the meetings. The data from meetings was collected, updated for anonymity then shared back with the leaders of case 1 and case 2 studied acquisitions. Also as mentioned earlier, the questionnaire was written in an objective manner using open ended questions tackling all themes and subjects identified in the literature review gap. I updated all interviews' narratives for anonymity and then shared with the respective interviewees. The data was used in the research where it was relevant once the interviewees had returned their edits, comments, and approval to use the narrative of the interview.

3.13.2.2 Management of Confidentiality and Anonymity

Due to the intent of publishing the research, the confidentiality risked not being respected. However, anonymity was respected as per the Aston University Graduate School Student's Handbook (Aston University Graduate School, 2016), and as result there was no revealing of any respondent identity. These two points were explained to the informant prior to conducting the interview. The names of the firms engaged in Case 1 and Case 2, and their respective details, were changed for anonymity. The names of the participants were replaced with their titles only. However, the respondents' titles will be changed to only mention three levels (1) C-Suite executives, (2) mid-level manager, and (3) non-managerial employee for the purpose of publication later on.

3.13.2.3 *Power Imbalance: Management of the Respondents' Biases, and their Perception of the Researcher's Influence in the Organizations*

I recognized that some interviewees could have been biased to provide subjective details while others had decided to hold back information. To mitigate that I explained to the interviewees that I was a researcher and as a result there was no harm to the employee. It was stressed that the information was rather used for the benefit of the business and the academic world of M&As.. I acknowledged the bias of an interviewee who was leaving the organization soon after the interview. However, the data was needed, and triangulation was used to balance validity and reliability of the data collected (Fendler, 2016b).

3.13.2.4 *Management of the Research's Own Bias*

On the side of the researcher, I recognized my own potential bias. I had some knowledge in particular situations that some participants did not have. Such a knowledge was gained from being in a meeting and observing the participants, then joining another meeting where new participants were not in the previous meeting that I had attended. Before every interview, I focused and meditated on staying mindful of the purpose of the research and the importance of objectivity. I was like a fly on the wall and was not involved directly with the M&As' SDM's process that is the subject of this research. There was no engagement in interviews until after the two cases were conserved closed by the Acquirer Alexa. As mentioned earlier in this Chapter 3, validation of the observation and interviews, and the use of triangulation were key to reduce my own bias. For example, the identification of paradoxical ambiguity in the focus ethnography approach was also confirmed in modified GT and in interviews. The identification of the four ambiguity categories was deducted in the focus ethnography and modified GT and confirmed in the interview process.

3.14 Chapter Summary

In summary, an inductive and interpretative approach is a valid guiding approach for this research, and a qualitative method was used (Bryman and Bell, 2015). The research attempted to answer the questions raised in Chapter 1 (see Section 1.4) by applying an inductive explorative focused ethnography approach through observation, supported by a targeted grounded theory (GT) (Strauss and Corbin, 1990) approach using a two cases/acquisitions study (Roper and Shapira, 2000; Bryman and Bell, 2015). Semi-structured interviews, observations, and documents reviews were the main techniques and tools used to collect data. Findings were validated through an interview after both cases' data were collected and findings were drawn. Ethical issues core to this research have been identified and addressed. Next, the findings from the two acquisition cases are presented.

CHAPTER 4: FINDINGS of CASE 1 – "Xia's" Acquisition of Talia

4.1 Introduction

This chapter focuses on Case 1, the first of two case studies, aiming to address the key research questions of the categories of ambiguities discussed in the practice of M&As; how ambiguity develops in M&As; and the methods to reduce its negative impact on M&As' success rate (see Section 1.4). This chapter is crucial as it provides empirical evidence that directly responds to these questions, bridging theoretical insights with practical observations. It begins by outlining the background of the data collection, including the preparation for the first day of integration and the setup process. The chapter then presents findings from the focused ethnography, followed by a comprehensive data analysis. This approach ensures that the findings are systematically aligned with the research questions, offering a clear narrative on how ambiguity manifests and can be managed within M&As, thereby supporting the overall objectives of the thesis and setting a comparative baseline for the second case study in Chapter 5.

4.2 Background of Data Collection

4.2.1 Preparation for the 1st Day of Integration

The data collected and coded covers the integration phase which is the phase 4 discussed in the literature review (see Section 2.2.4). The discussion of the deal was orchestrated by the Business Development team of the Acquirer Alexa, the President of the Acquirer Alexa, and the CEO of the Target Talia. A team called the "clean team", consisting of a handful of executives from the Acquirer Alexa, was responsible of going through the due diligence exercise. The information shared by the clean team was very limited to the rest of the Acquirer Alexa organization until the deal went through. The executives of the Acquirer Alexa formed teams from their functional direct reports to follow up on the various and respective functional needs of the integration. The various leaders of these newly formed teams met one time with the Target Talia executives during the last week prior to the announcement to answer limited questions. There was no room for open ended questions since the deal was still not finalized. Following the acquisition public announcement, and on that same day, the executives reporting to the Target Talia CEO were thanked for their good work and were packaged out by the Acquirer Alexa. Acquirer Alexa's president and executives as well as key leads who will be responsible of various aspects of the integration walked into the headquarter of Target Talia welcoming Target Talia to the family of Acquirer Alexa.

4.2.2 Setup for Data Collection

Acquirer Alexa had two strategic aims of the acquisition. The first was to broaden its product offering to the public sector market which was one of the four main market channels Alexa operates in. By adding the Talia's products to Alexa's portfolio of product it will give its Sales representatives a diversified portfolio to offer to the customers offering a diversified list of products to the public. The second aim was to access Talia's market and strengthen Alexa's presence globally making it the global leader in the public sector channel. Talia's had different type of customers globally that Alexa did not have access to such as different government entities and NGOs. The acquisition would give Alexa that important access to strengthen its global sales and footprint.

Acquirer Alexa had three main objectives for the integration. The first was to achieve synergy and cutting cost hence the packaging out of the Target Talia ex-executives was aligned with this first focus point. The second point was speed, i.e., to move fast in collecting as many details as possible before employees start to depart their jobs. The third point was a transparent communication with the Target Talia about the plans and goals for the near and long future, including the space, layoffs etc. There are two important reasons behind the third point that Acquirer Alexa focused i.e., transparency. One is that one of Acquirer Alexa strategies is to grow through acquisitions. Hence, it is important to paint a good picture and positive reputation about the Acquirer Alexa transparency approach in the market among other potential future targets. The second is that Acquirer Alexa wanted to take care of the human aspect of things, hence wanted to use a transparent approach in the communication with the employees so they would know since day one, with enough clarity, what they will face post-acquisition. Acquirer Alexa integration teams were briefed on these focus points. On the first day following the announcement Acquirer Alexa called for a town hall size meeting with the Target Talia employees, followed by the announcements on layoffs that same afternoon. Hence, the data collection discussed next is from meetings, and interviews that happened after the agreement was signed between Acquirer Alexa and Target Talia to move forward with the legal and government clearance leading to the final signature until when the Acquirer Alexa considered that the integration can be called a success.

4.3 Focused Ethnography Findings

4.3.1 Introduction

The ambiguities identified in the integration of project Xia were the result of different core reasons. These reasons were: (1) weakness in resources management and planning; (2) weakness in communication; (3) weakness in the integration process and model; and (4) systems discrepancies and incompatibilities. These were the root causes behind the ambiguities that were detected during the integration activities as discussed next in this chapter. **Table 4.1** summarizes where a positive or negative ambiguity has been detected on either the Acquirer side and/or Target side, and what have been the ambiguities categories discussed in Chapter 2 (see Section 2.5.3) and their root causes. **Table 4.2** summarizes the list of ambiguities found in Case 1 with details on triggers from either the Acquirer or the Target side, whether there was a paradox in the ambiguities detected, and suggested opportunities to improve outcome. The cells shaded in grey are the areas where paradoxical ambiguity is detected. Based on these, this research proposes practical opportunities to reduce negative ambiguity and increase opportunities where common goals and priorities existed (see Section 7.2.3).

Table 4.1: List of Ambiguities Found in Case 1 with Categories and their Root Cause

List of Ambiguity Found and Discussed in Focused Ethnography Observations	Details of (+) or (-) Ambiguity	Categories of Ambiguity	Root Cause Categories
4.3.2.1.1 Acquirer's Resource Ambiguity: Ambiguity in Acquirer's internal resources skills and potential to execute the integration	Positive Ambiguity: enable integration to move forward by empowering the integration team	Human Resource (HR)	Weakness in Resources planning and management
4.3.2.1.2 High Tech-firms Resources Ambiguity: Acquirer's Integration Team faced ambiguities around Target's resources skills and potential making the decision who to retain very difficult	Negative Ambiguity on the Acquirer's side: Integration Team had to take decisions on resources with minimum interaction with, and assessment of these Target's resources	Human Resource (HR)	Weakness in Resources planning and management
	Positive Ambiguity from Target's side: Target senior leaders blocked access to employees prior to the deal's announcement to facilitate the deal – but Negative Ambiguity seen by Acquirer	Human Resource (HR)	Weakness in Resources planning and management
4.3.2.1.3 Layoff Causal Ambiguity: Ambiguity in Acquirer's evaluation and decision to terminate Target's employees	Positive Ambiguity: empower Acquirer's integration team to proceed with retaining or laying off Target's employees with limited knowledge about their skills and potential	Human Resource (HR)	Weakness in Resources planning and management
	Negative Ambiguity: Target was not aware about the Acquirer's move to layoff or retain employees until Day 1	Human Resource (HR)	Weakness in Resources planning and management
4.3.2.2 Organizational (O) ambiguity was not detected	Not detected	Organizational (O) Ambiguity	Not detected
4.3.2.3.1 Outcome Ambiguity: Ambiguity about the risks and priorities definitions and identifications of Target's R&D projects	Negative Ambiguity: Variations of R&D risks and priorities between Acquirer and Target	Goal Ambiguity (G)	Weakness in Communication
4.3.2.4.1 Integration Process Ambiguity: Ambiguity about a defined integration process on the Acquirer side	Negative Ambiguity: Lack of defined Acquirer's integration process risked leading to an undesirable outcome and potential integration failure	Process Ambiguity (P)	Weakness in the integration process
4.3.2.4.2 Communication Ambiguity: Ambiguity in communication and knowledge sharing (a) Internally among the Acquirer integration team	Negative Ambiguity: self-inflicted negative ambiguity within the Acquirer team by not including certain functions in the integration decision-making	Process Ambiguity (P)	Weakness in Communication and integration process
4.3.2.4.2 Communication Ambiguity: Ambiguity in communication and knowledge sharing (b) Between Acquirer Alexa and Target Talia in the initial few months of the integration	Positive Ambiguity: Acquirer kept Target off the update meetings for several months after Day 1 to not scare the Target members about the ongoing brainstorming happening in the meetings	Process Ambiguity (P)	Weakness in Communication and integration process
	Negative Ambiguity: Target refrained from proactively providing solutions because its members were not invited to the Acquirer update meetings until about four months later	Process Ambiguity (P)	Weakness in Communication and integration process

4.3.2.4.3 Operational Integration Model Ambiguity: Ambiguity in a path forward to integrate global variations of satellite offices and footprints of both the Acquirer Alexa and Target Talia	Negative Ambiguity: Acquirer did not know the best approach to integrate the satellite offices globally	Process Ambiguity (P)	Weakness in Communication and integration process
	Negative Ambiguity: The Target did not know what the Acquirer approach and goal to integrate the satellite offices globally	Process Ambiguity (P)	Weakness in Communication and integration process
4.3.2.4.4 Technological & Systems' Ambiguity: Ambiguity in system applications compatibilities and their integrations	Negative Ambiguity: Acquirer did not have experience about the information technology system applications and their compatibilities	Process Ambiguity (P)	Systems discrepancies / incompatibilities
	Negative Ambiguity: Target was not aware about the Acquirer's information technology system applications and their compatibilities	Process Ambiguity (P)	Systems discrepancies / incompatibilities
4.3.2.4.5 Un-represented role Ambiguity: Ambiguity in decisions due to un-represented functions in the initial cross functional projects	Negative Ambiguity: Several Acquirer's functions not included in the initial preparation for the integration	Process Ambiguity (P)	Weakness in the integration process
	Negative Ambiguity: Target's functions intentionally not included in several of the integration processes and decision making due to a strong Acquirer self-trust	Process Ambiguity (P)	Weakness in the integration process
4.3.2.4.6. Causality Ambiguity introduced by the integration of systems versus business: Ambiguity of causal relationships due to functional silos in integration status reporting	Negative Ambiguity: Cross-functional causality outcome not explored	Process Ambiguity (P)	Weakness in the integration process
4.3.2.4.7 Process Ambiguity: Ambiguity of projects executed in series vs in parallel and vice versa	Negative Ambiguity: Execution of the integration cross functional projects not optimized	Process Ambiguity (P)	Weakness in the integration process
4.3.2.4.8 Leadership Goals-Focus Ambiguity: Focus on certain goals introduced risks on others (a) Focus was on Sales and Financial aspects	Negative Ambiguity: Top-down execution direction	Process Ambiguity (P)	Weakness in the integration process
4.3.2.4.8 Leadership Goals' Ambiguity: Focus on certain goals introduced risks on others (b) Focus on integration speed vs. a better sustaining long term process	Negative Ambiguity: Top-down execution direction	Process Ambiguity (P)	Weakness in the integration process
4.3.2.4.9 Critical Data Sharing Ambiguity: Ambiguity in communication of potential known failures	Negative Ambiguity: Acquirer did not optimize one or more processes by taking Target's feedback into consideration	Process Ambiguity (P)	Weakness in the integration process
	Negative Ambiguity: Target did not share what was not working in the process	Process Ambiguity (P)	Weakness in the integration process
4.3.2.4.10 Contractual Ambiguity: Ambiguity in supporting legacy products	Negative Ambiguity: Lack of focus on one or more of the Target's legacy products support and obligations	Process Ambiguity (P)	Weakness in the integration process

Table 4.2: List of Ambiguities Found in Case 1 with Details on Triggers, Whether there was a Paradox, and Opportunities to Improve Outcome

List of Ambiguity Found and Discussed in Focused Ethnography Observations	Details of (+) or (-) Ambiguity	Acquirer's Faced or Triggered Ambiguity? If Yes (+) or (-)? Triggered by Acquirer or Target?	Target's Faced or Triggered Ambiguity? If Yes (+) or (-)? Triggered by Acquirer or Target?	Paradoxical Ambiguity?	Opportunity to Improve on Ambiguity Outcome?
4.3.2.1.1 Acquirer's Resource Ambiguity: Ambiguity in Acquirer's internal resources skills and potential to execute the integration	Positive Ambiguity: enable integration to move forward by empowering the integration team	Triggered (+) Ambiguity, Triggered by Acquirer (self-inflicted)	Not applicable	No	Yes, internally within the Acquirer's Team through communication and development of a solid integration process
4.3.2.1.2 High Tech-firms Resources Ambiguity: Acquirer's Integration Team faced ambiguities around Target's resources skills and potential making the decision who to retain very difficult	Negative Ambiguity on the Acquirer's side: Integration Team had to take decisions on resources with minimum interaction with, and assessment of these Target's resources	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target	Yes	Yes, by sharing priorities and goals between Acquirer and Target
	Positive Ambiguity from Target's side: Target senior leaders blocked access to employees prior to the deal's announcement to facilitate the deal – but Negative Ambiguity seen by Acquirer	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target		
4.3.2.1.3 Layoff Causal Ambiguity: Ambiguity in Acquirer's evaluation and decision to terminate Target's employees	Positive Ambiguity: empower Acquirer's integration team to proceed with retaining or laying off Target's employees with limited knowledge about their skills and potential	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target	Yes	Yes, by sharing goals about key employees between Acquirer and Target
	Negative Ambiguity: Target was not aware about the Acquirer's move to layoff or retain employees until Day 1	Triggered (+) Ambiguity, Triggered by Acquirer	Faced (-) Ambiguity, Triggered by Acquirer		
4.3.2.2 Organizational (O) ambiguity was not detected	Not detected	Not detected	Not detected	Not detected	None identified
4.3.2.3.1 Outcome Ambiguity: Ambiguity about the risks and priorities definitions and identifications of Target's R&D projects	Negative Ambiguity: Variations of R&D risks and priorities between Acquirer and Target	Faced (-) Ambiguity, not confirmed to be triggered by the Target		No	None identified

4.3.2.4.1 Integration Process Ambiguity: Ambiguity about a defined integration process on the Acquirer side	Negative Ambiguity: Lack of defined Acquirer's integration process risked leading to an undesirable outcome and potential integration failure	Faced (-) Ambiguity, Triggered by Acquirer (self-inflicted)		No	Yes, through development of a solid integration process
4.3.2.4.2 Communication Ambiguity: Ambiguity in communication and knowledge sharing (a) Internally among the Acquirer integration team	Negative Ambiguity: self-inflicted negative ambiguity within the Acquirer team by not including certain functions in the integration decision-making	Faced (-) Ambiguity, Triggered by Acquirer (self-inflicted)		No	Yes, through development of a solid integration process
4.3.2.4.2 Communication Ambiguity: Ambiguity in communication and knowledge sharing (b) Between Acquirer Alexa and Target Talia in the initial few months of the integration	Positive Ambiguity: Acquirer kept Target off the update meetings for several months after Day 1 to not scare the Target members about the ongoing brainstorming happening in the meetings	Triggered (+) Ambiguity, Triggered by Acquirer	Faced (-) Ambiguity, Triggered by Acquirer	Yes	Yes, communication meeting and alignment on common goals and shared risks
	Negative Ambiguity: Target refrained from proactively providing solutions because its members were not invited to the Acquirer update meetings until about four months later	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target		
4.3.2.4.3 Operational Integration Model Ambiguity: Ambiguity in a path forward to integrate global variations of satellite offices and footprints of both the Acquirer Alexa and Target Talia	Negative Ambiguity: Acquirer did not know the best approach to integrate the satellite offices globally	Faced (-) Ambiguity, NOT Triggered by Target		No	Acquirer engaged Target with decision making
	Negative Ambiguity: The Target did not know what the Acquirer approach and goal to integrate the satellite offices globally		Faced (-) Ambiguity, Triggered by Acquirer		
4.3.2.4.4 Technological & Systems' Ambiguity: Ambiguity in system applications compatibilities and their integrations	Negative Ambiguity: Acquirer did not have experience about the information technology system applications and their compatibilities	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target	Yes	Yes, communication meeting and alignment on common goals and shared risks
	Negative Ambiguity: Target was not aware about the Acquirer's information technology system applications and their compatibilities	Triggered (+) Ambiguity, Triggered by Acquirer	Faced (-) Ambiguity, Triggered by Acquirer		
4.3.2.4.5 Un-represented role Ambiguity: Ambiguity in decisions due to un-represented functions in the initial cross functional projects	Negative Ambiguity: Several Acquirer's functions not included in the initial preparation for the integration	Faced (-) Ambiguity, Triggered by Acquirer (Self-inflicted)		No	Yes, communication meeting and alignment on common goals and shared risks

	Negative Ambiguity: Target's functions intentionally not included in several of the integration processes and decision making due to a strong Acquirer self-trust		Faced (-) Ambiguity, Triggered by Acquirer		
4.3.2.4.6. Causality Ambiguity introduced by the integration of systems versus business: Ambiguity of causal relationships due to functional silos in integration status reporting	Negative Ambiguity: Cross-functional causality outcome not explored	Faced (-) Ambiguity, NOT Triggered by Target		No	Yes, through development of a solid integration process
4.3.2.4.7 Process Ambiguity: Ambiguity of projects executed in series vs in parallel and vice versa	Negative Ambiguity: Execution of the integration cross functional projects not optimized	Faced (-) Ambiguity, NOT Triggered by Target		No	Yes, through development of a solid integration process
4.3.2.4.8 Leadership Goals-Focus Ambiguity: Focus on certain goals introduced risks on others (a) Focus was on Sales and Financial aspects	Negative Ambiguity: Top-down execution direction	Faced (-) Ambiguity, NOT Triggered by Target		No	Yes: through development of a solid integration process
4.3.2.4.8 Leadership Goals' Ambiguity: Focus on certain goals introduced risks on others (b) Focus on integration speed vs. a better sustaining long term process	Negative Ambiguity: Top-down execution direction	Faced (-) Ambiguity, NOT Triggered by Target		No	Yes, through development of a solid integration process
4.3.2.4.9 Critical Data Sharing Ambiguity: Ambiguity in communication of potential known failures	Negative Ambiguity: Acquirer did not optimize one or more processes by taking Target's feedback into consideration	Triggered (+) Ambiguity, Triggered by Acquirer	Faced (-) Ambiguity, Triggered by Acquirer	Yes	Yes, through development of a solid integration process and improvement on communication between Acquirer and Target
	Negative Ambiguity: Target did not share what was not working in the process	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target		
4.3.2.4.10 Contractual Ambiguity: Ambiguity in supporting legacy products	Negative Ambiguity: Lack of focus on one or more of the Target's legacy products support and obligations	Faced (-) Ambiguity, Self- inflicted by Acquirer		No	Yes, through development of a solid integration process and improvement on communication between Acquirer and Target

Next, the root cause categories of ambiguities identified in Case 1 are highlighted.

Weakness in Resources Planning and Management

The Acquirer's integration leadership assumed that the Acquirer's integration team did have the skills to perform this successful integration. The absence of assessment of the Acquirer's integration team resource to perform a successful integration, the absence of training, the absence of consultant's use in the integration phase, as well as the absence of coaching, were all areas of weaknesses that could have been proactively turned into opportunities.

Weakness in Communication

The communication within the Acquirer's integration functions, as well as the communication between the Acquirer and the Target had challenges. The challenges translated to variations in the definitions of risks and priorities between the Acquirer and the Target, to missing more than one important function in the communication at the Acquirer side as well as not including the Target in some important decisions, all led to various challenges such as delays, and customer dissatisfaction during the integration process.

Weakness in the Integration Process and Model

The concerns with the integration process were the most identified, starting from not having a written process in place that can be used as a guidance for the Acquirer's integration team. As a result, there were important functional resources not represented in meetings and decisions and have not received important communications. There was no optimization of projects in the way they are executed so in several instances a project that was supposed to be executed with another project was delayed and was executed after the first project was accomplished. There was focus on sales and the financial aspects of the integration while other important aspects of the integration were not seen as important but had negative impacts on billing and customers' satisfaction.

There was no determined model to integrate the satellite offices outside of the country where both headquarters were located, i.e., outside the United States of America. This required more assessment and discussions between the Acquirer and the Target to determine best approach for each respective country both companies had presence in.

Systems Discrepancies and Incompatibilities

The information systems and applications were not the same at the Acquirer and Target sides. The Acquirer Integration Team was not expert in the Target's systems and applications. Hence, many rules on shipping for example were not the same on both sides. Similar discrepancies led to delays and customer's frustrations.

4.3.2 Data-Analysis[2]

Results indicate that Acquirer Alexa executives and integration team had to deal with different ambiguities in various areas and functions during the integration process. The research found various ambiguities known to the Acquirer Alexa which triggered a certain response as a mitigation to address them. Other ambiguities were introduced intentionally by Acquirer Alexa to manage the integration process. Also, there were ambiguities not identified by Acquirer Alexa prior to Day 1 of integration, however these were identified by Acquirer Alexa at a later stage which triggered a certain mitigation response. The analysis addresses the core research questions regarding ambiguity in M&As (see Section 1.4). Each type of ambiguity plays a unique role in shaping the success or failure of M&A integrations, affecting various aspects of the strategic decision-making process (SDM). Next, we will segregate the details based on the typology of ambiguity identified in M&As earlier in the research, which are the following: Human Resource (HR) ambiguity; Organizational (O) ambiguity; Goal (G) ambiguity; and Process (P) ambiguity.

4.3.2.1 Human Resource (HR) Ambiguity Findings

As shared earlier (see Section 1.5.1), human resource ambiguity was defined in this research as the ambiguity that is related to the work force on either the acquirer or the target. This was manifested through different areas during the acquisition processes. The analysis of human resources ambiguity informs the first question by showing how human resources ambiguity develops due to unclear communication and decision-making processes, particularly around layoffs and integration strategies. Methods such as transparent communication and early engagement of key personnel can mitigate its negative impact (see Section 1.4). Lastly, managing human resources ambiguity involves building trust and fostering open dialogues, and as a result reduces uncertainty and lead to a more successful integration, which addresses the research third question (see Section 1.4).

[2] All data in this section were gathered through meeting observations. All italicized quotes were sourced from meeting transcripts. No data in this chapter was derived from interview validations, as those are reported and analyzed in Chapter 6.

4.3.2.1.1 Acquirer's Human Resource Ambiguity: Ambiguity in Acquirer's Resources Skills to Execute the Integration

Acquirer Alexa did not do an assessment of what internal resources and skills were needed for the integration. Acquirer Alexa relied on the current knowledge and expertise of the internal resources to pull a successful integration. Hence there was no investment in external consultant firms, in any type of training, or any type of assessment performed to analyze whether Alexa's internal resources will be able to carry over this new integration. As the Manager of Documentation explains:
"*We acquire these companies, however we do not resource people internally and we expect them to work…" (Documentation Manager, Alexa)*

Employees were expected not only to carry over the integration but also to be successful. Some of them were performing this exercise for the first time in their career. When they needed coaching and mentoring in a particular subject related to the integration actions several employees were struggling to find the internal resource to get help. Hence, employees were relying on each other and on their limited knowledge to push forward some aspects of the integration. Employees were expected to continue meeting their fiscal year goals as well as performing the integration.

Positive Ambiguity: Enable Integration to Proceed by Empowering the Integration Team

The Acquirer assumed that its internal resources will be skilled and experienced to successfully perform the integration tasks. Hence, there was no assessment of the skills required to perform a successful integration. The Acquirer integration leadership empowered the integration team that was picked by different functional leaders to go explore what they need to do to execute a successful integration. The clean team had details which were not shared with the integration team due to the non-disclosure agreement with the Target but empowered the integration team to take control and execute what they think they need to execute based on their skills and experience at the Acquirer's side for similar jobs and tasks. Due to the binding requirements from the Non-Disclosure Agreement (NDA), the retention of information which would be helpful for the Integration Team to know prior to Day 1, was an ambiguity for Alexa's Integration Team. The NDA, while necessary to protect sensitive information for the acquisition process and due diligence phase, resulted in the withholding of crucial details that the Integration Team would have benefited from in their preparatory work. The Acquirer integration leadership wanted things to progress then have discussions later to address challenges and concerns faced by the integration team. Alexa's Integration Leadership tolerated ambiguity related to skills and potential of its own integration team to proceed with the integration. To empower the Integration Team, the Integration Leadership empowered the Integration Team through setting ambiguous expectation to be successful. Those expectations were set through a PowerPoint presentation in the initial meetings, highlighting at a high level how to conduct themselves in the integration and asking the Acquirer leaders to get engaged in integrating their respective functions. The Integration Team did not know what skills and resources were required but was told that the team was trusted to execute the integration successfully. Hence, implying that the effort that the Integration Team was going to put forward without knowing what it was going to require, was going to have a successful outcome leading to a successful integration that would achieve Alexa's objectives, is an example of a positive ambiguity. Not having access to all the details from the clean team, with no access to the Target resources, the Integration Team, empowered by the Trust of the Integration Leadership, moved forward with the integration planning. The highest priority for the Integration Leadership was to make sure the deal will go through. Hence, for the Integration Team, keeping the negotiation details ambiguous to a great extent was important to not hinder the deal. The Integration Team, realizing that there is information that cannot be shared, trusted its team members, despite not knowing what skills, resources and commitments were required. They then moved forward with the planning and with the resources who did not know what skills will be needed and expected to execute a successful integration. Allowing the Integration Team members to engage slowly in the meetings and discussions was important for them to be aligned before sharing further details.

It is important to note that, the research did not analyze in detail what risks, or opportunities were introduced or enhanced using only the Acquirer's internal resources to execute the integration.

4.3.2.1.2 High Tech-firms Resources Ambiguity: Acquirer's Faced Ambiguities about Target's Resources Skills

Acquirer Alexa integration team did not have a detailed knowledge about the potential and skills of the target employees to keep the business running. Interviewing and access to employees' files were not permitted prior to the takeover on Day 1. Acquirer Alexa integration team used few basic techniques to quickly assess the potential, knowledge, and value of several key employees in the first week prior to the deal closure and few weeks right after. They did not ask or use inputs from Talia's senior executives about employee's performance or knowledge value since those were let go on Day 1 of deal closure. Alexa's integration team had to quickly make decisions during interviews, and in many cases, it was difficult to still decide about whether to terminate certain employees or not. As the Vice President of Clinical Affairs stated:

"W*e have a potential person but can't tell for sure if they are to keep until we interview the person…" (Vice President Clinical Affairs, Alexa)*

Some difficulties were related to some employees being remote and few were asked to come on site to meet with Alexa's integration team, but others were not asked to do so. As Alexa's Vice President of Research and Development stated:

"W*e will need some of the remote engineers to be on site this week…" (Vice President of Research and Development, Alexa)*

Until Day 1, which is the first day the Acquirer took over officially the Target and walked into their premises, the Acquirer R&D integration team did not know what projects the Targets' R&D engineers were working on, as stated by the Acquirer's VP of Engineering:

"*…We do not know on what projects they are working on…" (Vice President of Engineering, Alexa)*

During the week prior to day 1, the Acquirer R&D integration team relied on word of mouth and information provided by the Target on R&D projects without having the access to scrutinize the data as stated by the Acquirer VP of R&D:

"*…we need to look into that during the 7 days window investigation week. We need to know who has done what during the last year… (Vice President of R&D, Alexa)*

Hence, the Acquirer's integration team faced struggles in identifying, until after Day 1, who's skills and potential were important to retain, and they had to rely on basic evaluations to make decisions on retaining important resources as explained next.

Negative Ambiguity on the Acquirer's side: Decisions on Target's Resources Retention with Minimum Information

The Acquirer integration leadership team faced struggles identifying Target's resources skills and potentials to take a decision on Day 1 which would have hindered reaching synergy, i.e., cost reduction as identified earlier. The Acquirer integration team was not allowed to perform interviews and in person visits prior to Day 1, nor they were given access to employees' performance reviews and their human resources files. It was not possible to connect with their peers on the Target side. Hence, despite these roadblocks to assess skills and potential, the integration leadership still pushed the integration team to take decisions to meet the goal of performing synergy. The integration leadership expressed their full trust in the integration team to take the decision with no fear of retaliation or punishment of potential decision failure and negative impact, but without providing access to the data gathered by the clean team. However, despite those facts this was a negative ambiguity the Integration Team had to deal with to achieve the integration objectives.

Positive Ambiguity from Target's side: Target's Executives Blocked Access to their Employees to Secure the deal – (Negative Ambiguity Seen by Acquirer)

Target's senior leadership did not allow the Acquirer integration team to connect with the Target's employees, and all interactions were left at the senior executive level until one week prior to Day 1. The Target's CEO only was engaged in the negotiation until one week prior to the deal's announcement. The Target senior leadership wanted to avoid any risk that may have impacted the deal such as leak of information and news about the deal by any of the employees. The Target senior leadership also wanted to hide any detail that the Acquirer's team could have discovered during any communication with a Target's employee. The limited access to the Target employees remained enforced until Day 1. Access to mid-level managers was allowed on Day 1. That ambiguity played a positive role for the Target to move forward with the deal without revealing unwanted details not requested by the clean team but could have been discovered during a discussion with a Target's mid-level manager or employee.

Positive vs. Negative Ambiguity: Acquirer and Target can Both Benefit by Sharing Common Priorities and Goals

A positive ambiguity exercised by the target as mentioned above is considered, by the definition of negative ambiguity discussed earlier in Chapter 2 (see Section 2.4.3), as a negative ambiguity to deal with by the Acquirer. The Acquirer's approach noted above was used to enable its integration team to manage a negative ambiguity is a response to the negative ambiguity exercised by the target. However, as mentioned above each one had different goals at the surface but were aiming towards a successful integration in the background. The Target aimed at making sure the deal was secured and was moving forward successfully, while the Acquirer aimed at making sure not to lose key resources during the process of determining who was worth retaining from the Target's employees and who was not. Researching the opportunity to proactively communicating these goals by both the Acquirer and Target and sharing what each side is trying to accomplish is a common ground for improving ambiguity, which will be discussed later in this research. There is an opportunity to advance a goal that is relevant and important to both sides and to assess how that would play a role in reducing negative ambiguity and enable further information sharing. However, this was out of the scope of this research and an important proactive action to investigate and test in the future.

4.3.2.1.3 Layoff Causal Ambiguity: Ambiguity in Acquirer's Decision to Lay-Off Target's Employees

Causal ambiguity has been identified in this research in decisions where either side taking a decision had assumed a positive or negative outcome because of the decision. Causal ambiguity was identified in different areas during the integration. For example, Acquirer Alexa decided to terminate employees based on several assumptions. One common assumption that was executed across various departments was the length of tenure in the role including the Target Talis's executives. As the President of the Acquirer Alexa stated:

"…we took the decision to quickly cut the executives because they have not been there for a long time…" (President, Alexa)

The Acquirer assumed that such a termination would not lead to a negative impact on the performance of the integration.

The integration team from Alexa also assumed that long lasting tenure at Talia meant a deep knowledge of the product and loyalty to Talia's mission. Hence, the decision to keep long tenure employees was going to lead to a good outcome during the integration phase. As Alexa's Vice President of engineering commented:

"Few were identified to keep because of their long-lasting history with the target and their deep knowledge of the product…" (Vice President of Engineering, Alexa)

The other assumption used was the close relationship between the recently hired employees at Talia and many of the Target Talia's executives. These executives were brought to the Target Talia to address specific tasks such as reducing expenses and boosting revenue to make the company appealing to be acquired. For this purpose, many executives did reach out to many of their contacts in previous firms and enticed them to join them at Talia. These employees were perceived by Alexa's integration team as being loyal to the executives versus being loyal to Talia. Hence, to reduce any feedback that may get back to Talia's executives who were allowed to go on Day 1, Acquirer Alexa's integration team decided to let go those employees loyal to the executives. As the Vice President of Quality and Regulations stated:

"*I have half a dozen people that the previous target executives brought them to the team, some local and some are remote…" (Vice President of Quality and Regulations, Alexa)*

Positive Ambiguity: Empower Acquirer to Retain Target's Employees with Minimum Knowledge about their Expertise

As described above, the Acquirer's integration team had limited tools and approaches to decide on retaining or laying off each of the Target's headcounts. The Acquirer integration team relied on the employee's length of tenure at the Target firm, the seniority in the title, the relationship to the Target's executives, and their limited interaction with some of the employees in the week prior to Day 1. The Acquirer's integration team did not face push backs when its members approached the Acquirer integration leadership with their decisions to lay off or retain all the Target's employees based on the limited criteria they had. The Acquirer integration team listened to all the layoff / retain proposals and empowered the team to move forward despite the risk of losing or laying off important subject matters' experts or key individuals to the continuation of the Target's business.

Negative Ambiguity: Target Unaware about Acquirer's Decision to Lay-off Employees on Day 1

The Target was left in dark until Day 1's afternoon when the Acquirer's integration team moved into the Target's facility with pre-arranged retention contracts for selected key employees or layoff packages. The Integration team managers had to meet with all the employees one-one on the afternoon of Day 1 to hand them either one of the packages. The packages contained various dates for the retained employees. The employees being laid off were paid a severance depending on their tenure and expected need. However, all this was discovered by the Target team on Day 1. That ambiguity helped the Acquirer integration team keep Target's employees engaged until Day 1. That negative ambiguity on Target's employee's retention caused limitation in proactive communication and advice from the Target side leading to negative ambiguity in communication.

