Exploring the Relationship Between Post-acquisition and Supply Chain Disruption Risk of Acquired Firms During the First Year Following Acquisition

(A Dynamic Capability Perspective)

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By

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Abstract

This doctoral thesis expands on the literature in the under-researched field of supply chain disruption risk management (SCDRM) in the M&A context. In particular, it focuses on the phenomenon of Supply Chain Risk Management (SCRM) and its alignment to the requirements of corporate acquisition contexts. The theoretical framework informing this study draws upon dynamic capability theory (DCT) of the firm organisation to develop an integrated framework explaining what the main risks associated with acquired firms' supply chain disruptions in post-acquisition are and how dynamic capabilities (DCs) resulting from a corporate acquisition can enable the target company to manage such risks in post-acquisition and increase acquisition performance. In this doctoral research project, the phenomenon of SCRM is investigated through an empirical study of target companies' supply chain disruption risks in post-acquisition by collecting data from both senior managers in acquired companies (SMACs) and M&A Consultants (M&ACs).

While a growing stream of literature has discussed the role of SCRM in coping with the vulnerabilities of modern supply chains and increasing value for firms and explored the ability of firms to deal with internal and external changes during supply chain integration in relation to DCs and integration flexibility, greater attention is needed to understand how dynamic capabilities benefits SCRM in the M&A context and leads to superior performance in post-acquisition. This research begins to address this gap by exploring SCRM in a post-acquisition context and recommends a theoretical framework to manage supply chain disruptions in post-acquisition by emphasising key opportunities and risks associated with the post-acquisition integration process.

This research also responds to the call to assess supply chain disruption risks in post-acquisition and strategies to manage post-acquisition integration risks, with the aim of mitigating the high failure rate of M&A deals in the global context. It contributes to management decision-making quality in the post-acquisition process. The findings indicate that sensing, seizing, and reconfiguring DCs play a critical role throughout the post-acquisition integration process and, collectively, help the acquired firm to manage supply chain disruption risks in post-acquisition successfully. The findings reveal that the use of DCs in post-acquisition requires careful attention and shed light on the importance of the SCRM in managing both the disruption risks and DCs resulting from an acquisition.

Dedication

To my family, for their everlasting love and endless support.

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List of Abbreviations

ABDC – Acquisition Based Dynamic Capabilities

BHAR – Buy and Hold Abnormal Returns

CRM – Customer Relationship Management

DCT – Dynamic Capability Theory

DCs – Dynamic Capabilities

EIU – Economist Intelligence Unit

EMI – Enterprise Management Incentive

ERP – Enterprise Resource Planning

FTC – Federal Trade Commission

HSE – Health, Safety and Environment

IT – Information Technology

KPIs – Key Performance Indicators

LSP – Logistics Service Provider

M&ACs – M&A Consultants

M&As – Mergers and Acquisitions

MNEs – Multinational Enterprises

RBV – Resource-Based View

R&D – Research and Development

SCM – Supply Chain Management

SCRM – Supply Chain Risk Management

SCDRM – Supply Chain Disruption Risk Management

SKUs – Store Keeping Units

SMACs – Senior Managers in Acquired Companies

Chapter 1: Introduction

1.1. Introduction

Corporate acquisition deals require successful integration planning in order to attain their potential benefits, and a clear understanding of the acquisition transaction's objectives is essential to a successful outcome. An acquisition can be a disruptive event for the acquired companies' supply chains as they may face several dynamic challenges in the post-acquisition phase that need to be addressed (Marks, et al., 2017; Sapkota, et al., 2019). It has been a critical process to illustrate the drivers of corporate acquisition success and to conceptualise a universal method to improve and evaluate the contributions of corporate acquisitions on organisational performance (Epstein, 2004; Bebenroth & Hemmert, 2015). In this doctoral thesis, the researcher will try to undertake a comprehensive evaluation of acquired firms' supply chain disruption risks during the first year of the ownership change and explore how dynamic capabilities (DCs) resulting from a corporate acquisition can enable the target company to manage supply chain disruption risks in post-acquisition and increase acquisition performance.

Looking into the future and the trend towards globalisation, supply chains appear to be increasingly important to firms' merger & acquisition (M&A) decisions and competitive strategy. Although M&A as important instruments of corporate strategy refer to the joining of two firms, there are key differences involved in when to use them. "A merger is the amalgamation of two companies to form a new company" (Grant, 2018, p. 342). An acquisition occurs when a company uses capital resources such as cash, debit, or stock to purchase another company (Hill, et al., 2017). It is a combination in which an organisation (the acquiring or acquirer company), purchases and absorbs the operations of another (the target or acquired company). The difference between a merger and an acquisition relates more to the details of management control, financial arrangements, and ownership than to strategy and competitive advantage (Gamble, et al., 2015). Acquisition corporate strategy, which is the focus of this research project, is aimed at improving long-run revenue and ultimately creating value for shareholders (Tripathi & Lamba, 2015). The existing literature has widely focused on M&A concept, while they are two different instruments of corporate strategy associated with various problems, processes, integration patterns, and operational settings (Risberg, 2001; 2003; Makri, et al., 2012). The focus of this study is on corporate acquisition as a large event that may have negative impacts on different aspects of the acquired company's operations. Managing both the post-acquisition integration process and a new supply chain network is a complex and completely interconnected scenario that needs careful consideration to tackle the many uncertainties and risks. This is typically true of global acquisitions that are centred on the global supply chain (Kiessling, et al., 2012). This trend means firms must consider how to take advantage of corporate acquisitions' benefits in supply chain networks.

Despite its continued popularity and growth, the corporate acquisition has a dismal track record in real-life examples, and there is a high failure rate of acquisition deals in the global context (Epstein, 2004; Homburg & Bucerius, 2006; Weber, et al., 2011; Chen & Wang, 2014; Lu, 2014; Rozen-Bakher, 2018; Razi & Garrick, 2019). For example, research shows less than 20 per cent of cross-border M&As create shareholder value (Lau, et al., 2012), which there is no satisfactory explanation for this. In fact, this high rate of failure can be attributed to multiple sources, such as the integration process (Meglio & Risberg, 2010; Durand, 2016), synergy (Ji & Chen, 2012; Dutordoir, et al., 2014), knowledge transfer and organisational learning (Keil, 2004; Collins, et al., 2009; Yildiz & Fey, 2010; Junni, 2011), and supply chain management (Ma & Nie, 2009; Nagurney, 2009; Guan & Rehme, 2012). Also, it is a challenging task for firms to link both the internal and external aspects of their corporate strategies.

With increasing competition, innovation, and the economy heading towards globalisation, it is expected that corporate acquisitions will occur in the future on an even larger scale and that they will play a key role for firms in achieving a competitive edge in the global market (Kumar & Bansal, 2008). A recent report by J.P. Morgan (2019) shows that the global M&A market has been strong over recent years and numerous key factors such as innovation and the need for growth contributed to M&A activity, driving change across organisations, industries, and geographies. All things considered, the study of corporate acquisition strategy, which is the focus of this analysis, desperately needs new perspectives and frameworks to increase the chance of success. The ownership changes resulting from acquisitions can influence various strategic and operational aspects of the acquired organisation. For example, in post-acquisition, the acquired firm may be forced to form a new supply chain. This new supply chain can be based on changes in core enterprise owner, supply chain structure, synergy, and finally, changes in strategy (Ji & Chen, 2012). Therefore, firms should pay more attention to these changes in the supply chain during the post-acquisition integration process as they foretell a greater risk of disruption.

This thesis draws upon ***dynamic capability theory*** (DCT) of the firm organisation to develop an integrated framework that explains what the main risks associated with acquired firms' supply chain disruptions post-deal are and how dynamic capabilities (DCs) resulting from a corporate acquisition can enable the target company to manage supply chain disruption risks in post-acquisition and increase acquisition performance. As mentioned by Johnson et al., (2014), resources and capabilities are certainly important for all organisations, but how they employ and deploy their resources and capabilities matters. The efficiency and effectiveness of human, physical, or financial resources in businesses, depend not just on their existence, but on the strategies, systems, and processes by which they are managed.

The DCT of the firm has been widely used by scholars in both the strategic management field (Teece, et al., 1997; Teece, 2007; Ambrosini & Bowman, 2009; Vogel & Güttel, 2013; Sardana, et al., 2016; Barqawi, et al., 2016; McAdam, et al., 2017; Cirjevskis, 2019; Haapanen, et al., 2019) and the SCM field (Rajaguru & Matanda, 2013; Masteika & Cepinskis, 2015; Eckstein, et al., 2015; Kirci & Seifert, 2015; Chowdhury & Quaddus, 2017; McAdam, et al., 2017; Aslam, et al., 2018; Sessu, et al., 2020) to examine how organisations integrate, shape, and reconfigure their dynamic capabilities (internal and external firm-specific competencies) to create and sustain a competitive advantage over rivals and to develop new competencies that match the turbulent environment. This theory has not been investigated sufficiently in the corporate acquisition context yet. This research will try to fill this gap in existing strategic management literature by applying the DCT to managing the acquired's supply chain disruption risks in post-acquisition.

In this chapter, the researcher will introduce the research project and the remainder of this chapter is structured as follows. Based on the chosen topic and areas of research, it provides a background of the research project and justifies the rationale for the research topic selected in terms of the stated problems. It also describes the key objectives and significance of this research study. Finally, it indicates the scope and structure of the research based on a summary of the main action of each chapter.