Positive vs. Negative Ambiguity: Acquirer's versus Target's Approaches on Employee's Retention

On this subject, the Acquirer aimed to retain the Target key performing employees for a maximum time as planned and discussed among its integration team. While the Target employees were worried about layoffs and the move of the facility to the Acquirer's facility. Hence, in this situation the subjects of discussions for each side were retention and layoffs. It would have been important for the Acquirer to question what the Target employees are fearful of, share the facts with the Target senior leadership, and see if they were willing to share details with their employees to put them at ease. Some of the information that could have been shared by the Acquirer was for example the retention of the facility, the length of retention, and the support that will be provided to the employees. There is an opportunity to explore what proactive information can be shared with Target's employees that the Acquirer was aware of, and which were good for the Target's employees to know and could have helped foster a positive relationship and trust with the Acquirer integration team.

4.3.2.2 Organizational (O) Ambiguity Findings

Organizational ambiguity was defined in this research (see Section 1.5.1), as the ambiguity of the new firm identity, the hierarchy, the leadership authority and responsibilities and the culture. However, in this integration there was no organizational ambiguity type identified in the data collected through secondary data, observations, or meetings notes and minutes, that would fit that definition. This does not mean that Organizational ambiguity type did not exist at all in the integration, but the data gathered did not come across any that would fit this category.

4.3.2.3 Goal (G) Ambiguity Findings

Goal ambiguity was defined in this research (see Section 1.5.1), as the ambiguity that is related to the identification of goals, projects, outcomes, and business strategy on either the acquirer or the target side. The Goal ambiguity manifested through few areas during the acquisition processes. Goals and outcome ambiguity is identified as a key type of ambiguity in M&As, particularly in terms of aligning the strategic objectives of both companies (see Section 1.4). The first research question is addressed by analyzing how ambiguity in goals and outcomes develops when firms fail to align their priorities, leading to divergent paths that hinder the success of the integration. Establishing shared goals and clear communication from the outset can reduce this ambiguity (see Section 1.4). The second research question (see Section 1.4) is addressed by stressing that effective management of goals and outcome ambiguity involves creating a unified vision that both companies can work toward, ensuring a smoother integration process and improved performance.

4.3.2.3.1 Outcome Ambiguity: Ambiguity about the Risks and Priorities of the Target's R&D Projects

The Acquirer R&D integration team received a list of high priority projects managed by the Target R&D team. However, there was a fear by the Acquirer integration team about being blindsided by other projects and goals that were important from a risk point of view, and which had not been identified as a high priority. Those projects and goals risked to have an important impact on the Acquirer but from a Target point of view, and based on their identification of risks and priority, had not made the top priority and risk lists. As the Director of R&D stated:

"*…We are getting a blip on the list of projects, and we are looking into the high priorities while the others can sit in the background…" (Director of R&D, Alexa)*

"In addition to the focus on new product development and new product introduction, the Acquirer R&D integration team also focused on sustaining the existence installed base of existing launched products. A bad management of sustaining R&D projects risked decreasing customer's satisfaction and would have led to different risks such as decrease in capital sales, recalls and/or corrective actions, as well as leading to an increase in complaints received from customers. Hence, it was important also to focus on sustaining projects and managing them in equal importance to the R&D new products projects. However, those sustaining projects were not flagged as high priority projects by the Target R&D team. As the Acquirer's Director of R&D stated on this subject:
"*…Others are extremely critical from a sustaining point of view, so we need to deal with that…" (Director of R&D, Alexa)*

Negative Ambiguity: Variations of R&D Risks and Priorities between Acquirer and Target

The Acquirer's integration team received from the Target a list of R&D projects and with their risks and priorities. As mentioned above, the Acquirer's integration team doubted whether there were other projects with low risks and low priorities as identified by the Target, but which should have been of a high priority and high risk based on the Acquirer's definitions of risks and priorities. However, the Acquirer's integration team had identified this ambiguity later after Day 1 and reviewed all the Target R&D projects to assess their risks and priorities based on the Acquirer's definitions. This was a negative ambiguity that carried a risk of missing an important project or goal after Day 1 and could have been mitigated by reviewing with the Target the list of risks and priorities on the R&D projects right after Day 1. This ambiguity was not created intentionally by the Target, but it did exist due to variations in the definitions with the Acquirer. Hence, it was an important missed opportunity to review R&D projects priorities, their risks and the risks definitions and identify any discrepancy early in the integration process. The research did not assess whether discrepancies were found and what actions were taken, but it rather focused on the ambiguity, its type and how it could have been improved.

4.3.2.4 Process (P) Ambiguity Findings

Process ambiguity was defined in this research (see Section 1.5.1), as variations and discrepancies in flows and processes, changes in plans, incompatibility of systems, limitations in communications and access to communications, absence of documentations, silos and missing of important functions and departments, unknown of implications and outcomes. This type of ambiguity is critical in understanding how integration unfolds and why delays or misalignments occur. The identification of process ambiguity highlighs it as a major concern in M&As, especially during the integration phase. It also addresses the first research question (see Section 1.4) by exploring how process ambiguity develops from unclear workflows and technical misalignment between the Acquirer and the Target. To better manage this ambiguity, firms need to establish clear integration guidelines and cross-functional teams to align processes early on, which addresses the second research question (see Section 1.4). This (P) category of ambiguities is where most ambiguities were identified and are discussed next.

4.3.2.4.1 Integration Process Ambiguity: Ambiguity about Acquirer's Integration Process

Following the acquisition deal's signature, the integration team was briefed about the importance of synergy and speed, however, there was no agreed-on integration process prior to Day 1. As a result of that many functions did not know what the other functions were doing or were committed to do. There was a discrepancy between the same process on the Acquirer and the Target side to execute the same outcome. For example, restrictions to ship to several countries were executed differently on both the Acquirer and Target side, as stated by the Acquirer's Manager of Documentation:

"…we have a list of "can't ship to" locations; the target has a list of where we can ship… (Manager of Documentation, Alexa)

However, the integration team did not know the difference to mitigate it because it was not discussed as part of a project, which led to several shipment getting stuck, as stated by the Acquirer Manager of Documentation:

"*…customer service and Technical service and international operation did not know so things were stuck because we made decisions in a bubble but that affected the downstream regular business…" (Manager of Documentation, Alexa)*

The lack of reviewing an agreed-on integration process prior to Day 1 with the Target introduced risks and ambiguities that could have been avoided. However, the Acquirer integration team, biased to have a better process compared to the Target, used the Acquirer's existing order management process, as shared by the Acquirer Manager of Documentation:

"…the target is a fraction of us, so we went and changed what we have as a process to what they have and IT did that and we ended up with 100s of accessories orders that we can't ship out…" (Manager of Documentation, Alexa)

Those order management details about the existing Target's process could have been gathered prior to Day 1 and there was no reason to keep them hidden from the Acquirer integration team. They were just related to controlling shipping actions one way or another and there is no risk to the Non-Disclosure Agreement or to the deal itself. Hence, having this subject as an example on a detailed checklist to review with a future target ahead of Day 1 could have avoided the risk of not shipping orders to important customers, losing business revenue, and decreasing customer satisfaction.

The absence of a documented integration process on the Acquirer side, led to ambiguity in the integration process actions and lack of commitments to "the plan" from various Acquirer integration leaders. When the take-over deal was signed, the integration team was quickly gathered and informed about different rules to follow, the synergy the company was looking forward to achieving in the integration, and the timeframe they needed to act within. However, Acquirer Alexa team did not have a documented process to proceed with the integration, hence the integration team was challenged by the Acquirer's president to develop a plan. As the Director of Sales operation and Customer Service stated:
"…Acquirer president wants this process documented because we do not want this to happen again on the next integration where we do not know what model to use…" (Director of Sales operation and Customer Service, Alexa)

The Acquirer integration was very focused on making the deal happen and as stated above relied on the skills of the Acquirer's own resources to successfully execute the integration. However, there was no plan after Day 1, and the focus was mainly on making sure the Acquirer integration team continued to sell the Target's products and reported earnings, as stated by the Manager of Documentation:
"…On due diligence, we had a plan for integration before Day 1. After Day 1 I felt there was no plan. Only the system integration plan Lite after that. So, order to cash and nothing beyond that…" (Manager of Documentation, Alexa)

As a result of the lack of an integration process, Acquirer Alexa integration team had to reach out to another integration team within Alexa, who had helped integrate a previous acquisition that

Acquirer Alexa had executed in the past. The goal was to lean from that team expertise and help drive the current integration successfully, as reported by the VP of Corporate Finance:
"…we will need to reach out to the previous integration project manager lead and learn about the previous integration we did…" (Vice President of Corporate Finance, Alexa)

The absence of a documented written process with action items and strategy introduced ambiguity that could have been prevented. Several leaders reacted to written documents more seriously where their approval and signature were required, as stated by the Manager of documentation:
"…therefore, he (talking about another manager) saw the plan written, he set in every Thursday's meeting, and until I put it in writing in a formal approval this is where he had to review and agree to the plan, so he took it seriously…" (Manager of Documentation, Alexa)

A written integration process would have helped the integration leaders comprehend better and would have gained their buy-ins into what the Acquirer cross functional team was trying to execute on, as confirmed by the Manager of Documentation:
"…therefore, a formal plan in the future where leadership team comprehend and buy in will be a huge help…" (Manager of Documentation, Alexa)

The integration plan was built prior to Day 1, based on information shared by the clean team, and the Target Talia CEO. The Target's CEO controlled the information prior to Day 1, as stated by the Integration Manager:
"…the Target CEO said let's wait for the approval and you will find that then we will be much more open for these questions…" (Integration Manager, Alexa)

Negative Ambiguity: Lack of Acquirer's Integration Process as a Risk for Integration Failure

The absence of an Acquirer's integration process as mentioned above, refrained the integration team members from optimally executing the different tasks they planned to execute with negative outcomes on the business and lack of trust among the integration team members as mentioned above. This is a negative ambiguity within the Acquirer team which is in their control, and which could have hindered their integration team execution. An opportunity existed to create a written integration process and checklist, and to assess the cross functional impact of the Acquirer's integration actions being executed.

4.3.2.4.2 Communication Ambiguity: Ambiguity in Communication and Knowledge Sharing

(a) Internally among the Acquirer Integration Teams

The "clean team", consisting of selected key executives from Acquirer Alexa and Target Talia, worked together to orchestrate the acquisition process. The clean team had information that was intentionally not shared with the rest of Acquirer Alexa or Target Talia integration teams' members prior to Day 1. That was intentional and due to an agreement between both Acquirer Alexa and Target Talia executive leaders and Business Development team, restricting what information can and cannot be shared from any member of the clean team. Hence, most of the decisions and preparations to integrate at and after Day 1 were not based on all the available information at both sides. The Acquirer integration team members were expected to make decisions in many cases without the additional important information that was helpful for them, and which were available within the Acquirer integration team but was not shared with them. Such limitations were related to the acquisition clean team process and the non-disclosure-agreement (NDA) signed with the Target. However, bringing a function late in the process and providing it with details that risked exposing the Acquirer to binding expectations from the Health Authorities was a struggle to manage as stated by the Director of Regulatory Affairs:

"…I was brought late into the discussion on how we are dealing with the rerouting and now the letter given to the health authorities in that country is not accurate and need to be changed…" (Director of Regulatory Affairs, Alexa)

Negative Ambiguity: Omitting Business Functions caused self-inflicted Acquirer's Negative Ambiguity

In the integration process, the Acquirer team inadvertently created self-inflicted negative ambiguity by not including certain critical functions in the integration decision-making process. This exclusion led to gaps in understanding and coordination as key departments, such as the Regulatory Affairs, were not adequately consulted. There was a risk requiring a quick mitigation as stated by the Director of Regulatory Affairs on a subject pertaining to information shared with the USA Health and Drug Administration (FDA):

"…we may be in trouble if we do not abide with what we had on the letter…" (Director of Regulatory Affairs, Alexa)

Consequently, essential insights and expertise were missing, resulting in inefficient integration activities. This internal ambiguity further complicated the integration efforts, by triggering a potential noncompliance risk with an earlier commitment from the Target with the USA Health and Drug Administration (FDA).

(b) Between Acquirer Alexa and Target Talia in the initial few months of the integration

Acquirer Alexa managed to keep Target Talia integrating leaders out of the loop on communication updates after the takeover (after Day 1) for a period of about four months. The purpose was to keep communication and data sharing limited to gather as much information from the Target during the period of about the first four months. Acquirer Alexa senior executives encouraged an improvement in the communication and updates with the Target Talia, when the Target managers knew about update meeting in which were not involved in. However, there was no commitment on communication by the integration leaders on both the Acquirer and the Target side, so there were variations between leaders on to what extend to communicate and share details, as stated by the Acquirer's VP of Finance sitting for the Integration manager:

"…people at Target did hear that they were out of the loop. We should go out of our way to talk to the functional areas and keep them informed of what is going on…" (Vice President of Finance sitting for Integration Manager, Alexa)

This was an induced ambiguity by the Acquirer to keep things moving forward in the integration and without having the Target representative join the weekly update meetings.

Positive Ambiguity: Acquirer Controlled Target Access to Meetings Updates

The Acquirer's integration team was facing several ambiguities and challenges as mentioned in this research, requiring them to bounce ideas to reach resolutions. Since these resolutions could be perceived negatively by the Target, the Target was not invited to the update meetings. Also, there were details discussed related to budgets and achieving synergies that the Acquirer did not want to share with the target. Another reason was that several of the Target team members were retained to a certain period varying from one month to one year, hence, the Acquirer team judged that it was not making sense to have some of the employees departing join the communication update meetings.

Negative Ambiguity: Target Refrained from Proactively Providing Solutions

The Target's absence in meetings updates for the first four months after Day 1, and consequently not being in the picture on what the Acquirer team had been struggling to find solutions for, missed providing the Acquirer with proactive and valuable information. Such missed information could have been important to have avoided issues such as the one related to the order management processes mentioned earlier.

Positive vs. Negative Ambiguity: Acquirer's versus Target's Involvement in Meetings Updates

It can be concluded that there were reasons of why the Acquirer refrained from inviting the Target into its communication update meetings, which led to the Target not sharing important information with the Acquirer. Also, important to note that the Target did not always want to intentionally refrain from sharing information, but it just did not know that these details were being reviewed by the Acquirer. It was a missed opportunity to improve on this ambiguity. A communication meeting between the Acquirer and the Target, with a defined agenda in which sensitive subjects such as budgets and synergies were not discussed, was a potential improvement solution. That would have helped address and clarify important communication and minimize negative ambiguity from the start. Another important point common to findings mentioned earlier, was that in this case here the goal of the Acquirer was mainly to not share details related to budget and synergy and not be exposed about issues the Acquirer team was still sorting out. However, the Target integration team were not seeking information about budget and synergies, and the meeting updates that they joined about four months later did not have any discussions related to budget and synergy. Hence, a discrepancy in the goal of attending meetings between both the Acquirer and the Target. This was a missed opportunity to bring both parties together to help resolve issues that were important to resolve for both sides and improve on the ambiguities such as the order management example discussed earlier and remove from the agenda the subjects that were sensitive.

4.3.2.4.3 Operational Integration Model Ambiguity: Ambiguity to Integrate Global Satellite Offices

Both head offices of Acquirer Alexa and Target Talia were in the USA. However, there were variations between both companies' international offices' locations, processes and procedures which were not discussed or reviewed prior to the start of the integration. As stated by the Acquirer Integration Manager:

"…I need to loop back with the Target CEO prior to deciding about International…" (Integration Manager, Alexa)

Hence, the integration team had to assess each country's offices after Day 1 and decide quickly on which office to shut down and/or merge between the Acquirer and Target international offices. To

that extent there were variations in performances and local expectations requiring a thorough analysis to avoid for example a double payment, as stated by Acquirer Alexa's former President:
"…Europe is different so it may be critical to look at the retention to avoid triggering a dual payment…" (Former President, Alexa)

Negative Ambiguity: Acquirer's Lack of Best Approach to Integrate Global Satellite Offices

On Day 1, and until about two weeks after, the Acquirer's integration team did not have a clear path to proceed with, to integrate international satellite offices and achieve synergy as defined earlier by the Acquirer's integration leadership. The Acquirer had established satellite offices globally with key employees managing its business there. To achieve synergy and reduce cost, the Integration Team needed to reduce expenses and merge offices in a same country. However, this was not a discussion that could have been shared immediately with either the Target or the Acquirer satellite offices. One reason was the one mentioned above i.e., not knowing which way to proceed, but the other main reason was that the Integration Team did not want to risk having either the Acquirer or the Target employees get wind of the plan, depart from the office and as a result face a struggle lacking the expertise to help with the assessment and the development of the integration plan.

Negative Ambiguity: Target Ignorance of Acquirers' Approach to Integrate Global Satellite Offices

There was no communication with the Target satellite offices until after Day 1 and they were informed that the Acquirer Integration Team would do an assessment and would let them know about the decision and the plan to move forward. This lack of clear guidance created significant challenges in aligning efforts and coordinating integration strategies, ultimately hindering the team's ability to effectively develop and execute on an integration plan.

Negative Ambiguity Turned to Positive Ambiguity: Shared Opportunity for Acquirer and Target

This negative ambiguity on the Acquirer's side and on the Target's side mentioned above, required both sides after Day 1 to take a deep dive in assessing each satellite office globally, i.e., outside the USA where both the Acquirer's and Target's head offices were located, and decide how they would move forward with the integration. Both the Acquirer and the Target evaluated what was best for both sides respectively in each country where they had presence. In regions of the world where the Acquirer's satellite office was very well established compared to the Target's satellite office, the decision was to keep the Acquirer's satellite office and gave the Target employees the opportunity to move and join the Acquirer's satellite office. In few other global regions, the Acquirer's satellite employees were given the opportunity to move to the Target's satellite office and made the Target's satellite office as the main and only office in that country. The Acquirer turned this negative ambiguity to an opportunity by engaging the Target with an open and transparent sharing of goals to integrate the international satellite offices. This was an example of a negative ambiguity that was turned to a positive ambiguity, hence turned to an opportunity, by engaging the Target in the decision making and assessment of the global satellite offices after Day 1. Important to note that in the regions where the Acquirer's office was sacrificed in favor of keeping the Target office some employees on the Acquirer's side left the Acquirer. That is true as well vice versa. This action showed the Target that the Acquirer was focused on the wellbeing of the business and was taking the best decisions for both sides and to drive a successful integration.

4.3.2.4.4 Technological & Systems' Ambiguity: Ambiguity in System Applications Compatibilities and their integrations

There were variations in the systems and tools that Acquirer Alexa used versus what Target Talia used and the ways these systems were used. As a result of these variations the integration team had different options to bring these systems together due to differences in platforms and compatibilities. Target Talia had old IT systems that Acquirer Alexa did not have the expertise for, hence there was a pressing reason to find a solution to link the systems of Target Talia and Acquirer Alexa in a way or another, as soon as possible. However, despite those facts, Acquirer Alexa needed time to understand what Target Talia process and systems were, to decide which approach were best to use as stated by the Integration Manager:

"…we have different models to integrate the systems…" (Integration Manager, Alexa)

The Acquirer integration team had few options to use based on their previous experience integrating other companies. One of the models that the Acquirer's integration team could have used was a model that they had executed with another medical equipment acquisition in the past, as stated by the Integration Manager:

"…we can use the standalone model, like our sister company that we acquired and left where it is, and they are running their own business successfully…" (Integration Manager, Alexa)

The second option was to integrate using a model like an Information Technology company the Acquirer integration team had integrated in the past, which used a subscription model as commented by the Integration Manager:

"…or we can integrate the IT systems like our IT data division…" (Integration Manager, Alexa)

The third option was to use intercompany transactions like another Acquirer's sub-division that was integrated in the past, as stated by the integration manager:
"…the third option is like our 2nd sister company from which we bring parts to our site, i.e., inter-company transactions with systems…" (Integration manager, Alexa)

The fourth option was to integrate the systems to drop ship from supplier, as mentioned by the Integration Manager:
"…like our sister unit that we acquired which manage subscriptions, and pass-through distinct inventory at the acquirer head office site..." (Integration Manager, Alexa)

However, despite previous experience in integrating acquired systems, it was unknown which path to take, on the one hand it was unclear whether the expertise at the acquirer integration team were enough to lead such integration, and on the other hand who to retain for this particular purpose on the Target side. That required brainstorming on the approach to integrate the systems as stated by the Acquirer VP of Operations:
"*…we need to pull a team together to go figure out what we need to cover the process of entering orders. Then we will decide if we go with a light approach or full approach for our system application integration…" (Vice President of Operations, Alexa)*

Several Acquirer integration leaders identified that IT system integration was the bottle neck as stated by the Manager of Documentation:
"…There is installed base, service parts, and order-to-cash and there is procure-to-pay. The first is the collection of money. We need to bring both together. IT is the bottleneck resource…" (Manager of Documentation, Alexa)

That was because of the various ambiguities on how to move forward with which approach and systems and the availability of resource expertise. It was because of the limitation of information available prior to Day 1 from the Target's information technology expert, as stated by the Acquirer's VP Finance:
"…they have an IT person so we will as a priority connect with him and see what reports he has. However, System application will not be ready as of Day 1…" (Vice President of Finance, Alexa)

Negative Ambiguity: Acquirer Lack of Knowledge about Target's Applications and Compatibilities

The Acquirer's lack of knowledge about the Target's information technology systems, and applications, their compatibilities, and the way they would have integrated with the existing information technology systems the Acquirer had, were of a great risk to keep the Target's business operational. The Target had a key information technology subject matter expert who decided to leave the Target soon after Day 1. That left the Acquirer integration team with struggles on how to integrate the programs. The Acquirer pushed a light version approach in integrating system but ended up needing to include farther more resource from its side due to the complexity and the cross functional impacts on performance, revenue and customer's satisfaction.

Negative Ambiguity: Target Lack of Knowledge about Acquirer's Applications and Compatibilities

The Target team was not aware of the Acquirer's systems and rules and how that would have impacted their day-to-day activities to continue to run its business. The Target team was very engaged after Day 1 to work closely with the Acquirer integration team, however it was not clear to them initially at Day 1 until couple of weeks after, how the Acquirer was going to integrate their systems, and which model the Acquirer's team had decided on running as described above.

Negative Ambiguity to Turn to a Positive Ambiguity: Opportunity through Discussion Earlier than Day 1

In this integration, both the Acquirer's and the Target's honest and end-goals were to make sure both would continue to run their businesses. Also, the compatibilities of the information technology systems, the rules behind them, and all the details surrounding them would have had minimum to no impact on the decision to acquire or not the Target. However, the impact of a successful and quick integration of the systems was imperative to continue to run the businesses successfully. This risk was considered by the Acquirer team a high risk to successfully continue to run the Target's business. However, it had low to no impact on the decision of whether to proceed with the acquisition or not. Hence, there is an important opportunity to reduce this negative ambiguity on both the Acquirer and Target side, change it to a proactive cooperation early in the integration process, and perhaps even earlier than Day 1. That would have helped both sides come closer to work together on successfully integrating the systems and their applications early in the integration phase. Important to note that there was no animosity between the Acquirer and the Target information technology resources. Each side was hoping to get the best for its employees and to keep its business running flawlessly. In this situation and environment, a closer and earlier collaboration would have been of a great benefit for both sides and would have enabled success in the speed of systems' integration, versus facing delays and revenue misses due to systems incompatibilities.

4.3.2.4.5 Un-Represented Role Ambiguity: Ambiguity in Decisions due to Un-Represented Functions

As orchestrated between Acquirer Alexa and Target Talia clean team members, not all functions were included in the clean team. As a result, several functional leaders did not have the opportunity to chime in and share their knowledge, their advice, and key areas impacting how to move forward. Examples of these functions were technical service and regulatory affairs as stated by the Acquirer's Director of Regulatory Affairs:

"…I was brought late into the discussion on how we are dealing with the rerouting…" (Director of Regulatory Affairs, Alexa)

This statement was related to a process that should have been followed with the health authorities, otherwise Acquirer Alexa would not be able to ship Target Talia products. There were several functions as mentioned earlier like regulatory affairs not included in the clean team. Their presence would have addressed misses such as medical licenses registrations which were related to their respective functional expertise.

Due to large-company's self-trust, Acquirer Alexa integration team did not include Target Talia key functional leaders in the integration discussions and planning and implied its own process strategy leading to unwanted delays in shipments. The integration team mostly formed by Acquirer Alexa leaders and internal resources planned the integration based on what they know at that moment in time prior to Day 1. After Day 1, Acquirer Alexa integration team members reached out to Target Talia teams and employees in an exploratory way to understand Target Talia business and processes and were approached and asked to share those details. Target Talia's teams were not included in the weekly update meetings until over two months following Day 1. Hence, several risks were introduced which caused delays and unplanned holds on customers' orders and shipments, as stated by the Acquirer's Manager of Documentation:

"…we ended up with 100s of accessories orders that we can't ship out …" (Manager of Documentation, Alexa)

The reason as stated by the Acquirer's Manager of Documentation, were due to the Acquirer's biased self-trust as a large organization compared to the Target, and as a result taking decisions in silos on behalf of the Target's team:

" …we are a large company so we are changing things with blinders without thinking how these changes will impact downstream or upstream our processes i.e., suppliers or customers…" (Manager of Documentation, Alexa)

Some of the projects that should have been decided on by the Target were decided on ahead of time by the Acquirer's integration team, as stated by the Manager of Documentation:

"The VP of operation is leveraging resources at Acquirer to do project ahead of the Target. However, these changes needed to go through the Target side…" (Manager of Documentation, Alexa)

Negative Ambiguity: Omission of Acquirer's Functions in the Preparation for the Integration

The Acquirer clean team unintentionally missed including several functional leaders in the preparation for the integration process such as Technical Service and Regulatory Affairs as mentioned above. This lack of representation led to struggles in keeping the Target business running flawlessly. This ambiguity increased the risk of failure for the Acquirer integration team. Using a defined and vetted integration process should have captured such a flaw and would have made sure all functions were represented to reduce ambiguity and minimizing risk and impact on the integration.

Negative Ambiguity: Target's Functions Omitted due to Strong Acquirer Self-Trust

The Acquirer integration team had strong biased self-trust on how to run the business, so it implied its processes and rules on the Target. These decisions led to several challenges such as the missing of shipment example provided above. A defined checklist in the integration process to cover the process areas where there were discrepancies between both the Acquirer and the Target would have turned this negative ambiguity to a positive ambiguity in which both parties were involved to find the common goal of keeping things working well, hence an opportunity for collaboration.

Defining a Process Reduces Occurrence of Negative Ambiguities due to Omitting a Function

Both ambiguities above, even that they were not related directly, they were however related to a misrepresentation of a certain function leading to a potential risk. Both would have benefited from having a defined process where all functions needed for the integration processes were represented and in due time, but it was not confirmed whether a defined process would have mitigated both negative ambiguities. This is an opportunity to be researched, but it is outside the scope of this research.

4.3.2.4.6 Causality Ambiguity Introduced with Silos in the Integration of Business Functions

Each Acquirer Alexa functional leader focused and delivered updates on the area pertaining to that leader's team and function, but there was no team reviewing cross functional integration implications. For example, the team did not review how a system in IT integration is going to impact a function in shipping as stated by the Manager of Documentation:

"…we look into integration as a system integration and not business integration…" (Manager of Documentation, Alexa)

Many of the systems were analyzed and assessed individually versus cross functionally. As a result, the impact of one system on another was not assessed in detail as stated by the Manager of documentation:

"…like the system application integration, we did not look into the business: the system application LITE, the System Application complete, and the Documentation application database and finances are all business integration cross functional…" (Manager of Documentation, Alexa)

The integration team held weekly meetings with various integration functions to provide feedback and updates on their integration. However, the periodic weekly reviews did not assess the overall impact to the business i.e., how a decision in a certain area was going to impact the over whole business, as stated by the Manager of Documentation:

"…we sit in the update meeting, and we talk about the individual functions. It is a business process. We talk about our functions, but we are not talking about the business..." (Manager of Documentation, Alexa)

The struggle was that the business ended up being assessed only in its siloed functions causing a lack of continuity in the integration of solutions and that caused incompatibilities, risks and missed opportunities, as stated by the Acquirer Documentation Manager:

" …that is the major issue at the end. That is how the value flows, from the process and we are not looking into that, therefore, we need an over whole plan and strategy..." (Manager of Documentation, Alexa)

Negative Ambiguity: Cross-Functional Causality Outcome Not Explored

The Acquirer's integration leadership's focus was making sure the various functions involved in the integration activities were progressing successfully in their respective functional integration. This ambiguity was not intentionally introduced by the Acquirer's integration leadership, but it was a passive oversight that had unwanted impact as described above. Two months after Day 1, the integration's manager started requesting the different functions to report on how their activities were impacting other functions. The research did not assess though whether this reporting did help reduce the ambiguity. The research did not explore what was this ambiguity's impact on the Target's functions. However, it would have helped having proactively an integration process that determined what integration activities and decisions would have impacted cross-functional activities and reported on them from the beginning of the integration.

4.3.2.4.7 Process Ambiguity: Ambiguity in Projects Executed in Series vs in Parallel and Vice Versa

There were different projects and action items identified and executed in a sequential way i.e., in series versus executing these projects in parallel. Other projects were executed at the same time versus running them in series, as stated by the Acquirer Manager of Documentation:

"…there is installed base, service parts, and order-to-cash and there is procure-to-pay…We need to bring both together…instead of running in series, we could have run in parallel…" (Manager of Documentation, Alexa)

Hence, running two projects simultaneously, while they could be combined into one project from the get-go, introduced additional efforts and risks in the long run as stated by the Acquirer Manager of Documentation:

"…having two projects on system integration, i.e. a Lite version and a full version did hurt us a lot…" (Manager of Documentation, Alexa)

Struggles included several delays as stated by the Acquirer Manager of Documentation:

"…we burned a month and a half of the lite version implementation…" (Manager of Documentation, Alexa)

These struggles were in part due to the absence of scope and project plan detailing how these projects align and integrate with each other, as stated by the Manager of Documentation:

"…no scope, no project plan…and I am trying to bring the documentation Database live as of April 1st and this feed into the system application and they feed with each other and there is no team on the system application, and nobody is looking into that…" (Manager of Documentation, Alexa)

While on the other side running projects in parallel which they had been already identified to be run in series could have led to a better outcome, as stated by the Acquirer Manager of Documentation:

"…IT is the bottleneck resource. We could have prepared for January 1st, we could have settled parts, suppliers, etc. in parallel of the system integration and instead of running in series, we could have run in parallel…" (Manager of Documentation, Alexa)

Hence, the causal ambiguity of the impacts and outcomes of running projects in series versus in parallel and vice versa and how each project impacted the outcome of another integration project introduced delays and risks. Those delays and risks could have been avoided by having a detailed project plan and scope for each project. Those projects and their stakeholders would have been analyzed as part of the risk registry of each project.

Negative Ambiguity: Lack of Optimized Execution of Cross-Functional Projects Integration

The Acquirer's integration team focused mainly on tasks and functional activities versus focusing on the whole business impact, as stated in previous points. However, there were several areas such as the example mentioned above, i.e., the entire flow of (a) order management, (b) order execution, and (c) order billing, where the projects where cross-functional from the get-go and the integration team was aware of those. However, these projects, were not executed together in an optimized way. The reason was that the integration team focused on the functions versus reviewing what can be executed simultaneously to minimize delays and induced roadblocks due to other projects outcomes not yet ready. The critical paths as defined by the Project Management Body of Knowledge – PMBOK (*The Standard for Project Management - Knovel*, 2021) for each of these projects and how they impact the whole integration project activities were not assessed.

Negative Ambiguity to be Avoided: Embrace the Use of Project Management Approach and its Critical-Path Method

The critical path method of the PMBOK would have highlighted how the impact of one integration functional or cross functional project would have impacted the progress of another project. The project management approach was lightly used at a high level where general risks were identified as part of the due diligence, scheduling was progressing well, however when it comes to the execution of projects, the PMBOK approach of projects was not embraced. The Acquirer's integration team had not certified Project Managers Professional (PMP) applying the PMBOK project processes, nor trained on the PMBOK approach. That would have helped anticipate and eliminate ambiguity created by silos and unoptimized execution of such projects without the critical path method, which would have helped highlight delays when they occurred.

4.3.2.4.8 Leadership Goals- Focus (Process) Ambiguity: Focus on Certain Goals Introduced Risks on Other Functional Areas

(a) Focus on Sales and Financial Aspects and Outcomes

Acquirer Alexa executives stressed the importance of two key areas to make sure they were well managed. They wanted to make sure synergy i.e., savings and financials were well controlled and that the company would have been able to push out orders to customers with no interruption. The team was asked to keep finance team updated as stated by the Acquirer's VP of Business Development:

"…we need to keep Finance involved in our decisions. Because the deal is not dependent on what we decide to do with the brand, but we need to know what we are going to put on our financial sheets…" (Vice President of Business development, Alexa)

That was the direction given to the integration team to execute as stated by the Acquirer Manager of Documentation:

"…order-to-cash and nothing beyond that. We could have better representation on the team. We were finance and sales focus but no representation from quality assurance etc.…" (Manager of Documentation, Alexa)

Acquirer Alexa integration team was asked to focus on achieving monetary synergy by cutting cost, as asked by the Acquirer Integration Manager:

"…we assumed we can reduce that (talking about operating expenses) *by 70% i.e., $8M. if we close 2020 we want to be operating at a run rate of 8M. This seems a big number, it is…" (Integration Manager, Alexa)*

As stated by the Acquirer's Integration Manager, assumptions were used to ask the integration team to cut operating expenses by 70% as part of the integration effort. Those assumptions were based on the due diligence efforts and financial analysis executed prior to Day 1.

(b) Focus on Integration Speed vs. Sustaining and Optimized Long-Term Process

Acquirer Alexa advised the integration team members to proceed with the integration at high speed to realize synergy, if possible in 90 days. This is why the speed of execution was a driver as stated by the Acquirer' Manager of Documentation:

"…we did a quick method by doing a subset instead of bringing all items and selecting their subsets to bring them into the documentation application Database…" (Manager of Documentation, Alexa)

The integration team voiced their concerns to Acquirer Alexa senior executives but were asked to keep executing as planned, as stated by the Acquirer Manager of Documentation:

"…we brought sales numbers…and were asked to focus on these things and we said these will hurt us in 3 months from now and was told just keep doing it, don't ask questions…" (Manager of Documentation, Alexa)

Negative Ambiguity: Top-down Execution Direction

The Acquirer's integration leadership provided direction such as importance of speed and financial goals, to move forward with the execution. However, those directions were not always the best. In some cases, as mentioned above, they introduced risks especially when the Acquirer execution team voiced their concerns to the Acquirer's leadership. However, they were told to keep moving with the direction provided. On the other side, the Integration execution team did not go beyond just mentioning on the fly to the Integration Leadership what were their concerns. The research was unable to zoom on the communication that took place to highlight and communicate those risks and concerns, the mean on how they were communicated, and who was the receiving audience. Also, the research did not check with the Integration leadership about their opinion on the communication received about this subject.

Negative Ambiguity to be Avoided: Improve on Communication and Sharing Business Cases

It was not clear from the comments received and mentioned above that the communication did highlight enough the importance and seriousness of the struggles and risks communicated to the Integration leadership. The Integration leadership was not close to the day-to-day activities being executed by the Acquirer Integration Team and was relying on the Integration Team to execute. It was not clear whether the Integration Leadership would have reacted differently if the communication would have been improved, such as using a business case, or lessons learned from previous integrations to make the argument stronger.