1.2. Research Background

The rapid integration of the world economy and the changing patterns of business dynamics and operations have brought additional opportunities, risks, and challenges for firms and forced them to strategically and tactically structure and organise activities to build organisational sustainability and competitive advantage. Corporate growth strategies and supply chains have been two important aspects of modern organisations that each individually received great attention from both practitioners and researchers in recent years (Jensen & Zajac, 2004; Alba, et al., 2009; Kiessling, et al., 2012; Ivanov, et al., 2015; Kamalahmadi & Parast, 2017; Lee, 2018; Min, et al., 2019). Previous large-sample studies have highlighted the central role of these strategic functions in organisational performance and success (Yang, 2009; Devos, et al., 2009; Bertrand & Betschinger, 2012; Prajogo, et al., 2016). Through an effective corporate strategy (successful implementation of the corporate acquisition) and the supply chain management (SCM) firms should be able to reduce costs, improve customer service, achieve competitive advantages, and increase market shares (Kumar & Bansal, 2008; Chatterjee, 2009; Kiessling, et al., 2012; Qi, et al., 2017).

The concept of corporate acquisition strategy and associated internal/external risk factors with acquisition transactions have been explored over the past three decades by focusing on different key areas such as motivations (Shleifer & Vishny, 2003; Keil & Laamanen, 2011; Nguyen, et al., 2012); performance (Buckley, et al., 2014; Cording, et al., 2014); human resource management (Gomes, et al., 2012; Adomako, et al., 2013); organisational behaviour/characteristics (Angwin & Meadows, 2012); knowledge sharing (Yildiz & Fey, 2010; Bresman, et al., 2010; Junni, 2011); innovation (Berggren, 2003; Lahiri & Narayanan, 2013; Bena & Li, 2014); and macro environment (Uddin & Boateng, 2011; Philips & Ahmadi-Esfehani, 2012). Research showed that M&As did not always lead to improved performance (Kumar & Bansal, 2008). Of course, adjusting to the new organisation is not an easy task following on acquisition as it requires the greatest degree of organisational change, control, and integration in managerial, physical, procedural, and sociocultural aspects (Aguilera & Dencker, 2004; Zander & Zander, 2010).

M&A scholars commonly portray the corporate acquisition strategy as a complex, risky, and multidimensional phenomenon (Zollo, 2003; Meglio & Risberg, 2010). In order to exploit potential synergies between two firms and create value from an acquisition deal, post-acquisition integration and resource reconfiguration are critical parts of the acquisition transaction cycle (Cording, et al., 2014). Highlighting different factors causing failure in the post-acquisition phase that can be attributed to different factors such as incompatible culture, poor synergy, bad timing, or off-strategy decision making (Perry & Herd, 2004), supply chain disruption risk management (SCDRM) is vital to success and improving the overall quality and performance of an acquisition process.

In the post-acquisition process, how to effectively manage and design the new supply chain network is an issue, and the acquired firm is exposed to the risk of supply chain disruptions – an indication of the acquired firm's inability to match demand and supply – as supply chain integration is an important means for achieving acquisition synergy (Chatterjee, 2007; Ji & Chen, 2012; Manikas & Jaswal, 2015). For example, some researchers stressed that the higher the level of integration, the greater the potential disruption of routines, more generally, their "way of doing things" and pre-existing resources in the newly formed unit, which influenced the performance of the combined firm (Rees & Edwards, 2009; Agarwal, et al., 2012). It supports the fact that organisational changes (e.g. changes in management, company and product names) influence the organisational performance (Kiessling, et al., 2008; Zarb & Noth, 2012).

Risk management is broadly recognised as an effective process/approach to improving the overall performance of an organisation in different dimensions such as supply chain (Nooraie & Parast, 2015; Giannakis & Papadopoulos, 2016). Although researchers such as Garfinkel and Hankins (2011) and Patschureck et al., (2015) suggest that risk management is an important component of M&A activities and firms with a sophisticated risk management program will have a better ability to deal with increased risk exposure in the post-acquisition process than those without, weak risk management and poor compliance procedures implicitly contribute to corporate acquisition failures (Bhimani, et al., 2015). The observation of the research is that the risk management context in post-acquisition is a relatively unexplored area in either strategic management or supply chain management research.

Supply chain disruptions often led to increasing cost, decreasing sales, and service failures for the firm (Park, et al., 2016). Considering the profound impact of supply chain disruptions on business performance and survival (Craighead, et al., 2007; Bode, et al., 2011; Park, et al., 2016; Clemons & Slotnick, 2016), there is a need for formulating such strategies and business initiatives, especially in the critical post-acquisition integration phase to make the acquired firm's supply chain network more resilient in the presence of risk and uncertainty. Strategies for managing the risk of supply chain disruptions have been developed and extended extensively in supply chain and business operations literature. Researchers have studied the large-scale patterns and the causes of supply chain disruptions. They have evaluated this concept using a wide range of key factors such as logistics service provider (LSP) (Zhu, et al., 2016a); security (Lee & Wolfe, 2003; Park, et al., 2016); information flow (Wakolbinger & Cruz, 2011; Durowoju, et al., 2012); firm's resilience (Skipper & Hanna, 2009; Ambulkar, et al., 2015); design decisions (Craighead, et al., 2007; Habermann, et al., 2015); and integration decisions (Ivanov, et al., 2015; Sawik, 2016a). Despite the importance of the supply chain topic in corporate acquisitions, no researchers to date have focused exclusively on the SCDRM in the process of post-acquisition and its impact on acquisition deal success.

Researchers such as Nagurney (2009) and Ji and Chen (2012) have provided different theoretical frameworks for the quantification of the potential strategic advantages associated with M&As through the integration and synergy of supply chain networks. Ji and Chen (2012) argue that in post-M&A, synergistic effects between two supply chains are the key source of value creation, which can improve the competitiveness of the combined firm. They state that based on M&A opportunities to create value and enhance growth, firms through the integrated supply chain systems make full use of external resources, concentrate on their core competitiveness, decentralise operational risk, improve reaction speed to market and create greater customer value.

Marks et al., (2017) have considered the human side of the supply chain during a corporate acquisition. They state that acquisition can be a disruptive event for managers and employees as they may have to adapt to unfamiliar practices, policies, and politics quickly. They may also have to work with new people from different corporate or even national cultures or adapt to becoming subordinate to new bosses and reporting to those who know nothing about their track record or ambitions. Avinadav et al., (2017) have evaluated M&A in a supply chain involving risk-averse parties. They suggest that different types of M&A - merger, forward acquisition and backwards acquisition - can yield different outcomes because of different risk considerations. They state that a decentralised supply chain can be more beneficial for the parties than a centralised supply chain. They argue that “due to the stochastic nature of the business environment, and the financial magnitude of the transactions, the risk is an integral part of most supply chains, and the risk aversion of the parties should not be disregarded” (p. 927).

The new supply chain network is a very strategic influence on the success of the acquisition because it determines the firm’s required resources, capabilities and competitive advantages (Barratt, 2004; Nicovich, et al., 2007; Kiessling, et al., 2012). The use of DCs resulting from acquisitions as a strategic tool can help managers to manage or mitigate the risks of supply chain disruption. DCs are important for businesses to sustain their competitive advantage as they allow them to build resilience to mitigate enterprise risks (Lee & Rha, 2016). As mentioned, studies in the M&A literature, show that researchers have not sufficiently considered the important role of supply chain integration and synergy in post-acquisition (Ma & Nie, 2009; Zhu, et al., 2016a). Also, only a few researchers such as Lowe (2015) and Berard Jr (2016) have applied the DCT to assess the value creation in an acquisition process, which are different from the current study that will be discussed in details in chapter 3. This piece of research tries to provide a substantially richer understanding of the risks associated with acquired firms' supply chain disruptions after closing a corporate acquisition deal (Nagurney, 2009; Zhu, et al., 2016a).

1.3. The Rationale for the Chosen Topic

A large number of existing contributions to organisation management literature are now focused on how firms should integrate their activities with suppliers and customers, and how supply chain management practices should be aligned with the firm's corporate strategy (Cagliano, et al., 2006). Different attributes in the global competition, such as technical features, service quality, communications, human resources, and business culture are a clear indication that service and goods providers need to converge their operations in order to compete more capably and flexibly in target markets. The corporate acquisition is increasingly significant and is a strategic tool for firms to expand their businesses (building scale) and gain more market share (building a large customer base). Although firms go for corporate acquisitions with high expectations in improving performance, there is conflicting evidence of a positive impact on firms' performance (Liu, et al., 2007; Kumar & Bansal, 2008; Siegel & Simons, 2010; Reddy, et al., 2019). For example, research by Tsagkanos (2010) shows that acquisitions (both vertical and horizontal) tend to be value-reducing rather than value-enhancing or value-neutral.

Firms in a cycle of acquisition activities, from pre-acquisition planning to post-acquisition integration are involved with a wide range of challenges and risks that need to be considered for successfully achieving the organisational strategic and financial objectives. Various types of risks create different impacts on the performance of acquisition. It is generally agreed that the post-acquisition phase is a critical point for the success or failure of a corporate acquisition strategy (Jones & Miskell, 2007; Cording, et al., 2014). In post-acquisition, firms will face rising levels of risk and volatility that affect their operations and supply chains. For example, in post-acquisition, the acquired firm itself has a variety of internal risks, combined with external factors such as market uncertainty and diversification of customer needs, which makes supply chain integration become a key factor in determining the outcome of the acquisition (Ji & Chen, 2012).