4.3.2.4.9 Critical-Data Sharing Ambiguity: Ambiguity in Communication of Potential Known Failures

There was an absence of a reporting mechanism to identify what was not working. During the weekly update meeting, each function reported on the integration progress of its function. Later, i.e., after several months, the Integration Manager asked to add a weekly update feedback from each functional leader involved in the integration to provide feedback on how their respective functions impact other functions. However, there was no report on what was not working in the ongoing integration so it can be dealt with, as stated by the Manager of Documentation on this subject:

"…we did not have a reporting mechanism that identified that…" (Manager of Documentation, Alexa)

When the team met to provide an update, they were not asked to identify what struggles they have been facing. They were trusted and left to solve the struggles while other functions that may be impacted were not aware of the concern, as stated by the Acquirer Manager of Documentation:

"…for Customer service, they placed the order and now there is a stuck situation between Customer Service and shipping and we found that many orders were caught in a reactive mode, which we did not know about them…" (Manager of Documentation, Alexa)

Negative Ambiguity: Acquirer's Missed Process Optimization due to Ignoring Target's Feedback Consideration

The Acquirer's integration team were not asked to provide details on failures or challenges. The concern highlighted in the examples above were identified in a reactive mode way later. Hence the effort to fix the concerns observed escalated which brought delays and customers' dissatisfaction.

Negative Ambiguity: Target Holding-Back on Communicating its Process Struggles

The Target team did not have a team engaged in reporting what is not working in the process. A broken process like the shipping challenge in the example above, should have been identified on the spot using reports and analytics.

Negative to Positive Ambiguity: Optimization of Processes and Joining Efforts

The Acquirer integration team as well as the Target team, as mentioned in earlier points above wanted to make sure the businesses are operating flawlessly. Hence, optimizing the process by running simulations, engaging the Target team, and rely on reports and data point check could improve on the ambiguity of communication leading to critical failures.

4.3.2.4.10 Contractual Ambiguity: Ambiguity in Supporting Legacy Products

Target Talia had legacy products and agreements with third party companies, manufacturers and distributors that were long ago being considered end-of-life or end-of-production. However, these products needed support such as report on failures, recalls, etc. to comply with the various health authorities' guidelines and requirements. Those products did not have any owner in the integration team to bring them over into the Acquirer's system during the integration phase, as stated by the Acquirer Manager of Documentation:

"…all the legacy products brought in don't have owners internally…" (Manager of Documentation, Alexa)

This subject's priority was not high and could have benefited from being on an integration subjects' checklist. This type of ambiguity, discussed as contractual ambiguity among Case 1 integration team, was encountered, but no corresponding references or comprehensive discussions addressing this specific type of ambiguity in M&A were identified in the existing literature. The absence of discussion in the literature on how ambiguous contractual clauses may impact M&A outcomes and integration processes underscores the need for further investigation.

Negative Ambiguity: Lack of Focus on Target's legacy products' Support and Obligations

The Acquirer's integration team did not prioritize the focus on the Target's legacy products, which introduces a challenge in the Acquirer's obligations of mandatory reporting to health authorities and notifying bodies. The other challenge was to continue supporting the existing installed base of customer's products. Lessons learned and an integration process would have avoided this negative ambiguity.

4.4 Summary of Chapter 4

This chapter discussed the findings of the first acquisition labeled as Case 1 through a focused ethnography approach that gathered the details from meetings' summaries, meetings' narratives and discussions, meetings' notes, presentations, and updates. It also highlighted the presence of a paradoxical ambiguity between the Acquirer and the Target fueled by tensions and suggested that common goals and shared risk could be the opportunity for a proactive approach between both parties to reduce paradoxical ambiguity. The next chapter analyzes, also with a focused ethnography approach, the second acquisition' case analysis, labeled as Case 2.

CHAPTER 5: Findings of Case 2 – "Mia's" Acquisition of Tomika

5.1 Introduction

This chapter explores the second case study named Case 2, extending the investigation into the research questions set out in the thesis (see Section 1.4). Conducted in a similar manner to the first case study, Case 2 focuses specifically on paradoxical ambiguities, offering a nuanced perspective on how these complexities develop and can be managed within M&As. The chapter begins with an overview of the data collection process, detailing the setup and integration phases tailored to this case. It then presents the findings from the focused ethnography, followed by a comprehensive data analysis. By comparing the results of this case study with those of the first, this chapter provides a richer understanding of the broader themes of ambiguity in M&As, thereby enhancing the thesis's theoretical and practical contributions.

5.2 Background of Data Collection

5.2.1 Preparation for the 1st Day of Integration

The data collected and coded covered partially the due diligence phase and all the integration phase which were phases 3 and 4 discussed in the literature review (see Section 2.2.4). The discussion of the deal was orchestrated by the Business Development team of the Acquirer Alexa, the President of the Acquirer Alexa, and the CEO of the Target Tomika. There was no "clean team" such as in the case of the Target Talia acquisition, and the CEO of Target Tomika was open under the nondisclosure agreement (NDA) with Acquirer Alexa to facilitate the communication between the different members of Acquirer Alexa acquisition team and their respective counterparts of Target Tomika. The various vice presidents of Acquirer Alexa formed teams from their functional direct reports to follow up on the various and respective functional needs of the integration. A shared drive was used to input and share details required from Alexa acquisition team. The various leaders of Alexa acquisition team members were allowed to visit target Tomika production and assembly site. Following the acquisition public announcement in 2019, Target Tomika's CEO was thanked for his good work and was not retained by the Acquirer Alexa. The retention of key employees helped Acquirer Alexa to sustain the operation of Target Tomika on the acquisition Day 1.

5.2.2 Setup for Data Collection

Acquirer Alexa had one main strategic aim from the acquisition of Target Tomika, which was to extend its portfolio offering to incorporate additional features for the end user. The goal was to broaden its portfolio of the product offered to the public sector market which was one of the four main market channels Alexa operates in. By adding the Tomika's products to Alexa's portfolio of product it will give its Sales representatives a diversified portfolio to offer to the customers which will put Alexa ahead of any other competitors offering a diversified list of products to the same public sector end user. Target Tomika was lacking strong market penetration in North America and was absent from the global market. Target Tomika was looking for a better distribution solution, hence it found it interesting to tap into a larger organization distribution opportunity such as Acquirer Alexa's global and well-established distribution channels. On the cost side, Target Tomika did not have enough volume orders from its suppliers compared to Acquirer Alexa, hence it did not have strong negotiation strains to pull with its suppliers. The acquisition would give Acquirer Alexa the portfolio diversity, while it will allow Target Tomika to get better negotiated cost from its suppliers and will have access to a vast distribution channel globally. However, Acquirer Alexa was not looking for a merger or a partnership but was looking forward to acquiring target Tomika's assets. For this reason, Acquirer Alexa leadership presented a non-negotiable deal to Target Tomika with a strong position of take-it or leave-it. Target Tomika did accept the acquisition deal.

Acquirer Alexa had several main objectives for the due diligence and integration phase. The first objective was to understand what the acquired asset risks are, and work on mitigating them. The second focus was to hit the ground running with distribution on Day 1 post acquisition and improve on profitability through the reduction of cost through their large established suppliers. Hence, the data collection discussed next is from meetings, and interviews that happened during the due diligence and after the agreement was signed between Acquirer Alexa and Target Tomika to move forward with the legal and government clearance leading to the final signature until when the Acquirer Alexa considered that the integration can be called a success.

5.3 Focused Ethnography Findings

5.3.1 Introduction

The ambiguities identified in the integration of project Xia are related to various reasons across the five different categories of ambiguities identified in the literature review. These reasons were (1) Weakness in resources management and planning; (2) Weakness in identifying Cause-Effect Relationship in Distribution Post-Acquisition; (3) Weakness in Forecasting and Revenue Outcomes; (4) Weakness in communication; (5) Lack of Clarity in Implementation and Technical Processes; (6) Lack of Clarity in Product Design Process and Documentation; and (7) Weakness in

Acquisition Communication and Process Clarity. These were the root causes behind the ambiguities that were detected during the integration activities as discussed next in this chapter.

Table 5.1 summarizes where a positive or negative ambiguity has been detected on either the Acquirer side and/or Target side, and what have been the main ambiguities categories (as discussed in Chapter 2, see Section 2.5.3) and their root causes.

Table 5.2 summarizes the list of ambiguities found in Case 2 with details on triggers from either the Acquirer or the Target side, whether there was a paradox in the ambiguities detected, and the suggested opportunities to improve outcome. The cells shaded in grey are the areas where paradoxical ambiguity was detected. Based on these, later the research proposes practical opportunities to reduce negative ambiguity and increase opportunities where common goals and priorities existed (see Section 7.2.4).

Table 5.1: List of Ambiguities Found in Case 2 with Categories and their Root Cause

List of Ambiguity Found and Discussed in Focused Ethnography Observations	Details of (+) or (-) Ambiguity	Categories of Ambiguity	Root Cause Categories
5.3.2.1.1 High-Tech firm resource ambiguity: Acquirer's integration team faced ambiguities around Target resources skills and potential, making the decision who to retain very difficult	Negative Ambiguity on the Acquirer side: Integration team did not know which resources to retain	Human Resource (HR)	Weakness in Resources planning and management
	Positive ambiguity from target's side: Target delayed sharing contracts information and job descriptions for several of their employees making it difficult to the Acquirer to do a job matching with its resources, hence a delayed decision on who to retain.	Human Resource (HR)	Weakness in Resources planning and management
5.3.2.1.2 Human Resource Ambiguity: ambiguity of pay integration: ambiguity about the process to compensate Target's employees post-acquisition	Positive ambiguity from Acquirer: Alexa's acquisition team did not share details about this decision with Tomika's management	Human Resource (HR)	Weakness in Resources planning and management
	Negative ambiguity from Target: Target shared that they have independent sales representatives and kept the plan on how they are being paid ambiguous to avoid/delay possibility of sales representatives' layoffs	Human Resource (HR)	Weakness in Resources planning and management
5.3.2.2.1 Organizational Role ambiguity: ambiguity of Target's family members new identity in the Acquirer firm (same as section 5.2.1.4.3)	Positive ambiguity from Target: protect its interest and avoid exposing family relationships and lack of processes (same as section 5.2.1.4.3)	Organizational Ambiguity (O)	Weakness in Resources planning and management
	Negative ambiguity for the Acquirer: Acquirer acquisition team struggled to get the details needed to proceed with the integration of the Target respective product's processes of manufacturing, logistics, suppliers, and storage (same as section 5.2.1.4.3)	Organizational Ambiguity (O)	Weakness in Resources planning and management
5.3.2.3.1 Causal ambiguity between integration decisions and outcomes post-acquisition: Changes in distribution model and impact to profitability (a) Ambiguity about distribution changes such as choice of supplier and price change and relationship to increase in sales and profit post-acquisition	Negative Ambiguity on the Acquirer side: Acquirer Alexa Integration team did not know how distribution changes post-acquisition will impact Acquirer Alexa's revenue and profit post Day 1	Goal Ambiguity (G)	Weakness in identifying Cause-Effect Relationship in Distribution Post-Acquisition
	Positive ambiguity from target's side: Target refrained from sharing historical data about credits issued to its distributors due to a lack of Sales to maximize revenue forecast	Goal Ambiguity (G)	Weakness in identifying Cause-Effect Relationship in Distribution Post-Acquisition
5.3.2.3.1 Causal ambiguity between integration decisions and outcomes post-acquisition: Changes in distribution model and impact to profitability (b) Ambiguity about Marketing strategy post-acquisition and relationship to increase in sales and profit post-acquisition	Positive ambiguity from Acquirer's side: Acquirer was ready to move forward with a speculative price increase to continue to enable the acquisition efforts to move forward	Goal Ambiguity (G)	Weakness in identifying Cause-Effect Relationship in Distribution Post-Acquisition

	Negative ambiguity from target's side: Target's CEO was willing to change their product Software's price structure to be aligned with what Alexa's acquisition team was exploring to do but without sharing the details on why the Target refrained from executing this change in the past	Goal Ambiguity (G)	Weakness in identifying Cause-Effect Relationship in Distribution Post-Acquisition
5.3.2.3.2 Outcome Ambiguity: Ambiguity about forecast and revenue	A negative ambiguity from the Acquirer side: questioning revenue forecast seemed aiming at deciding if the Acquirer would not proceed with the deal but without aim to obstruct the deal	Goal Ambiguity (G)	Weakness in Forecasting and Revenue Outcomes
	Positive ambiguity from the Target side: keep revenue's negative correction such as unforeseen credits ambiguous to continue to reflect higher revenue and continue to drive an appealing acquisition opportunity for the Acquirer	Goal Ambiguity (G)	Weakness in Forecasting and Revenue Outcomes
5.3.2.3.3 Outcome Ambiguity: Ambiguity of Sales strategy	Positive ambiguity from Acquirer: Acquirer was leading with many questions to clarify what strategy to deploy without sharing with the Target their questions	Goal Ambiguity (G)	Weakness in Forecasting and Revenue Outcomes
	Positive ambiguity from Target: details related to countries licensure not shared initially with Acquirer	Goal Ambiguity (G)	Weakness in Forecasting and Revenue Outcomes
5.3.2.4.1 Ambiguity of context: ambiguity about contracts clauses	Negative Ambiguity from the Acquirer: Acquirer team questioned any complaint related to the IP filing and potential risks	Process Ambiguity (P)	Weakness in communication
	Positive ambiguity from the Target: Target's team provided answers regarding IP patent but without the details that would expose issues	Process Ambiguity (P)	Weakness in communication
5.3.2.4.2 Ambiguity of communication: ambiguity about the Target product service after sales: Quality Management System (QMS), support, reporting, tracking, and product training	Positive Ambiguity from the Target seen as negative ambiguity from Acquirer: a potential to collaborate for common goal and risk reduction	Process Ambiguity (P)	Weakness in communication
5.3.2.4.3 Operational Ambiguity / technical ambiguity: ambiguity about the product manufacturing process, logistics, suppliers, storage, and support	Positive ambiguity from Target: protect its interest and avoid exposing family relationships and lack of processes	Process Ambiguity (P)	Lack of Clarity in Implementation and Technical Processes
	Negative ambiguity for the Acquirer: Acquirer acquisition team struggled to get the details needed to proceed with the integration of the Target respective product's processes of manufacturing, logistics, suppliers, and storage	Process Ambiguity (P)	Lack of Clarity in Implementation and Technical Processes

5.3.2.4.4 Ambiguity of product design process: ambiguity of design process, ambiguity of functionality, ambiguity of software application, and ambiguity of documentation	Positive ambiguity from Target: Target leadership responded that they were not software experts and focused on opportunities available in the future to improve the product software	Process Ambiguity (P)	Lack of Clarity in Product Design Process and Documentation
	Positive ambiguity from Acquirer: Acquirer acquisition team praised the Target leadership on their accomplished despite the fact that the Target product design process did not meet the Acquirer's expectations	Process Ambiguity (P)	Lack of Clarity in Product Design Process and Documentation
5.3.2.4.5 Ambiguity of communication: ambiguity about the acquisition process: whether to acquire an "entity" or the "asset" only of that entity	A negative ambiguity unintentional on both the Acquirer and target side: not knowing the type of acquisition i.e., to acquire an entity and its assets or just the entity's assets	Process Ambiguity (P)	Weakness in Acquisition Communication and Process Clarity

Table 5.2: List of Ambiguities Found in Case 2 with Details on Triggers, Whether there was a Paradox, and Opportunities to Improve Outcome

List of Ambiguity Found and Discussed in Focused Ethnography Observations	Details of (+) or (-) Ambiguity	Acquirer's Faced or Triggered Ambiguity? If Yes (+) or (-)? Triggered by Acquirer or Target?	Target's Faced or Triggered Ambiguity? If Yes (+) or (-)? Triggered by Acquirer or Target?	Paradoxical Ambiguity	Opportunity to Improve on Ambiguity?
5.3.2.1.1 High-Tech firm resource ambiguity: Acquirer's integration team faced ambiguities around Target resources skills and potential, making the decision who to retain very difficult	Negative Ambiguity on the Acquirer side: Integration team did not know which resources to retain	Faced (-) Ambiguity, Triggered by Target		Yes	Yes by sharing priorities and goals between Acquirer and Target
	Positive ambiguity from target's side: Target delayed sharing contracts information and job descriptions for several of their employees making it difficult to the Acquirer to do a job matching with its resources, hence a delayed decision on who to retain.		Triggered (+) Ambiguity, Triggered by Target		
5.3.2.1.2 Human Resource Ambiguity: ambiguity of pay integration: ambiguity about the process to compensate Target's employees' post-acquisition	Positive ambiguity from Acquirer: Alexa's acquisition team did not share details about this decision with Tomika's management	Triggered (+) Ambiguity, Triggered by Acquirer	Faced (-) Ambiguity, Triggered by Acquirer	Yes	Yes by sharing priorities and goals between Acquirer and Target
	Negative ambiguity from Target: Target shared that they have independent sales representatives and kept the plan on how they are being paid ambiguous to avoid/delay possibility of sales representatives' layoffs	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target		
5.3.2.2.1 Organizational Role ambiguity: ambiguity of Target's family members new identity in the Acquirer firm (same as section 5.2.1.4.3)	Positive ambiguity from Target: protect its interest and avoid exposing family relationships and lack of processes (same as section 5.2.1.4.3)		Triggered (+) Ambiguity, Triggered by Target	Yes	Yes by sharing priorities and goals between Acquirer and Target

	Negative ambiguity for the Acquirer: Acquirer acquisition team struggled to get the details needed to proceed with the integration of the Target respective product's processes of manufacturing, logistics, suppliers, and storage (same as section 5.2.1.4.3)	Faced (-) Ambiguity, Triggered by Target			
5.3.2.3.1 Causal ambiguity between integration decisions and outcomes post-acquisition: Changes in distribution model and impact to profitability (a) Ambiguity about distribution changes such as choice of supplier and price change and relationship to increase in sales and profit post-acquisition	Negative Ambiguity on the Acquirer side: Acquirer Alexa Integration team did not know how distribution changes post-acquisition will impact Acquirer Alexa's revenue and profit post Day 1	Faced (-) Ambiguity, Triggered by Target		Yes	Yes by sharing priorities and goals between Acquirer and Target
	Positive ambiguity from target's side: Target refrained from sharing historical data about credits issued to its distributors due to a lack of Sales to maximize revenue forecast	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target		
5.3.2.3.1 Causal ambiguity between integration decisions and outcomes post-acquisition: Changes in distribution model and impact to profitability (b) Ambiguity about Marketing strategy post-acquisition and relationship to increase in sales and profit post-acquisition	Positive ambiguity from Acquirer's side: Acquirer was ready to move forward with a speculative price increase to continue to enable the acquisition efforts to move forward	Triggered (+) Ambiguity, Triggered by Acquirer		Yes	Yes by sharing priorities and goals between Acquirer and Target
	Negative ambiguity from target's side: Target's CEO was willing to change their product Software's price structure to be aligned with what Alexa's acquisition team was exploring to do but without sharing the details on why the Target refrained from executing this change in the past	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target		
5.3.2.3.2 Outcome Ambiguity: Ambiguity about forecast and revenue	A negative ambiguity from the Acquirer side: questioning revenue forecast seemed aiming at deciding if the Acquirer would not proceed with the deal but without aim to obstruct the deal	Triggered (+) Ambiguity, Triggered by Acquirer	Faced (-) Ambiguity, Triggered by Acquirer	Yes	Yes by sharing priorities and goals between Acquirer and Target

	Positive ambiguity from the Target side: keep revenue's negative correction such as unforeseen credits ambiguous to continue to reflect higher revenue and continue to drive an appealing acquisition opportunity for the Acquirer	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target		
5.3.2.3.3 Outcome Ambiguity: Ambiguity of Sales strategy	Positive ambiguity from Acquirer: Acquirer was leading with many questions to clarify what strategy to deploy without sharing with the Target their questions	Triggered (+) Ambiguity, Triggered by Acquirer	Faced (-) Ambiguity, Triggered by Acquirer	Yes	Yes by sharing priorities and goals between Acquirer and Target
	Positive ambiguity from Target: details related to countries licensure not shared initially with Acquirer	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target		
5.3.2.4.1 Ambiguity of context: ambiguity about contracts clauses	Negative Ambiguity from the Acquirer: Acquirer team questioned any complaint related to the IP filing and potential risks	Triggered (+) Ambiguity, Triggered by Acquirer	Faced (-) Ambiguity, Triggered by Acquirer	Yes	Yes by sharing priorities and goals between Acquirer and Target
	Positive ambiguity from the Target: Target's team provided answers regarding IP patent but without the details that would expose issues	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target		
5.3.2.4.2 Ambiguity of communication: ambiguity about the Target product service after sales: Quality Management System (QMS), support, reporting, tracking, and product training	Positive Ambiguity from the Target seen as negative ambiguity from Acquirer: a potential to collaborate for common goal and risk reduction	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target	Yes	Yes by sharing priorities and goals between Acquirer and Target
5.3.2.4.3 Operational Ambiguity / technical ambiguity: ambiguity about the product manufacturing process, logistics, suppliers, storage, and support	Positive ambiguity from Target: protect its interest and avoid exposing family relationships and lack of processes	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target	Yes	Yes by sharing priorities and goals between Acquirer and Target
	Negative ambiguity for the Acquirer: Acquirer acquisition team struggled to get the details needed to proceed with the integration of the Target respective product's processes of manufacturing, logistics, suppliers, and storage	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target		

5.3.2.4.4 Ambiguity of product design process: ambiguity of design process, ambiguity of functionality, ambiguity of software application, and ambiguity of documentation	Positive ambiguity from Target: Target leadership responded that they were not software experts and focused on opportunities available in the future to improve the product software	Faced (-) Ambiguity, Triggered by Target	Triggered (+) Ambiguity, Triggered by Target	Yes	Yes by sharing priorities and goals between Acquirer and Target
	Positive ambiguity from Acquirer: Acquirer acquisition team praised the Target leadership on their accomplished despite the fact that the Target product design process did not meet the Acquirer's expectations	Triggered (+) Ambiguity, Triggered by Acquirer	Not determined		
5.3.2.4.5 Ambiguity of communication: ambiguity about the acquisition process: whether to acquire an "entity" or the "asset" only of that entity	A negative ambiguity unintentional on both the Acquirer and target side: not knowing the type of acquisition i.e., to acquire an entity and its assets or just the entity's assets	Faced (-) Ambiguity, not Triggered by Target or Acquirer	Faced (-) Ambiguity, not Triggered by Target or Acquirer	No	Not determined

Next the analysis of key findings discusses the root cause categories of ambiguities identified in Case 2.

Weakness in Resources Planning and Management

The Acquirer's Integration Leadership team struggled to identify who to retain from the Target's work force and how to fairly compensate them and continue to be fair in compensation to its own employees. The other areas of struggles are related to identifying who from the Target leadership family members were involved in the Target leadership roles and how to depart from them. Some of these family members were co-sharing intellectual properties so it was a difficult effort to integrate them or depart from them.

Weakness in Identifying Cause-Effect Relationship in Distribution Post-Acquisition

The Acquirer's integration team struggled to develop a strategy to manage suppliers and distribution plans with the information shared by the Target's team. The struggle was related mainly to how the changes in suppliers and in distribution agreements would impact sales results on Day 1, post-acquisition. Despite that the Acquirer had stronger suppliers' relationship and lower cost compared to the Target due to a higher purchase volume versus the Target, the Acquirer struggled in gathering data and contracts clauses to decide whether and when to terminate suppliers' relationships. The other struggle was related to what change in the Target's distribution model needed to take place on Day 1 and how that would have impacted profitability and sales.

Weakness in Forecasting and Revenue Outcomes

The Acquirer team struggled to identify sales forecast and revenue for Day 1, which was an ideal target day set by the Acquirer's executives. The ambiguity about credits to distributors and inflated sales numbers were among the causes to such a struggle. The other struggle was related to the international strategy of Sales outside of North America and the impact of the regulatory affairs launch delay to sales revenue.

Weakness in Communication

The Acquirer's integration team struggled in understanding the contracts clauses between the Target and its distributors. The struggle reflected in difficulties to terminate or to extend contracts depending on the agreements with the respective distributors and suppliers. Another area of communication struggle was related to understanding the Target's product service after sales and mainly its Quality Management System (QMS), its product support, its product reporting to the healthcare authorities, and the execution of distributors' training and customers' training.

Lack of Clarity in Implementation and Technical Processes

The concerns with the implementation and technical processes were most identified in ambiguity about the product manufacturing process, logistics, suppliers, storage, and support. The information shared with the Acquirer was not helpful to understand how the product was built and stored, and how its accessories were sourced and assembled.

Lack of Clarity in Product Design Process and Documentation

The Acquirer Research and Development team and its Clinical Affairs team constitute the function responsible of assessing, investing and executing on the Acquirer's clinical and scientific research. This group struggled getting access to and understanding the product design process and its clinical software decision-making validation steps and its documentation. The Target team kept referring to a lengthy document of thousands of pages and a clinical validation by clinical experts while the Acquirer team was trying to validate whether the product decision-making software was solid for an intellectual property registration.

Weakness in Acquisition Communication and Process Clarity

All the Acquirer team members did not understand whether the acquisition was about the entire Target's entity or only its assets i.e., its product. Hence, the questions and comments during the due diligence process were from some about the entity while others were reflective of acquiring the Target's product only.

5.3.2 Data Analysis[3]

5.3.2.1 Human Resource (HR) Ambiguity Findings

As shared earlier (see Section 1.5.1), the human resource ambiguity was defined in this research as the ambiguity that is related to the work force on either the acquirer or the target. This was manifested through different areas during the acquisition processes. As in Case 1 findings, *High-Tech Firm Resource Ambiguity* for example addressed the first research question (see Section 1.4) by revealing the uncertainty surrounding resource allocation, particularly in relation to the

[3] All data in this section were gathered through meeting observations. All italicized quotes were sourced from meeting transcripts. No data in this chapter was derived from interview validations, as those are reported and analyzed in Chapter 6.

capabilities of technical teams during integration. This ambiguity grew due to unclear communication regarding the technical skills of the resources, addressing the first research question (see Section 1.4) on how ambiguity develops. To mitigate its impact, the analysis suggested transparent communication, addressing the second research question (see Section 1.4).

5.3.2.1.1 High-Tech Firm Resource Ambiguity: Acquirer's faced Ambiguities on Target's Resources Skills and Whom to Retain

Acquirer Alexa integration team faced struggles identifying which Target's employees to retain. The Target was a startup, requiring its employees to execute various roles and wear multiple hats. That caused difficulties for Acquirer Alexa to identify subject matter experts (SMEs) and key personnel to retain:

"…We need to retain handful of people who we need to keep. Not yet clear of who we do not need yet." (Acquisition Project lead, Alexa)

That led the Acquirer team to question whether they would need to retain all Target's employees:

"Should we make a job offer for all?" (President, Alexa)

The other ambiguity that led to difficulties in the decision of who to retain from the Target employees was the fact that the Target's employees' organization structure and compensation's levels were different from the Acquirer's organization's structure and compensation's levels. For example, the sales commission and payout were different between the Acquirer and the Target, leading to an ambiguity in the integration process regarding the decision to whether the Acquirer should not have retained them to avoid having to deal with different compensation structures:

"…how are they paying their reps? They have independent reps that pay 15% commission under 10K. Question whether we will need to continue to employ and use them…" (Sales Channel Manager, Alexa)

Alexa's integration team struggled with whether to retain the top Target executives, and if they had too then for how long:

"…The other open subject is the Target's President and we have not discussed if we offer him a contract that we need him for a full year…" (Acquisition Project Manager, Alexa)

Despite these ambiguities, the Acquirer integration team aired on the side of precaution to retain all Target's employees. The number of the Target employees was less then 10% of the number of employees in Target Talia, hence the Acquirer Alexa did not have a pressing financial burden to not keep all Target Tomika's employees on Day 1.

Negative Ambiguity on the Acquirer's Side: Which Target's Resources to Retain

The Acquirer faced limited communication and information pertaining to the Target's resources and skills. The Acquirer did not know what the expectations of the subject matter expert were, and who was behind the product design of the Target's software decision making. What made things complicated was that one subject matter expert had the status of a consultant, and his name was on the Intellectual Property (IP) listing:
"… what would his role be after the takeover? … does he have an expectation to be part of this in the future?..." (VP of Clinical Affairs, Alexa)

The Acquirer struggled with understanding what to do with consultants and whether their roles were important to retain. The decision was to offer them all a job to retain them:
"… we can offer consultants a job at Alexa…" (VP of Business Development, Alexa)

The Acquirer found itself faced with many ambiguities pertaining to the resources' skills and status, i.e., consultant versus permanent full time Target employees' status and ended up deciding to offer a job for all of them:
"…the key is to make a job offer for all on day one…" (President, Alexa)

The ambiguities on the Target resources skills were a struggle for the Acquirer integration team to decide whether to retain or not before Day 1. However, the Acquirer's Senior leadership trusted the Acquirer integration team to take the decision they found suitable to move forward based on the information they gathered even if it was to retain everyone and to offer consultants a job at the Acquirer post Day 1. Minimizing the risk by retaining everyone helped address this negative ambiguity. However, the decision to retain everyone was taken due to the minimum financial burden on the Acquirer side due to the size of the Target workforce as explained earlier. This solution could not have been chosen if the workforce was significantly large like the workforce of target Tomika.

Positive ambiguity from target's side: Target Retained Sharing Information on its Resources' Potential

The Target, being a startup, did not have a developed and structured Human Resources department and processes to document key employment components such as offer letters, job descriptions, warnings, and evaluations to name few. Hence, there were differences in between both companies Human Resources approach, resources, and processes to review employee's performance and history.

"…They have stuff there and many do not apply to our HR processes and approach. Offer letters and not compete are questionable. They did not have offer letters signed for 6 people. I need them for job matching..." (Manager of Human Resources, Alexa)

When Alexa's Manager of Human Resources raised the following question to their leaders' colleagues in the Alexa's integration team about who they want to retain from the Target resources, *"… I had a call this AM with almost all the company. They have about 10 employees so do I need to offer a job for all?..." (Manager of Human Resources, Alexa)*

Alexa' Acquisition Project Manager replied firmly "*…Yes we do…*" (Acquisition Project Manager, Alexa) confirming that Alexa would retain all of the Target's resources.

The Target's Chief Financial Officer (CFO) stressed that the work quality of their team was great, which made it difficult for the Acquirer to take a decision on letting any of the Target resources go: *"… we treat every customer with white gloves approach. If we have a backlog, we let them know…" (Chief Financial Officer, Target)*

The Target's Chief Financial Officer (CFO) also blurred the boundaries between the tasks and who usually was responsible of them which made it difficult for the Acquirer integration team to decide on one resource versus the other. He was running the company as a family-owned company where boundaries were not well set:

"…They have few areas challenging for them like HR since they are a small company, a family type so we will continue to push on them to get what we need…" (Acquisition Project Manager, Alexa)

As a result, the Target's CEO moved employees to perform various undetermined tasks, which made it difficult for Alexa's integration team to decide on who to retain:

"…we need to have a discussion with the Target CEO but knowing him, he will transition that person to different facilities…" (Acquisition Project Lead, Alexa)

This approach led to an ambiguity on the Acquirer side, which was key to drive the Acquirer's decision to retain all Target's employees on Day 1 to allow the Target to continue to be functional and to execute on orders with no interruption on Day 1.

Positive vs. Negative Ambiguity: Acquirer and Target Benefit when Priorities and Goals are Proactively Shared

The Acquirer goal was to have the Target to continue to operate its business as usual as of Day 1, to avoid interruptions that would lead to loss of business revenue for the Acquirer. The Target on the other side, who had run a small family-owned startup firm, wanted to retain as many of their employees to guarantee an uninterrupted operation. Hence, there was a common benefit for both the Acquirer and the Target to work proactively transparently together to share each side's goal on the retention of employees. Both sides tried to maximize the opportunity to guarantee a success operation following Day 1 but without communicating these details to each other. A proactive approach to improve communication regarding retaining employees based on the common goal to improve integration success in future acquisition, was a research opportunity. However, it was out of the scope for this research.

5.3.2.1.2 Human Resource Ambiguity: Ambiguity of the Process to Compensate Target's Employees

On the first day – post-acquisition, Acquirer Alexa needed to start compensating Target Tomika's employees through Alexa's compensation structure. Hence, during the due diligence process Alexa acquisition team was debating whether they needed to continue paying Tomika's sales the same way they had been paid by the Target or change the pay structure, or even move to terminate them:
"…how are they paying their reps? They have independent reps that pay 15% commission under 10K. Question whether we will need to continue to employ and use them?" (Sales channel Manager, Alexa)

Alexa acquisition team had to deal with an ambiguity related to whether to sell the product direct i.e., keep Tomika's sales, or whether to stop employing Tomika's sales post-acquisition. On the question whether to keep Tomika's Sales representatives the decision was based on whether Alexa would have used direct sales or through distribution and decided to not sell direct. Hence, Alexa's decision was not to keep Tomika's sales representatives employed:

"…I do not think so. For one of our major distributors, they may not want to get the product and its accessories from us, but they may take just the product and fill from their warehouse accessories. No reason to take the business direct." (Director of distribution channel, Alexa)

Positive Ambiguity from Acquirer: Alexa's Team Retained Information about Tomika's Sales Force Fate

Alexa's acquisition team kept the decision ambiguous regarding retaining Tomika's Sales force to avoid alerting Tomika's sales team about the possibility of them losing their job on Day 1. Alexa's decision was based on biased self-trust that it could have used its vast distributors footprint to distribute Tomika's product with minimum to no risk of impacting its business and future forecast.

Negative Ambiguity from Target: Target Retained Sales Force Compensations Details to Avoid/Delay Layoffs

The Target kept unclear the plans based on which their sales representatives were compensated.

"…how are they paying their reps? They have independent reps that pay 15% commission under $10K" (Sales channel Manager, Alexa)

The ambiguity from the Target side to retain details about its sales compensation, even that it seemed positive ambiguity from the Target to continue moving forward with the acquisition, it did not serve either side. The Acquirer struggled to align the Target's sales team with the Acquirer's sales force. The Target on the other side risked losing its own sales force if the compensation alignment was not discussed proactively and the alignment was not optimized with the Acquirer's sales force. Hence it was be considered a negative ambiguity towards the Acquirer since it created a struggle to decide on keeping or releasing Tomika's salesforce from their duties.

Positive vs Negative Ambiguity: Leverage the Common Goal of Better Alignment in Sales Force for Retention and Compensation

A common objective in the acquisition was to not lose the best Target and Acquirer Sales force. Hence, a proactive discussion was an opportunity for both parties to reduce ambiguities and collaborate.

5.3.2.2 Organizational (O) Ambiguity Findings

Organizational ambiguity was defined in this research (see Chapter 1 Section 1.5.1), as the ambiguity of the new firm identity, the hierarchy, the leadership authority and responsibilities and the culture. However, in this integration there was no organizational ambiguity that was identified in the data collected.

5.3.2.2.1 Organizational Role Ambiguity: Ambiguity of Target's Family Members New Identity in the Acquirer Firm

In this integration the only organizational ambiguity that was identified in the coding of the data was that the organization was managed through different family members in leadership roles. As a result, the Tomika's leadership tried to protect the interest of the family members who were employed at Tomika.

"…Since this is a startup, it is run in a family way where there is a lot of consideration for relationships..." (Vice President of Legal Department, Alexa)

This was discussed further in the section below titled "Ambiguity of implementation / technical ambiguity: ambiguity about the product manufacturing process, logistics, suppliers, storage, and support". For this section the positive and negative ambiguities would mimic the same as below section (see Section 5.3.2.4.3).

5.3.2.3 Goal (G) Ambiguity Findings

Goal ambiguity was defined in this research (see Chapter 1 Section 1.5.1), as the ambiguity that is related to the identification of goals, projects, outcomes, and business strategy on either the acquirer or the target side. The Goal Ambiguity manifested through few areas during the acquisition processes. As seen in Case 1, the first research question (see Chapter 1, Section 1.4) was addressed by sharing examples such as change in the distribution model between the Acquirer and Target, impacting integration timelines and profitability. This also demonstrated how ambiguity grows when goals are not aligned. The analysis proposed aligning strategic priorities and improve communication early in the integration phase as a method to manage ambiguity, supporting the second research question (see Chapter 1, Section 1.4).