Given the risks associated with an acquisition, it is not surprising that both practitioners and academics claim that in the last few years supply chains have become more complex, global and vulnerable to disruption (Simangunsong, et al., 2012; Revilla & Saenz, 2014; Paul, et al., 2015; Kamalahmadi & Parast, 2017). As mentioned, this piece of research provides a substantially richer understanding of the supply chain disruption risks in the critical post-acquisition phase, a topic that remains relatively unexplored. Therefore, there is a need to examine this aspect of the risk associated with an acquisition transaction after closing and to bring a new conceptualisation in managing such risks related to conditions that could result in a work stoppage or adversely affect production, and improve the acquisition performance. This will help acquired firms to create and capture value resulting from dynamic capabilities associated with acquisitions by managing complexities and risks, building competencies, and unlocking acquisition potential.

This study is one of the first attempts to critically evaluate the disruption risks facing supply chain operations in post-acquisition and how to manage them effectively. Also, a review of the strategic management literature shows that the DCT has been less used in relation to the corporate acquisition strategy. In the research at hand, the researcher tries to fill this gap in the existing academic literature and to implement supply chain risk management (SCRM) activities and strategies in the corporate acquisition context from a dynamic capability perspective.

This study will contribute to the supply chain and M&A literature in a number of ways. First, it provides empirical evidence that the supply chains of acquired firms face a different level of production fluctuation or disruption risk following the first year post-acquisition in terms of the industry they operate in, their supply chain characteristics, and the type of acquisition. Second, this research provides a classification of various significant supply chain disruption risk factors during the first year after closing an acquisition and highlights how they can vary based on firms' supply chains characteristics, the type of acquisitions (vertical/horizontal/conglomerate), performance and environment of the industry in which acquired firms operate. Third, the empirical results of this study shed new light on the existing research in supply chain aspects of corporate acquisition strategies by revealing the importance of SCDRM in the short-run performance of acquisitions. This research presents a new theoretical insight into existing SCRM literature by focusing on a new domain, corporate acquisition, which has not been analysed sufficiently in prior studies. It provides insights and recommendations for managerial decision-making about SCDRM during massive changes in the ownership and control of resources in the post-acquisition phase, when disruption is more probable. Finally, to the researcher's knowledge, this research is the first study to apply the DCT to

SCDRM in post-acquisition. The findings of this research provide a better understanding of the roles of DCs in the post-acquisition integration process.

1.4. Statement of the Problems

Despite a significant amount of research on different aspects of acquisition transactions and theoretical models to explain key factors that decrease the odds of corporate acquisition failure, there is a high failure rate of acquisition deals in the global context (Epstein, 2004; Homburg & Bucerius, 2006; Weber, et al., 2011; Chen & Wang, 2014; Lu, 2014; Rozen-Bakher, 2018; Razi & Garrick, 2019) and we still know little about what makes them successful or unsuccessful (King, et al., 2004; Cording, et al., 2014). This high failure rate of acquisition deals leads the M&A scholars and managers to rethink the opportunities and challenges posed by corporate acquisition in this complex global business environment and to examine the critical success factors from strategic, organisational, cultural, and financial perspectives. Poor corporate performance of the acquired firm in the post-acquisition period can be attributed to numerous reasons and factors, however, as Buono (2003), stated the most significant would be the manager's desire for position and influence, reduced commitment, low productivity, poor quality products, voluntary turnover, and related hidden costs and untapped potential. Therefore, all these key disruption risks should be pinpointed, avoided, mitigated and resolved to achieve the desired outcome of an acquisition.

Generally, in recent years, the performance of firms has been reduced because of supply chain disruptions (Ho, et al., 2015). The Business Continuity Institute's recent survey (2016) of 526 organisations in 64 countries shows that around 70% of firms experienced at least one disruption in their supply chains, following 68% loss of productivity. The risk of supply chain disruption in the course of corporate acquisition will be significant as acquired firms often face a tremendous impact on their organisations and operations (McGrath, 2011). For example, a corporate acquisition strategy represents massive changes in the ownership and control of resources (Kiymaz & Baker, 2008) and various operational changes (e.g. new supply sources or distribution networks) implemented by a new owner (Kiessling, et al., 2008; Fee, et al., 2012).

A joint survey by Accenture and the Economist Intelligence Unit (EIU) shows that more than 60% of top executives involved in M&As reported that M&A activity contributed to product-launch disruptions and a loss of supply chain talent following an M&A (Gibson, 2009). The majority of surveyed top executives (53%) also noted that their M&A efforts diminished service or product quality. These findings support the assumptions of some researchers in the M&A field such as Papadakis (2007) and Steven et al., (2016) that acquisitions may negatively impact the firm's product or service quality, which is related to firms' supply chains. There are signs of significant challenges of SCM in post-acquisition that need to be addressed to reduce the odds of acquisition failure and increase the chance of success. This serves as one of the motivations of this study.

Manikas and Jaswal (2015) state that achieving supply chain cost synergy is often one of the main motivations for corporate acquisitions, which can be achieved through effective collaboration between supply chain partners. Firms that are extending their operations through a corporate acquisition strategy need to master increasing organisational complexity, integrating and coordinating activities between two distinct firms, which brings additional risks and challenges in an operational context (Zhu, et al., 2015). Corporate acquisition can be seen as an event that disrupts business operations (supply chain operations). Therefore, it is a potential operational risk that the supply chain of an acquired firm faces various challenges internally or externally. For example, losing ongoing communication with customers, key vendors, strategic partners, and other important relationships in the course of the acquisition process not only damages organisational stability and performance, but it can also harm business continuity. It has been widely pointed out that understanding and practising SCM, and associated risks have become an essential prerequisite to remaining globally competitive and to growing profitably (Kleindorfer & Saad, 2005; Li, et al., 2005; Trkman & McCormack, 2009). Furthermore, these factors should be strategically addressed in the critical post-acquisition stage, where there is potential for disruption of the acquired firm's supply chain system.

M&A managers need to take into account different risk factors involved with the integration of strategic, structural, and operational aspects of acquisition in order to reduce the risk of failure. Managing potential supply chain disruption risk factors related to the acquired firm productions are vital to success in the post-acquisition phase and can affect the corporate acquisition performance. The compulsory operational changes can hurt the performance of the firm once it is acquired (Kiessling, et al., 2008). Huh (2015) based on an empirical study of the world steel industry over the period 1992-2011 found relatively poor or insignificant operating performances of acquired firms in post-acquisition. Furthermore, due to rather intensive post-acquisition restructuring, asset management, and supply chain collaboration in a short period following ownership changes, the impact on acquired firm productivity is expected to be negative in the short-run (first 365 days) and exposed to more risks but tends to improve more significantly afterwards (Bergh, 2001; Gioia & Thomsen, 2004; Karpaty, 2007; Damijan, et al., 2015).

A number of theoretical and empirical studies together consider the different internal and external risk factors in the success and failure of acquisitions and measuring acquisition performance (Colombo, et al., 2007; Jones & Miskell, 2007; Cording, et al., 2014), yet relatively less attention has been paid to multiple supply chain operational risk indicators and the impact of these risks on business process continuity (supply chain disruption). The issue is important for both general managers and supply chain managers, who must understand the risks associated with the acquired firm's supply chain disruptions in the post-acquisition phase and their impact on corporate acquisition performance, as well as M&A managers, who make and implement decisions in the post-acquisition processes.

1.5. Research Aims and Objectives

The main aim of this project is to explore the management of supply chain disruption risk by acquired firms during the first year following the acquisition from a DCs perspective. The existing literature discusses a number of challenges and risks faced by firms during their post-acquisition activities. As existing research studies have supported the importance of managing diverse risk factors in the post-acquisition integration, an investigation of such supply chain risks of the acquired firms in the post stages of the acquisition process can help with future decisions to reduce the supply chain disruption risks and ensure greater success of post-acquisition. The specific areas which this research will address are supply chain disruption risks and in particular, risks related to the internal production process as well as supplier and customer sides during post-acquisition that could result in any form of interruption in these key areas and adversely affect the acquired firm's process continuity and performance in the post-acquisition period.

In post-acquisition, supply, production and distribution systems can be unbalanced due to a disruption of supply chain network (Kapoor & Lim, 2007; Cooke & Huang, 2011), and consequently, the acquired firm can face enormous financial losses and decline in customer goodwill (Paul, et al., 2017). This study, in particular, will assess supply chain disruption risks during the first year of the post-acquisition phase from three perspectives: the inbound material/information flow from the supplier (supply-side), the internal production processes, and the outbound material/service flow to the customer (demand-side) as disruption can occur in any of these domains (Habermann, et al., 2015). This categorisation has been largely applied by researchers such as Sheffi (2007), Chen et al., (2013b), and Habermann et al., (2015) in the SCM field. The researcher finds this distinction of the three disruption locations important in post-acquisition because (i) it contains the entire acquired firm' supply chain as disruption may occur at any location (ii) it distinguishes between partners of the supply chain an acquired firm may have control over (internal) and the parts that it may have some influence over (supply side), and (iii) it is impacted by the post-acquisition integration in terms of dynamic resources and capabilities resulting from a corporate acquisition.

Sawik (2016a) states that to realise high performance in the supply chain, integrating these three key functions and jointly scheduling them in a coordinated manner is critical and reduces the risk of supply chain disruption. In fact, a single supply chain disruption in any domains can cause the collapse of the entire supply chain (Kern, et al., 2012). By investigating the supply chain disruption risks, which the acquired firms may face in these domains, during the post-acquisition integration process, in different industry sectors, the research will try to update the current academic knowledge of SCDRM in the M&A context and to evaluate how the acquired firm can manage such potential disruption risks effectively and maximise the probability of success in M&A activities. The objectives of this study are threefold:

RO1. To examine to what extent the type of corporate acquisition strategy, the acquired firm's supply chain characteristics, and the industry's characteristics can affect the likelihood of disruption to its supply chain (Categories 1-4).