5.3.2.3.1 Causal Ambiguity Between Integration Decisions and Outcomes Post-Acquisition: Changes in Distribution Model and Impact on Profitability

Causal ambiguity was detected in two major areas both pertaining to the relationship between integration decisions and the increase in sales and profitability post-acquisition. The first area was in the decision to change the distribution strategy impacting which supplier to choose and which price increase to introduce. While the second area was pertaining to change in the marketing strategy post-acquisition and the approach to be used by the acquirer to integrate the Target's products in the Acquirer already existing marketing campaigns.

(a) Ambiguity about Distribution Changes and Impact on the Increase in Sales and Profit Post-Acquisition

Acquirer Alexa faced a process where the distributor can return the product that was not sold after a period. This was a different agreement model from the ones Alexa used, hence rendering the sales forecast number inaccurate due to the opened window of having a potential credit hit Alexa's revenue in an unexpected way from one or more of the distributors due to lack of sales inventory:
"…In the reseller agreements there is a clause that a major distributor can return the product back to the target anytime so what is the real sales number? All these messes can be fixed but a lot of things are in yellow…" (VP of Legal, Alexa)

As a result of this finding, Alexa 's team needed to assess this credit risk. However, they were faced with the ambiguity in the historical data pertaining to this subject such as "how many times this happened in the past?"; "how many distributors were used to return the unsold product?"; and "what was the historical value of credits?"; to name few.

The approach to product cost and use in training was different between the two companies. Acquirer Alexa had dedicated training products which was less expensive than its flag ship capital equipment while Target Tomika was using the product they sold and its accessories in training.
"…In one channel users are trained to operate differently without the product so there was no sensitivity of cost due to the need and the model…" (Manager of Marketing Channel, Alexa)

The Target's approach to train on their product raised the cost of investment to make a sale and train customers, and as a result reduced the profit margin:
"…The price is high, so we wanted to see how they are using the accessories that are over 2000 USD…" (Manager of Marketing Channel, Alexa)

As a result, Acquirer Alexa's team was faced with a different approach from the ones they used with their distributors, which required them to find a solution to integrate the Target's product in their distributor's portfolio.

Acquirer Alexa's distributors were among the larger distributors in the country who did have access to better cost on accessories compared to what Target Tomika had access to, to sell with their products. Acquirer Alexa's team faced an ambiguity on how to proceed knowing that the Target current accessories prices were higher than their distributor cost, and as a result Acquirer Alexa's distributor required a change in the Target's current process to allow the sale of the product without its accessories. That would have led to a decrease in forecasted revenue for Acquirer Alexa.
"…For one of our major distributors, they may not want to get the product and its accessories from us, but they may take just the product and fill from their warehouse accessories. No reason to take the business direct…" (Director of Distribution Channel, Alexa)

As a result, Acquirer Alexa's Team faced an ambiguity on what approach to adopt with their distributor and whether to allow the distributors to use their own accessories' suppliers.
"…We need to be careful how we approach to probe distributors about the margin…" (Acquisition Project Manager, Alexa)

In summary, Acquirer Alexa faced various causal ambiguities about decisions regarding distribution changes to implement post-acquisition that would have impacted Acquirer Alexa's sales and profit post Day 1.

Negative Ambiguity on the Acquirer Side: Ambiguity of Distribution Changes Impact on Acquirer Alexa's Financials Post Day 1

Acquirer Alexa integration team focused on making sure after Day 1 the product they acquired would continue to sell to meet the forecasted revenue that they had projected. However, the agreements and portfolio offerings to their current distributors were different from what the Target has been offering to their distributors. Many of those offerings had a risk that would have hindered the revenue forecast when they had opened the door to an unexpected credit for unsold products. Reducing this risk required Acquirer Alexa to alter the contract with the Target's distributors which had a potential risk on the continuation of sales post Day 1. Another potential impact on the revenue was the request from Acquirer Alexa current distributors to buy the Target's product without its accessories which translated to another potential loss in projected revenue. This ambiguity was not created intentionally by either the Acquirer or the Target, but it existed due to the variations in agreements, sales potential, and access to different level of discounts from the respective suppliers of the Acquirer's and Target's distributors.

Positive Ambiguity from Target's Side: Target Refrained Sharing Data about Sales Credits to Maximize Revenue Forecast

Target Tomika was not aware of how Acquirer Alexa integration team was evaluating distribution changes and how those decisions would have impacted future forecast and revenue and as a result did not offer their input. Target Tomika did not bring forward the fact that its distributors have the option to return unsold products and to request to receive a credit back. It was Acquirer Alexa's integration team who discovered the credit clause in one of Target Tomika's distributors agreement which led to further questions about historical credits. Target Tomika focused on maximizing forecasted sales and minimizing sales' risk such as unexpected credits from unsold products to not hinder the acquisition from moving forward.

Positive vs. Negative Ambiguity: Acquirer's and Target's Opportunity for Open Discussion to Maximize Revenue Forecast

Both acquirer and target teams were focusing on maximizing revenue forecast post-acquisition. Acquirer Alexa wanted to reduce credit risk and augment potential revenue. Target Tomika communicated a solid projected revenue forecast. Acquirer Alexa was going to discover the credit clause in the Target distributor agreement. Hence, the Target delays in sharing the information was a short-term tactic that was going to be discovered during due diligence contract agreement reviews. Hence, a proactive and transparent approach would have helped both sides to work together towards their common goal of maximizing revenue forecast. One suggested approach was to have an open discussion about revenue and risks where both parties were transparent in sharing ideas and worries about forecasted revenue to work together on finding optimized solutions. It is an opportunity for future research to try communicating these goals by both parties and share that what each side is trying to achieve was aligned with the other side's forecast revenue. However, this was out of the scope of this research and an important proactive approach to explore in future research.

(b) Ambiguity of Marketing Strategy Post-Acquisition and Relationship to Improve Financials Goals

Acquirer Alexa needed to develop a post-acquisition Marketing strategy that would have allowed the company to meet its revenue forecast from Target product sales globally. There were different aspects to the strategy that Acquirer Alexa team faced ambiguity with. The first to mention here was the distribution based on regulatory affairs constraints and where the product could/couldn't be sold. For example, on strategy regarding distribution channels outside the United-States it was not clear what were the global regulations:

"… need to develop the strategy there (i.e. for EU and international) for Regulatory Affairs. People on the phone not being able to get all the details…" (Director of Regulatory Affairs, Alexa)

Willingness of customers to pay was another unknown requiring Alexa's acquisition team to investigate further. What they knew was that the customers were paying the cost of the existing product the way it was offered prior to acquisition. But Alexa's acquisition team was not sure how customer willingness to pay would be impacted with any change they would have brought forward as part of the integration strategy:

"…we need to evaluate how much a customer is willing to pay for the product. I am willing to do further analysis to understand that. Their model is just working now…" (Director of Channel Marketing, Alexa)

The same about price change and impact could be said about distributors. Acquirer Alexa Acquisition team was unsure on how distributors would have reacted to a change in a price:

"…We need to analyze what margin distributors will be willing to pay…" (Manager of Channel Marketing, Alexa)

Acquirer Alexa wanted to evaluate how a distributor will react to any change in price and entertained several internal discussions on the subject. They wanted to test the idea of a price increase without alarming the distributors prior to the acquisition they wanted to communicate the news that a change in ownership was taking place hence an increase in pricing was being evaluated:

"…how we will get discussion with our distribution channels to see what the margin would be? and how we are going to push the product? but we cannot talk to them because they will know that we are after this company…" (Channel Marketing Manager, Alexa)

Hence, Acquirer Alexa was facing struggles to gather information without disclosing any detail about the acquisition or the product:

"…Is there a way to get a sense or test this with them without saying that but do we have relationships that we can pressure test the cost the distributor is willing to pay?" (Acquisition project Manager, Alexa)

Target Tomika's product accessories were also sold by Acquirer Alexa's distributors at a better price. Hence, Acquirer Alexa wanted to avoid a price competition with its distributors and as a result needed to process accessories' new part numbers differently in its system to run two different pricing models. However, Alexa did not have a process or model in place to do that:

"…This must be done different from the business channel, but we do not have a model. When we looked at the customer buying cycle, we did not see the frequency of buying from our A type customers. Some creative positioning needs to be done – it is a cool idea though…" (Helpdesk #2 Manager, Alexa)

The decision to change pricing structure post-acquisition led to ambiguity on how to perform such a change. Also, the outcome of such a change was not clear.

Positive Ambiguity from Acquirer's Side: Acquirer Speculated a Price Increase to Enable the Acquisition Efforts to Continue

Acquirer Alexa acquisition team decision for pricing was going to have an impact post-acquisition that will last at least a year before they could change the acquired product's price again. Hence, Acquirer Alexa integration team used speculations about potential price's increase to overcome the ambiguity on this subject discussed above, to keep moving forward with the acquisition integration:

"…I think 5% but I have a meeting in the next few days about it and I will then get a sense if we want to introduce something like that how people will tolerate?" (Director of Distribution channel, Alexa)

A better positioning of the price increase could not have been optimized without further discussions with Alexa's distributors, without divulging the details about the acquisition. However, moving forward with the acquisition was a priority versus setting up the correct price increase for Day 1.

Negative Ambiguity from Target's Side: Target's CEO not Willing to Share Rationale about their Product Software's Price Structure

On Tomika's side, their product's decision Software (SW) was offered at no charge prior to the acquisition. During the acquisition negotiations and due diligence, Tomika's CEO was open to change the way they do things without offering additional details, to continue to enable the acquisition discussion that took place, and continue to move forward with the deal:

"…there is a healthy debate within our board of why we do not monetize the SW. The decision has been to not do so to get attraction, but this can change in the future. How much do you want to charge? There is marketing opportunity…" (CEO, Tomika)

Positive vs. Negative Ambiguity: Acquirer's and Target's Opportunity to Proactively Align on Priorities and Goals

Acquirer Alexa's goals were to develop a marketing strategy to maximize revenue and sales post-acquisition. Target Tomika's strategy was to make sure that the distributors were not going to get upset by a price increase or a change in the price structure. A change was such as charging for the decision Software that was provided free of charge prior to the acquisition. Both the Acquirer and the Target aimed at moving forward with the acquisition and potentially update later the decisions and strategy. However, discussing the decision on Marketing strategy and pricing with the other party could have optimized the decision approach. The proactive discussion of this subject did not seem to hinder the acquisition execution. An opportunity was to research further how the proactive communication of these goals by both the Acquirer and the Target, and the assessment of these decisions would help reduce negative ambiguity and enable further information sharing. However, this was out of scope of this research and an important proactive action to research in the future.

5.3.2.3.2 Outcome Ambiguity: Ambiguity about Forecast and Revenue

Outcome ambiguity was detected in the Target current year forecast and projected revenue for the years to come, making it difficult for the acquirer Alexa to estimate short term and long-term revenue. There were several reasons that lead to this ambiguity. One reason was related to the difference between the Acquirer and the Target in recognizing revenue from distributors. For example, there was ambiguity about how many Target's distributors were part of the Target's lease option and how they would have recognized revenue:

"…I think three customers but not sure how they recognize revenue on Service…" (Director of Distribution Channel, Alexa)

On the similar subject pertaining to distribution, there was a difference in the agreement between the Acquirer's and the Target's distributor return policies. Allowing the Target's distributors to return unsold product at the end of the fiscal year made it difficult to forecast the Target's revenue. The reason was that the return of unsold product would have triggered an unforeseen credit that the Target financial department would be asked to issue out per contract with their distributors:

"…In the reseller agreements there is a clause that a major distributor can return the product back to the target anytime so what is the real sales number?" (VP of Legal, Alexa)

Another revenue ambiguity was related to accounting for taxes outside of the United Sates where the distribution model between Acquirer Alexa and the Target Tomika were different. For example, Acquirer Alexa used its own subsidiary office in Canada while Target Tomika had been using a distributor, making revenue recognition and forecast difficult:

"…We may have tax issues if we ship to Canada but not use our sub office there…" (Director of Cost, Alexa)

A further revenue ambiguity was related to potential struggles in taxes accounting calculations and revenue recognition due to potential delays in the integration process of the international Target model. Those concerns were specifically related to projects with potential moving completion dates due to delays:

"…we may have an issue if we delay international…" (VP of Sales, Alexa)

Some of these delays were going to extend from few months to several years due to cross functional integration struggles:

"…I don't think it will be a 2 years' delay. It is just for the time it will take us to prepare Marketing…" (Director of Marketing Channel, Alexa)

The Target's team wanted to portray a strong financial revenue and forecast. The Acquirer's team wanted to scrutinize the revenue actuals and forecast numbers to decide on the deal pay but without the need to get into a conflict and lose the deal. The research reviewed next how ambiguity pertaining to revenues was dealt with by the Acquirer's and the Target's teams.

Negative Ambiguity from the Acquirer Side: Questioning Revenue Forecast did not Aim to Obstruct the Deal

Alexa's acquisition team sensed that that the forecasted revenue numbers shared by the Target's leadership were inflated and were a significant unknown. Scrutinizing revenue actuals and revenue forecasts was a key element for the Acquirer to decide on the deal value and payout. On one side it was important for Alexa's team to dig into the revenue numbers but on the other side they wanted to continue with the deal because of the other reasons discussed earlier such as broadening Alexa's distribution portfolio.

"We may come back and look at previous year revenue and see what they got, and it may be better or worse. It is a significant unknown that we are trying to figure out." (Acquisition Project Manager, Alexa)

When Alexa financial team analyzed the Target's revenue numbers, they found that the Target leadership had switched revenue quarters, requiring Alexa's financial team to analyze further the numbers to get to the numbers reflecting the correct revenue Target's actuals:

"…revenue recognition is an issue the 30 days right of return. They switched around calendar Q2 of last year calendar" (Acquisition Project Manager on behalf of VP of Finance, Alexa)

Alexa's acquisition team brainstormed about different ways to get an accurate forecast revenue number. One proposed approach was to reach out to the Target distributors and get clarifications about their buying history:

"…different ways: going to their primary customers and understand their buying history and whether they pumped up their orders etc…" (VP of Legal Department, Alexa)

However, this approach came with major risks such as dragging both companies into a legal dispute, which risked triggering financial losses. Since the Target was not a large firm compared to the Acquirer, the Acquirer team decided not to get into a dispute with the Target:

"…with a company with little operating history, we can dispute that, but we do not want to get into legal to dispute that because once we are there then there are losses. Yes, there is potential risk…" (VP of Legal Department, Alexa)

As an alternative, the Acquirer team proposed to assess the revenue forecast and actuals for a short period of time just before the signature:

"…So we can ignore the period just before the court so we can go 15 and 3 months prior..." (VP of Legal department, Alexa)

Despite the above-mentioned ambiguities and Alexa's acquisition team trying to get accurate

numbers, Alexa's leadership decided to keep moving with the opportunity to acquirer Tomika because, in their words, this is a subject Alexa would have better control over it in the future:
"…this is for today as an issue but going forward we will control that…" (President, Alexa)

Alexa's acquisition team suggestions and decisions were to fix what can be fixed prior to the deal and pressed to move forward:
"…we should proceed with the split, sign and close, it is ideal and take care of this prior to closure." (Acquisition Project Manager, Alexa)

Hence, the negative ambiguity from the Acquirer's team which for the Target's team did not seem to enable the deal to move forward, did not go to the extend to block the deal. The Acquirer's team was focused on moving forward, fixing what can be fixed on the contracts with the Target's distributors, and fixing the rest after the deal signature.

Positive Ambiguity from the Target Side: Keep Revenue's Negative Correction Ambiguous to Drive Appealing Acquisition Opportunity

The Target's leadership shared that revenue forecasting was difficult, hence kept the door open for variations in the revenue forecast. Tomika Target President described that forecasting revenue and calculating a projection of revenue was difficult:
"…forecasting is always difficult. In the earlier stages, it can be a very fast turnaround." (CEO, Tomika)

When the Acquirer's integration team inquired about the variations, the Target shared that there was a possibility of credits issued at the end of the year. The potential credits were due to the distributors at the end of the distributor's contract year for unsold products as per the distribution agreement. Alexa's leadership team detected that the revenue baseline shared by the Target's leadership was not accurate:
"…our concern is that they are setting an artificial low baseline…" (President, Alexa)

On another question related to revenue forecast after sales such as service revenue forecast Tomika Target President shared that they did not have service plans. However, they bounced back from the answer stating that they were interested in learning further how the Acquirer's team had that forecasted at their end, and that the Target had a lot of opportunities. That was a positive ambiguity

from the Target to deflect a question aimed at the lack of service potential revenue post sales without giving further details:
"…no, we did not, and we do not have service plans – I am interested in looking into your model and we have a lot of opportunities. We have not forecasted the replacement and reordering." (President, Tomika)

When Tomika's president was asked by Alexa's Acquisition Project Manager whether they saw more potential revenue on existing market segments Tomika operated in, their answer was positive but without details:
"…there is one segment short term and another one long term…" (President, Tomika)

In summary, Tomika's team aimed at maximizing revenue forecast communicated to Alexa's team.

Positive versus Negative Ambiguities: Acquirer's and Target's Opportunity to Proactively Communicate and Align on Goals

Acquirer Alexa's team aimed at finding out the accurate revenue actuals and forecast numbers of the business performance of the Target Tomika. However, despite the ambiguity discussed earlier Acquirer Alexa was still aiming to proceed with the deal. A portion of the proposed pay was calculated based on the financial performance post-acquisition. Hence Target's Tomika aimed at keeping the financial details relayed to revenue actuals and forecast ambiguous. That would have prepared for a strong revenue rebound post-acquisition and as a result increased the pay tied to the revenue performance post-acquisition. It can be deducted that both the Acquirer and the Target were aimed to move forward with the acquisition. The Acquirer focused on having the correct financial actual numbers and forecast while the Target aimed at increasing its actuals and forecasted revenue to increase the potential of the deal payout. From the discussion above it can be concluded that the acquirer was not trying to reduce payout or obstruct the deal, hence open discussion between the Acquirer and the Target about each one's objectives could have optimized the exercise of forecasting revenue. The proactive discussion of this subject did not seem to hinder the acquisition execution on either side. It was an opportunity to research further how the proactive communication of the financial goals by both the Acquirer and the Target, would help reduce negative ambiguity and enable further information sharing and preparation for a successful integration. However, this was out of scope of this research and a proactive communication to research in the future.

5.3.2.3.3 Outcome Ambiguity- Ambiguity of Sales Strategy Results

Acquirer Alexa had various distribution business partners and subsidiary offices all over the world which helped distribute and support its products globally. The ambiguity that Alexa had to deal with regarding to distribution was where to distribute globally, and how to distribute, and what was the impact on forecast and revenue.

During the negotiation phase Acquirer Alexa identified that Target Tomika's products needed more regulatory approvals to be able to distribute them globally. However, Target Tomika's team did not provide enough details on the strategy regarding international distribution to the Alexa's Director of Regulatory Affairs to be able to decide on a path forward to have the product licensed to be distributed outside of the USA:

"…reviewed. Not in EU or international, hence need to develop the strategy there for Regulatory Affairs. People on the phone not being able to get all the details. On the list of Director of QA/RA to follow up with Target Tomika CEO." (Director of Regulatory Affairs, Alexa)

The ambiguity about the international distribution process of Tomika's product and the related delay due to regulatory constraints licenses was going to cause ship holds:

"…international will be on regulatory ship hold. It will take about 2 years as per Alexa Director of Regulatory Affairs to sell in Canada" (Helpdesk # 2 Manager, Alexa)

The delay was going to cause a reduction in sales forecast for Alexa's integration sales team:

"…we may have an issue if we delay international" (Vice President of Sales, Alexa)

The discussion related to the distribution process in international had many ambiguities that required Alexa's integration team to schedule a separate session for it:

"…we will do another session for Canada and all other countries" (Helpdesk # 2 Manager, Alexa)

In addition to the ambiguity related to where to distribute Tomika's product globally depending on healthcare licensure and their respective delays in various countries, Alexa's acquisition team had struggles identifying which distribution process to proceed with. For example, Alexa's sales leadership was not clear on whether they would open the flood gate and inform all Alexa's distributors on Day 1 post acquisition about Alexa's new product acquired from Target Tomika's or proceed with a different approach:

"…I can start calling on day one our major distributors. But are we going to be maxed out with one distributor? I can ask for a forecast. Distributors can sell what we can make." (Vice President of Sales, Alexa)

Another ambiguity related to the distribution process post-acquisition was whether Alexa would have allowed its distributors to use a process that was different from the process Tomika had been using with its own distributors. For example, Tomika's distributors were purchasing Tomika's product and accessories from Tomika. Alexa's distributors could have wanted to purchase Alexa's new product acquired but without its accessories. This caused Alexa to debate whether they would sell the product directly through Alexa's sales force team considered direct sales channel, or through Alexa's distribution which was considered indirect sales channel:
"…for one of our major distributors, they may not want to get the product and its accessories from us, but they may take just the product and fill from their warehouse accessories. No reason to take the business direct." (Director of distribution channel, Alexa)

One more ambiguity related to distribution was margin calculation and approach for discussion. Alexa needed to know whether Tomika's distributors were making good margin or not to set the price post-acquisition and decide which distributors to keep or terminate:
"We need to be careful how we approach to probe distributors about the margin" (Acquisition Project Manager, Alexa)

Positive Ambiguity from Acquirer: Acquirer Asked Questions without a Clear Rationale

Most of these ambiguities were related to the Acquirer Alexa acquisition team debating among themselves how to proceed with the distribution channels globally while comparing how they would have managed the same with their existing distributors. However, Alexa acquisition team did not share with Tomika's leadership why they were asking the questions related to distribution and licensure globally as well as the clarification regarding accessories orders.

Positive Ambiguity from Target: Countries Licensure Details Not Shared with Acquirer

Alexa's team took several rounds of questions to get details regarding the Target Tomika's product licensure globally. Tomika wanted to portray that its product could be distributed globally to enhance the appeal for Alexa to proceed with the acquisition:
"…people on the phone not being able to get all the details. On the list of Director of QA/RA to follow up with Target Tomika CEO." (Director of Regulatory Affairs, Alexa)

Positive Ambiguity from Both Sides: Common Goal is a Correct Product Distribution Process

Alexa's acquisition team was focused on how to proceed with the application for licensure globally to move forward immediately with filing the applications on Day 1. Tomika's leadership team wanted to portray that the product could be distributed globally. While going through the due diligence exercise, Alexa identified that the product distributed in Canada was without a license. That was a potential risk for the Acquirer to deal with. It would have been proactive and would decrease risk if Tomika would have shared with Alexa's team those details about Canada and Europe for example:

"The other issue that is concerning for me is that they had a customer who took the product to the Europe, and it was not approved there so we need to look into that further since it can be problematic. It is more concerning that they allowed it to happen." (Acquisition Project Manager, Alexa)

There was an opportunity to proactively identify and mitigate this risk of distribution mentioned above for both parties.

5.3.2.4 Process (P) Ambiguity Findings

Process ambiguity was defined in this research (see Section 1.5.1), as variations and discrepancies in flows and processes, changes in plans, incompatibility of systems, limitations in communications and access to communications, absence of documentations, silos and missing of important functions and departments, unknown of implications and outcomes. Process Ambiguity findings in Case 2, as in Case 1, addressed the first research question (see Section 1.4), by highlighting how poor process delayed system integration. It also helped clarify how ambiguity arises in technical processes and how establishing cross-functional teams for better communication and alignment can reduce its impact, contributing to the second research questions (see Section 1.4). This was where most ambiguities were identified and are discussed. During the due diligence phase there were several ambiguities identified in the Target's approach and processes which had implications during and after the integration phase. The research explored them next.

5.3.2.4.1 Ambiguity of Context: Ambiguity about Contracts Clauses

Alexa's acquisition team faced numerous ambiguities in the contract clauses between the Target and its distributors. Those ambiguities were related to understanding what was in the Target's distribution agreement and how the contract's clauses and Target's contract commitments were going to impact Alexa's operation with its own distributors. For example, Alexa identified a clause

while reviewing the Target's distribution agreement that would make a Target's distributor an exclusive distributor after that distributor reaches a certain order total dollar value during a year.
"The Target main distributor agreement will turn them into exclusive depending on hitting a certain number of sales" (VP of Legal Department, Alexa)

Alexa operated based on enabling multiple distributors to compete which was different from the approach used by the Target. Hence, Alexa's acquisition team started reviewing options to mitigate this concern such as limiting distributors orders. However, it was not confirmed whether this approach was a viable approach or not:
"…can we overturn that by refusing orders?" (Helpdesk # 2 Manager, Alexa)

The answer from the Alexa's legal department was not conclusive:
"I don't think so. But we will have to dig…" (VP of Legal department, Alexa)

As a consequence, Alexa legal team started reviewing ways to exit from the contract:
"Let's review the agreements the Target has that we need to exit from it due to conflict with our current distributors" (VP of Legal department, Alexa)

Another discovery by Alexa was related to the lose control over how the Target allowed its distributors to operate which created a major risk to manage. To be specific, one example was related to allowing one distributor to showcase the product in a country that it was not allowed to sell into. The Target product was a product that was highly regulated by health authorities in each country globally so allowing this to happen without controlling the distributor was a major healthcare and regulatory affairs concerns and distribution risk:
"…The other issue that is concerning for me is that they had a customer who took the product to Europe, and it was not approved there so we need to look into that further since it can be problematic. It is more concerning that they allowed it to happen…" (Acquisition Project Manager, Alexa)

This last-mentioned concern led to another ambiguity and that was related to the management of intellectual property (IP) filing. The reason was that the product got introduced to another country and continent while the IP filing in the United Sates was still progressing. The Target claimed having protection when questioned about the protection of their IP filing when one of its distributors introduced the product to another country. Alexa's acquisition team was not convinced:

"…they tailored themselves to have a strong protection, but we do not feel that way, but we need to dig deeper here. If there is no IP protection, then this is a deal killer..." (Acquisition Project Manager, Alexa)

Negative Ambiguity from the Acquirer: Acquirer Questioned IP Filing Details and Potential Risks Complaints

When Alexa's integration team knew about the Target's product being demonstrated in countries that did not have the regulatory affairs clearance from the countries' health authorities, they started questioning the Target about those details and potential risks:

"… Since currently there is almost nothing filed with IP, we are not in a trouble being in the middle of an IP filing. I would ask them since this is not for sale why the customer got the product?" (President, Alexa)

However, Alexa's integration team did not want to walk away from the deal, but instead to know what risks they were faced with and mitigate them. In this situation, the questioning and positioning of this subject through inquiries by the Acquirer team were identified as a negative ambiguity because the Target's team did not know why the Acquirer' team wanted the details, and that would have impacted the Acquirer's position towards the deal through delays and roadblocks.

Positive Ambiguity from the Target: Target Provided Limited Answers on IP Patent without Exposing any Issues

On the intellectual property subject mentioned above, the Acquirer's team asked the Target to provide details pertaining to any entity that may have sued them or even reached out to them inquiring or challenging their position on the product patent. However, the answer from the Target's team was ambiguous and without the specific details the Acquirer's team was seeking:

"We need the letter of any third parties that may have gone after them about them infringing the others' patents. The Target responded back but did not give us any communication that they referred to. I see the cc and cc but no communication" (Acquisition Project Manager, Alexa)

The Target used positive ambiguity to keep things moving without potential discoveries which could have led to roadblocks for the deal.

Negative versus Positive Ambiguity: Acquirer's and Target's Opportunity to Proactively Communicate and Align on Goals

It is obvious that both parties were trying to move forward with the deal despite the open questions and potential risks identified in the IP process and contracts clauses with distributors. The Acquirer wanted to identify and mitigate risks but continued with the deal to make it a success. The Target was worried that the additional information pertaining to patents challenges and potential risks or complaints from third parties would have placed the deal at risk. The research proposed that both parties would benefit from having an open proactive and constructive discussion about the goals and intentions. That would have led to accurate data being shared and risks being mitigated. However, this needed to be researched and tested further which is out of scope for this research.

5.3.2.4.2 Ambiguity of Communication: Ambiguity about the Target's Product Services and Support Post- Sales

Tomika was requested to follow local healthcare reporting requirements to report on complaints and service failures since it was regulated by country specifics healthcare regulated laws. In the United States of America, the local governing healthcare body is the Food and Drug Administration, also known by the FDA. Hence, Alexa's team aimed to understand all the details surrounding Tomika's quality management system to be able to report back on any future FDA's and other healthcare authorities' audits questions:

"…the goal is to put everything through our Quality management system. And we need to document everything because in 2019 we know what it is, while in 2022 we may not remember the complaint details." (Helpdesk # 2 Manager, Alexa)

Hence, Tomika's president was asked several questions to report on this subject. For example, the Acquirer management team was interested in Tomika's product complaints handling process; their recalls management process such as product tracking and product recall deployment and reporting to FDA. Tomika's President stated that they did have a license to distribute in the United States, while the rest of his answer was ambiguous pushing the opportunity to improve on current service processes after sales farther into the future:

"…reporting to FDA a report annually is sent since we have 510k approval. But in the future this area can be strengthened farther." (President, Tomika).

The Acquirer's team was also interested about how Tomika tracked changes such as software upgrades to its products in the field post sales. That was an important point to execute on corrective action or recalls as part of the process to manage equipment in a healthcare regulated country. Tomika's president did not provide details:

"…I need to find out for you, I don't know." (President, Tomika)

Alexa's team struggled to understand Tomika's post sales reported failures. As an example, the first post sales ambiguous failure was to know that there were accessories failures that were reported but none of these accessories were part of the whole list of accessories that were provided by Tomika.

"…We do have Part Numbers for all accessories. But the accessory that was reported as a failure by one of the customers recently, was a miss because it was part of the device." (Manager of Documentation, Alexa)

The other example about post sales ambiguous failures was related to customers receiving broken shipped boxes. Alexa's team struggled to get the details so they could develop a mitigation plan:

"...when the products ship, they are expensive, and they do break. So, we need to investigate a strategy about these shipping boxes and get to the bottom of it." (Helpdesk # 2 Manager, Alexa)

Positive Ambiguity from the Target seen as Negative Ambiguity from Acquirer: Opportunity to Collaborate for Common Goal and Risk Reduction

The Target did not have defined processes and details on its operation and service post sales. As a reaction the Target delayed the answers or left them ambiguous. The Acquirer struggled to comprehend the post sales failures and the Target's QMS so they could integrate it within their own Acquirer' QMS. The Acquirer aimed to manage a future audit from FDA and have a process for recalls and corrective actions for the Target's product. Basically, the Acquirer's main goal was to minimize risk and protect the company. However, the Acquirer did not communicate with the Target on the reasons why they were aiming to understand the post sales service and support operation. This was an opportunity in which both parties understood the common goal and risk mitigation and aimed to collaborate and reduce ambiguity.

5.3.2.4.3 Operational Ambiguity / Technical Ambiguity: Ambiguity about the Product Manufacturing and Logistical Processes

The Acquirer acquisition team planned to integrate the manufacturing processes, the logistical and storage processes and the suppliers' management of the Target's product within their own processes of these respective functions. One area to get knowledge about was the accessories management and their suppliers. However, the Acquirer's acquisition team received ambiguous information about the Target product accessories. The details and numbers in the Target product's bill of material (BOM) used to build the product was different from the product list of that product. The answer to the Acquirer integration team question on this subject was a number of contracts for them to figure out the details:

"...On the Bill of Material (BOM), they have 20 accessories while their list has over 120 accessories, so not sure how many accessories that they have. Asked for additional information, received a number of contracts but nothing that tells us what about the manufacturing piece." (Operations Documentation Manager, Alexa)

The Target's procurement process was not clear either. The Acquirer struggles to identify who was the buyer, where the parts were acquired from, how the details where documents, and where the products were stored:

"…not sure about their process? Procurement not clear who is buying the parts? Need documents on where finish goods are stored…" (Documentation Manager, Alexa)

Positive Ambiguity from Target: Protect its Interest and Avoid Exposing Family Relationships and Lack of Processes

The Target management team was trying to protect each other. The CEO divulged the fact that the leaders who lead the operation team were relatives and as a result they know well the process even that it was not well documented. The CEO also leaned on the fact that the Target organization was a small organization hence the processes were known by people versus being documented:

"Our organization structure is a small group. A relative of mine run my operation. Controller is my relative too. These are very talented people and happened to be my family." (CEO, Target)

The Target's management team aimed to protect their respective interests by stressing that the knowledge existed in the people managing the processes versus the documentation. In one of the comments from Alexa's acquisition team among themselves was that there was a particular relationship that the Target management team tried to protect:

"…the executive has a close relationship with the one director. They own something together in a different state..." (Director of Marketing Channel, Alexa)

Negative Ambiguity for the Acquirer: Acquirer Struggled in Getting Details of the Target Manufacturing and Logistical Processes

The lack of details communicated to the Acquirer acquisition team created delays in identifying the best approach to change and optimize the Target product's suppliers using the vast access of the Acquirer's to its existing suppliers. It also delayed the integration of the logistics and storage plans.

Negative ambiguity versus positive: there is an opportunity - although difficult - to proactively discuss the change the Acquirer plan to bring forward post- acquisition and develop a transition plan.

The Acquirer identified that the Target was running its operation with several family relationships consideration and aimed to modify that process post-acquisition:

"…Since this is a startup, it is run in a family way where there is a lot of consideration for relationships but once we run it we will not be able to only depend on relationships. Not sure who own the IPs in their family companies." (Vice President of Legal Department, Alexa)

However, the Target anticipated that and tried to raise the importance of its family team members and their expertise. The Acquirer knew that it was aiming to control and reduce the influence of family relationships and solidify the process post-acquisition of the respective functions discussed on this subject. There was an opportunity to proactively reduce ambiguity and collectively discuss a transition plan that both parties knew it was coming: the acquirer was developing such plan, while the Target sensed it and tried to protect its family interests.