RO2. To classify the potential supply chain disruption risk factors based on three main operational areas including supply-side (upstream), internal production process, and demand-side (downstream) and to investigate their impacts on the acquired firms' supply chain dynamic capabilities during the first year of the post-acquisition period (Categories 5-7).

RO3. To explore the effectiveness of strategies used by acquired firms to manage supply chain disruption risks during their first year of ownership change and to evaluate the resultant impact on their performance (Categories 8-9).

1.6. Research Questions

In this doctoral thesis, the researcher will undertake a comprehensive evaluation of supply chain disruption risks associated with acquired firms following the first year of the ownership change. Therefore, this paper poses the following research questions based on defined objectives for this study and examines them to address the research gaps empirically:

RQ1. Why might the supply chains of acquired firms face a different level of production fluctuation or disruption risk following the first year after the acquisition?

RQ2. What are the potential supply chain disruption risks of acquired firms in the first year of the post-acquisition phase?

RQ3. How effectively do acquired firms manage and reduce supply chain disruption risks to create and capture value resulting from dynamic capabilities associated with acquisitions and to diminish the adverse effect on production or fluctuation in effective quality and capacity during the intensive first 365 days of post-acquisition?

1.7. Significance of the Study

To the researcher's knowledge and investigation of existing literature to date, no study has explicitly focused on managing supply chain disruption risks in the post-acquisition integration process. Therefore, as disruptions in a supply chain can have both immediate and long-term effects (Blackhurst, et al., 2011), this research seeks to evaluate the potential supply chain disruption risks of acquired firms in the first 365 days of the post-acquisition phase and to empirically examine which factors can influence the likelihood and impacts of these risks. Due to rather intensive post-acquisition restructuring, asset management, and supply chain collaborations in a short period following ownership changes, the impact on acquired firm productivity is expected to be negative in the short-run and exposed to more risks but tends to improve more significantly afterwards (Bergh, 2001; Gioia & Thomsen, 2004; Karpaty, 2007; Damijan, et al., 2015). By empirically examining the research questions, this research can reveal which aspects of acquired firms' supply chains (flow of process and flow of operation) will be more at risk of disruption during the first year of ownership change and how managers can effectively handle such risks. As mentioned, this study can also provide a significant contribution to both fields of the corporate acquisition strategy and the SCDRM, an unexplored domain in the strategic management literature.

The DCT perspective has been suggested for supporting superior long-run business performance and meeting the needs of a changing business environment (Teece, et al., 1997; Teece, 2007; Vogel & Güttel, 2013; Johnson, et al., 2014). The DCT, which is an extension of the resource-based view (RBV) of the organisation, emphasises the role of integrating the organisational resources and capability in gaining distinctive competencies and sustained high performance. Based on the DCT, acquisitions can be viewed as strategic actions or a source of competitive advantage that help organisations acquire and reconfigure their resources and capabilities to keep pace with environmental changes (Eisenhardt & Martin, 2000; Warner & Fairbank, 2008; Cirjevskis, 2019).

While a growing stream of literature has discussed the role of SCRM in coping with the vulnerabilities of modern supply chains and increasing value for firms (Gaonkar & Viswanadham, 2004; Norrman & Jansson, 2004; Wieland & Wallenburg, 2012; Kırılmaz, 2017) and explored the ability of firms to deal with internal and external changes during M&A integration in relation to dynamic capabilities and integration flexibility (Kiessling, et al., 2008; Heimeriks, et al., 2012; Ng, et al., 2012; Schriber, et al., 2018), greater attention is needed to understand how dynamic capabilities benefits SCRM in the corporate acquisition context and leads to superior performance in post-acquisition. This research begins to address this gap by exploring SCDRM in the post-acquisition context and the roles of three generic types of dynamic capabilities - sensing, seizing, and reconfiguring capabilities - in the post-acquisition integration process. As mentioned, to the researcher's knowledge, this research is the first study to apply the DCT to SCDRM in post-acquisition. From a theoretical perspective, this study has sought to further the understanding of the DCT in the M&A context and add new knowledge to the field of SCRM in post-acquisition. Based on the DCT, this study is uniquely structured to build a comprehensive theoretical framework studying the target company's supply chain disruption risks in post-acquisition and explain how by deploying DCs resulting from an acquisition they can improve acquisition performance.

1.8. Contribution of the Research

The results of this research will create a better understanding of key factors/events during post-acquisition - which are associated with increased/decreased supply chain disruption risks - for managers and decision-makers. This can contribute to management decision-making quality in the post-acquisition process by evaluating risks related to conditions that could result in production disruption or stoppage during the first year after acquisition. In particular, it enables them to know about potential risks in three main areas - supplier side, internal production process, and customer side - during the post-acquisition phase, which can cause significant fluctuations in the effective quality and capacity of the acquired production operations. This will help target companies to create and capture value resulting from dynamic capabilities associated with acquisitions by managing complexities and risks, building competencies, and unlocking acquisition potential.

In addition, M&A and supply chain managers can identify what strategic decisions have to be made in order to cope with these disruption risks and uncertainties about internal processes as well as downstream and upstream operations. They will be able to align business practices for improving the business processes with other ongoing integration functions between the parties. They will be able to recognise the dynamic capabilities resulting from acquisitions and remove barriers and risks to integrate supply chains and unlock acquisition potential effectively. The research design calls upon M&A managers to assess disruption risks and give their opinions on the level and frequency of risk. Finally, it will provide some suggestions to manage and mitigate supply chain disruption risks, offering solutions and showing that companies need proper planning and readiness to mitigate these disruptions (Chowdhury & Quaddus, 2016).

1.9. Structure of the Thesis

This thesis comprises seven chapters and is divided into three distinct parts that follow the elements of the generic PhD thesis structure described by Phillips and Pugh (1994) and Murray (2006). Part one (chapters 1 to 4) presents the background and focal theory elements of the PhD thesis form; part two (chapters 5 to 6) presents the key findings of an analysis of the data and critically discusses them, and the last part (chapter 7) presents a summary of key findings and the contribution of this research study and future directions. The structure of this doctoral thesis, therefore, is as follows:

Chapter 1: *Introduction.* This chapter presents an overview of the context of this thesis and outlines the research precedent. It also defines the rationale and purpose for undertaking this research study, states firms’ supply chain disruption risks, vulnerability, and continuity in post-acquisition phase, and defines the significance, aims and objectives of the study, which is conducted to answer the research questions.

Chapter 2: *Literature Review.* This chapter provides a broad review of the relevant theoretical and empirical literature by focusing on the dynamics and challenges of firms’ supply chain operations in post-acquisition. It considers firms’ SCDRM after ownership changes and in particular, focuses on the upstream, internal process, and downstream of supply chain disruption risks in post-acquisition.

Chapter 3: *Theoretical Framework.* This chapter presents the theoretical framework based on the DCT informing this study, which consists of the conceptual research model to answer the research questions of this study and to develop main categories.

Chapter 4: *Research Design and Methodology.* This chapter covers topics related to design and methodological parts of the research and explains the research approach, methods, and strategy used in the process of selecting, collecting, classifying, and summarising of the data as well as interpreting the findings.

Chapter 5: *Data Analysis and Findings:* This chapter presents the core of this thesis and provides a comprehensive analysis of the outcomes of data analysis. It describes and interprets the primary data gathered from managers involved in the post-acquisition process in line with the theoretical arguments expressed in previous chapters. Specifically, this chapter reports the findings of the present study about nine main categories discussed in chapter 3.

Chapter 6: *Discussion.* This chapter critically analyses and discusses the empirical findings from the nine main categories of this research study. It assesses the theoretical framework and compares new findings with relevant prior research. It provides a detailed discussion on the implications of gathered data that has been critically interpreted, scrutinising them in parallel to prominent existent studies.

Chapter 7: *Conclusion.* This chapter concentrates on the findings of post-acquisition studies. Following an overview of firms involved with corporate acquisitions, the SCDRM practices are explored along with the resultant post-acquisition performance. This chapter presents the conclusions of the research by summarising the overall findings based on the data analysis conducted in the previous chapter. It also discusses the results of the study, suggestions for improving target companies' supply chain in post-acquisition, research limitations and its contribution to existing literature, and makes recommendations for future research.

References: This section, based on the Harvard referencing system, provides a list of publications, academic articles and other reliable resources used in this study and explains how to obtain them.

Appendices: This section contains further details about this thesis such as transcripts of the two pilot interviews, and the transcripts of two conducted interviews (as samples) to support the content and arguments of this research or details on statistical trend detection and analysis methods.

Chapter 2: Literature Review

2.1. Introduction

The purpose of this study is to explore the management of supply chain disruption risk by acquired firms during the first year following the acquisition from a DCs perspective. Corporate acquisition strategy as one of the inorganic growth strategies is the most popular strategies and important corporate finance events among firms (Kumar & Bansal, 2008), which represents a large proportion of MNEs' investments globally (Garfinkel & Hankins, 2011). In light of the burgeoning importance of the corporate acquisition phenomenon, many types of research in the strategy, finance, economics, and international business fields have attempted to describe and explain various aspects of this value-creating strategy in an international business context (Seth, et al., 2002; Shimizu, et al., 2004; Hijzen, et al., 2008; Uddin & Boateng, 2011; Barros & Dominguez, 2013; Chan & Cheung, 2016). This section is a review of existing research and literature on the post-acquisition subject with the aim of contributing towards the development of a theoretical model (see Chapter 3) related to analysing the key supply chain disruption risks (the possibility of incidents that have a negative impact on predicted objectives) associated with post-acquisition, the strategies to assess and manage such risks, and the associated implications for the creation of value by increasing the acquisition quality and the integrated supply chain performance.