5.3.2.4.4 Ambiguity of Product Design Process

The ambiguity of product design process described here the lack of clarity in the overall product design process, including the steps, methodologies, decision-making, user experience and software features involved in designing the product. Acquirer Alexa team aimed to understand the details surrounding Tomika's product design, its software application functionality and how it was validated. Tomika's leadership claimed that the product was designed by professionals through a solid process, was tested and the returned testing results were fantastic. Alexa's integration team was not contented with the verbal comments and pushed for further documented details. However, they did struggle receiving the documentation and details they were looking for requiring them to continue to inquire about various aspects of the product design phases and functionalities:

"…I saw one beta test of the SW…they claim the results are fantastic but did not see a pass/fail criterion for the test they did. Right now, I will consider it a medium risk…so it does require further digging…" (Vice President of Clinical Affairs, Alexa)

As quoted above, Alexa's integration team identified a risk in the software application that they did seek to clarify. The risk was related to how the product would behave in a certain scenario. Depending on that scenario, the product decision outcome would have exposed the patient to a certain risk, from which a legal risk could derive.
"The SW will become a risk to manage decisions in some situations." (Vice President of Clinical Affairs, Alexa)

For this reason, they asked for the engineering product specifications and codes to have someone from Alexa's engineering side look at the product software application decision trees and logic. Tomika's leadership assured Alexa's integration team that the product design and code is a long several thousand pages and was a lengthy reading:
"They talk about the 2000 page, but we did not see anything about the codes" (Director of R&D SW, Alexa)

Hence, Alexa's integration team kept pressing to get the product design specifications and details to review the code but instead received drawings but not the code:
"…The specs of engineering drawings are received but do not have the details of the code." (Acquisition Project Manager, Alexa)

Alexa integration team needed to identify whether the product was valuable for an intellectual property (IP) filing. In addition to that they needed to know what future features the product future software was aimed to embed:
"…I need to see the logic of the SW decision. We need to see also details about the future SW version's implementations." (Manager of Intellectual Properties, Alexa)

Alexa integration team identified discrepancies between the product application decision flow chart presented by Tomika's upper management during the due diligence presentation and the device's (i.e., manufactured product's) behavior. As an internal follow up Alexa integration team identified that a project needed to be launched to improve the software decision and mitigate risk.
"…A lot of discrepancies between flow chart and device behavior. We need a full redesign and

feasibility testing since we do not know if this was the initial intention." (Vice President of Clinical Affairs, Alexa)

However, Alexa integration team did not have the details needed to successfully drive a new project to mitigate the risk they identified because the details received from Tomika's leadership were not comprehensive about the product and codes:
"…This is a project that will cost money. It is not technical challenging it just need work. I got a cartoon that has a picture on it not any architecture. So, we need a project to go create all these docs packages…" (Director of R&D SW, Alexa)

Alexa acquisition team identified discrepancies between what was in the product design written documentation that was shared by the Target and how the product operates. The flow chart of the decision-making software had the correct advanced expected logic for the patient scenario that Alexa was interested about, however the product itself did not behave as if that feature of interest was ever programmed and implemented in the product decision software:
"…one positive thing is that when there is a patient type A situation (changed for anonymity) *it is in the decision flow chart, but they did not implement it. Best decision they had ever made… (Vice President of Clinical Affairs, Alexa)*

Alexa acquisition team was focused on understanding the product software design details to mitigate the risk and strengthen the product's design process and its decision-making feature. The Product software was identified as a high risk:
"…The SW is my biggest issue…" (Vice President of Clinical Affairs, Alexa)

As a result, Alexa acquisition team brainstormed to develop a plan to mitigate the product risk:
"…We can update the product SW version to support the user to do a better decision using the product." (Vice President of Clinical Affairs, Alexa)

To develop such a plan, it was important for Alexa acquisition team to identify as much as possible all risks areas through questioning and probing as well as documentation review and site visits. However, they were not able to get all the details they needed, however, despite the struggles they were able to develop a plan with the information they received and analyzed:

We made progress where we identified risks areas…We were able to get everything how the product is made with few details missing…We are trying to avoid multiple iterations on the purchase agreement. (Acquisition Project Manager, Alexa)

Positive Ambiguity from Target: Target Deflected Product's Software Questions

The Target leadership reacted to Alexa acquisition team probing about the product software and design process details by using up to four different evading statements. The Target's president shared that the Target leadership team were not expert in the Target product software development and its features. Then they moved to assure Alexa acquisition team that the product had partially what they wanted but there were many opportunities to explore in the future:

"…The device has partially what you want, and we are moving forward to work on the SW…This will help global introduction more efficient. I am not a SW person though…Many opportunities moving forward… (President, Tomika)

The Target's CEO assured Alexa acquisition team that the Target product decision-making software was developed by experts. That would have deterred Alexa acquisition team from probing further about the product software risk:

"…there were questions…about how we developed the SW. It was developed with good expertise. Then we went to medical folks and made sure they agree on it." (CEO, Tomika)

The Target CEO added further that the validation of the Target product software decision-making was validated by clinical experts through a lengthy time. The Target CEO compared their approach with the approach of many other competitors to make the Target validation method a common method in the healthcare industry.

"…root cause how we got this technology vetted: imagine a group of intense advisors. We had experts from the medical field validate the product. They went through it through months, and this is the validation of how we got here. Other manufacturers use this same approach to validate it. I wanted to make this point." (CEO, Tomika)

The positive ambiguity from the Target leadership aimed to reduce the Acquirer sense of risk towards the Target product SW and to describe the Target product's software as clearly as possible to meet the Acquirer acquisition team expectations.

Positive Ambiguity from Acquirer: Acquirer Praised the Target's Accomplishments Despite its Product Design Weaknesses

Despite finding out that the Target product design process felt short of the Acquirer leadership expectations and the Acquirer design process validation, the Alexa acquisition team praised the Target for what they have accomplished with the bandwidth and limited resources the Target had. The Alexa acquisition team shared that they did have a solid process to validate their own products, assess their reliabilities and perform feasibility tests. However, that would require an extensive amount of time and resources to execute on.

"…We have a process to validate SW, its traceability, its reliability, and its feasibility testing, and I am not sure you had the bandwidth to do that. However, I have a high regard to what you did so far…" (Vice President of Clinical Affairs, Alexa)

From the above, Alexa acquisition team was interested in keeping the discussion going about the Target product design process despite identifying features not included in the released product software, nor the Target product validation process was solid in comparison with the Acquirer's product validation process.

Positive Ambiguities from both Acquirer and Target: Opportunity to Identify and Mitigate Product Design Risks

From what was discussed earlier, Alexa acquisition team focused on identifying and minimizing product design process risk. The Target leadership team aimed at assuring the Acquirer that the product design process was solid. Both teams used positive ambiguity to keep the acquisition discussion and due diligence move forward. There was an opportunity to join effort between both teams to identify risk and work together to strengthen the product design's process. That would have benefited for both teams post-acquisition especially that Alexa acquisition team ended up receiving most of the details to make a decision and the Target leadership team end up having to share the details with Alexa.

5.3.2.4.5 Ambiguity of Communication: Ambiguity about the Acquisition Process to Acquire an "Entity" or the "Asset" of such Entity

There was an internal ambiguity within Alexa acquisition team regarding what was the team aiming to acquire, the entire Target company or the asset of the Target. That ambiguity was detected during the meetings from statements and questions Alexa integration team was debating among each other.

The struggle was related to unintentional lack of information regarding what where they asked to review as par to the due diligence to make decision on the acquisition:

"…No information on what we will be buying as assets versus entities." (Vice President of Legal, Alexa)

Negative Ambiguity Unintentional on Both the Acquirer and Target Side: not Knowing the Type of Acquisition

There were no positive or negative ambiguities being detected and driven intentionally by the Acquirer or Target teams on this subject. However, this ambiguity was worth noting explore in the future since it had led to wrong decisions in the due diligence process among the Acquirer team and could have set the wrong expectation on the target side. Hence, it was categorized as a negative ambiguity, though unintentional on both parties.

5.4 Summary of Chapter 5

Chapter 5 discussed the findings of the second acquisition - Case 2 through a focused ethnography approach that gathered the details from meetings' summaries, meetings' narratives and discussions, meetings' notes, presentations, and updates. Like Chapter 4, Chapter 5 highlighted the presence of a paradoxical ambiguity in between the Acquirer and the Target fueled by tensions and suggested that common goals and shared risk could be the opportunity for a proactive approach between both parties to reduce paradoxical ambiguity. Next, Chapter 6 is used as a Targeted Grounded Theory (GT) approach, as a second tool in the triangulation approach to confirm objectivity of findings paradoxical ambiguities in M&As' integration.

CHAPTER 6: VALIDATING ETHNOGRAPHIC INSIGHTS: TARGETED GROUNDED THEORY TEQUNIQUE AND INTERVIEW-BASED CONFIRMATION

6.1 Introduction

Chapter 6 aims to validate the findings from the first two case studies by employing a Targeted Grounded Theory (GT) approach and an interview-based triangulation method. The chapter begins by coding the meeting recordings of Case 1 using NVIVO14, followed by coding the recordings of Case 2, building on the insights from the first case. This process confirms the existence of paradoxical ambiguities across the four categories discussed in earlier chapters. Additionally, the chapter includes validation through interviews with participants involved in the acquisitions of Cases 1 and 2, further reinforcing the objectivity and robustness of the findings. This triangulation approach strengthens the credibility of the study's conclusions, laying a solid foundation for the final synthesis in Chapter 7.

6.2 Coding and Core Findings[4]

Table 6.1 summarizes the findings codes of Case 1 and Case 2. The Paradox theory lens is used in this Targeted GT technique. For the first order of categories, the question that led the coding of the recordings was: "what ambiguity is underlying?". It identified the different categories of ambiguities found in both Case 1 and Case 2. The second order dimensions in **Table 6.1** are led by the question of "What category of ambiguity was identified?". The identified dimensions were, human resources related ambiguity (HR), organizational related ambiguity (O), goals related ambiguity (G), and processes related ambiguities (P). The third order of themes (aggregated dimension) in **Table 6.1** answer the following questions: is Ambiguity enabling the integration Yes = Positive (+) Ambiguity; No = Negative (-) Ambiguity; Dual existence between Acquirer and Target = Paradoxical (+ & -)"?. The identified themes are one of two types. The first was an internal ambiguity to the Acquirer or the Target and in each case, it was a negative ambiguity. The second was a paradoxical ambiguity where positive and negative ambiguities were identified between the Acquirer and the Target.

[4] All data used in the Targeted Grounded Theory (GT) analysis were derived exclusively from acquisition meeting transcripts.

Table 6.1: Modified Grounded Theory Coding of Case 1 and Case 2 Meetings Notes

Example of Quotations	**First Order Codes what Ambiguity is Underlying?**	**Second Order Categories What Category of Ambiguity was Identified? (+) or (-)**	**Third Order Themes (Aggregated Dimension): Is Ambiguity Enabling the Integration Yes = Positive (+) Ambiguity No = Negative (-) Ambiguity Dual Existence between Acquirer and Target = Paradoxical (+ & -)**
…We acquire these companies, however we do not resource people internally and we expect them to work…(case 1)	Acquirer's Resource Ambiguity: Ambiguity in Acquirer's internal resources skills and potential to execute the integration	Human resource (HR) internal – Ambiguity (-) at Acquirer	(HR) Internal Ambiguity (-)
…They (The Target) have few areas challenging for them like HR… (case 2)	Target's Resource Ambiguity: Ambiguity in Acquirer's internal resources skills and potential to execute the integration	Human resource (HR) internal - Ambiguity (-) at Target	
…we are working on retention packages and talk tracks of what to say and not to say and to which groups... (case 1) *..we can say we are making job offer for all full-time employees …the goal is to offer jobs for all as of day one but in the long run bring it down to 3…(case 2)*	Resource Ambiguity - Compensation Ambiguity - from Acquirer towards Target	Human resource (HR) - Ambiguity between Acquirer and Target	(HR) Paradoxical Ambiguity (+ & -)
…Few were identified to keep because of their long-lasting history with the target…(versus reviewing employees performance reviews) (case 1) *…how they are paying their reps? … Question whether we will need to continue to employ and use them... (case 2)*	Resource Ambiguity - Compensation Ambiguity - from Target towards Acquirer	Human resource (HR) - Ambiguity between Acquirer and Target	
…we have a potential person but can't tell for sure if they are to keep… (case 1) *…We need to know who (in Target's R&D) has done what during the last year… (case 1)*	High Tech-firms Resources Ambiguity: Acquirer's Integration Team faced ambiguities around Target's resources skills and potential making the decision who to retain very difficult	Human resource (HR) - High Tech Ambiguity between Acquirer and Target	
… Not yet clear of who we do not need (from Target) yet… (case 2)	High Tech firm resource Ambiguity: Ambiguity of employees' retention based on skills and potential	Human resource (HR) - High Tech Ambiguity between Acquirer and Target	

…it (The Target) is run in a family way where there is a lot of consideration for relationships…(case 2)	Role ambiguity: ambiguity of new identity of employees in the structure - Ambiguity from Target towards Acquirer	Organizational (O) between Acquirer and Target	(O) Paradoxical Ambiguity (+ & -)
...once we (The Acquirer) run it we will not be able to only depend on relationships…(case 2)	Role ambiguity: ambiguity of new identity of employees in the structure - Ambiguity from Acquirer towards Target		
…We are getting a blip on the list of projects, and we are looking into the high priorities while the others can sit in the background…(case 1)	Communication Ambiguity: Ambiguity about priorities' goal - Ambiguity from Target towards Acquirer	Goals (G) Ambiguity from Target towards Acquirer	(G) Paradoxical Ambiguity (+ & -)
…We (The Acquirer) need to be careful how we approach to probe distributors (at Target) about the margin…(case 2)	Causal Ambiguity: changes in distribution model and impact to revenue's goal – Ambiguity from Acquirer towards Target	Goals (G) Ambiguity from Acquirer towards Target	
Acquirer asking: …In the reseller agreements (at the Target) there is a clause that a major distributor can return the product back to the target anytime so what is the real sales number (at The Target)?... (case 2)	Outcome Ambiguity: Ambiguity about revenue's goals - Ambiguity from Target towards Acquirer	Goals (G) from Target towards Acquirer	
...I am working on setting up another call with our steering comity…(due to unshared information internally) (case 1)	Communication Ambiguity about the integration process - Internal Ambiguity at Acquirer	Process (P) communication Internal - Ambiguity (-) at Acquirer	(P) Internal Ambiguity (-)
...we (at Acquirer) changed our labelling, and I was not aware of what was going on… (case 1)	Communication Ambiguity about the integration plan - Internal Ambiguity at Acquirer		
…No information on what we will be buying as assets versus entities… (case 2)	Communication Ambiguity: ambiguity about the acquisition process: whether to acquire an "entity" or the "asset" only of that entity - Ambiguity internal to the Acquirer's team		
…I (one function at the Acquirer) was brought late into the discussion on how we are dealing with the rerouting and now the letter given to the health authorities in that country is not accurate and need to be changed…(case 1)	Communication Ambiguity: Ambiguity in communication and knowledge sharing - Internal Ambiguity among the Acquirer integration team		

… I (one function at the Acquirer) was brought late into the discussion (of the integration process) on how we are dealing with the rerouting… (case 1)	Communication Ambiguity of the integration process and plan: Un-represented role in the integration process decision making: Internal Ambiguity at Acquirer		
…customer service and technical service and international operation did not know so things were stuck because we made decisions in a bubble but that affected the downstream regular business… (case 1)	Ambiguity of integration process plan: Ambiguity about a defined integration process on the Acquirer side internal	Process (P) Integration plan Internal - Ambiguity (-) at Acquirer	
… we (The Acquirer) sit in the update meeting, and we talk about the individual functions. It is a business process. We talk about our functions, but we are not talking about the business... (case 1)	Causal Ambiguity introduced by the followed process of integration of systems versus business: Ambiguity of causal relationships due to functional silos in integration status reporting - Internal Ambiguity at Acquirer	Process (P) Causal Ambiguity Internal - Ambiguity (-) at Acquirer	
…There is installed base, service parts, and order-to-cash and there is procure-to-pay…We need to bring both together…instead of running in series, we could have run in parallel…(case 1)	Process integration design Ambiguity: Ambiguity of process plan for projects executed in series vs in parallel and vice versa - Internal Ambiguity at Acquirer	Process (P) Design Ambiguity Internal – Ambiguity (-) at Acquirer	
…order-to-cash and nothing beyond that. We could have better representation on the team. We were finance and sales focus but no representation from quality assurance etc.… (case 1)	Process objectives' (Goals') Ambiguity: Focus on certain goals introduced Ambiguity on other goals - Internal Ambiguity at Acquirer	Process (P) Goals Ambiguity Internal - Ambiguity (-) at Acquirer	
…We did a quick method by doing a subset instead (due to focus on speed) of bringing all items and selecting their subsets to bring them into the documentation application Database… (case 1)	Speed process Ambiguity: Focus on speed versus long term strategy introduced Internal Ambiguity Internal to the Acquirer	Process (P) Implementation model internal - Ambiguity (-) at Acquirer	
…Europe is different so it may be critical to look at the retention to avoid triggering a dual payment… (case 1)	Integration model Ambiguity: Ambiguity in a path forward to integrate global variations of satellite offices and footprints - Internal Ambiguity at Acquirer	Process (P) Integration model Internal - Ambiguity (-) at Acquirer	
...we (The Acquirer) need to figure out (the process) during the 7 days period the sales reporting structure (of the Target)...(Case 1)	Ambiguity about the process to integrate a function: Ambiguity from Target towards Acquirer	Process (P) integration plan - Ambiguity from Target towards Acquirer	(P) Paradoxical Ambiguity (+ & -)
…all the legacy products brought in don't have owners internally (At Target)… (case 1)	Contractual Ambiguity in the process: Ambiguity about the process to support legacy products - Ambiguity from Target towards Acquirer		

…The Target main distributor agreement will turn them into exclusive … can we overturn that by refusing orders?"… (case 2)	Communication Ambiguity in the process of establishing contracts: ambiguity about contracts clauses - Ambiguity from Target towards Acquirer	Process (P) communication - Ambiguity from Target Towards Acquirer	
…the goal is to put everything through our Quality management system...we need to document everything because - in the future - we may not remember the complaint details… (case 2)	Communication Ambiguity about the Target Quality Management System (QMS) process - From Target towards Acquirer		
…asked for additional information (from Target), received a number of contracts but nothing that tells us what about the manufacturing piece… (case 2)	Technical Ambiguity: ambiguity about the product manufacturing process, logistics process, suppliers, storage, and support - Ambiguity from Target towards Acquirer	Process (P) Technical - Ambiguity from Target Towards Acquirer	
"…I saw one beta test of the SW…they (The Target) claim the results are fantastic but did not see a pass/fail criterion for the test they did. Right now, I will consider it a medium risk…so it does require further digging…(case 2)	Technical Ambiguity: Ambiguity about product's design process, ambiguity of functionality, ambiguity of software application, and ambiguity of documentation - from Target towards Acquirer		
…There is installed base, service parts, and order-to-cash and there is procure-to-pay. The first is the collection of money. We (The Acquirer) need to bring both together. IT (of the Target) is the bottleneck resource… (case 1)	Systems' integration process Ambiguity: Ambiguity in system applications compatibilities and their integrations - Ambiguity from Target towards Acquirer	Process (P) System (IT) integration - Ambiguity from Target Towards Acquirer	
…for Customer service, they placed the order and now there is a stuck situation between Customer Service and shipping and we found that many orders were caught in a reactive mode, which we did not know about them…(case 1)	Communication Ambiguity: Critical Data Sharing Ambiguity about the business processes: Ambiguity in communication of potential known failures - Ambiguity from Target towards Acquirer	Process (P) Communication - Ambiguity from Target Towards Acquirer	
…people at Target did hear that they were out of the loop… (case 1)	Communication Ambiguity in the integration process: Ambiguity in communication and knowledge sharing about systems integration, integration plans, QMS, Data sharing, etc. at Acquirer- From Acquirer towards Target	Process (P) Communication / Integration plan / Systems / Technical compatibility - Ambiguity from Acquirer Towards Target	

6.3 Key Interview Findings[5]

6.3.1 Validated the Proposed Four Categories of Ambiguities: Human Resource (HR) - Organizational (O) – Processes (P) – Goals (G)

The four categories were confirmed to cover all ambiguities faced by all the interviewees and their teams. The interview answers were a straightforward confirmation for those categories to cover all ambiguities faced, answers such the one received from one of the interviewees who lead the integration of their function for both case 1 and case 2:

"I agree with all these." (Director of Regulatory Affairs, Alexa).

Another example of an answer confirming the four categories was from the manager of Case 2 integration and one of the leads of Case 1 integration. The manager shared that he has three of the categories in his strategy while this research pulled a fourth one, the Goals (G), which they had missed:

"This is interesting because when I lay out strategies, I go with 1- systems, 2- processes, and 3- people. These are the three. Those buckets should capture everything. You have a fourth one." (Manager Helpdesk 2 and the Integration Manager of case 2, Alexa).

The Acquisition Manager of Case 2 and one of the leaders of Case 1 integration confirmed that those categories captured most ambiguities faced:

"I think those four buckets they pull 99.7% of ambiguities in M&A. I will go so far to rank them and say the hardest one might be the people." (Integration Manager, Alexa).

When examples of ambiguities and remembered cases were shared, all interviewee agreed that all the ambiguities shared fell into one of these categories. This confirms the choice of the four categories of ambiguities of (HR), (O), (P) and (HR) in the typology which are proposed based on the literature review and the analysis of Cases 1 and 2.

6.3.2 Validated the Theory Development of Ambiguity Priorities Starting at Lower Level of HR -> O -> P -> G triangle

All the interviewees concurred with the priorities of these categories. They all confirmed that the Human Resource aspect of ambiguity was their top priority to deal with. They stressed that the

[5] All data analyzed in this paragraph was gathered from semi-structured post-integration interviews, which served to validate the findings of the ethnography analysis and Grounded Theory (GT) technique applied in Case 1 and Case 2.

focus on the people aspect will pave the road for a successful integration. They shared as well that the HR stone is the most important piece to build a solid integration foundation:

"Everything I said is aligned with these priorities to manage these ambiguities. As a priority focusing on people … make everything else better. They are the foundation. Nothing else will sit on top correctly unless we have that human factor (HR) foundation set well." (Director of Operations, Talia).

The HR priority was stressed to be important because it is the key to get employees on the Target to cooperate with the Acquirer team:
"Yes, because the Target's employee would not want to hear anything before, they understand what is going to happen to their jobs. When we prove to them that their job is guaranteed for them then they will start hearing us" (Director of Business Programs, Alexa).

A description was shared about a valley of emotions that all Target employees went through due to ambiguities related to their roles however the fastest they could be pulled out of that valley the better for the integration. In other terms, the process that Target employees went through started by a drop in the performance when they heard an acquisition was taking place that could have impacted their jobs:
"As a result, performance starts dropping. The ambiguities such as Human Resource (HR) and Organizational (O) influence how long those feelings will last." (Integration Manager, Alexa).

Clarity and speed were important factors to manage the HR ambiguity:
"The goal of the Business Development team is to get the people out of that dip…The valley will happen no matter what, but the point is to get them out in a matter of days versus weeks or months by providing certainties." (Integration Manager, Alexa).

Interviewees confirmed that the Organization Ambiguity was the 2nd priority to manage.
"The Org (O) is a 2nd in priority because it is important to know who does what where." (Integration Manager, Alexa).

On the Goals (G) Ambiguity, the comment was that Goals (G) should have minimum ambiguity especially on what needed to be done in the acquisition. In other terms what were the acquisition type and steps.

"…the Goals (G) should have minimum ambiguity. That should be very clear: we will acquire this business X and we will let them know that at the moment of the acquisition, that they currently operate and distribute in North America, but we will scale the business to Europe, then we will do xyz…"

The follow up comment was that the research assumed that the type of acquisition was to be determined by the Acquirer as well as the vision for what needed to be done with the Target's business. In other terms, the Acquirer's vision and the integration type were assumed to not have any ambiguity for the Acquirer. It was clarified that in this research the 4th category of ambiguity, i.e., the ambiguity of goals, had the minimum ambiguity because the Acquirer's goals and objectives were very clear. The Goals (G) ambiguities detected in case 1 and case 2 were not related to the type of integration, neither to what the Acquirer wanted to accomplish because it was less ambiguous to the team hence it was a low priority compared to the other three categories during the integration. The interviewees confirmed that the type of Acquisition and vision of what they were expected to execute on in the integration should have been very clear from the start, and it was dictated by the Acquirer. That confirmed the proposed priority to manage the four suggested ambiguity categories, as stated by Alexa's Integration Manager:
"For the middle two buckets, i.e., Processes (P) and Organization (O), if we do well the other two i.e., Human Resource (HR) and Goals (G), it will give people trust in what we are doing." (Integration Manager, Alexa)

During the interview, the mid-level managers had stressed the importance of managing the ambiguities of the processes and systems in a much pressing priority versus the Integration Managers. Hence, the importance to bring up the priority of managing the systems and processes ambiguities up right after (HR) and (O). For the mid-level managers, they shared that the management of systems and processes ambiguities did put the integration at risk much more than the ambiguity about the goals:
"Yes. This decision could have impacted the success sure" (Director of Business Programs, Alexa).

It can be concluded that the Acquirer should have had clarity on the type of integration and goals before starting the integration. That would have had minimum impact on ambiguities during the integration phase. The priorities to manage ambiguities during the integration phase followed the proposed importance suggested in this research.

After the acquisition goal was identified prior to Day 1, the four ambiguities needed to be managed in the priorities identified earlier. The acquisition goal needed to be communicated between the executives of the Acquirer and their mid-level managers who worked on the integration.

6.3.3 Validated Ambiguity Root-Cause in Acquisition

There was a confirmation among all interviewees that these were the root causes of all ambiguities that they faced. Communication was highlighted as the most critical of all root-causes:

"I agree 100% that the first two i.e., "weaknesses in resources planning and management" and "weaknesses in communications" are the biggest root causes for ambiguities we faced in the Talia's integration. I would even say Communication could be first root cause among all." (Director of Operations, Talia).

The stress on weakness in communication was not about the content. i.e., what to communicate, but rather about the mean to communicate, i.e., how to deliver the content to the Acquirer mid-level managers and their teams:

"…you are right… we are not spending any time on how this is going to be communicated to all the different managers within Acquirer's team…that is an area that is of a greatly importance." (Integration Manager, Alexa)

The interviewees highlighted the struggle related to the bandwidth of resources due to the two integrations happening simultaneously. However, this would fall under the weakness in resource planning:

I agree with these. However, there is something to highlight, and it is Timing: we acquired Tomika then after 1 month we acquired Talia. The same resources were tasked to integrate both Tomika and Talia which made things more challenging. (Manager of Helpdesk 2, Alexa).

The other highlighted struggle was also related to the expertise of the team who performed the integration:

"This will have more of an affect when you have an acquisition team with less experience and not trained on what the process is for an acquisition." (Director of Business Programs, Alexa).

In summary, the weakness in communication and the resources planning and management struggles were the two most important root-causes of M&As' ambiguities faced both in Cases 1 and 2.

6.3.4 Validated Ambiguity Progress Similar to the Communication Model (Crossan *et al.*, 1999)

All interviewees who commented on this question confirmed that the lack of balance between the communication travelling top-down and bottom-up at both the Acquirer and the Target were source for ambiguity and struggles, and an improvement could have been done to reduce ambiguity:
"Yes, this can be root cause of ambiguity." (Director of Business Programs, Alexa)

The reason was that the executives were detached from the low-level (i.e., employee level) reality happening during the integration due to their high-level (i.e., executive level) focus versus the low level i.e., tactical, and transactional level focus:
"The higher we are makes us more detached from reality so having the mid-level managers being the focus point could be efficient." (Integration Manager, Alexa)

There was a confirmation that these top-down and bottom-up learnings have been intercepted in the middle i.e., at the mid-level manager level. This was reported from both the Acquirer side and the Target side:
"The top-down feedback and bottom-up feed forward learnings, even if those learnings do not contradict with each other, they do however intercept in the middle." (Director of Operations, Talia).

Hence, identifying the mid-level managers as the champions to balance both communications was a recommended an opportunity to explore to lead to reduction in ambiguities:
"If the middle level manager is identified to balance learning and communication, those two could have been better and ambiguity would be reduced or eliminated." (Director of Operations, Talia).

Interviewees thoughts that the improvement in the top-down and bottom-up communication can be best done during the integration phase post Day1 versus during the whole phases of the acquisition:
"I am thinking from a post day 1 point we can have mid-level managers involved in those meetings. Talking about it makes a lot of sense." (Integration Manager, Alexa)

The way that was proposed to be improved was to engage the mid-level managers themselves and to have them be the point of contact:

“Certainly, this is a great idea in the post-closure, i.e., post Day 1 and having the mid-level manager directly involved and managing communication both ways would be ideal.” (Integration Manager, Alexa)

The interviewees shared that it should have been an active effort to improve on this communication and that would have required raising awareness and taking actions. They shared as well that it could have required soft skills of emotional intelligence to be able to joggle and balance the feed-back and feed-forward:

There should be a conscience effort to balance such two ways communication and learning top down and bottom up. This is why people may not pay attention to it. We need Emotional intelligence to be present in the team performing the acquisition and integration.” (Director of Business Programs, Alexa)

There were three reasons leading to the lack of balance between the top-down and bottom-up communication and learning. The first reason was the existence of more top-down communication versus bottom-up received, especially happening on the Target side:

“We did a lot of organizational structure and discussions, and we developed plans based on a lot of feedback learning but not a lot of feed-forward.” (Director of Operations, Talia).

The second shared reason was the lack of communication from the executives towards the mid-level managers:

“If I am the person in the middle, and if the Alexa’s Acquisition project manager as well as Alexa’s integration team and Alexa’s VP of Operations had provided information and communication to me as a leader in the middle of the model, the learning and communication processes could have been balanced better.” (Director of Operations, Talia).

And the third one was the change in the receiving of information due to the lack of balancing, which resulted in the stop of communication flow:

“This became a loop in which we got stuck in the middle. The Target employees providing us with advice thought that we were not listening to them which caused the feedback to stop.” (Manager of Helpdesk 2, Alexa).

The reason the feed-forward did stop from the employees was due to the fact that the employees providing feed-forward information interpreted the lack of balance as a lack of action and thoughts that their feedback was not useful:

"…there was a crash in the mid-level managers because the people giving feed forward to those mid-level managers were told to proceed with something completely different to what they were reporting and advising." (Manager of Helpdesk 2, Alexa).

The proposed idea for improvement was to empower the mid-level managers to be the balancers of top-down and bottom-up received information.

"An area we could have improved in both acquisitions was to capture the feedback and feed-forward and make them bond/gel together and communicate up and down." (Manager of Helpdesk 2, Alexa).

Mid-level managers could have acted as balancers of communication and learning. A proposed model in **Chapter 8** shows the potential of the mid-level manager on both sides to balance communication and learning within their respective firms top-bottom and bottom-up, and in between the Acquirer and the Target to minimize ambiguity.

6.3.5 Validated Proposed Proactive Model to Leverage Ambiguity

The interviewees agreed that the proposed proactive model to leverage ambiguity through the Pre-Acquisition Planning, the Integration Strategy, the Integration Process, and Continuous Assessment and Adjustment were important factors to reduce ambiguity. One example shared was the ambiguity they had to deal with in integrating the IT systems. Integration could have been improved with the proposed process modification and improvement:

"Yes, it will be a lot less unknowns. And the internal communication would have improved. For example, the ambiguity we run into in the IT systems to integrate could have been resolved with this process. We are not putting a lot of emphasis on the systems to integrate." (Director of Business Programs, Alexa)

What the interviewed leaders liked was raising the awareness of ambiguity to enable ambiguity detection and ambiguity management. A regular check-back on ambiguity and its change during the integration was confirmed to be a valid benefit of this proposed process:

"I like the regular check-back and the check on whether ambiguity had changed over the course of the integration phase and what we are doing to address that… having ambiguity check in mind in the process will be helpful." (Integration Manager, Alexa)

However, the ambiguity identification varied from one manager to another. Some managers were sensitive to ambiguity detection and did it intuitively, while others did not:
"We do not identify ambiguity proactively during due diligence. Some of us we do it intuitively. But in our due diligence documentations we do not have ambiguity identified." (Manager of Helpdesk 2, Alexa)

Hence, the ambiguity assessment seemed to be important for the leaders to fill the disparity gap of ambiguity sensitivity and detection among acquisition leaders:
"Performing the ambiguity assessment and know the actions to reduce it would be great. The communication should be there, and it is important in the process." (Director of Operations, Talia)

The leaders confirmed that a benefit to add ambiguity tracker in the acquisition process was to better detect ambiguity for a better management:
I think you are right; ambiguity identification needs to be embedded in the acquisition and integration process… if ambiguity detection is not on the tracker, we will not see it." (Manager of Helpdesk 2, Alexa)

The leaders confirmed that the ambiguity on the soft component would have been of a great help to facilitate the management of the hard components. Their definition of soft component was human resources retention versus the hard components of IT systems integrations:
If we had identified the soft component of an acquisition, then the hard components would be dealt with in a better way." (Manager of Helpdesk 2, Alexa)

In summary, there was a benefit to bring an ambiguity identification process and tracker during the M&A process. Change management was brought into the discussion during the interview and seems to be an important competent that may help ambiguity reduction. However, due to the limitation and focus of this research, change management was only mentioned as an important tool to explore further, and detail its impact on M&A ambiguity but, it would not be discussed in detail in this research since it was out of scope for this research.

6.3.6 Validated Management Practices of Seeking Positive Ambiguity and Reducing Negative Ambiguity as Opportunities for Success of M&A Integration

The interviewees confirmed that the management practices of seeking positive ambiguity and reducing negative ambiguity were real opportunities for success of M&A integration. The examples they provided were centered on human resources and IT systems. The idea to leverage paradoxical ambiguities in the way it was found and discussed earlier in Chapters 4 and 5 (see **Table 4.2** and **Table 5.2)**, was very well welcomed:

"The idea of framing, or finding commonalties, or framing things in a way it can help both of us, that idea makes a lot of sense to me…It can be very effective in the integration phase, I agree." (Integration manager, Alexa)

One example provided on the human resources was to find what the leader called "champions" and bond with them to find common goals and reduce common risks identified between the Acquirer and the Target:

"…make sure you find the Target's "champions" in your next acquisition… The Target's champions are always known… it is important to be looking into Target's people in the discovery phase. Pay attention to conversation and ask the Target's executives the details of who these champions are." (Director of Operation, Talia)

Another human resource opportunity provided by the leaders to apply this practice, was the Subject Matter Expert (SMEs) identification and engagement. They shared the importance of identifying these SMEs during the acquisition process, and better before the integration phase, when possible:

"On the target side they should be able to provide you with a list of SMEs and the people who are integral to the culture and are able to influence people around them. It is more about the human interaction side of the Target's culture to identify the people respected there even if they are not managers of people. And it should be part of the acquisition process." (Manager Helpdesk 2, Alexa)

The leaders shared how the process to bond with these human resources SMEs or champions took place. There was a kind of a try and error process that gained trust as described below:

"It is important for us to agree on the person we want to take risk with. We will show a little bit of our cards and have them show a little bit of their cards." (Director of Business Programs, Alexa)

The other opportunity example they shared where this practice could have been applied was in the integration of IT systems. The discussion to meet common goals and reduce common risks could have saved both teams time and efforts and reduced failure risk:

"It would have gone smoother if we had a better understanding of the different systems before we were working in the integration. If we had more synergy and understanding it would have been more helpful and we could have saved time and made it easier to meet the deadlines. So, a discussion together with the Target about the IT systems to work on them together could have saved us time." (Director of Business Programs, Alexa)

The identification of positive and negative ambiguities and their common risks and goals, as well as the proposed reduction of such ambiguities through open discussions on common goals and risks were confirmed to be important and a beneficial practice for M&As' success.

6.3.7 Explored the Development of Assessment Tool for Ambiguity

On the question to use an ambiguity detection tool or process the leaders confirmed that there was a benefit to use such a thing. The first proposition was to use a human person as an ambiguity identifier beside the integration manager, who's role was to spot ambiguities. The person was an observer outside of the integration team and leaders, with the goal to identify ambiguities during meetings and discussions that other people engaged in those discussions were not focused on identifying:

"An observer can help identify ambiguities during meetings and discussions and that person will pick up a lot of nuances that people don't identify." (Manager Helpdesk 2, Alexa)

It was highlighted that people engaged in M&As discussions were not fully focused on identifying ambiguities. Also, if ambiguities were detected the person engaged in the discussion could not have reacted on them. Hence, the role of the observer would have been to record ambiguities and to develop a process or plan of action to minimize them:

"The comment is spot on there is a point: if you are in the mid of a discussion, it is hard to see the ambiguities. But if you see them you can't react on them either." (Integration Manager, Alexa)

The observer should not be engaged in the integration process and should be able to provide feedback to the integrating teams:

"It must be mandated that that observer does not speak or engage in the meetings…have someone taking things in and then debrief the group about potential ambiguities the observer had identified." (Manager Helpdesk 2, Alexa)

A software or artificial intelligence tool could have been deployed as a tool to help the observer identifying clues in the verbal and written communication messages but not as a replacement to the human observer.