As mentioned in the previous chapter, both corporate acquisition strategy and SCM have each individually received great attention from researchers; there is no such study focused on both domains together. Therefore, the literature review has been divided into three sections and looks at literature from two domains, M&As and SCM. The first section of the literature is related to corporate acquisition strategy and process (sections 2.2 to 2.7). It also explains different risks associated with an acquisition. The second section focuses on the SCM and associated risks with firms' supply chains (sections 2.8 to 2.14). It also discusses the literature that deals with supply chain risk/disruption management. Finally, based on the literature review of each aspect in supply chain studies and a few existing articles in the M&A literature, supply chain disruption risks in the context of the corporate acquisition will be assessed (sections 2.15 to 2.19). It is important to mention that the organisation of this chapter is based on the design and development of the theoretical model of this research represented in chapter 3.

2.2. Definition and Classification of M&As

In general, M&A is understood as a consolidation of two or more firms. It is a faster form of expansion than internal, organic growth (Colicchia, et al., 2011). McGrath (2011) states that “M&A is a collective description for a series of related corporate activities with the purpose of leading one or more, or sometimes parts of, companies to the change of control stage” (p. 5). M&A is an important component of asset reconfiguration. M&A is change management in the ‘Major League’, which is associated with various risks (McGrath, 2011). M&As are two different forms of takeovers that can be distinguished regarding the changes in shareholder and ownership structure (Hu & Ngo, 2015).

According to Campbell et al., (2002), “in a merger the shareholders of the organisations come together, normally willingly, to share the resources of the enlarged (merged) organisation, with shareholders from both sides of the merger becoming shareholders in the new organisation” (p. 2014). In other words, in the process of a merger, two firms join and pool their resources in a single organisation. Furthermore, corporate shareholders and owners in both pre-merger firms have a share in the merged firm ownership, and both pre-merger firms’ top managers still hold senior management positions after merging (Hu & Ngo, 2015). Chen and Findlay (2003) have identified two forms of mergers. Merger by absorption, in which a firm absorbs one or more firms and the absorbed firms are dissolved, and merger by the establishment, in which two or more firms are merged into a newly established organisation and the parties to the merger are dissolved.

On the other hand, a company engages in an acquisition when it purchases another company (Barney & Hesterly, 2015). An acquisition is a joining of unequal partners, in which one firm is buying and subsuming the other party. In the process of an acquisition, the shares in the smaller firm are bought by the larger (Campbell, et al., 2002). The form of this purchase can vary. In a corporate acquisition, the acquiring company takes over both ownership and management control of another company (Hu & Ngo, 2015). This takeover can be a minority acquisition (the acquiring firm’s ownership in the target firm is between 10 per cent and 49 per cent), a majority acquisition (the acquiring firm’s ownership in the target firm is between 50 per cent and 99 per cent), and a full acquisition (the acquiring firm has full ownership of the target firm). Furthermore, any acquisitions that account for less than 10 per cent of the acquiring firm’s ownership in the target are classified as a portfolio investment (Chen & Findlay, 2003). Acquisitions also vary on the basis of how the target company is bought. For instance, friendly acquisitions take place when the management of the target company wants the company to be acquired. Conversely, unfriendly acquisitions take place when the management of the target company does not want the company to be acquired (Barney & Hesterly, 2015).

There are also different categories of M&As. From a business structure perspective, M&As are functionally classified into three different types: Horizontal M&A, in which both firms operate and compete in the same industry and market; vertical M&A, in which firms operate in different stages of the same industry; and conglomerate M&A, in which two or more companies are belonging to different industrial sectors, combine their operations. In other words, in conglomerate M&A, firms do not operate in the same business sector at all, and they have the purpose of deepening economies of scope and diversifying risks (Larsson, et al., 2001; Chen & Findlay, 2003; Hakkinen, et al., 2004; Gaughan, 2007; Gupta, 2012). The Federal Trade Commission (FTC) has developed a typology of M&As. As we can see from Table 2.1, in different ways, a bidding firm and a target firm can be related in an M&A (Barney & Hesterly, 2015).

Table 2.1: Federal Trade Commission Categories of Mergers and Acquisitions

Vertical M&A	A firm acquires former suppliers or customers.
Horizontal M&A	A firm acquires a former competitor.
Product Extension M&A	A firm gains access to complementary products through an acquisition.
Market Extension M&A	A firm gains access to complementary markets through an acquisition.
Conglomerate M&A	There is no strategic relatedness between a bidding and a target firm.

Source: Barney and Hesterly (2015), Strategic Management and Competitive Advantage: Concepts and Cases

Bower (2001) has suggested five distinct M&A strategies (see Appendix A) including overcapacity M&A, product or market extension M&A, geographic roll-up M&A, M&A as R&D, and industry convergence M&A that firms can pursue to achieve their strategic goals and to maximise economic values. Finally, these classifications of M&As can take place in a national or international scope. M&As between two domestic companies are known as domestic M&As, and M&As between domestic companies and foreign companies are known as cross-border M&As. In general cross-border M&As create greater returns than domestic M&As. Also, horizontal M&A has a dominant position over other types of M&As (Harris & Ravenscraft, 1991; Conn, et al., 2005; Hu & Ngo, 2015). In this piece of research, the researcher will evaluate the impact of different types of acquisitions on the acquired firm's supply chain disruptions. In other words, an objective of this thesis is to examine to what extent the type of corporate acquisition strategy can change the likelihood of supply chain disruption during the first year of the post-acquisition period.

2.3. Importance of Corporate Acquisitions

The study of M&As is a topic of central interest (i.e. rank among the most heavily researched topics) to the corporate strategy literature and a subject of ample research among business scholars in virtually all management fields in the last decades (Zollo, 2003; Kaul & Wu, 2016). A wide range of studies have been conducted on the role of corporate acquisitions in enhancing firms' productivity and scale (Capron & Mitchell, 2009; Bernad, et al., 2010), expanding knowledge base (Bresman, et al., 2010), increasing market power and share (Krishnan, et al., 2007; Lee & Lieberman, 2010), and producing more valuable products and services (Hitt, et al., 2001). Gomes et al., (2013) state that corporate acquisitions are of great practical importance in strategic, monetary, and social terms. Corporate acquisitions have become an important and dominant mode of growth for large organisations such as MNEs seeking an advantage in an increasingly competitive, complex, and global business economy (Aguilera & Dencker, 2004).

Scholars have viewed the corporate acquisition as a means for firms to access and deploy capabilities and resources or create value by improving performance through merging or acquiring the new firm (Puranam, et al., 2009; Berchicci, et al., 2012; Kaul & Wu, 2016). Furthermore, by enabling access to a larger market, corporate acquisitions deliver the opportunity to exploit productivity gains through scale economies not only in manufacturing but also in administration, sales, and research and development (R&D) (Bertrand & Capron, 2015). Kang and Johansson (2000) state that some unprofitable corporate acquisitions might be explained by the fact that factors other than increasing profit and maximising shareholder value are driving strategic decisions. In other words, managerial incentives and objectives to applying these strategies may differ from those of shareholders. Therefore, different key factors such as managerial and strategic attention patterns are involved in creating corporate acquisition strategies and processes (Yu, et al., 2005).

2.4. Domestic and Cross-border Corporate Acquisitions

As mentioned in section 2.2, firms can undertake a number of M&A strategies to achieve a competitive advantage and improve M&A performance. Corporate acquisition activities can be characterised along multiple contextual dimensions (Muehlfeld, et al., 2012). For instance, national borders give rise to the distinction between domestic and cross-border acquisitions. The literature suggests different challenges, opportunities, and outcomes for firms in cross-border acquisitions versus domestic acquisitions (Bertrand & Betschinger, 2012; Bertrand & Capron, 2015). In addition, firms' productivity patterns can be different from national to international acquisitions. For example, corporate acquisition costs are higher for cross-border acquisitions than for domestic acquisitions (Takechi, 2011); cross-border acquisitions are associated with more agency problems, information asymmetries, and managerial issues (Moeller & Schlingemann, 2005); and they may represent different levels of improvements in organisational operations relative to domestic acquisitions or cross-border acquisitions (Moeller & Schlingemann, 2005; Gregoriou & Neuhauser, 2007). These may result because cross-border acquisitions are different from domestic acquisitions, and firms' performance is correlated with the foreign countries' economic development levels (Liu & Qiu, 2013).

Furthermore, with fast technological changes, increasing global competition, and the economy heading towards globalisation, cross-border acquisitions are expected to occur on a much larger scale in the competitive global market in the future (Kumar & Bansal, 2008). Particularly, they are playing a critical role for MNEs in achieving the competitive edge in the international market (Hitt & Pisano, 2003; Cassiman, et al., 2005; Zhu & Qian, 2015). However, Seth et al., (2002) state that cross-border acquisitions are associated with a number of challenges and risks that might create value or destroy value. For example, an additional difficulty for HRM in the process of acquisitions is realising synergies, which is often much easier in domestic acquisitions than in cross-border takeovers (Aguilera & Dencker, 2004).

A significant amount of funds is required for undertaking cross-border acquisitions (Bertrand & Zitouna, 2008; Xu, et al., 2010). The greater uncertainty of the targets and longer distance make cross-border acquisitions less information transparent than domestic acquisitions and consequently, the acquiring firms experience higher financial burdens in cross-border acquisitions than make domestic acquisitions (Chen, et al., 2009b). They also require a considerable amount of effort and time on the part of the executives in aligning the combined firms and understanding the cultural values of foreign countries (Hassan, et al., 2007; Hu & Yang, 2016). In order to increase the chance of collecting data, the focus of this research will be on both domestic and cross-border acquisitions. The researcher will try to evaluate the impact of these types of acquisitions on the acquired firm's supply chain disruptions in the first year of the post-acquisition process.

2.5. Motives for Corporate Acquisitions

As mentioned in the previous chapter, despite its continuing popularity and growth, there is a high failure rate of acquisition deals in the global context (Homburg & Bucerius, 2006; Weber & Tarba, 2011; Lu, 2014). So, why are there so many corporate acquisitions? Barney and Hesterly (2015) mentioned some possible motivations (including to ensure survival, free cash flow, and the potential for above-normal profit) to engage in acquisitions even though they usually do not generate economic profits for firms. For example, even if an acquisition, on average, generates only zero economic profits for the acquiring firm, it may be necessary for the company to be engaged in these activities to ensure its survival.

Firms undertake corporate acquisitions with various motives. Acquisitions are important mechanisms for them in the global market to access a wider set of resources residing in a different country's boundaries and to increase economies of scale (Capron & Mitchell, 2009; Bernad, et al., 2010). The corporate acquisition strategy can also be considered as a viable vehicle in pursuing a resource acquisition strategy for incumbent organisations because it allows the organisation to access strategic and critical resources such as novel technologies and scientific competencies (Meoli, et al., 2013). The synergistic gains such as knowledge or innovation that combined firms can realise by combining complementary assets and capabilities can be considered as competitive advantages in moving across borders between firms.

Hu and Ngo (2015) based on their review of existing literature on the topic have presented various key motivations for corporate acquisitions such as enhancing productivity, increasing market power, overcoming adverse government policy, entry to the international market, and risk diversification and arbitrage exchange rate for being involved in acquisitions. Some of these motives are unique to cross-border acquisitions, such as tax advantages, avoiding adverse government policy or access to international markets. The finding of the Mukherjee et al., (2004) survey of M&As motivations, shows that the majority of the respondents specified synergy to be a primary motive for undertaking M&As. Hitt et al., (2001) name synergy as the primary motive for many acquisitions, and that can be created in several ways. For instance, it is commonly argued that acquisitions produce efficiency and economies of scale or scope for firms. This can be achieved by consolidation, elimination of inefficiencies and redundancies, integration of complementary resources from the two firms (helping to produce more valuable services and products), and improvements in value chain activities (Hitt, et al., 2001; Krishnan, et al., 2007).

Berkovitch and Narayanan (1993) and Weston and Weaver (2001) have proposed three major motives for takeovers, including synergy, agency, and hubris. Similarly, Evripidou (2012) mentions economies of scale, cost-efficiency, and market power as the main motives that lead firms in moving across borders to merge or acquire other businesses or companies. Tax advantages for MNEs can also be another motivation in the case of cross-border acquisitions. Tax benefits can be realised when there is an ability for the acquirer company to carry over the loss of the target company, thereby reducing their tax burden (Wolfe, et al., 2011) or when the acquired company possesses excess debt capacity, thus allowing the acquirer company to finance the debt and deduct the accrued interest (Richards & Manfredo, 2003).

2.6. Corporate Acquisition Phases and Processes

As mentioned an acquisition is a multistage (pre- and post-acquisition) phenomenon, and in order to effectively analyse different supply chain disruption risk factors associated with post-acquisition, we need to have a good understanding of the corporate acquisition phases and processes because each phase presents different consideration (e.g. planning and executives) and results associated with different types of risks. In other words, it is important to take into consideration the whole process of a corporate acquisition for a better understanding of the task, not just look at fragments of the process (Haspeslagh & Jemison, 1991). Therefore, as the focus of this thesis is on the post-acquisition phase, a distinction between different key phases and evaluation of critical process parameters can help us to identify and analyse the key supply chain disruption risks associated with post-acquisition in more effective and structured ways.

Haspeslagh and Jemison (1991) argue that an understanding of patterns and key elements of every step in the process of an acquisition transaction is important for the corporate acquisition outcomes because it enables decision-makers to manage better the processes, which can be the key differences between success and failure of an acquisition transaction. They suggest that the corporate acquisition research should focus on the pre-acquisition decision-making and the post-acquisition integration processes, the points which generate a better understanding of how acquisitions actually work and how companies can use them as a strategic renewal device. They also argue that adopting a "process perspective" diverts the focus from an acquisition's result to the drivers that cause these results: the transmission of resources and capabilities that will lead to competitive advantage.

According to the process perspective - which will be one of the focus points of this thesis to assessing and managing supply chain disruption risks associated with post-acquisition – the realisation of strategic and organisational fit depends on the ability of managers to manage post-acquisition process in an effective manner (Birkinshaw, et al., 2000). Steger and Kummer (2007) argue that the acquisition transaction goes hand-in-hand with task complexity and is perceived as being difficult to do. Having the whole process insight as a big-picture makes for a better understanding of the parts. Focusing on one aspect of the process is a common practice done by most researchers for practical reasons (Risberg, 2003); however, while analysing the result of the research, it is important to have the rest of the process in mind.

The corporate acquisition process has been described and discussed in the M&A literature by focusing on different key phases to bring about a better result in understanding it. For example, Marks (1982) in the early wave of M&A studies, identified three different phases associated with the acquisition process, namely pre-combination, legal combination, and post-combination. Haspeslagh and Jemison (1991) considered four major phases of the acquisition process: idea, acquisition justification, acquisition integration, and results; two major divisions are also perceived as a pre-combination stage for the first two, and post-combination stage for the second two, which also comes into the picture.

Lohrum (1992) based on her study of a corporate acquisition, has divided the process into five phases in order to facilitate the understanding of the spectrum of happenings during acquisition integration. According to Lohrum, the starting point for an integration process is the observation phase, where the two parties of a deal observe each other and the situation. Planning is the second phase, where the management of the acquiring firm will start the formal and structural changes. In the formal level, the management generally pays less attention to the integration of people and cultures. The third phase is the execution phase, which accounts for the majority of changing activities, where the integration of human and cultural factors starts and causes reaction among the personnel in the acquired firm. The fourth phase is the consolidation phase when socio-cultural integration becomes a reality, and the establishment of contacts between all hierarchical levels in both companies becomes important. The last phase is called the maturity phase when the two corporate cultures blend into one. The area of research in this thesis will be narrowed to the post-combination stage in terms of Haspeslagh and Jemison (1991) categorisation and will be focused on the third and fourth acquisition phases regarding Lohrum's (1992) definition of each phase of acquisition transaction from a cross-border perspective.

Risberg (2003) claims that an acquisition is open-ended without a certain end time, that is an ongoing process that the acquired/merged organisation can be affected by for years and years after the legal deal actually takes place. She states that research on corporate acquisitions are usually focused on different process stages, as the acquisition process by itself is regarded and often discussed in terms of different phases or stages. The post-combination stage is the focal area for human resource management literature, while the strategic literature put efforts into the pre-combination stage to find strategic fits. The financial literature's major concern is the legal combination and the market's reaction to the actual acquisition announcement. As the focus of this research is on the corporate acquisition strategy and in particular, on the post-acquisition phase, the researcher will review the literature from a post-acquisition perspective in the next sections.

2.7. Risk Factors Associated with Corporate Acquisitions

After explaining a series of key topics related to corporate acquisition strategies forming the background to this research study, from this section onward the focus of reviewing related literature will be on the research questions and objectives explained in the last chapter. According to Coombs and Holladay (2002), firms face different risks and challenges in their operations that can be generated through both internal and external channels and can be categorised as intentionally or unintentionally produced. Grantham (2007) argues that all risks are not inherently bad for firms. She claims that accepting some risks is necessary for them to adjust and grow to current economic and culturally driven circumstances. In M&A literature, researchers such as Colombo et al., (2007), Jones and Miskell (2007), and Cording et al., (2014) have stressed the lack of consideration of different internal or external risk factors both in the pre-acquisition planning and post-acquisition integration as contributing to the high failure rate of acquisition transactions and highlighted the importance of integration process to the overall success of any type of acquisition. In order to exploit potential synergies between the acquired and acquiring firms and creating additional value from an acquisition deal, post-acquisition integration and resource reconfiguration are critical parts of the acquisition transaction cycle (Graebner, 2004; Cording, et al., 2014).

The very first contact between the two companies is the starting point of an acquisition process, and its ending point literally is not exactly clear and is difficult to define. Therefore, an acquisition can be considered as an open-ended process without a certain end time (Risberg, 2003). Acquisitions are always linked with numerous complexities and uncertainties in their processes (McGrath, 2011). A number of empirical and theoretical studies have focused on what makes an acquisition successful and how to manage or control potential risks associated with the process by considering different internal and external factors (Reuer, et al., 2004; Mantecon, 2009) and what is the appropriate manner of evaluating and measuring the acquisition performance regarding different success factors (Burt & Limmack, 2003; Zollo & Meier, 2008; Vaara, et al., 2014). For example, in the process of an acquisition transaction, external variables that impact the acquisition success and performance need to be carefully assessed and managed to ensure that the process can meet its objectives and thus increase shareholder value. Researchers have examined these problems in terms of a variety of external factors such as culture (Brock, 2005; Dikova & Sahib, 2013) and legal environments (Jandik & Kali, 2009; Ruiz & Requejo, 2011) which are not the area of focus in this paper. From external risk perspectives, the focus of this study is on two individual domains, including the downstream and upstream side of the supply chain.