"…a Software program/solution…an Artificial Intelligence using algorithm to pick on people communication styles, tones, etc.…as a tool to assist the observer…It must be contingent on human being to identify what the conversation in the room is." (Manager Helpdesk 2, Alexa)

The use of an artificial intelligence tool was still debatable due to privacy and recording concerns but there was no objection on having a human ambiguity observer:

"Having an AI is debatable, but definitely having a person is a "yes". (Integration Manager, Alexa)

Hence, having a process or framework to detect ambiguity as identified earlier in the research and questions/answers above could have played a major role in identifying ambiguities and reducing them:

So having a framework or mindset identified when going into an acquisition and having someone not part of the process floating around and looking to identify ambiguities can be a value add." (Integration Manager, Alexa)

There were two main struggles shared by the leaders about identifying and managing ambiguities during M&As meetings and discussions. The first was identifying the ambiguity. If people could not have sensed the ambiguity, they would not have reacted on it:

"If the people do not know what to look for and identify the risk, they can't be sniffers. Communication is an important key to reduce ambiguity." (Director of Business Programs, Alexa)

The second was to act on the ambiguity while the discussion was ongoing in the meeting:

"Having someone outside of the integrating team identifying ambiguities to level-set everybody can help. Also, it will help us to focus on what they are saying and gathering information and try to understand the business versus on detecting and dealing with ambiguities on the fly during a discussion." (Director of Business Programs, Alexa)

Hence, the identification and the management of ambiguities started by identifying them and acting on them. Ambiguities would slip from leaders focusing on certain subjects during the meetings. But even if identified they did not have the time or focus to tackle it. An independent observer would have acted as an ambiguity identifier to support the integration team with post-meetings debriefing.

6.3.8 Explored the Development of Metrics to Evaluate Ambiguity's Impact on Performance

This was a difficult question to get direct answers on. However, the interviewed leaders shared few thoughts that could help shape a proposed solution. First, there was a focus on identifying SMEs and key personnel whose potential leave could create a gap in the integration process and lead to a failure risk:

"Identify and keep an eye on the people who with a flip of a switch can cause a lot of harm to the integration. Identifying these risks is important." (Manager Helpdesk 2, Alexa)

It was suggested not to limit the discussion to the integration team:

"It is important not to limit the communication to the Acquirer's team involved in the respective functions from the beginning, whether they get involved in the integration or not" (Director of Business Programs, Alexa)

The Acquirer integration team used excel sheets to identify subjects they wanted information on. On the question whether it was helpful if the Acquirer Team should have dug deeper in the ambiguities identified on the excel sheet, the answer was focused on the SMEs and the priority of the questions.

"If we know who to go to, and rank the questions about what is important?" (Director of Business Programs, Alexa)

The identification of champions as discussed in previous question was stressed on being an important factor:

"Once we have champions identified, these are common goals and there is a gap, so how we can close it? maybe use an excel/pdf file in a Teams channel." (Director of Operations, Talia)

Hence, any metric that needed to be developed to evaluate ambiguity should have had the identification of a champion and an SME for the respective functions. The ambiguities should be ranked based on risk level to focus on high-risk ambiguities. A proposed metric would have been to track for each function being integrated, the identification of a champion, the identification of SME, the identification of risk, and the priority of ambiguity based on the risk level.

6.3.9 Explored the Development of Ambiguity Monitoring Tools

The answers were more focused on defining initially what the integration team wanted to accomplish and detect any deviation from the goals. That would have been a process that could have been applied as a tool to explore and monitor the development of ambiguity:

"During the acquisition due diligence process if we define what we are looking for enough it will become the frame of our data warehouses, if not we will have a lot of intuitions. It is about defining what we are supposed to look for." (Manager Helpdesk 2, Alexa)

Identifying detected ambiguities was equally important to logging these ambiguities and tracking them:

In the due diligence phase if we say to the team that these are the things we are looking for and if you find anything please log it here, then that will be brining ambiguities to light." (Manager Helpdesk 2, Alexa)

Working in functional silos during the integration phase was believed to be a source leading to ambiguities during the integration phase:

In Integration people are still working in silos so people are not looking to identify potential troubles. (Manager Helpdesk 2, Alexa)

It can be concluded that a tool to monitor ambiguity should have started by identifying the goals during the acquisition and detected any potential deviation from achieving these goals. Recording the ambiguity detected is equally important to detecting the ambiguity. The recording of the ambiguities in an ambiguity registry, like the risk registry used in project management (*The Standard for Project Management - Knovel*, 2021), was a proposed important tool to explore.

6.3.10 Identified what Mid-Level Managers Faced as Ambiguities in Case 1 and Case 2

Mid-level managers who integrated both Talia and Tomika into Alexa faced ambiguities pertaining to the IT systems and human resources as identified earlier in this section. These were main ambiguities shared across multiple functions since human resources and IT systems were used across different functions at Alexa. However, with functions such as regulatory affairs the interview tried to identify whether there were any ambiguity pertaining to its function only. It was shared that

the acquisition team at Alexa were not clear about the type of acquisition, i.e., whether it was an acquisition of the Target's asset only or an acquisition of the entire Target. As a result, their decisions were not based on a solid understanding of the type of acquisition:
"It was a purchase of Target Mia's asset only while people thought it was a company purchase. That caused a lot of misinterpretations because people at Acquirer Alexa think it is an acquisition of the entire company versus an acquisition of an asset." (Director of Regulatory Affairs, Alexa)

This type of ambiguity was an ambiguity identified in the typology earlier.
Another ambiguity identified was the lack of information due to the absence of SMEs in human resources due to the departure of the executives:
"After we let go the executives, people wished if they could have access to the VPs to inquire about several critical subjects during the integration." (Director of Regulatory Affairs, Alexa)

In summary, all interviewed leaders did identify ambiguities already detected earlier in the project. This confirmed that the typology of ambiguity identified earlier was comprehensive for both Cases 1 and 2.

6.3.11 Identified Differences in Ambiguities Between the Integrations of Case 1 and Case 2

The team did identify differences in both Case 1 and Case 2 acquisitions. Those differences were mainly related to the type of acquisition as mentioned in the previous section and the availability of the executives. As identified earlier in the research the R&D for example faced different ambiguities in both projects. In case 1 the struggle was to write the regulatory product application for the Food and Drug Administration (FDA) in the USA.
"Our R&D team wrote most of the PMA applications for our products, so for project Xia we did not have the knowledge and expertise to go ask the questions about the PMA deficiencies for Project Xia's products." (Director of Regulatory Affairs, Alexa)

With Case 2, the ambiguity shared was more about the product itself and whether the scientific affairs department needed to be involved or not:
"On Scientific Affairs they were struggling because this is a basic product, so they were questioning why they were pulled for a simple asset only acquisition." (Director of Regulatory Affairs, Alexa)

Each of the above ambiguities were not identified in the other case. Those differences were a result of decision made to not retain the executives with case 1 and to the lack of understanding of the type of the acquisition in the Case 2. In both cases the ambiguities were related to decision made earlier or a lack of communication earlier in the acquisition process.

6.3.12 Opportunities to Reduce Ambiguities based on Experience of Employees Engaged in Case 1 and Case 2

In addition to what was discussed earlier in the research, hiring a consultant company to perform the due diligence and help the mid-level managers with integration was brought up. Not having the internal expertise in understanding new market channels and penetration could have been mitigated with an external consultant help:

"For project Mia, we should have hired a consultant company to do our due diligent and integration aspect." (Director of Regulatory Affairs, Alexa)

Reviewing the long-term objectives beyond the five years plan could have been helpful to decide whether the acquisition is worth or not:

"We did not look at what was the value, what were the 5 years plans, and based on that decide whether we would have gone after it or not. It was not a strategic decision from the get-go" (Director of Regulatory Affairs, Alexa)

However, the subject of this research is to focus on the M&As' integration and not on the due diligence process leading to the decision of whether to acquire or not a certain firm.

Another opportunity to improve was to minimize reactive approaches to manage induced struggles brought forward by Acquirer's decisions. For example, one opportunity was to review and reassess the focus on expense reduction and early termination of leaders and employees on the Target side. An early departure of these SMEs led to a reactive approach to fix the induced struggle of lack of information available. It could have been better dealt with a certain delay in executing on human resource termination.

"This can block us from selling the product and expanding in the market, then we waste time trying to fix it instead of keeping few more people around and integrate them well. Cutting on expenses is putting things at risk." (Director of Regulatory Affairs, Alexa)

The above-mentioned opportunities were not meant to be a comprehensive list of opportunities to reduce ambiguities but were meant to detect any other opportunities not identified in this research.

From what was shared above it did not uncover other opportunities not identified earlier in the research.

6.3.13 Validated Impact of Detected Ambiguity by Employee/Manager on the Success of the Acquisition and its Integration

This research wanted to validate whether ambiguities identified and discussed earlier may have led to failures and how. The interviewed leaders confirmed that ambiguities detected and discussed in this research did jeopardize the integration success:

"Ambiguity did literally put the success of the integration at risk, we made it harder on ourselves more than what it is supposed to be." (Director of Operations, Talia)

For example, one identified potential failure was the removal of a product from the market due to the fact that SMEs were let go and there were many ambiguities pertaining to the product and its design:

We had to pull a product from the market because we did not have enough information from the VPs. We could not ask the right question before we let the VPs go because we did not know what to ask for." (Director of Regulatory Affairs, Alexa)

The other potential failure was the diminishing of return on investment calculated at the start of the acquisition during due diligence, due to the lack of expertise on the distribution business:

"We are losing our Return on Investment (ROI) because we did not understand the 3PL distribution business well" (Director of Regulatory Affairs, Alexa)

These two potential failures were not comprehensive of all potential failures in M&As, but were instead just examples that linked ambiguities to potential partial or total failures of M&As. The examples above were partial failures that could have led to total failures. The retrieval of product from the market could have led to a reduction in revenue, and the diminishing of the return on investment is a financial struggle that would have required attention and reassessment.

6.3.14 Collected Comment on the Idea of Leveraging Ambiguity to Enable Success

It was explicitly explained to all the managers interviewed how ambiguity could have been leveraged to enable M&As' success. Despite the explanation, the leaders did not share many answers on how they leveraged ambiguity during their engagement in the integration phase except for one related to human resources in case 2. Alexa's integration team did not share what was the plan for the Tomika's employees for the first quarter, to retain the expertise until Alexa's integration team learns Tomika's business:

"Hence, they were very positive the first few weeks, but if we would have told them you will be terminated in the first 3 months like what we did with Talia's employees they would not have reacted the same." (Manager Helpdesk 2, Alexa)

Leveraging ambiguity was either not explored by the interviewed leaders or explored but with no self-awareness to report on it. Either way there was an opportunity to bring awareness and highlight it as mentioned earlier in the research to minimize ambiguity impact and improve M&As success.

6.3.15 Explored other Ideas not Identify or Captured

It was confirmed by several leaders that the integration phase was crucial for the success of the M&As. A mismanagement of M&As integration could have led to failures:

"The key to any successful acquisition is the integration process. It is so vital. There are case studies after case studies about how acquisitions' integrations were mis-managed and lead to failures." (Integration Manager, Alexa)

However, ambiguity awareness, detection, documentation, and management were key factors to improve on ambiguity management and to enable integration success:

"I think the fact that you are talking about it and if the output of this is a clear definition on how to document ambiguities and how to deal with them, then it will solve 90% of the acquisition and integration problems." (Manager Helpdesk 2, Alexa)

Alignment with change management was identified as an important factor to explore further, however it was not the scope of this research:

"There are many blind spots in large acquisitions and integrations due to the complexity of their nature. Hence talking about those ambiguities ahead of time and aligning the discussion with change management will become like a mantra for the acquisition. It will become the acquisition integration big picture to focus on and execute on." (Manager Helpdesk 2, Alexa)

During the interview it was mentioned several times that Human Resource Ambiguities and Processes Ambiguities were the top ambiguities faced by the integration team and were the top priorities to manage.

6.4 Summary of Chapter 6

In summary, the interviewees confirmed all research findings discussed earlier in the literature review in Chapter 3, as well as the findings of Case 1 in Chapter 4, of Case 2 in Chapter 5, and the findings of the modified GT approach in this Chapter 6. Next, in Chapter 7, the research discusses the key findings and their limitations.

CHAPTER 7: RESEARCH FINDINGS, LIMITATIONS AND CONCLUSION

7.1 Introduction

This chapter provides a comprehensive synthesis of the findings from Case 1 and Case 2, aiming to link these results directly to the research questions (presented in Section 1.4) and evaluate their broader academic and practical contributions. The chapter begins with an overview of the key findings from both case studies, followed by a detailed discussion that highlights how these findings address the core research questions. It further explores the implications of the study, emphasizing its contributions to both theoretical frameworks and practical applications within M&As. The chapter concludes by acknowledging the limitations of the research and offering recommendations for future studies. This chapter is crucial in consolidating the research insights, framing them within the context of existing literature, and outlining pathways for continued exploration and refinement in this field.

7.2 Research Findings

7.2.1 Addressing the Research Questions

This research is guided by two questions presented in Chapter 1 (see Section 1.4). The research started by identifying the categories of ambiguity discussed in the literature and in the practice of M&As. The research developed a typology of ambiguity found in M&As in **Tables 2.5**; **2.6; 2.7; and 2.8**. Developing a typology of ambiguity from the literature was crucial in providing a structured and comprehensive framework for understanding the complexities involved in M&As. By categorizing ambiguities into Human Resources, Organizational, Goals and Outcomes, and Process ambiguities, this typology offers a clear lens through which to analyze the multifaceted challenges that arise during M&A integrations. This framework not only facilitated a more systematic review of the ambiguities present in Case 1 and Case 2 but also enabled a deeper exploration of how these ambiguities manifested differently in each context. For Case 1, the typology highlighted critical areas such as identity and process ambiguities, shedding light on the integration difficulties faced by both the acquirer and target. Similarly, in Case 2, the typology helped to pinpoint specific organizational and outcome-related ambiguities, revealing the distinct ways in which these uncertainties impacted strategic goals and operational alignment.

Moreover, the case analyses uncovered areas of ambiguity not fully addressed in the existing literature, with the integration of systems emerging as a particularly pronounced issue under Process Ambiguity. While the ambiguity of resources in high-tech firms was a common challenge in both Case 1 and Case 2, the ambiguity related to product design was notably more relevant in Case 2 compared to Case 1. These findings suggest that real-world M&A scenarios can present unique challenges beyond those traditionally recognized, highlighting the need to continuously expand the typology to capture evolving and context-specific ambiguities. This approach provided a more complete understanding of the dynamics at play in M&A integrations, especially as they relate to the intricate details of system and resource integration in high-tech environments.

The first research question explores how ambiguity develops in M&As and identifies methods to reduce its negative impact on acquisition success. This research identified root causes of M&As' ambiguities, as highlighted in **Table 4.1** and **Table 5.1**, and proposed solutions using key insights from three theoretical frameworks: Paradox theory, Information-Gap theory of Feelings, and theory of Organizational Learning. The Paradox theory helped to identify ambiguities arising from conflicting yet interdependent needs, such as the push for both integration and autonomy between the Acquirer and Target. This theory suggests that such tensions can lead to ambiguity if not effectively managed. To reduce these ambiguities, the research emphasizes strategies like fostering open communication and aligning on shared goals, which can transform these paradoxical tensions into opportunities for collaboration. The Information-Gap theory of Feelings was used to understand the emotional responses to ambiguity, particularly the balance between curiosity-driven exploration and anxiety-driven avoidance. This theory posits that maintaining ambiguity within an optimal range—neither too high nor too low—can foster motivation, creativity, and engagement. The research proposed practical tools such as an ambiguity registry and independent ambiguity identifiers to help decision-makers manage ambiguity within this optimal range, thereby minimizing anxiety and promoting constructive exploration. The theory of Organizational Learning provided a lens to examine how learning dynamics and knowledge transfer can mitigate ambiguity in M&As. It highlighted the role of mid-level managers as crucial facilitators who balance communication and learning across hierarchical levels and between the Acquirer and Target. By ensuring effective top-down and bottom-up communication, mid-level managers can reduce ambiguities related to misaligned expectations and incomplete information, fostering a more cohesive integration process. Overall, these theoretical frameworks collectively address the root causes of ambiguity in M&As and provide a comprehensive approach to managing it.

The second research question addresses how the M&A integration process can be better managed to understand the impact of ambiguity and improve success rates. The key findings propose practical solutions, including the use of an M&As ambiguity register, an M&As ambiguity identifier, the engagement of mid-level managers in balancing learning, and the application of project management processes. These solutions are grounded in both logical reasoning and established literature, emphasizing the critical role of structured approaches and adaptive leadership in managing M&A integrations.

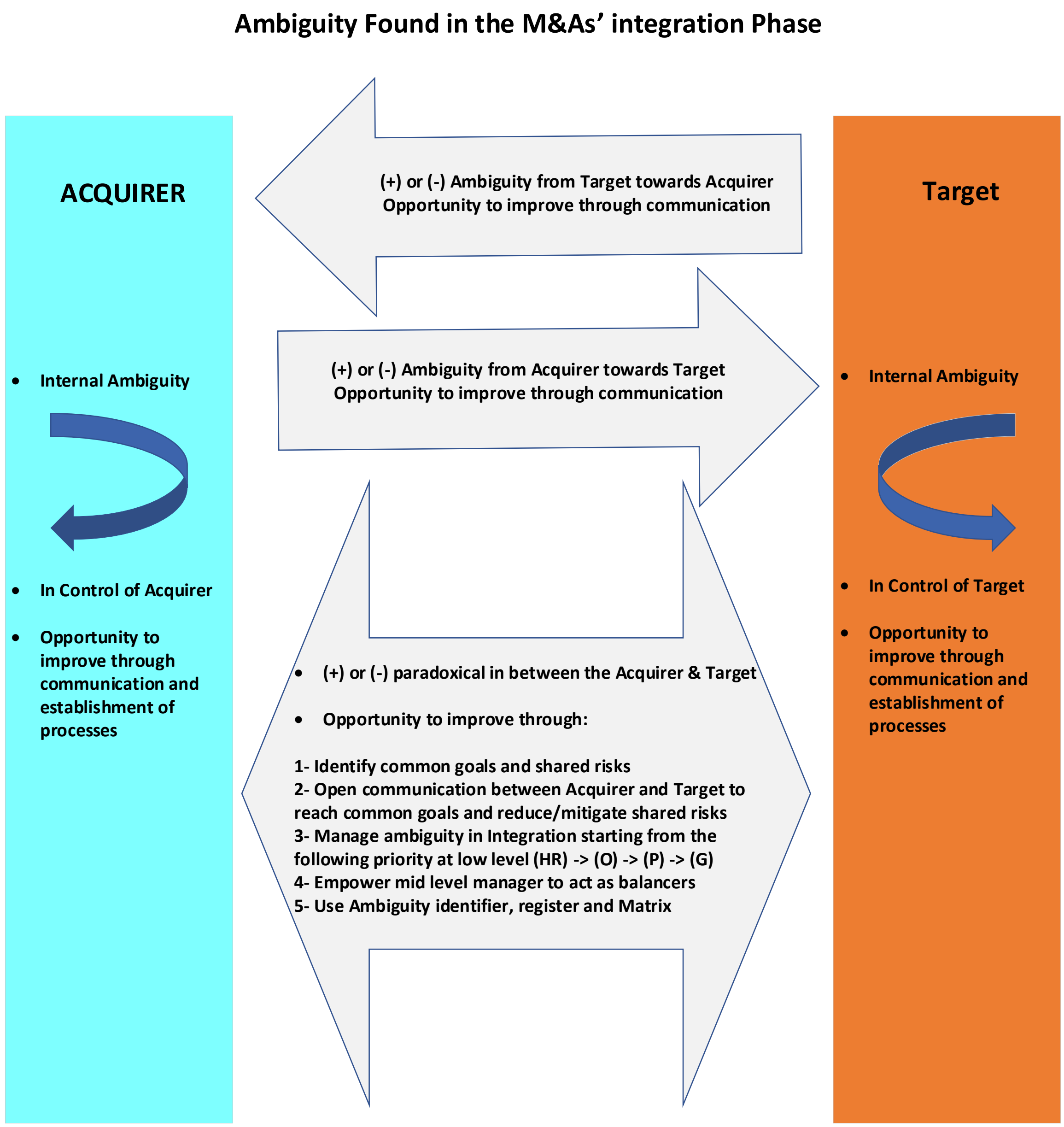
The rationale behind these findings lies in the understanding that ambiguity is an inherent part of M&A integrations, where uncertainties can disrupt processes, reduce clarity, and impede decision-making. By systematically capturing and categorizing specific ambiguities through an M&As ambiguity register and identifier, organizations can develop targeted and proactive management strategies. This aligns with broader principles of risk management, where identifying and documenting potential issues is the first step toward mitigation. Engaging mid-level managers leverages their unique position within the organization, as they are well-placed to identify practical challenges while ensuring alignment with strategic goals, making them ideal agents for balancing learning and implementation. Additionally, applying project management processes provides a structured framework to manage tasks, timelines, and resources effectively, ensuring that ambiguity is addressed in a coordinated and strategic manner.

The importance of these approaches is further supported by recent literature. Weber, Tarba and Öberg (2014) emphasize the need for structured processes to manage integration, highlighting how systematic identification and management of uncertainties can lead to better outcomes. Additionally, Balogun, Bartunek and Do (2015) underscore the critical role of mid-level managers as enablers in the integration process, showing that they effectively bridge the gap between strategic vision and operational reality, facilitating learning and adaptation. Furthermore, Hornstein (2015) supports the application of project management techniques in M&A settings, demonstrating that structured methodologies improve integration performance by providing clarity, enhancing coordination, and ensuring that key tasks are aligned with strategic objectives. These literature insights reinforce the proposed solutions, offering a robust approach to managing M&A ambiguity and contributing to improved integration outcomes and overall success.

7.2.2 Graphical Summary of M&As' Ambiguity

Figure 7.1 summarizes the findings of ambiguity in the M&As integration phase between the Acquirer and the Target. It details the ambiguity represented as a type of uncertainty (presented earlier in Chapter 2 in **Figure 2.1)**.

Figure 7.1: Ambiguity Found in the M&As' Integration Phase between the Acquirer and the Target



7.2.3 Discussion on Case 1 and Case 2 Findings

7.2.3.1 Discussion on Case 1

There are several suggestions to minimize negative ambiguity and foster positive ambiguities and opportunities in an acquisition integration. First, the interview feedback and meetings' quotes confirm the importance of establishing a business review versus a functional review in M&As. A business review would have enabled reporting and updating on how the business has been progressing versus how a function has been progressing during the integration phase. While Project Xia successfully integrated functions into the Acquirer's respective business functions, it became evident that good functional integration did not always translate into good business integration, which is essential for overall M&A success. Successful integration in mergers and acquisitions requires more than just aligning functional areas like IT or HR; it necessitates a comprehensive approach that includes strategic, cultural, and organizational alignment (Graebner et al., 2017b). Even when functional integration appears successful, the broader business integration, which is critical for realizing the full value of the merger, can falter if strategic objectives and business models are not aligned. Rottig, Reus and Tarba (2013) further emphasize that mismatches in strategic fit or cultural elements can undermine integration efforts, regardless of the operational alignment. Similarly, Sarala, Vaara and Junni (2019) stress that focusing solely on functional aspects often overlooks the complexities of achieving true business integration, such as aligning strategic goals and managing cultural differences. These insights underscore that for M&As to truly succeed, functional integration must be accompanied by effective business and strategic integration efforts. Such actions would also reduce ambiguity caused by integration's functional silos, ensuring a more cohesive and aligned integration process that supports overall M&A success.

The second suggestion is to periodically review and assess projects and actions to determine whether they should be executed in series or in parallel to better support business flow and success. This action can significantly reduce ambiguities related to unsynchronized projects and misaligned project timelines. By applying project management tools such as the Critical Path Method (CPM), organizations can identify dependencies, map out the most efficient sequence of activities, and allocate resources effectively, thus minimizing delays and scope changes. The CPM helps manage complex projects by highlighting the longest path of dependent tasks necessary for completion, ensuring that all project elements are synchronized and correctly scaled over time. Supporting this approach, Hornstein (2015) emphasizes that integrating project management techniques into organizational change processes enhances clarity, coordination, and timely completion, thereby reducing uncertainties and improving outcomes.

The third suggestion is to define and implement a reporting process that identifies what is not working well during integration and actively addresses any concerns that arise. This approach would help reduce ambiguities introduced by the integration process and integration teams by ensuring that issues are promptly identified and resolved. A structured reporting mechanism enhances transparency and accountability, allowing integration teams to make timely adjustments and prevent minor problems from becoming major obstacles. By focusing on continuous feedback and clear communication of challenges, the integration process becomes more adaptable and aligned with the overall business objectives. While literature (e.g., Graebner et al., 2014), highlights the importance of effective communication channels in managing integration-related uncertainties, my research adds value by demonstrating the practical benefits of a tailored reporting process that specifically targets integration inefficiencies. This approach aligns closely with the Continuous Assessment and Adjustment stage of the Ambiguity Improvement Model proposed in Section 7.2.5.2.4, which emphasizes ongoing monitoring, feedback collection, and flexibility to adapt to emerging challenges. Incorporating a robust reporting mechanism within the broader framework of ambiguity tracking ensures that ambiguities are detected and addressed in real time, fostering a more responsive and resilient integration environment.

The fourth suggestion is to continuously review the planned integration process throughout the entire integration period, revisiting the initial plans established before Day 1 and incorporating new details as they become available. By updating and communicating changes based on the latest information, this approach ensures that the integration remains flexible and responsive to evolving circumstances. This continuous review process helps to address ambiguities that may arise from outdated plans or unforeseen developments, allowing the integration team to adapt swiftly and maintain alignment with the overall business objectives. Literature supports the importance of flexibility and ongoing assessment in M&A integrations. For instance, Ellis, Reus and Lamont (2009) highlight that adaptive integration strategies that incorporate new information can better address the dynamic nature of M&As. Similarly, Cording, Christmann and Weigelt (2010) suggest that the ability to adjust integration plans in response to new insights is crucial for mitigating integration-related risks and uncertainties. However, my research extends these findings by emphasizing the practical implementation of a continuous review process specifically tailored to dynamically update integration plans. This recommendation aligns with the Pre-Acquisition (Pre-Day 1) Planning and Continuous Assessment and Adjustment stages of the Ambiguity Improvement Model outlined in Section 7.2.5.2. The proposed model emphasizes proactive planning, ambiguity monitoring, and iterative adjustments to ensure that the integration remains aligned with strategic goals while addressing emerging ambiguities effectively. By embedding the suggestions for reporting and continuous review within the broader framework of the proposed Ambiguity Improvement Model, this research provides a cohesive approach to managing ambiguity during acquisitions. The model underscores the importance of tracking ambiguities throughout the acquisition and integration phases, leveraging positive ambiguities as opportunities for innovation while proactively mitigating negative ambiguities. The structured reporting mechanism and continuous review process contribute to this effort by fostering transparency, adaptability, and collaboration.

The fifth suggestion is to prioritize systems integration and compatibility throughout the M&A process, rather than focusing solely on financials and sales performance. In Project Xia, while financial and sales operations were well integrated and running smoothly, a critical issue with systems compatibility emerged, delaying approximately one hundred customer orders and forcing the team to work over the Christmas holiday to resolve it. This example underscores the importance of not overlooking the integration of operational systems, which are crucial for maintaining service continuity and customer satisfaction. While literature, such Henningsson, Yetton and Wynne (2018), highlights the importance of IT alignment for seamless business operations in M&As, and Shang and Lin (2012) underscore that effective IT integration is essential for achieving operational efficiencies and strategic goals, my research goes further by providing concrete, real-world examples that demonstrate the critical impact of systems integration on M&A success. The findings from Project Xia show that even when financial and sales integrations are well managed, overlooking systems compatibility can lead to significant operational setbacks. My research contributes practical insights that emphasize the need for a holistic approach to integration, highlighting the tangible effects of systems misalignment and offering actionable recommendations to avoid such pitfalls. This approach brings added value by not only aligning with existing literature but also directly addressing gaps through detailed case analysis and real-world applications.

The sixth suggestion is to emphasize the importance of continuously reviewing opportunities to increase positive ambiguity, minimize negative ambiguity, and, when possible, transform negative ambiguity into positive ambiguity or opportunities. This approach encourages a proactive mindset toward managing ambiguities, where instead of merely mitigating risks, integration teams can strategically leverage uncertainties to create value and drive innovation during the M&A process. While existing literature often focuses on managing ambiguity as a challenge to be reduced or controlled, my research highlights the potential benefits of embracing and strategically managing ambiguity in M&As. For example, the role of paradox theory in decision-making and management research, as discussed by Schad et al. (2016), underscores how embracing contradictions and ambiguities can lead to more innovative and adaptive outcomes in complex organizational environments. Additionally, Waldman et al. (2019) in their work on the role of paradox theory in decision-making and management research, emphasize how embracing paradoxes can enhance decision-making processes and organizational adaptability. My research builds on these insights by providing practical frameworks and real-world examples that illustrate how integration teams can actively cultivate positive ambiguities and reframe negative ones as opportunities. This approach not only aligns with but also extends beyond existing theories, offering actionable strategies for organizations to capitalize on the dynamic nature of ambiguity, ultimately enhancing the success of M&A integrations.

7.2.3.2 Discussion on Case 2

As in Case 1, there were several suggestions to minimize negative ambiguity and foster positive ambiguities and opportunities in an acquisition integration. The following were the four main areas of opportunities in Case 2 to better manage ambiguities: (1) the acquisition process; (2) the employees' integration; (3) the sales and marketing strategy; and (4) the product design and manufacturing processes.

The first opportunity to reduce ambiguity in Case 2 lies within the acquisition process itself. It was evident from various comments and discussions that Acquirer team members were not consistently aligned or fully aware of the specific type of acquisition being pursued—whether it involved acquiring an entire entity or just an asset of that entity. This lack of clarity led to feedback and decisions that were relevant to one type of acquisition but not the other, creating internal ambiguities within the Acquirer team. To address this, it would have been crucial for Acquirer leadership to proactively communicate the intended type of acquisition clearly to all team members, aligning their understanding and expectations from the outset. This proactive internal awareness would have significantly reduced internal ambiguities regarding the acquisition type. Moreover, while the Acquirer had no issues sharing this information with the Target, it would have been equally important to discuss the acquisition type in detail with the Target to ensure mutual understanding and alignment, especially when due diligence was still determining the most suitable approach. The literature emphasizes the critical role of clear communication and alignment during M&As to prevent misalignment and confusion. For instance, Angwin and Meadows (2015) highlight that ambiguity in the acquisition process often arises from unclear objectives and poor communication within acquiring teams, leading to misaligned decisions and integration challenges. Similarly, Graebner et al. (2014) argue that ambiguity in M&A processes can be reduced through proactive communication strategies that ensure all stakeholders are aligned on the acquisition's strategic intent and execution approach. My research builds on these insights by illustrating specific real-world consequences of misalignment regarding acquisition types, as seen in Case 2. This case demonstrates that internal awareness and proactive communication about the acquisition type are not just best practices but critical actions that can prevent ambiguities and misaligned strategies from derailing the acquisition process. By providing actionable insights and emphasizing the need for detailed, upfront communication, my research offers practical steps to enhance clarity and alignment, thereby contributing to the overall success of the acquisition.

The second opportunity to reduce ambiguity in Case 2 revolves around employee integration and retention. Both the Acquirer and the Target's leadership teams shared a common goal of retaining high-potential employees to ensure a successful integration. This shared objective could have been proactively explored to identify and retain subject matter experts and reduce the risk of losing key talent. A proactive approach would involve directly engaging with the Target to identify who the subject matter experts were, understanding why they were valuable, assessing their flight risk, and collaborating with the Target to offer retention packages. While the Acquirer team made efforts to gather this information through indirect questions, and the Target team understood the intent behind these inquiries, there was no open and direct discussion about employee retention strategies. Recent literature underscores the importance of early and transparent communication regarding employee retention in M&As. Ranft and Lord (2000) emphasize that retaining key employees and their knowledge is critical for preserving the value of the acquired company and ensuring integration success. Similarly, Bauer, Matzler and Wolf (2016) highlight that retaining key talent is crucial for maintaining organizational knowledge and ensuring integration success, emphasizing that a lack of clear communication can exacerbate uncertainties and increase employee turnover risks. Furthermore, Weber and Tarba (2014) and Bauer, Matzler and Wolf (2016) both found that proactive engagement and clear communication about retention strategies significantly enhance employee retention by reducing anxieties and aligning both the Acquirer and Target teams on shared goals. My research extends these insights by demonstrating the practical consequences of failing to openly address employee integration ambiguities, as seen in Case 2. By providing concrete examples of how direct discussions and collaborative retention efforts could have mitigated ambiguities and reduced key talent loss, my research offers actionable recommendations that go beyond existing literature, highlighting the critical need for transparency and collaboration in employee retention during M&A integrations.

The third opportunity to reduce ambiguity in Case 2 relates to the strategy for sales and marketing post-acquisition, specifically in driving a strong revenue forecast. Various factors contributed to this ambiguity, including distribution contract clauses, health regulatory distribution constraints, and hidden potential credits affecting sales forecasts. The research suggests moving away from a traditional question-and-answer approach to a more proactive and open discussion about these subjects, clearly setting expectations for what both parties aim to explore and collaboratively addressing the associated risks to reduce uncertainties. The literature emphasizes the importance of clear communication and strategic alignment in sales and marketing during post-acquisition integration to ensure revenue continuity and growth. For example, Homburg and Bucerius (2006) highlight that misaligned sales and marketing strategies can lead to lost opportunities and hinder revenue growth, suggesting that proactive engagement and open discussions are essential to aligning expectations and strategies between merging entities. Similarly, Angwin and Meadows (2015) argue that reducing ambiguities in sales and marketing strategies through transparent communication and early identification of potential risks can significantly improve post-acquisition performance. Recent studies, such as those by Gomes et al. (2013) and Bauer, Matzler and Wolf (2016), also stress the value of setting clear expectations and collaboratively addressing risks, underscoring that proactive communication and strategic alignment are crucial for reducing ambiguities and driving strong revenue forecasts. My research extends these insights by offering practical recommendations and case-based evidence, illustrating the need for open discussions and proactive risk management in sales and marketing strategies to effectively mitigate ambiguities and support revenue goals during M&A integrations.

The fourth opportunity identified in Case 2 was to further explore the product design and manufacturing processes, a point not raised in Case 1 due to the maturity of its products, which had been approved by the Food and Drug Administration (FDA) and were established in the market. In contrast, the product acquired in Case 2 was pending intellectual property registration, and its FDA status raised numerous questions from the Acquirer team. This scenario is particularly relevant to start-ups compared to mature companies, as Case 2 involved a product from a start-up that had obtained FDA 510k approval, allowing distribution in the United States. The Acquirer team encountered challenges in understanding the details behind the product’s design, validation, manufacturing, service, and distribution processes. This highlighted an opportunity to enhance communication and set clearer expectations between the Acquirer and the Target. The Acquirer, operating with a specific model of standard operating procedures, aimed to integrate the Target's product design and support processes within its framework through a series of questions. However, the opportunity lies in the Acquirer sharing key elements of its operating procedures proactively, facilitating a clearer integration path and reducing ambiguities. By moving beyond written questions and establishing a more open dialogue about what the Acquirer sought to achieve, the integration process could have been significantly streamlined. The literature emphasizes the importance of clear communication and alignment in the integration of product design and manufacturing processes, especially in the context of M&As involving start-ups or companies with less mature products. Bauer and Matzler (2014a) emphasize that integration challenges often stem from misaligned expectations and a lack of proactive communication, particularly when integrating innovative products from start-ups. Furthermore, Graebner et al. (2014) underscore that due diligence processes should go beyond document reviews to include in-depth discussions that align both parties on key operational and strategic elements. Gomes et al. (2013) also highlight the critical role of clear expectations and proactive communication in bridging the gap between the differing operational practices of Acquirer and Target companies. My research adds value by demonstrating the practical consequences of not addressing these ambiguities proactively, as seen in Case 2, where the Acquirer's failure to openly share its operating standards created barriers to understanding and integrating the Target's product. By offering actionable recommendations for improving communication and setting clear expectations, my research provides practical insights that extend beyond the existing literature, emphasizing the importance of proactive engagement to reduce ambiguities in product integration during M&As.

Similar to Case 1, Case 2 presented several opportunities to strategically manage ambiguity. These included increasing positive ambiguities that could foster innovation and flexibility, minimizing negative ambiguities that posed risks to the integration process, and where feasible, transforming negative ambiguities into positive ones or valuable opportunities. By actively identifying and addressing these ambiguities, both cases demonstrate the potential for enhancing integration outcomes through proactive and adaptive strategies that not only mitigate risks but also leverage ambiguities as drivers of success.

Building on these findings, the following section will delve into the theoretical framework that emerges from this analysis, exploring how these insights contribute to the broader understanding of ambiguity management in mergers and acquisitions. This discussion will outline the evolving theory that connects these practical observations to established concepts, providing a deeper theoretical context for the strategic management of ambiguity in M&A settings.

7.2.4 Synthesis of Findings from Case 1 and Case 2

The analysis of Case 1 and Case 2 provides valuable insights into the dynamics of ambiguity in M&A integrations. While the findings for each case have been presented separately to respect their unique contexts and ensure clarity, a synthesis of the two cases reveals overarching patterns and critical contrasts that deepen the understanding of ambiguity and its management in M&As.

Overarching Patterns

Several commonalities emerged across both cases, highlighting shared challenges and strategies in managing ambiguity during integration:

Ambiguity Categories and Their Manifestation:

In both Case 1 and Case 2, ambiguities were observed across the four key categories: human resources (HR), organizational (O), processes (P), and goals (G). Ambiguities related to processes and organizational structures were the most prominent in both cases, reflecting the complexities inherent in aligning two distinct entities.

Role of Communication in Mitigating Ambiguity:

Communication was a critical factor in both cases. Effective communication strategies, such as cross-functional meetings and status updates, were identified as essential in reducing ambiguities, particularly those related to processes and goals. Conversely, lapses in communication exacerbated ambiguities, leading to misalignment and delays.

The Importance of Mid-Level Managers:

Across both cases, mid-level managers played a pivotal role in balancing top-down directives with bottom-up feedback. They acted as conduits for knowledge transfer and ambiguity resolution, ensuring that integration strategies were both actionable and responsive to on-the-ground realities.

Positive and Negative Ambiguities:

Both cases highlighted the dual nature of ambiguity, where positive ambiguity fostered innovation and creativity, while negative ambiguity hindered progress. The ability to distinguish and manage these types of ambiguities was a recurring theme.

Key Contrasts

While overarching patterns were evident, each case also exhibited unique characteristics that offer additional insights:

Integration Strategies:

In Case 1, ambiguity stemmed largely from undefined integration processes, leading to anxiety and delays. The lack of clear decision-making frameworks amplified negative ambiguity. In contrast, Case 2 demonstrated an overemphasis on premature clarification, which stifled creativity and curtailed the exploration of innovative solutions.

Cultural Dynamics:

Cultural ambiguities were more pronounced in Case 2, where differences in organizational values and norms between the Acquirer and the Target created tensions. In Case 1, cultural ambiguities were less prominent, with procedural and structural ambiguities taking precedence.

Response to Risk and Ambiguity:

In Case 1, high-risk scenarios drove collaborative learning and problem-solving, turning challenges into opportunities for adaptation. Conversely, in Case 2, a lower tolerance for ambiguity led to rigid strategies, limiting the integration's potential for flexibility and innovation.

Integrated Discussion of Patterns and Contrasts

The synthesis of findings from Case 1 and Case 2 underscores the multifaceted nature of ambiguity in M&A integrations. While the patterns highlight shared challenges and strategies, the contrasts reveal the importance of tailoring ambiguity management approaches to the specific context of each acquisition. For example, the need for structured frameworks to address process-related ambiguities was evident in both cases, but the extent to which these frameworks should allow for flexibility versus control differed.

Moreover, the contrasts between the two cases emphasize the critical role of organizational culture and risk tolerance in shaping ambiguity dynamics. In Case 2, cultural ambiguities required targeted interventions, such as cultural integration workshops and shared value statements, to foster alignment. In Case 1, a greater emphasis on establishing decision-making frameworks and process clarity was necessary to address procedural ambiguities.

These insights inform the proposed Ambiguity Improvement Model, which integrates lessons from both cases to provide a comprehensive framework for managing ambiguity. By identifying overarching patterns and leveraging unique contrasts, the model offers a flexible yet structured approach to ambiguity management that can be adapted to the specific needs of different M&A contexts.

Conclusion

Separating findings and discussions for the two cases was essential to preserve the unique contexts and specific challenges of each acquisition. However, synthesizing the cases provides a holistic view of ambiguity in M&A integrations, identifying patterns that can inform generalizable strategies while acknowledging contrasts that highlight the need for context-sensitive approaches. This synthesis strengthens the analysis by demonstrating how ambiguity manifests differently across cases while providing actionable insights for managing it effectively.

7.2.5 Contribution to the Practical Business Development of M&A

This research highlights the critical importance of incorporating ambiguity detection and documentation into the acquisition and integration process. It proposed a structured cycle consisting of four key steps: Pre-Acquisition Planning, Integration Strategy, Integration Process, and Continuous Assessment and Adjustment. This cyclical approach ensures that ambiguity is systematically identified and managed throughout all phases of acquisition and integration.

The research identified that managing ambiguity through practices aimed at fostering positive ambiguity and reducing negative ambiguity presented significant opportunities for successful M&A integration. Positive ambiguity facilitated progress in acquisitions, while negative ambiguity hindered it. Ambiguities often appeared paradoxical between the Acquirer and the Target, reflecting underlying tensions. Recognizing positive and negative ambiguities, along with their associated risks and goals, and addressing them through open discussions focused on shared objectives and risks, was confirmed to be a beneficial practice for enhancing the success of M&As.

The research underscored that effective ambiguity management begins with the identification of ambiguities and taking action to address them. Ambiguities often went unnoticed by leaders who were focused on specific topics during meetings, and even when ambiguities were identified, there was often insufficient time or focus to address them. Introducing an independent observer as an ambiguity identifier could support the integration team by providing post-meeting debriefings, ensuring that critical ambiguities are recognized and appropriately managed.

For any metric developed to evaluate ambiguity, it is essential to identify a champion and a subject matter expert (SME) for each respective function. Ambiguities should be ranked based on their risk level to prioritize high-risk areas. A proposed metric would involve tracking the identification of a champion, an SME, the associated risks, and the prioritization of ambiguities based on risk level for each function being integrated. Recording detected ambiguities is as important as identifying them. Establishing an ambiguity registry, similar to a risk registry used in project management, is recommended as a crucial tool for managing ambiguities.

The research also found that leveraging ambiguity was either underutilized or used without sufficient self-awareness to report on it. This represents an opportunity to increase awareness and highlight the importance of managing ambiguity to minimize its impact and improve the success of M&As. The ambiguities identified and discussed in this research demonstrated their potential to jeopardize the success of M&A integrations, underscoring the need for structured approaches to ambiguity management.

7.2.5.1 Leveraging Positive and Negative Ambiguity

The research aimed to provide actionable strategies for fostering positive ambiguity and mitigating negative ambiguity within the acquisition integration process. Ambiguity is a critical yet underexplored factor in M&As, with the potential to either facilitate innovation and adaptability or hinder integration and create friction. This study builds on the existing literature by highlighting how ambiguity, when understood and managed appropriately, can significantly influence integration success.

The findings from Case 1 and Case 2 offer detailed insights into the manifestations of ambiguity and their implications for both the Acquirer and the Target. These insights demonstrate the need for a structured approach to identifying, analyzing, and addressing ambiguities across different aspects of the integration process.

Proactively Addressing Paradoxical Ambiguities Paradoxical ambiguities arise when two seemingly opposing conditions exist simultaneously, creating tension between stakeholders. This research identifies that such ambiguities often stem from conflicting interpretations of strategic priorities or risk management approaches between the Acquirer and the Target. For example, one party may prioritize immediate cost reduction, while the other focuses on long-term growth, leading to misalignment and uncertainty.

The findings underscore the importance of identifying these paradoxes early and addressing them through proactive communication and the establishment of shared priorities. By fostering an open dialogue, stakeholders can uncover underlying concerns and develop mutually agreeable solutions that reduce tension and promote alignment. In both Case 1 and Case 2, proactive communication emerged as a key strategy for mitigating these ambiguities. Structured discussions focused on clarifying shared goals and emphasizing collaborative problem-solving, which not only reduced conflict but also enhanced trust between the parties.

These findings suggest that organizations can benefit from embedding mechanisms, such as stakeholder alignment workshops or regular cross-functional meetings, to identify and manage paradoxical ambiguities effectively.

7.2.5.1.1 Enhance Positive Ambiguity Detected Only on One Side

There are scenarios where only positive ambiguity is detected on the Acquirer side, as shown in **Table 4.2** of Case 1 and discussed in the Data Analysis section (4.3.2.1). The Acquirer leveraged this positive ambiguity to drive progress and maintain a constructive momentum within their teams. This research aims to raise awareness by identifying and highlighting these positive ambiguities, providing opportunities for further improvement and strategic use. By recognizing and understanding these ambiguities, organizations can better harness them to enhance the acquisition integration process.

Recognizing and Harnessing Positive Ambiguity

The research also highlights the potential of positive ambiguity to drive progress during M&A

integration. Positive ambiguity arises when uncertainty is perceived as an opportunity rather than a barrier, allowing stakeholders to explore innovative approaches and maintain momentum. For instance, in the integration processes observed in Case 1 and Case 2, positive ambiguity was effectively leveraged by the Acquirer to encourage team autonomy and foster creative problem-solving.

These findings point to the importance of recognizing when ambiguity can serve as a constructive force. Organizations can harness positive ambiguity by cultivating an environment that supports flexibility and innovation. For example, leaders can adopt practices such as delegating decision-making authority to integration teams, which empowers employees to develop tailored solutions that address emerging challenges.7.2.5.1.4 Relevance to the Findings

By synthesizing the insights from Case 1 and Case 2, this research provides a practical framework for organizations to identify and address ambiguity in M&As. It demonstrates that ambiguity is not inherently negative; rather, its impact depends on how it is perceived and managed. Through proactive strategies such as clear communication, stakeholder alignment, and inclusive decision-making, organizations can reduce the adverse effects of ambiguity while leveraging its potential to drive innovation and adaptability.

This contribution is significant as it fills a critical gap in the literature by offering concrete methods for managing ambiguity across human resources, organizational structures, strategic goals, and operational processes.

7.2.5.2 Proposed Ambiguity Improvement Model to the Business Development Acquisition Processes

Building on the findings from Case 1 and Case 2 and recognizing the opportunities to reduce ambiguities for a more favorable integration outcome, this research proposes a proactive model to identify and track ambiguities throughout the acquisition and integration process. The proposed model involves a series of steps focused on continuous planning and monitoring during both the acquisition and its integration phases. Developed based on the observed gaps and opportunities in managing ambiguities within the two cases studied, this model emphasizes the importance of ambiguity tracking as a fundamental pillar. While business development firms typically have their own processes for planning and integrating acquisitions, this proposed model can be applied or incorporated into existing integration frameworks, offering a structured approach to enhance clarity and cooperation by systematically addressing ambiguities.

7.2.5.2.1 Pre-Acquisition (Pre-Day 1) Planning

The pre-acquisition planning stage, developed from the findings in this research, involves identifying common goals and objectives, assessing positive and negative ambiguities, and understanding potential risks and challenges. Since common goals and objectives have been identified as key triggers to leverage ambiguities effectively, it is crucial to identify these shared goals between the Acquirer and the Target. The pre-acquisition, or pre-Day 1 planning, consists of the following steps:

a. Identify Common Goals:

Prioritizing the identification of shared goals and objectives between the Acquirer and the Target is crucial in the early stages of integration. This step establishes a collaborative foundation, aligning both firms toward mutual success and providing a clear direction for the integration efforts. By focusing on common goals, the integration process can be more cohesive, ensuring that both parties are working toward a unified vision.

b. Identify Common Risks:

Identifying potential risks that could hinder the acquisition for both the Acquirer and the Target is essential for proactive risk management. By concentrating on risks that are of shared concern, both parties can collaborate more effectively to develop strategies that mitigate these challenges. This approach ensures that the integration process is resilient and that potential obstacles are addressed collaboratively, reducing the likelihood of unforeseen complications.

c. Assess Positive Ambiguity:

Recognizing areas where positive ambiguity can be leveraged is a strategic opportunity to foster creativity, innovation, and the exploration of new opportunities. This involves encouraging open-ended discussions and brainstorming sessions, particularly during the due diligence phase, to capitalize on uncertainties that could lead to beneficial outcomes. Leveraging positive ambiguity allows the integration team to remain flexible and responsive to new possibilities that may enhance the overall success of the acquisition.

d. Identify Negative Ambiguity:

Identifying potential sources of negative ambiguity, such as conflicting strategies, cultures, or values, is critical for proactive integration planning. Understanding these areas of divergence allows the integration team to develop targeted strategies to mitigate associated risks and challenges. By addressing negative ambiguities early, the integration process can proceed more smoothly, with reduced friction and greater alignment between the Acquirer and the Target.

7.2.5.2.2 Development of Integration Strategy:

The Integration Strategy stage emphasizes developing a plan to align goals, establish communication channels, and create a shared vision and values statement. While integration strategy development is crucial and typically integral to all acquisition and integration processes, this research proposes enhancements to the standard approach observed in Case 1 and Case 2. The proposed model includes the following key elements:

a. Establish Cross-Functional Teams:

Forming cross-functional teams that include representatives from both the Acquirer and Target organizations is essential for covering all business areas and functions during the integration process. These teams collaborate closely during the due diligence phase to foster cooperation, promote knowledge sharing, and enhance mutual understanding of each other's perspectives. By leveraging diverse expertise from both sides, cross-functional teams play a critical role in bridging gaps and ensuring a comprehensive integration approach.

b. Establish Clear and Effective Communication Channels:

Setting up robust communication channels between the Acquirer and Target teams is crucial for facilitating regular updates, open dialogue, and transparency throughout the integration process. This approach aims to minimize negative ambiguity, build trust, and ensure alignment among all parties involved. Effective communication helps to address concerns promptly, clarify expectations, and maintain a shared understanding of integration goals and progress.

c. Develop and Communicate a Shared Vision and Values:

Developing and clearly communicating a shared vision and values statement is vital for aligning both the Acquirer and the Target. By establishing guiding principles and a common sense of purpose, this step helps unify the integrated organization, providing clear direction and coherence as the two entities merge. A shared vision fosters a collective identity and commitment, which are essential for navigating the complexities of integration and achieving long-term success.

7.2.5.2.3 Development and Execution of an Integration Process:

The Integration Process stage encompasses activities such as cultural integration, knowledge sharing, and change management to ensure a seamless merger between the Acquirer and Target. Given that process-related ambiguities were the most frequently identified in both Case 1 and Case 2, it is essential to develop and execute an integration process that minimizes negative ambiguities and leverages positive ambiguities as opportunities for success. Based on the research findings, the proposed model includes the following enhancements:

a. Focus on Understanding and Integrating the Cultures of Both Organizations:

This step involves facilitating cultural integration through various methods such as cultural exchanges, training programs, and team-building activities. These initiatives are designed to promote a unified organizational culture by bridging cultural gaps and reducing ambiguities that arise from differing organizational norms and values. By aligning cultural elements, this approach helps create a cohesive and collaborative work environment during the integration process.

b. Encourage Knowledge Sharing and Transfer:

To align teams and reduce information silos, this step emphasizes the promotion of knowledge exchange between the Acquirer and Target teams. It includes implementing mentorship programs, establishing knowledge repositories, and engaging in collaborative projects. This strategy transforms ambiguities into shared learning opportunities, enabling both teams to build a collective understanding and effectively work towards common integration goals.

c. Implement a Robust Change Management Framework:

Establishing a comprehensive change management approach is crucial for addressing concerns, managing resistance, and ensuring a smooth integration process. By proactively identifying and managing potential sources of negative ambiguity, this framework provides clear guidance, resources, and support to all stakeholders. This approach not only streamlines the integration process but also fosters a positive transition, enhancing the overall success of the M&A integration.

7.2.5.2.4 Continuous Assessment and Adjustment:

The continuous assessment and adjustment stage underscores the importance of ongoing monitoring, feedback gathering, and adaptation to ensure that the integration process remains effective and aligned with the desired outcomes. Monitoring ambiguities should be an ongoing effort throughout the acquisition due diligence and integration phases. Based on the research findings, the proposed model includes the following steps:

a. Monitor Ambiguities:

This step involves regularly assessing the integration process to evaluate the effectiveness of the proposed model. It includes gathering feedback from employees, tracking key performance indicators, and identifying persistent ambiguities that require additional focus. Continuous monitoring ensures that ambiguities are quickly detected and addressed, keeping the integration on track.

b. Address Challenges and Adjust with Flexibility:

This step focuses on proactively revising strategies as needed, drawing lessons from both successes and failures. It emphasizes the importance of adapting to new information and changing circumstances, allowing the integration process to remain dynamic and responsive. By maintaining flexibility, the organization can better manage uncertainties and optimize the integration outcomes.

By leveraging positive ambiguity and actively reducing negative ambiguity, this model aims to enhance the success of integration during acquisitions. It emphasizes the importance of identifying shared goals and objectives between the Acquirer and the Target, which fosters effective communication and collaboration. This approach helps to align cultural differences, facilitate the integration, and collaboratively identify and mitigate risks. Additionally, it promotes knowledge sharing, flexibility, and adaptability, contributing to the creation of a cohesive and high-performing integrated organization.

7.2.5.3 Proposed Ambiguities' Priorities Framework - Ambiguity Matrix, and Ambiguity Registry

7.2.5.3.1 Ambiguity Priorities Framework

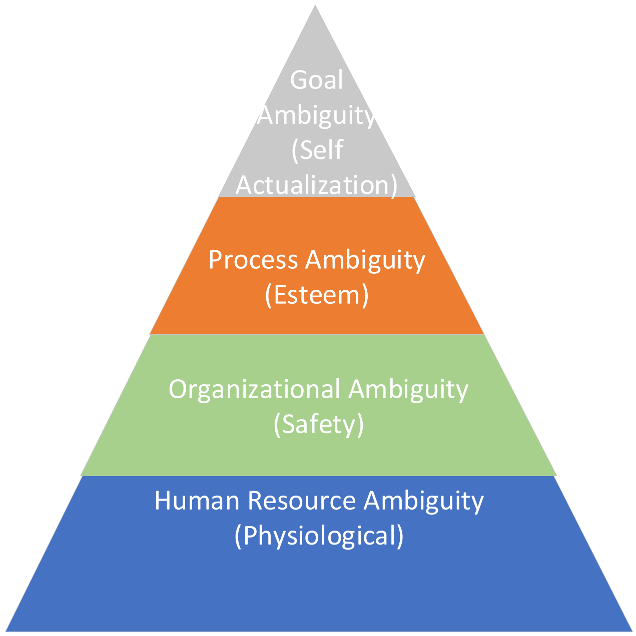
To manage ambiguity priorities, the four ambiguity groups identified in this research are presented in **Figure 7.2** in the order of importance. Human Resource ambiguity (HR) is prioritized because it addresses both the physiological and psychological well-being of employees, which are critical for them to function effectively during an M&A integration. Managing human resource ambiguities, such as clarifying roles, job security, and expectations, reduces stress and anxiety, thereby fostering a more productive work environment (Sarala, Vaara and Junni, 2019). This approach ensures that employees have the peace of mind necessary to perform effectively, as both their basic needs and mental well-being are supported during the transition.

Organizational (O) ambiguity management follows, promoting a sense of safety and belonging by aligning organizational structures and cultures between the Acquirer and the Target, which is essential for a cohesive integration (Weber and Tarba, 2014). Addressing these ambiguities helps to unify the workforce under common organizational values and practices, reducing resistance and fostering collaboration.

Process ambiguity (P) management is also crucial, as it fosters a sense of esteem by ensuring that both companies operate in harmony and are aligned in their workflows. When processes are clear and integrated effectively, it enhances operational efficiency and reduces the frustration that can arise from disjointed or conflicting procedures (Bauer and Matzler, 2014a).

Finally, Goal (G) ambiguity management can be seen as achieving self-actualization in the integration journey, where both entities work toward shared strategic objectives and measure their success against common goals. Clearly defined and communicated goals help align the vision and efforts of both the Acquirer and Target, driving a successful integration outcome (Angwin and Meadows, 2015).

Figure 7.1 Proposed M&As Ambiguity Priorities Triangle



7.2.5.3.2 Ambiguity Matrix of Priorities

From the shared typology of ambiguity and the four categories previously identified, a 4x4 matrix can be derived that distinguishes between people-related ambiguities and firm-related (non-people) ambiguities. This matrix, presented in **Table 7.1**, prioritizes ambiguities by categorizing them as either related to individuals (such as human resources) or to the broader organization (such as processes and goals). This framework is designed to guide the prioritization of ambiguities during the M&A integration phase, providing a structured approach to address both people-related and firm-related challenges effectively.

Table 7.1: Priorities Based on People Related Ambiguity versus Firm Related Ambiguity in the M&As Integration Phase

People Related Ambiguity	**Human Resources Ambiguity (HR)**	**Mid-High**	**High**
	Organizational Ambiguity (O)	**Low**	**Mid-Low**

Priorities Based on: People Related Ambiguity Versus Firm Related Ambiguity	**Goals Ambiguity (G)**	**Processes Ambiguity (P)**
	Firm Related Ambiguity (i.e., Non-People Related Ambiguity)	

7.2.5.3.3 Ambiguity Registry

These priorities can serve as key indicators in the ambiguity registry, as outlined in **Table 7.2**. The proposed ambiguity registry was introduced to interviewees, who recognized its value and expressed support for its use as a practical tool in managing ambiguities during M&A integration.

Table 7.2: Proposed Ambiguity Registry to Use in M&As Integration Phase

Ambiguity Description	Function(s) Involved and/or Affected	Priority Level	(HR) Related	(O) Related	(P) Related	(G) Related	Common Goals Identified	Common Risks Identified	Opportunity for Mitigation	Action Items	Owner
Ambiguity 1		High	Yes		Yes		Yes	Yes	Yes	Task 1	Leader 1
Ambiguity 2		Mid-High	Yes			Yes					
Ambiguity 3		Mid-Low		Yes	Yes						
Ambiguity 4		Low		Yes		Yes					
etc.											

7.2.6 Contribution to the Academic Knowledge

The research developed a typology of ambiguity based on the literature review, identifying four main categories commonly encountered in acquisitions: Human Resources (HR) ambiguity, Organizational (O) ambiguity, Processes (P) ambiguity, and Goals (G) ambiguity. In both Case 1 and Case 2, the ambiguities detected aligned with these four categories, demonstrating the typology's relevance and applicability across different acquisitions.

Building on this typology, the research proposed a framework for managing ambiguities in the M&A integration phase, structured around four priority levels depicted in a triangular model. At the base of the triangle is Human Resources (HR) ambiguity, which addresses individual safety and physiological needs during the acquisition. Above HR ambiguity is Organizational (O) ambiguity, which corresponds to the need for belonging and alignment within the merged entity. Next is Process (P) ambiguity, which involves operational clarity and alignment, followed by Goals (G) ambiguity at the top level, representing the ultimate aim of achieving shared strategic objectives.

This prioritized approach provides a structured framework for addressing the complexities of ambiguity in M&A integrations.

The root causes of ambiguity identified in this research centered around several key areas: weaknesses in resource planning and management, deficiencies in communication, flaws in the integration process and model, and discrepancies and incompatibilities within information technology infrastructure.

The research highlighted that establishing a robust learning infrastructure could facilitate information flow and feedback, promoting a culture of learning that supports both exploration and exploitation. A notable imbalance was observed between top-down and bottom-up communication and learning during M&As, which contributed to increased ambiguity. Addressing this imbalance presents an opportunity to reduce ambiguity by raising awareness of this learning dynamic and empowering mid-level managers to act as key facilitators in balancing communication and learning flows throughout the organization.

7.2.6.1 Typology of Ambiguity

The typology of M&A ambiguities developed from the literature review identifies four main groups of ambiguity: (1) Human Resources (HR) ambiguity, (2) Organizational (O) ambiguity, (3) Goal (G) ambiguity, and (4) Process (P) ambiguity, as detailed in **Tables 2.5, 2.6, 2.7, and 2.8**. **Tables 4.2 and 5.2** provide a summary of the ambiguities identified in the acquisitions of Project Xia (Case 1) and Project Mia (Case 2), respectively. Comparing the typology from the literature with the findings from these projects reveals that some ambiguities, such as resource ambiguities in high-tech firms (HR group) and outcome ambiguities in the Goal group, have been previously recognized and discussed in the literature (see **Table 2.5**, and Section 4.2.1.1.2 on Ambiguity in High-Tech Firm Resources; and **Table 2.8**, and Section 4.2.1.4.2 on Communication Ambiguity). However, this research has also identified several novel ambiguities that are critical to the success of the integrations in Projects Xia and Mia, which have not been previously addressed in the literature.

The first novel ambiguity identified in Project Xia, within the Process ambiguity group (P), concerns the unknown cross-functional implications of integration activities. The integration progress reports primarily focused on functional activities without adequately assessing their impact on other functions within both the Acquirer and the Target, leading to significant challenges (see Sections 4.2.1.4.2 (a) and (b)).

The second novel ambiguity identified in Project Xia, also within the Process group, relates to the incompatibility of key systems and information technologies between the Acquirer and the Target. This ambiguity, which involves variations in system applications, versions, and their integration impacts, is not well-covered in the existing literature but posed substantial challenges in terms of revenue recognition and customer satisfaction during the integration of Project Xia. Given the ubiquitous nature of technology discrepancies in M&As, this ambiguity is expected to be a recurring issue across acquisitions.

In Project Mia, two additional novel ambiguities were identified within the Process ambiguity group (P). The third ambiguity pertains to the product design and implementation processes of a startup, specifically involving manufacturing, distribution, and post-sales support. The fourth ambiguity concerns legal clauses within contracts and their implications for integration, particularly impacting revenue forecasting and recognition during Project Mia's integration planning.

These newly identified ambiguities are not explicitly discussed in the existing literature, yet they have significant implications for the success or failure of M&A integrations. Thus, it is crucial to analyze these overlooked ambiguities to enhance visibility and develop mitigation strategies and proactive approaches that can minimize their impacts in M&A integrations. Despite being novel, all these ambiguities fall within one of the four broader categories identified in the literature (see Section 2.5.2), reinforcing the relevance of the established typology while highlighting areas for further exploration and refinement.

7.2.6.2 Formation of Ambiguities and Impact on Integration's Success

The existing literature does not adequately address the impact of ambiguity on the success or failure of M&A integrations. This research, particularly through the findings from Case 1, emphasizes the importance of a proactive approach to mitigating ambiguities and establishes a clear link between various categories of ambiguities and the success or failure of M&A integrations. Key root causes of ambiguities were identified, including weaknesses in resource planning and management, communication gaps, deficiencies in the integration process and model, and information technology infrastructure discrepancies, as outlined in **Table 4.1**. The study delved into the underlying reasons for these ambiguities on both the Acquirer's and the Target's sides, proposing targeted solutions for each area. One significant finding highlighted the ambiguity in executing projects in parallel versus in series, which can lead to integration delays and diminished customer satisfaction. To address this, the research recommends employing the Project Management Body of Knowledge (PMBOK) critical path approach to optimize project sequencing and timing. Notably, the existing literature lacks detailed insights into how running multiple integration projects in series or parallel affects overall integration outcomes, making this observation a key contribution of the study.

Another source of ambiguity identified was the divergence in risks and priorities between the Acquirer and the Target, leading to misaligned objectives. For instance, in the R&D sector, a project that was highly prioritized by the Target did not hold the same level of importance for the Acquirer. This research linked the root causes and formation of such ambiguities to the failures or potential risks of failure observed in Project Xia's integration. Understanding the relationship between these root causes, their formation, and their implications is crucial for developing effective mitigation strategies. A proposed checklist, included later in this chapter, aims to assist in addressing these ambiguities in future acquisition integrations.

Case 2 also revealed several root causes of ambiguities, with themes identified in **Table 5.1** that include weaknesses in resource planning and management, difficulty in identifying cause-effect relationships in post-acquisition distribution, inaccuracies in forecasting and revenue outcomes, communication failures, and lack of clarity in implementation, technical processes, product design, and documentation.

The study examined these ambiguities from the perspectives of both the Acquirer and the Target, suggesting targeted solutions to address these challenges. For example, one key finding was the ambiguity surrounding whether to acquire an entire entity or just its assets, which was a negative ambiguity for both the Acquirer and the Target. This ambiguity could have led to incorrect decisions during the due diligence process on the Acquirer's side and set unrealistic expectations on the Target's side. Improving communication within the Acquirer team and between the Acquirer and Target regarding the type of acquisition could mitigate the risk associated with this negative ambiguity in M&A integration.

Overall, this research underscores the critical role of ambiguity in M&A outcomes and provides practical recommendations for identifying, managing, and mitigating ambiguities to enhance integration success. By addressing both the root causes and specific ambiguities observed in the case studies, the study offers valuable insights for future M&A integrations.

7.2.6.3 The Paradox of Ambiguity in M&As Integration

As previously noted (see Sections 2.3 and 2.4), ambiguity has been identified in the literature as a significant factor contributing to slow integration in M&As. Ambiguity in M&As is typically categorized as positive when it leads to favorable outcomes, and negative when the outcomes are undesirable. This research provides compelling evidence that ambiguities between the Acquirer and the Target often follow a pattern of tension, leading to paradoxical ambiguities. As highlighted in **Tables 4.2 and 5.2**, what is perceived as positive ambiguity from the Target's perspective may be viewed as negative by the Acquirer, and vice versa. For instance, a negative ambiguity on the Acquirer's side occurred when the integration team was forced to make decisions about Target resources with minimal assessment. Conversely, a positive ambiguity from the Target's perspective involved senior leaders blocking access to employees prior to the deal's announcement to facilitate the acquisition, which was seen as beneficial from the Target's side but created challenges for the Acquirer. This research proposes that the inherent tension between the Acquirer and the Target is a key source of paradoxical ambiguity, which is crucial to explore and mitigate given its significant impact on acquisition success, as demonstrated in Cases 1 and Case 2. Addressing these paradoxical ambiguities through proactive management and open communication reduces the negative effects on integration and enhance the overall success of M&As.

7.2.6.4 Seeking Positive Ambiguity and Reducing Negative Ambiguities are Real Opportunities for M&A's Integration Success

The literature does not provide detailed guidance on how a positive ambiguity can be aligned with a negative ambiguity or how a negative ambiguity can be transformed into a positive one or an opportunity. This research utilizes the Paradox Theory lens to explore several scenarios where negative ambiguities were turned into opportunities, potentially leading to favorable outcomes. It emphasizes that when the goals and priorities of both the Acquirer and the Target are aligned, or when there is a mutual effort to mitigate risks, there is an opportunity to leverage ambiguities constructively. For instance, an ambiguity observed by the Acquirer could be aligned with a corresponding ambiguity on the Target's side, regardless of whether they are positive, negative, or conflicting, to achieve a favorable outcome. This presents a key gap in the literature and an opportunity for further research.

To address this, the research analyzed the root causes and underlying reasons behind ambiguities, which are crucial for identifying potential synergies between ambiguities on both sides. For example, a major concern identified was the discrepancies between the information technology systems and applications of the Acquirer and the Target. Despite these discrepancies, both teams in Project Xia aimed to maintain uninterrupted business operations. By proactively identifying and communicating these shared intentions, the integration team could have mitigated risks associated with IT integration, turning a negative ambiguity into a collaborative opportunity.

Another example involves the abstinence from communicating known operational failures, despite both the Acquirer and the Target expressing a commitment to maintaining smooth business operations. In this case, the failure to openly discuss known issues represented a negative ambiguity on both sides. However, by addressing this communication gap, there was a clear opportunity to enhance integration success by proactively resolving potential disruptions. These examples illustrate how negative ambiguities, when recognized and managed effectively, can be transformed into opportunities for success.

This research highlights a significant gap in the existing literature regarding the potential to marry positive and negative ambiguities to achieve favorable outcomes. Addressing this gap is crucial, as it has substantial positive implications for the success of M&A integrations. Future research should explore methods and frameworks that facilitate the strategic alignment of ambiguities between the Acquirer and the Target, leveraging them as assets rather than obstacles during the integration process.

7.2.7 Contribution to the Theoretical Knowledge

The research used the lens of the Paradox theory to identify that Ambiguity in M&As integration was paradoxical. That lens helped identifying potential solutions to reduce tensions and as a result reduce ambiguity. The solutions were a proactive communication triggered by the identification of common goals and shared risks. The research also applied the lens of the Information-Gap Theory of Feelings to bring awareness to the existence of ambiguity in M&As. That lens helped reduce the feelings of decision makers towards ambiguity by proposing an objective approach to identify it through different means such as a non-partial identifier and the use of ambiguity register and matrix. The third lens used was the organizational learning lens which helped by applying its principals in between both companies looking forward to integrate.

7.2.7.1 The Theoretical Lens

As outlined in Chapters 2 and 3, three theoretical frameworks—Paradox Theory, the Information-Gap Theory of Feelings, and the Theory of Organizational Learning—were instrumental in grounding the literature on ambiguity. The data from Case 1 and Case 2 were analyzed through these theoretical lenses during the focused ethnography, the Targeted Grounded Theory analysis, and the interview data analysis. In the following sections, I will discuss how the key tenets of these theories have underpinned the major findings, providing a deeper understanding of the ambiguities observed and their implications within the M&A integration context.

7.2.7.2 Paradox Theory Lens Application and Update

The study of paradoxes has practical implications for reconciling conflicting perspectives and alleviating tensions, as demonstrated in both Cases 1 and Case 2. Paradox Theory emphasizes the dualities and inherent contradictions that often arise in organizational contexts, particularly in high-stakes situations such as M&A integrations (Lewis, 2000b; Smith and Lewis, 2011b). This research expands on the concepts of positive and negative ambiguity, framing them as inherently paradoxical within the integration process. Positive ambiguity represents opportunities for innovation and flexibility, while negative ambiguity reflects risks and uncertainties that can hinder integration success.

This study addresses a notable gap in the existing literature on M&As, which often neglects the exploration of ambiguities and tensions between the Acquirer and the Target. Using the lens of Paradox Theory, this research first identified ambiguities in both cases, distinguishing between non-paradoxical ambiguities, which were predominantly internal to either the Acquirer or the Target teams, and paradoxical ambiguities that arose from tensions between the two teams. Non-paradoxical ambiguities, such as procedural misalignments and unclear roles, were predominantly resolved through internal team adjustments. Conversely, paradoxical ambiguities, such as conflicting strategic priorities and cultural misalignments, required negotiation and collaboration between the two organizations to resolve effectively (see Table 4.2 and Table 5.2).

Building on this analysis, the research proposes a framework for managing paradoxical ambiguities in M&As by fostering active engagement between the Acquirer and the Target. Key strategies include aligning on shared goals, addressing common risks, and enhancing open communication to reduce tensions. For instance, in Case 1, ambiguities related to overlapping roles and responsibilities between the Acquirer and Target teams were identified as paradoxical (see Table 4.2). Similarly, in Case 2, ambiguities arising from cultural differences and competing priorities created tensions that needed to be addressed collaboratively (see Table 5.2). The application of Paradox Theory informed interventions such as structured dialogue sessions, cross-functional workshops, and joint goal-setting exercises. These interventions effectively mitigated these tensions, enabling both organizations to work more cohesively toward their integration objectives.