There are different perspectives regarding acquisition risks. For example, Hooke (1997) has divided M&As' process risks into three basic categories, including operating risk, financial risk, and overpaying risk. Operating risk concerns the fact that the new entity may not be able to generate the expected outcomes, which will be responsible for the low advantages of scale. Financial risk concerns the method of financing the transaction and uncertainties associated with effective management and control of finances. Finally, overpaying risk concerns the price, which the acquirer firm has to pay to the stockholders of the acquired company. Epstein and Rejc (2005) have presented a general classification of organisational risks based on four main pillars. As we can see from figure 2.1, they have addressed a combination of internal and external risk factors that firms may face in their activities.

Figure 2.1: Risk Classification Scheme

Source: Epstein and Rejc (2005) - Identifying, Measuring, and Managing Organizational Risks for Improved Performance

Going by Epstein and Rejc's organisational risk classification, the area of focus in this thesis is not strategic, reporting, and compliance risks. Also, this thesis does not explore all risk factors related to operational risks such as environmental risks and reputational risks. It will specifically focus on supply chain disruption risk factors that the target firms may face in their post-acquisition integration process. In order to evaluate the supply chain disruption risk factors in post-acquisition, we need a good understanding of several key concepts such as supply chain, SCM, SCRM, and SCDRM, which cannot be found in the M&A literature. In the next sections, these key concepts will be reviewed critically and then will be linked to supply chain disruption risk factors in post-acquisition.

2.8. What Is a Supply Chain?

A supply chain is a dynamic network and process, which involves the constant flow of information, resources, funds, and materials across multiple functional areas both within and between members of the chain (Jain, et al., 2009). Paul et al., (2017) define supply chain as a network that receives raw materials or inputs from suppliers and produces final outputs through its production facilities and delivers final products to customers through distribution networks. Similarly, Christopher (2011) defines the supply chain as ‘‘the network of organisations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer’’ (p. 13). A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request (Chopra & Meindl, 2016). In other words, a supply chain consists of all activities and arrangements associated with the transformation and flow of goods and services, containing their attendant information flows, from the raw material stage to end-users (Ballou, 2004).

Every service and manufacturing industry is a piece of a supply chain network which may contain multiple manufacturing plants, retailers, and distribution centres. In the real business environment, many industries such as textile, pharmaceutical and manufacturing are involved in the supply, production and distribution of products using a supply chain network. A supply chain network can be very complex, depending on the number of entities in each tier of the network. Also, it can be very dynamic as in real-life any information (e.g. changes in production capacity, costs, the amount of raw materials, and demand) can be changed at any time in any part of the network (Paul, et al., 2017).

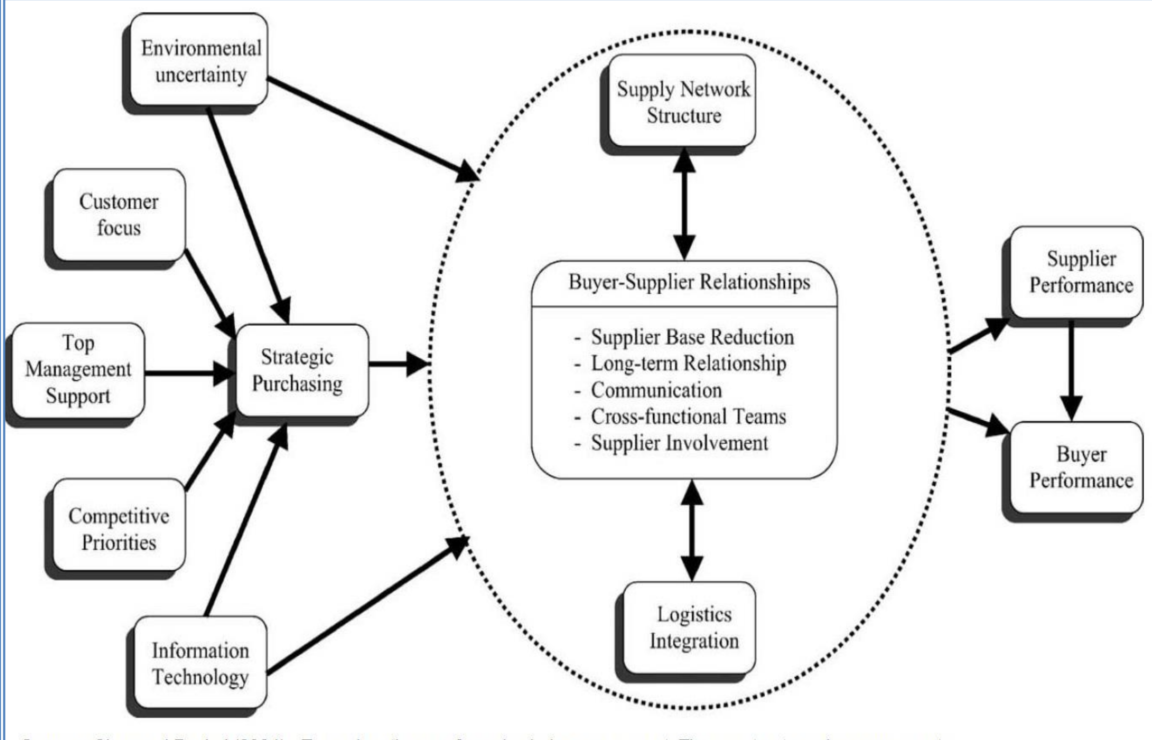
Nowadays, a high-functioning, effective, and efficient supply chain plays a pivotal role in determining the competitive advantage and the level of profitability in an organisation (Manuj & Mentzer, 2008; Leuschner, et al., 2013; Lambert & Enz, 2017). As mentioned by Cordon et al., (2012), the supply chain is at the heart of every successful business organisation’s decision-making process. Both business experts and scientists agree that the complexity and uncertainty of the supply chain are high and has been boosted even further in recent years (Aelker, et al., 2013). This high level of complexity and uncertainty reflects the growing importance of supply chain management in maximising value-added by optimising the management of internal and external firms’ flows.

2.9. Supply Chain Management (SCM)

It is widely argued that competition in our globalising world is no longer between firms but among supply chains. As mentioned, an effective and efficient SCM has become a matter of strategic importance for any firm and a potentially valuable way of securing competitive advantage and maximising organisational performance (Li, et al., 2005; Huo, 2012; Masteika & Cepinskis, 2015). The firm’s supply chain operation is one of the important and popular operations management topics. According to Slack et al., (2006), an operation’s ability to deliver goods or services to its customers is fundamentally influenced by how its supply chain is managed. They state that "supply chain management is the overarching operations management activity that dictates an operation's delivery performance because it controls the flow of products and services from suppliers right through to the end customer" (p. 205).

Consultants originally introduced the term SCM in the early 1980s (Oliver & Webber, 1992) and it has been used to explain the planning and control of both information materials flow as well as logistics activities not only internally within a firm but also externally between firms (Chen & Paulraj, 2004). Slack et al., (2006) define SCM as the management of relationships and flows between operations and processes. It refers to a string of operations or processes. Cordon et al., (2012) define SCM as the design and operation of the entire chain from the raw material to delivery of the final product to the customer.

Figure 2.2: A Research Framework for Supply Chain Management



Source: Chen and Paulraj (2004) - Towards a theory of supply chain management: The constructs and measurements

Some fields such as strategic management, operations management, organisational theory, purchasing and supply, logistics and transportation, management information systems, and marketing have contributed to the explosion of SCM literature (Chen & Paulraj, 2004; Prajogo, et al., 2016; Qi, et al., 2017). Li et al., (2005) state that creating sources, making and delivering processes and logistics functions seamlessly across the supply chain are the purposes of SCM that can be an effective competitive weapon for firms. Firms' executives began to view SCM as a way to satisfy intense cost and other improvement pressures. Chen and Paulraj (2004) based on their theoretical study developed a conceptual SCM framework (see figure 2.2) that can help scholars to understand better the scope of both the problems and the opportunities associated with SCM. Their framework incorporates some key aspects of the buyer-supplier relationships such as communication, supplier base reduction, and the cross-functional team, which are critical for effective management of the supply chain.

2.10. Supply Chain Integration in Corporate Acquisitions

Supply chain performance and supply chain integration are among the key topics in SCM research (Kache & Seuring, 2014). While SCM is associated with the planning and managing of all activities of the chain of supply such as sourcing, procurement, and logistics, supply chain integration is involved in the linkage of major business processes and business functions within and across firms into a cohesive and performing business model (Chen, et al., 2009a). In order to improve the performance of the integrated supply chain and achieve sustainable, profitable growth and competitive advantage, SCM seeks the close integration of internal functions within firms and external linkages with suppliers, customers and other channel members (Droge, et al., 2004; Sundram, et al., 2016). A quantitative review of the empirical literature in supply chain integration indicates that there is a significant and positive correlation between supply chain integration and firm performance (Flynn, et al., 2010; Leuschner, et al., 2013). Supply chain integration can be a very challenging task in post-acquisition as the target company is involved in a change of ownership and other aspects of operational change. Literature shows that the performance and productivity of the new or integrated supply chain can be influenced by different variables such as types of firms' business operations which will be related to their types of acquisitions, firms' supply chain characteristics and their industry's characteristics.

2.10.1. Firms' Business Operations

In the process of integration, the supply chains of the two firms and their types of business operations play a key role. For example, the competitive position of the supply chain members has a major impact on the structure and efficiency of the integrated supply chain (Glock & Kim, 2015). The findings of previous studies indicate that different types of acquisitions can yield different outcomes because of risk considerations. Avinadav et al., (2017) evaluated M&A in a supply chain involving risk-averse parties.