The broader implications of applying Paradox Theory to M&A integrations are twofold. First, the framework highlights the potential for paradoxical ambiguities to serve as drivers of collaboration and innovation, provided they are actively engaged and constructively managed. This suggests that rather than viewing ambiguities solely as obstacles, organizations can leverage them to foster creativity and adaptive problem-solving. Second, the findings underscore the necessity of developing organizational capabilities for navigating paradoxes, such as enhancing communication channels, promoting mutual understanding, and institutionalizing practices for managing tensions.

By linking these findings to Paradox Theory, this research contributes a deeper understanding of how ambiguity functions as a paradoxical force in M&As, shaping both challenges and opportunities.

7.2.7.3 Information-Gap Theory of Feelings Lens Application and Update

The Information-Gap theory of Feelings, The Information-Gap Theory of Feelings provides a nuanced framework for understanding the emotional responses of decision-makers to ambiguity. This theory differentiates between curiosity-driven exploration and anxiety-driven avoidance, proposing that the degree of emotional response to ambiguity depends on the perceived gap between what decision-makers know and what they want to know (Markey and Loewenstein, 2014; Golman and Loewenstein, 2018; Golman, Gurney and Loewenstein, 2021). At its core, the theory identifies an optimal range of ambiguity—the "sweet spot"—where ambiguity is neither too low nor too high. Within this range, ambiguity fosters curiosity, motivation, and creativity, encouraging decision-makers to explore novel solutions and engage deeply with complex problems (Section 2.6.2).

This research applied the lens of the Information-Gap Theory of Feelings to explore how varying levels of ambiguity influenced decision-making, collaboration, and integration outcomes in both Case 1 and Case 2. The findings revealed significant variations in the emotional and behavioral responses of stakeholders to ambiguity, driven by whether the ambiguity level fell within or outside the optimal range. In Case 1, ambiguity surrounding integration processes was excessively high, generating anxiety among key stakeholders. This anxiety led to avoidance behaviors, reduced collaboration between the Acquirer and the Target, and delays in resolving critical integration issues (see Section 4.2.1.4.1 on integration process ambiguity). For example, unclear decision-making authority and conflicting integration timelines exacerbated tensions, leaving key ambiguities unresolved and creating bottlenecks in the integration process.

Conversely, in Case 2, ambiguity levels were too low in certain areas due to the Acquirer's overemphasis on premature clarification. This was particularly evident in product design discussions, where the Acquirer's efforts to eliminate uncertainties constrained the Target's ability to contribute creatively and adaptively to the integration strategy (see Section 5.2.1.4.4 on efforts to clarify ambiguity in product design). The premature reduction of ambiguity stifled innovation and missed opportunities for leveraging the Target's expertise, ultimately limiting the integration's potential success. These findings underscore the critical importance of managing ambiguity levels within the optimal range suggested by the Information-Gap Theory of Feelings, where decision-makers are encouraged to engage constructively with uncertainty rather than avoiding or over-controlling it.

To address these challenges, the research proposed practical tools and strategies grounded in the Information-Gap Theory of Feelings framework. One such tool is the ambiguity registry, a structured mechanism for identifying, categorizing, and tracking ambiguities throughout the acquisition and integration phases. This registry was designed to help decision-makers maintain ambiguity within the optimal range by prioritizing which ambiguities require immediate attention and which can be leveraged for exploratory discussions. Post-analysis interviews (Sections 6.3.7, 6.3.9, and 7.2.5.3.3) confirmed the potential value of this tool, with stakeholders highlighting how it could enhance transparency, reduce decision-making paralysis, and promote cross-functional collaboration. For example, interviewees noted that using an ambiguity registry in Case 1 could have mitigated anxiety-driven avoidance behaviors by providing a clear framework for addressing uncertainties in real time.

Another proposed strategy is the involvement of a third-party, non-partisan ambiguity identifier. This role focuses on objectively assessing ambiguities, ensuring that they are not influenced by the subjective biases of the Acquirer or the Target. Feedback from interviewees emphasized the importance of this impartial perspective, particularly in high-stakes decisions where ambiguity often fuels conflicts between the two parties.

The broader implications of applying the Information-Gap Theory of Feelings are significant. First, the findings demonstrate that ambiguity, when managed appropriately, can be transformed from a source of tension into a catalyst for curiosity, creativity, and collaboration. This aligns with the theory's assertion that ambiguity within the "sweet spot" promotes constructive engagement and drives innovation. Second, the structured tools and strategies proposed in this research offer practical methods for operationalizing the theory in M&A contexts, enabling organizations to systematically manage ambiguity to enhance integration outcomes.

Further analysis highlights how these tools and strategies could improve decision-making dynamics in M&A integrations. In Case 2, for instance, implementing an ambiguity registry and involving a third-party identifier might have preserved areas of productive ambiguity in product design, encouraging more adaptive and collaborative approaches. Similarly, in Case 1, these tools could have mitigated the negative effects of high ambiguity levels, such as anxiety and avoidance, by providing a structured framework for addressing integration uncertainties. These insights suggest that managing ambiguity effectively requires both a theoretical understanding, as provided by the Information-Gap Theory of Feelings, and practical mechanisms to operationalize this understanding in real-world scenarios.

In conclusion, this research illustrates how effectively managing ambiguity through the framework of the Information-Gap Theory of Feelings can transform ambiguity from a source of tension into a driver of success. By calibrating ambiguity levels and utilizing structured tools to balance emotional responses, organizations can foster a more adaptive, innovative, and collaborative integration environment.

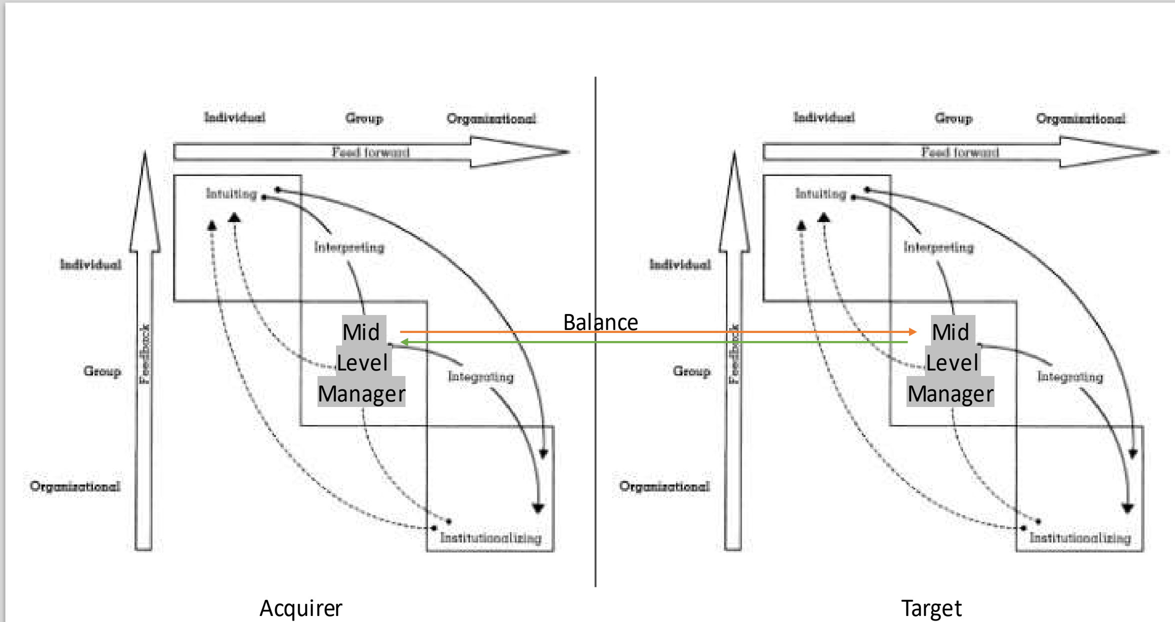
7.2.7.4 Theory of Organizational Learning Lens Application and Update

The theory of Organizational Learning provides a valuable lens for examining how knowledge transfer and learning processes can be managed during M&A integrations. Crossan et al. (1999) and Schilling and Kluge (2009) proposed frameworks that outline learning dynamics and barriers within organizations, as illustrated in **Appendix B**. However, these frameworks primarily focus on learning within a single organization and do not extend their applicability to the context of two merging entities during the acquisition and integration phases. This research builds upon the work of Crossan et al (Crossan *et al.*, 1999), exploring how learning dynamics shift when integrating two organizations, particularly in the strategic decision-making (SDM) process of M&As, where one firm is absorbed into another. This study challenges the assertion by Schilling and Kluge (2009) that high-risk scenarios impede learning. Instead, it demonstrates that in M&A integrations, higher risk often creates opportunities for deeper and more impactful learning. Risk-driven ambiguity, such as strategic misalignment or cultural integration challenges, forces both the Acquirer and the Target to engage in dynamic problem-solving and adaptive learning processes. For instance, in both Case 1 and Case 2, ambiguous situations related to integration planning and execution required collaborative efforts to resolve conflicts, align objectives, and generate shared solutions.

A key finding of this research is the critical role of mid-level managers as facilitators of communication and learning. Mid-level managers act as conduits between the Acquirer and the Target, balancing top-down directives with bottom-up feedback. **Figure 7.3** illustrates an adapted application of the model from Crossan et al. (1999), emphasizing how mid-level managers facilitate both intra-organizational and inter-organizational learning flows. Within their respective organizations, they bridge gaps between senior leadership and operational teams, ensuring that strategic goals are translated into actionable plans. Between the Acquirer and the Target, they play a pivotal role in fostering collaboration, reducing ambiguity, and aligning learning processes with integration objectives.

This research also identifies a common imbalance in communication and learning flows during M&As. Top-down communication often dominates, while bottom-up feedback from the Target is underrepresented. This imbalance amplifies ambiguity, leading to misalignment and integration inefficiencies. By empowering mid-level managers to facilitate balanced learning dynamics, organizations can reduce ambiguity, enhance collaboration, and support a smoother integration process. For example, in Case 1, mid-level managers helped translate strategic ambiguity into practical solutions, while in Case 2, their involvement mitigated cultural differences and improved cross-functional collaboration.

Figure 7.3: Proposed Graph for Mid-level Managers to Act as Balancers of Feedback and Feed-Forward – Framework Modified from Crossan et al. (1999) Framework in Appendix B (Crossan et al., 1999)



Graph modified from (Crossan et al., 1999)

The broader application of organizational learning highlights the importance of cultivating a culture of continuous adaptation and knowledge sharing. By actively managing the flow of information and feedback, mid-level managers help organizations leverage the complexities of integration as learning opportunities. Furthermore, this study underscores the necessity of institutionalizing mechanisms for balanced communication, such as structured feedback loops and cross-functional task forces, to ensure that both organizations contribute equitably to the integration process.

In conclusion, this research extends the application of the theory of Organizational Learning to the M&A context, demonstrating that effective management of learning dynamics—particularly through the involvement of mid-level managers—can significantly reduce ambiguity and enhance integration success. By embracing the high-risk, high-reward nature of M&A integrations, organizations can cultivate an environment where learning is continuous, adaptive, and aligned with the strategic objectives of the merger.

7.2.7.5 Integrated Analysis: Linking the Three Theories to Ambiguity in M&As

The integration of Paradox Theory, the Information-Gap Theory of Feelings, and the Theory of Organizational Learning provides a comprehensive framework for analyzing and managing ambiguity in M&A integrations. Each theory addresses a unique dimension of ambiguity, offering complementary perspectives that together enrich the understanding and resolution of ambiguity in these complex processes.

Paradox Theory focuses on the structural and strategic tensions inherent in ambiguity, highlighting the dualities of positive and negative ambiguities. This lens helps identify paradoxical ambiguities, such as conflicting strategic goals or cultural differences, and provides solutions like open dialogue and shared goal alignment to mitigate tensions. By framing ambiguity as a paradox, this theory emphasizes that ambiguity, when managed constructively, can drive collaboration and innovation.

The Information-Gap Theory of Feelings introduces a psychological dimension, exploring how decision-makers respond emotionally to ambiguity. It emphasizes the "sweet spot" of ambiguity, where uncertainty fosters curiosity and creativity without causing anxiety or avoidance. This theory informed the development of practical tools such as the ambiguity registry and third-party identifier, which help maintain ambiguity within optimal levels, enabling decision-makers to engage constructively with uncertainty.

The Theory of Organizational Learning adds an operational perspective, focusing on how knowledge transfer and learning processes can address ambiguity during M&A integrations. It highlights the role of mid-level managers in balancing communication and learning flows within and between organizations. This theory emphasizes that ambiguity, particularly in high-risk scenarios, can catalyze learning and adaptation, transforming challenges into strategic opportunities.

The integration of these three theories offers a multi-dimensional framework for understanding ambiguity in M&As. Paradox Theory addresses the structural tensions, Information-Gap Theory manages emotional responses, and Organizational Learning Theory operationalizes the processes for navigating ambiguity. Together, they provide a holistic approach to managing ambiguity, ensuring that it is not only mitigated but also leveraged as a strategic asset.

The combined application of these theories directly benefited the research by deepening the analysis and informing the development of the Ambiguity Improvement Model. This model incorporates strategies for identifying, managing, and leveraging ambiguity throughout the acquisition and integration phases. By addressing ambiguity from structural, psychological, and operational perspectives, the research provides actionable insights for practitioners while advancing the theoretical understanding of ambiguity in M&As.

7.3 Limitations of the Research and Future Directions

7.3.1 Research Limitations

The research was based on an inductive qualitative study that provided valuable insights into the academic and business realms regarding ambiguity in M&As. It identified significant gaps in the literature concerning the typology of ambiguity, its formation, and the opportunities to leverage positive ambiguity while avoiding negative ambiguity. From an applied perspective, the research demonstrated that managing paradoxical ambiguities in M&As can lead to improved integration outcomes and overall success. However, the research has several limitations.

The first limitation is related to the extensive involvement of Acquirer resources in both acquisitions, which made it impossible to attend all meetings for observation. While this limited the ability to capture every interaction, the research still robustly addressed the research questions by focusing on key meetings that were most relevant to the ambiguity-related dynamics and integration processes.

The second limitation pertains to the simultaneous execution of both integrations, which constrained the availability and access to resources. Although this overlap limited the breadth of data collection, the simultaneous nature of the integrations provided a unique comparative perspective that enriched the analysis of how ambiguities evolved in real-time across both cases.
A third limitation was the inherent bias towards Acquirer resources and meetings, resulting from the takeover structure of Case 1 and Case 2, which included the layoff of the Target's executives on Day 1. This led to a natural imbalance in the observed meetings, as access was primarily to Acquirer-led sessions. Despite this, the research still provided robust insights into the Acquirer's perspective on ambiguity, which is a critical factor in the integration process. Additionally, the research included five validation interviews due to time limitations and resource availability. While a broader range of interviews could have strengthened the validation, the conducted interviews offered valuable confirmation of the findings, aligning well with the study's objectives and theoretical underpinnings.

A fourth limitation was restricted access to certain due diligence documentation and meetings due to time constraints and the privacy of acquisition subjects. Despite this, the research effectively utilized available data to draw meaningful conclusions about ambiguity management in M&As, bolstering the overall reliability of the findings.

The fifth limitation relates to the type and size of the companies involved in the study; both the Acquirer and the Target were medical equipment manufacturers of different sizes. The study focused on two acquisitions due to the time-intensive nature of focused ethnography and the extended timelines typically associated with integration processes. While this scope limits the generalizability of the findings, further research involving different types and sizes of acquisitions could extend and validate the applicability of these insights across a broader spectrum of M&A scenarios.

Overall, while these limitations present constraints, they do not diminish the robustness of the study's contributions. The focused qualitative approach provided deep, contextually rich insights that address the research questions effectively and pave the way for future exploration in the domain of M&A ambiguity management.
research.

7.3.2 Future Research

The proposed model aims to assist business leaders involved in acquisitions or integration, whether on the Acquirer or Target side, by proactively identifying ambiguities and transforming them into opportunities that support a successful integration. This model serves as a strategic tool for recognizing and managing both positive and negative ambiguities, leveraging them to enhance collaboration, reduce risks, and align organizational objectives during the integration phase.

However, for the model to be fully effective, it requires validation through practical deployment in real-world M&A scenarios, followed by thorough vetting and continuous improvement based on empirical findings. A pilot implementation of the model in various categories of acquisitions, including different industries and organizational sizes, could provide the necessary data to refine its components and assess its scalability and adaptability across diverse M&A contexts.

Additionally, while the research acknowledged the importance of change management, it did not delve into how change management strategies specifically impact M&A ambiguities. Future applications of the model should integrate change management frameworks to address the human and organizational dimensions of ambiguity, such as resistance to change, communication gaps, and cultural integration challenges. Implementing structured change management practices, such as stakeholder engagement, clear communication plans, and training programs, can help mitigate negative ambiguities by aligning expectations and fostering a unified approach to integration.

Linking back to the research limitations, the model's validation could also address gaps identified in this study, such as the limited access to comprehensive meeting data and the inherent bias towards Acquirer perspectives. By including diverse viewpoints from both Acquirer and Target teams and expanding access to critical integration activities, the model can provide a more balanced and inclusive approach to ambiguity management. Furthermore, incorporating feedback loops from mid-level managers and frontline employees can enhance the model's applicability by ensuring it addresses the nuances of top-down and bottom-up communication flows, as highlighted in the study's findings.

In summary, while the proposed model offers a robust framework for managing ambiguities in M&As, its practical application will be crucial for validating its effectiveness. By integrating change management principles and expanding the scope of its deployment, the model can evolve into a comprehensive tool that not only mitigates ambiguity but also drives successful integration outcomes in a variety of M&A contexts.

7.4 Conclusion

Despite the strategic appeal of mergers and acquisitions (M&As), the success rate remains alarmingly low, with failure rates speculated to reach up to 90%. Nonetheless, M&As continue to surge in both the number of deals and their cumulative value, highlighting a critical need to address the underlying factors contributing to their high failure rates. This research has identified ambiguity as a key factor that significantly impacts M&A outcomes, particularly during the integration phase, which is often where most failures occur.

Through the development of a typology of ambiguities, the establishment of priorities, and the proposal of an improved acquisition process, this study provides a comprehensive framework for the identification and documentation of ambiguities in M&As. By systematically managing these ambiguities according to the priorities outlined in this research, organizations can enhance their integration strategies, thereby reducing the risk of failure associated with ambiguity.

The findings underscore the importance of proactively addressing ambiguity at every stage of the acquisition and integration process. Implementing a structured approach to identify, document, and manage ambiguities not only mitigates risks but also transforms potential obstacles into opportunities for alignment and growth. This approach shifts the focus from merely reacting to ambiguity to strategically managing it, paving the way for more successful integrations.

Ultimately, tackling the fundamental challenge of ambiguity in M&As is the first critical step toward a deeper understanding and better management of the complexities inherent in these transactions. By embracing ambiguity as a manageable and strategic element, business leaders can improve their decision-making processes and drive M&A success, setting a new standard for how ambiguities are perceived and handled in the context of corporate growth and integration.

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Appendices

Appendix A: Consent Form

Consent form

Full title of Project: The role of ambiguity in the process of acquisitions

Name, position and contact address of Researcher: Antoine Kebbe, DBA student (5th year), address, cell #.

The primary purpose of the research is to explore the interplay between different types of ambiguity in the acquisition process i.e. positive and negative aspects of ambiguity in different contexts, and how these different aspects interact and are managed across different stages of the acquisition process.

Please be assured that full anonymity and confidentiality will be respected; and you have the freedom to decline participation.

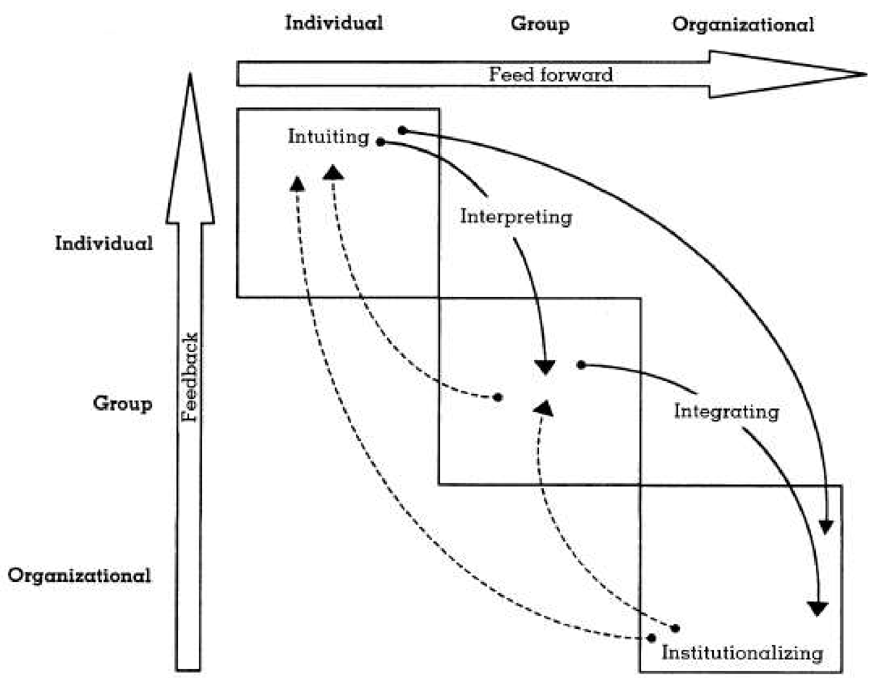
	Please initial box
I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.	☐
I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.	☐
I agree to take part in the above study.	☐

Please tick box

	Yes	No
I agree to the interview being audio recorded	☐	☐
I agree to the use of anonymised quotes in publications	☐	☐

Name of Participant   Date   Signature

Appendix B: The 4I Framework of Organizational Learning (Crossan *et al.*, 1999)



(Crossan *et al.*, 1999)

Appendix C: Interview Questionnaire

Question 1: Validation of Ambiguity four categories of (HR) – (O) – (P) and (G)

Goal of Question 1

Validate ambiguity's four categories found in an acquisition discovered in the literature review and in case 1 and case 2: in an acquisition: HR (personnel) – Organizational – Processes – Goals.

Question 1

In the research of case 1 and 2 ambiguities can be categorized under 4 main categories: HR (personnel) – Organizational – Processes – Goals. If you take a flash back and think about one or more ambiguities that you faced during the integration of either case 1 or case 2, will these fit in one or more of these four categories? please describe elaborate.

Question 2: Validation of Ambiguity priority triangle to manage of HR -> O -> P -> G

Goal of Question 2

Validate theory development of Ambiguity priorities at lower level of HR and O: HR -> O -> P -> G triangle => model proposes to take care of the people first at the individual ambiguities level then at the Organizational ambiguities level; then take care of the systems ambiguities followed by the goals ambiguities: HR ambiguities which is the individual safety and physiological needs in the acquisition, then Organizational ambiguities which is the belonging needs, then the Process ambiguities where systems and processes resides, then Goal ambiguity under which companies' goals, objectives and outcomes fall under. Proposed logic: Employees and mid-level managers will be the engine to integrate the acquisition, hence it is important to put them at ease to facilitate and boost communication.

Question 2

Do you think that managing ambiguities in these priorities will be more successful for the integration. Please elaborate on the answer.

Question 3: Validation of Ambiguity root-causes

Goal of Question 3

Validate ambiguity root cause (axial coding categories) in acquisitions: **weaknesses in resources planning and management, weaknesses in communications, weaknesses in the integration process and model, and information technology infrastructure discrepancies and incompatibilities**.

Question 3

Would you please recall the situation where we had Talia's integration, and you were not sure whether the systems will be compatible or could be integrated between the Acquirer Alexa and the

Target Talia. Can you describe it? And do you consider it an ambiguity and risk for the integration that could put the integration success at risk? If yes, why? if not, why?

Question 4: Validation of Ambiguity progress in comparison with communication model

Goal of Question 4

Validate the progress of ambiguity in a similar way to the communication model (Crossan *et al.*, 1999)

Question 4

Show the graph of the model. The article suggests that organizational learning can be enhanced by developing a learning culture that supports both exploration and exploitation, by creating a learning infrastructure that facilitates information flow and feedback, and by fostering a learning leadership that encourages inquiry and innovation. Imagine an ambiguity situation that occurred during the acquisition or integration phase, do you think the problem between feedback (i.e., exploitation based on information flowing from the Organization down to the group down to the individual employee) and feedforward (i.e., exploration based on information flowing from employee up to the group up to the organization) can explain some of the ambiguities we identified at the Acquirer side? Reason is that these communications tend to compete can create ambiguity. Do you think a balance could improve in some ways ambiguity in the integration phase? if yes how?

Question 5: Validation of proposed proactive model to bring Ambiguity at the forefront of the Acquisition process

Goal of Question 5

Validate Proposed proactive model to leverage ambiguity: Pre-Acquisition Planning, Integration Strategy, Integration Process, and Continuous Assessment and Adjustment.

Question 5

Review proposed model listed in Goal 5. Would you please recall an ambiguity situation in either case 1 and/or 2, and see if the application of the model can help the case?

Question 6: Validation of Management practices of seeking positive ambiguity and reducing negative ambiguity as real opportunities

Goal of Question 6

Validate management practices of seeking positive ambiguity and reducing negative ambiguity are real opportunities for success of M&A integration: As an example, an application of the matrix to the Human Resource ambiguity in case 1 to retain SME (subject Matter Expert) is a common goal and priority for both the Acquirer and the Target. Positive ambiguity is an ambiguity out there to enable moving forward with an acquisition. Negative ambiguity is the opposite. Ambiguities are paradoxical between the Acquirer and the Target. A negative ambiguity on the Target side to hide information about the SMEs for example can be seen as negative for the Acquirer since it restrains moving forward with the decisions on SMEs retention, while for the target it is positive since it helps hide information to protect its SMEs.

Question 6

Would you please recall a situation or subject in which you wanted ambiguity to remain in the communication or discussion with the Target? Would you please describe it? Do you think there was an opportunity to reduce that ambiguity by having an open discussion with the Target counterpart on a common goal subject? (One example is the retain of the top talent in certain roles you managed). If yes, why and if not why?

Question 7: Explore the development of an assessment tool for ambiguity

Goal of Question 7

Explore the development of an assessment tool for ambiguity: seek ideas for ambiguity assessment tool (ambiguity sniffer)

Question 7

Would you please recall a situation in case 1 or case 2 integrations about the ambiguities we faced. Would you recommend an ambiguity sniffer? A tool or process to identify ambiguities faced by various parties.

Question 8: Explore the development of metrics to evaluate ambiguity and its impact on performance/progress

Goal of Question 8

Explore the development of metrics to evaluate ambiguity and its impact on performance/progress: seek ambiguity measurement metric and impact on performance (ambiguity measurement)

Question 8

Think about the acquisitions and the ambiguities we faced. Would you recommend an ambiguity metric to measure ambiguities occurrences and measure ambiguities impact on performance?

Question 9: Explore the development of ambiguity monitoring tools

Goal of Question 9

Explore the development of ambiguity monitoring tools (ambiguity progress/change since ambiguity is dynamic)

Question 9

Think about the acquisition and the ambiguities we faced. Would you recommend an ambiguity monitoring tool to track ambiguity levels and monitor its change since ambiguity is dynamic?

Question 10: Allow voice of employee about ambiguity they faced in case 1 and case 2

Goal of Question 10:

Allow voice of employee to share about Ambiguity: Identify what mid-level managers faced as ambiguities in both case 1 and case 2

Question 10

What were the ambiguities we faced in project Mia and Xia?

Question 11: Identify differences in ambiguities between both case 1 & 2 integrations

Goal of Question 11

Identify differences in ambiguities between both integrations of case 1 and 2

Question 11

Have you seen any differences in ambiguities faced in these projects?

Question 12: Identify opportunities to reduce ambiguities based on experience

Goal of Question 12

Identify opportunities to reduce ambiguities based on experience of employees engaged in case 1 and case 2

Question 12

Do you think we could have done a better job to reduce those ambiguities? if yes which ones and how?

Question 13: Validation of ambiguities detected as true ambiguities

Goal of Question 13

Validate whether ambiguities detected are true ambiguities felt by the employee/manager that would impact the success of the acquisition and its integration

Question 13

In my research I identifies ambiguities related to product design, its validation, its risk, its claims, and its distribution model. Do you think these are true ambiguities that we faced? do you think these could have rendered the acquisition to fail? if yes how? if not why? how could we have reduced the ambiguity?

Question 14: Validation of the idea to leverage ambiguity for M&As integration success

Goal of Question 14

Collect comment on the idea of leveraging ambiguity to enable success

Question 14

Positive ambiguity is an enabler while negative ambiguity is refrainer. Seeking positive ambiguity and reducing negative ambiguity can enable acquisition's success. what would you comment on that? how could we have reduced negative ambiguity? where could we have used positive ambiguity in the integration?

Question 15: Identify what else should be thought about Ambiguity in M&As in particular on case 1 and case 2 but not limited to these 2 cases

Goal of Question 15

Identify other not captured ideas

Question 15

Any other comment, idea, question that we should discuss and/or you would like to share?

Appendix D: List of participants in Case 1 study

Participant	Job Title	Company	Data source
Participant 1	Integration Manager	Alexa	Meeting
Participant 2	VP Operations	Alexa	Meeting
Participant 3	Tracking Program Manager	Alexa	Meeting
Participant 4	VP Sales and Operation Europe	Alexa	Meeting
Participant 5	Director of Legal Dept.	Alexa	Meeting
Participant 6	System application Integration Manager Europe	Alexa	Meeting
Participant 7	President	Alexa	Meeting
Participant 8	VP Global Sales	Alexa	Meeting
Participant 9	VP QA/RA and Service	Alexa	Meeting
Participant 10	Director of Compliance	Alexa	Meeting
Participant 11	Manager of Financial Operations	Alexa	Meeting
Participant 12	Manager of Suppliers	Alexa	Meeting
Participant 13	Director of QA	Alexa	Meeting
Participant 14	Director of Service	Alexa	Meeting
Participant 15	Regulatory Affairs Representative	Alexa	Meeting
Participant 16	VP Business Development	Alexa	Meeting
Participant 17	Director R&D	Alexa	Meeting
Participant 18	Director of IT	Alexa	Meeting
Participant 19	Manager System Applications	Alexa	Meeting
Participant 20	Director of Risk and Insurance	Alexa	Meeting
Participant 21	Manager Documentation	Alexa	Meeting and Interview
Participant 22	Director of IT Technology Integration	Alexa	Meeting
Participant 23	VP of Finance	Alexa	Meeting
Participant 24	Manager HR	Alexa	Meeting
Participant 25	Director of Finance	Alexa	Meeting
Participant 26	Representative 1 from R&D	Alexa	Meeting
Participant 27	VP R&D	Alexa	Meeting
Participant 28	Director of Taxes	Alexa	Meeting
Participant 29	Director Business Development	Alexa	Meeting
Participant 30	VP Clinical Affairs	Alexa	Meeting
Participant 31	Ex-President	Alexa	Meeting

Participant 32	Director of Sales Operations and Customer Service	Alexa	Meeting
Participant 33	VP Europe Sales	Alexa	Meeting
Participant 34	Director of Marketing	Alexa	Meeting
Participant 35	Manager Intellectual Property (IP)	Alexa	Meeting
Participant 36	Director Electrical Engineering	Alexa	Meeting
Participant 37	Manager Operations Material Systems	Alexa	Meeting
Participant 38	Director of Service Revenue	Alexa	Meeting
Participant 39	VP Corporate Finance	Alexa	Meeting
Participant 41	VP of Global Sales	Alexa	Meeting
Participant 42	Director of Product Marketing	Alexa	Meeting
Participant 43	Manager International Integration	Alexa	Meeting
Participant 44	VP Europe Sales and Operations	Alexa	Meeting
Participant 46	Director of Marketing Europe	Alexa	Meeting
Participant 47	Team Leader IT System Application	Alexa	Meeting
Participant 40	Shipping Manager	Talia	Meeting
Participant 45	Director of Marketing	Talia	Meeting

Note on abbreviations:

VP stands for Vice President

QA stands for Quality Assurance

RA stands for Regulatory Affairs

HR stands for Human Resources

R&D stands for Research and Development (i.e. Engineering)

Day 1 stands for the first day Acquirer Alexa legally own Target Talia

Appendix E: List of participants in Case 2 study

Participant	Job Title	Company	Data source
Participant 1	Acquisition Project Manager	Alexa	Meeting
Participant 2	Director of Distribution Channel	Alexa	Meeting
Participant 3	Manager Helpdesk # 2	Alexa	Meeting
Participant 4	Manager Channel Marketing	Alexa	Meeting
Participant 5	Director of Legal Dept.	Alexa	Meeting
Participant 6	Director of Risk and Insurance	Alexa	Meeting
Participant 7	Director of RA	Alexa	Meeting
Participant 8	Director of Technical	Alexa	Meeting
Participant 9	Manager Documentation	Alexa	Meeting
Participant 10	VP of Clinical Affairs	Alexa	Meeting
Participant 11	Manager of IP	Alexa	Meeting
Participant 12	VP of Legal department	Alexa	Meeting
Participant 13	Sr. Director of Strategy	Alexa	Meeting
Participant 14	VP of Sales	Alexa	Meeting
Participant 15	VP QA/RA	Alexa	Meeting
Participant 16	VP Business Development	Alexa	Meeting
Participant 17	Director R&D SW	Alexa	Meeting
Participant 18	Director of IT	Alexa	Meeting
Participant 19	Controller of Sales Finances	Alexa	Meeting
Participant 20	Director of Customer Service	Alexa	Meeting
Participant 21	Director of Product Marketing	Alexa	Meeting
Participant 22	Director of IT	Alexa	Meeting
Participant 23	Director of Cost Accounting	Alexa	Meeting
Participant 24	Manager HR	Alexa	Meeting
Participant 25	Material Buyer # 1	Alexa	Meeting
Participant 26	Project Manager Manufacturing	Alexa	Meeting
Participant 27	Director of Service Revenue	Alexa	Meeting
Participant 28	Director of Taxes	Alexa	Meeting
Participant 29	Acquisition Project Lead contact	Alexa	Meeting
Participant 30	Manager Legal	Alexa	Meeting
Participant 31	President	Alexa	Meeting

Participant 32	Director R&D	Alexa	Meeting
Participant 33	Sr Director R&D	Alexa	Meeting
Participant 34	Director of HR	Alexa	Meeting
Participant 35	VP of Finance	Alexa	Meeting
Participant 36	IP Counsel representative	Alexa	Meeting
Participant 37	Banker	Tomika	Meeting
Participant 38	Chief Financial Officer	Tomika	Meeting
Participant 39	President	Tomika	Meeting

Note on abbreviations:

VP stands for Vice President

QA stands for Quality Assurance

RA stands for Regulatory Affairs

HR stands for Human Resources

IP stands for Intellectual Property

R&D stands for Research and Development (i.e. Engineering)

IT stand for Information Technology

R&D SW stands for the department of Software engineering withing R&D

Day 1 stands for the first day Acquirer Alexa legally own Target Tomika's assets

Appendix F: List of interviewees and roles in the Acquirer and the Target

Participant	Job Title and role in the acquisition	Company	Data source
Participant 1	Acquisition Integration Manager Managed the Acquisition of Case 1 and case 2	Alexa (Acquirer)	Interview on ZOOM
Participant 2	Director of Regulatory Affairs Was involved in the integration of both case 1 and case 2	Alexa (Acquirer)	Interview In-person
Participant 3	Manager Helpdesk # 2 Was involved in the acquisition and integration of case 1 and case 2. Lead the Integration of case 2	Alexa (Acquirer)	Interview on ZOOM
Participant 4	Director of Business Programs Managed the 2nd largest team to integrate and the largest team to move over from case 1 – Lead their function in case 2 integration	Alexa (Acquirer)	Interview In-person
Participant 5	Director of Operations Managed the largest team in case 1 and was strategically involved in several aspects of the integration	Talia (Target case 1)	Interview on ZOOM