They suggest that different types of M&A - merger, forward acquisition and backwards acquisition - can yield different outcomes because of different risk considerations. Tsagkanos (2010) examined the effects of both horizontal and vertical acquisitions on performance, efficiency, and productivity of the target firms in the Greek manufacturing sector during the period 1995-2002. He found that horizontal acquisitions cause negative effects on the efficiency and productivity of acquired firms during the first year of the post-acquisition period. Rozen-Bakher (2018) research findings show that conglomerate acquisitions lead to integration success and synergy success in both industry and service sectors.

2.10.2. Firms' Supply Chains Characteristics

Researchers have been investigating different characteristics of firms' supply chains such as their size, structure, and product diversity and complexity to explore the relationship between these variables and integration performance. Bozarth et al., (2009) examined the impact of supply chain complexity on manufacturing plant performance. Their findings show that upstream (supply-side) complexity, internal manufacturing complexity, and downstream (demand-side) complexity all hurt manufacturing plant performance. Saeed et al., (2011) examined the relationship between firms' inter-organisational system characteristics and supply chain integration success. Their findings show that firms' inter-organisational system characteristics positively support their supply chain process capabilities. Firms' operational strategies and supply chain designs are very important for firms to achieve their objectives from supply chain integration (Qi, et al., 2017).

Product diversity and complexity have been linked to deteriorated performance in supply chains, reduced service levels, reduced delivery reliability, increased holding costs, and higher inventory levels (Closs, et al., 2010). For example, Brandon-Jones et al., (2015) findings show supply base complexity can increase the frequency of disruptions and reduce the organisation's performance. Other researchers have suggested that product diversity and complexity may not only result in negative performance effects but may enhance operational efficiency (Salvador, et al., 2002; Bozarth, et al., 2009; Blome, et al., 2014). For example, the findings of Eckstein et al., (2015) research, who applied DCT to examine the links between supply chain adaptability and performance, show that product complexity positively moderates the links between supply chain adaptability and cost performance, and supply chain adaptability and operational performance.

Researchers in both strategic management and SCM have commonly referred to the size of organisation or supply chain as important considerations to manage disruption risks

(Moeller, et al., 2004; Griffin, 2004; Azofra, et al., 2008; Manuj & Sahin, 2011; Merkert & Morrell, 2012; Chen, et al., 2015; Barbero, et al., 2017). Supply chain size can influence the integrated supply chain performance as it can be considered as a moderator of supply chain integration, cultural alignment, collaboration and relationship (Manuj & Sahin, 2011). Some research studies show that organisation size negatively influences the ability of managers to execute changes (Boyne & Meier, 2009; Schmitt & Raisch, 2013). Furthermore, research findings by Chin et al., (2004), Germain et al., (2008), and Bode and Wagner (2015) verify that the structure of firms' supply chains affects the occurrence of disruptions. For example, supply chains capable of more responsiveness and flexibility can improve the integration performance (Hendricks & Singhal, 2005b; Tang & Tomlin, 2008). Therefore, the companies' supply chain size and structure can be considered to have a positive or negative effect on acquisition performance.

2.10.3. Firms' Industries Characteristics

The findings of researchers in the SCM field show that different industrial environment factors such as industry policy, competition, upstream and downstream supply conditions, and customer changes create different risks, resources, and capabilities in relation to supply chain integration (Stonebraker & Liao, 2006; Guan & Rehme, 2012). According to Manuj and Sahin (2011), environmental conditions such as industry structure, competition, and technology changes surrounding a supply chain increase uncertainty and an inability to predict future events, which consequently boosts supply chain complexity. In addition, there are different operational risks in post-acquisition that have a direct relationship with the specific industries' conditions. Previous studies confirmed that there are different risks for the company's supply chain across separate industries and conditions within each industry affect a corporate acquisition's value creation (Nocke & Yeaple, 2007; Huyghebaert & Luypaert, 2013; Falkum, et al., 2014; Alimov, 2015).

2.11. Supply Chain Risks

According to Bogataj and Bogataj (2007), sources of risk are the sources of hazards or factors (quite diverse) that may contribute to positive or negative outcomes. Supply chain risks are interrelated (Rajesh, et al., 2015), and have a direct impact on supply chain decisions and profits (He, 2017). The risk in a supply chain is the potential uncertainty and variation of outcomes that impact the reduction of value-added at any activity cell in a chain, where the outcome is described by the volume and quality of products at any location and time in a supply chain flow (Bogataj & Bogataj, 2007). Li et al., (2015) state that supply chain risks refer to the risks transmitted among supply chain members. In order to increase supply chain performance and stabilise value added at each activity cell firms need to manage risk effectively. As emphasised by supply chain scholars (Schmitt, 2011; Kern, et al., 2012; Kim, et al., 2015) a single event inside any activity cell or disruption of any single node/chain can easily influence the operation and performance of several other cells or the entire network. Table 2.2 shows some supply chain risks.

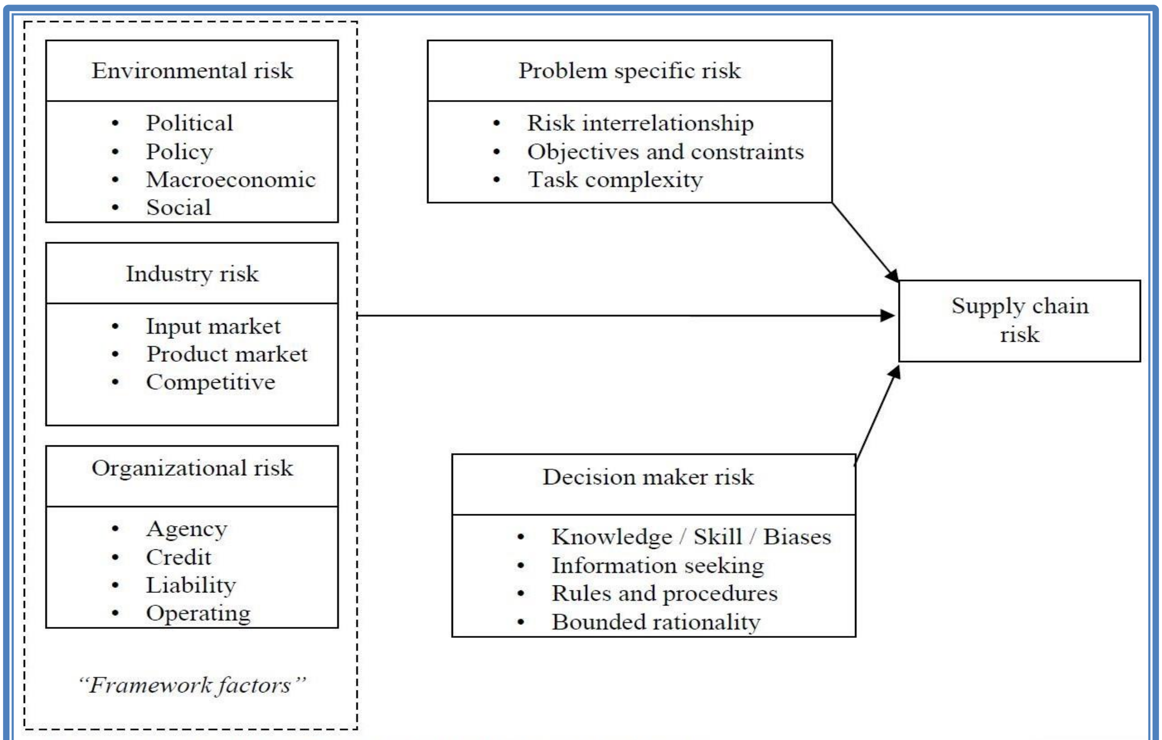
Table 2.2: Supply Chain Risks and Their Drivers

Category of Risk	Drivers of Risk
Disruptions	■ Natural disaster ■ Labor dispute ■ Supplier bankruptcy ■ War and terrorism ■ Dependency on a single source of supply as well as the capacity and responsiveness of alternative suppliers
Delays	■ High capacity utilization at supply source ■ Inflexibility of supply source ■ Poor quality or yield at supply source ■ Excessive handling due to border crossings or to change in transportation modes
Systems	■ Information infrastructure breakdown ■ System integration or extensive systems networking ■ E-commerce
Forecast	■ Inaccurate forecasts due to long lead times, seasonality, product variety, short life cycles, small customer base ■ "Bullwhip effect" or information distortion due to sales promotions, incentives, lack of supply-chain visibility and exaggeration of demand in times of product shortage
Intellectual Property	■ Vertical integration of supply chain ■ Global outsourcing and markets
Procurement	■ Exchange rate risk ■ Percentage of a key component or raw material procured from a single source ■ Industrywide capacity utilization ■ Long-term versus short-term contracts
Receivables	■ Number of customers ■ Financial strength of customers
Inventory	■ Rate of product obsolescence ■ Inventory holding cost ■ Product value ■ Demand and supply uncertainty
Capacity	■ Cost of capacity ■ Capacity flexibility

Source: Chopra and Sodhi (2004) - Managing Risk to Avoid Supply-Chain Breakdown

Exposure to risk comes in a number of different forms (Bogataj & Bogataj, 2007). Firm executives are reporting increased concerns about the boosting of supply chain risks in our modern business environment (Sodhi, et al., 2012). Before firms can devise effective means of decreasing these risks, managers first need a good understanding of the universe of risk categories as well as the conditions and events that drive them (Chopra & Sodhi, 2004). Supply chain risks can be classified in several ways. Researchers have suggested various analytical techniques to enhance and facilitate the risk assessment process within the organisation supply chain. For this, the literature of organisational risks and supply chain risks is first interrogated to uncover the potential supply chain risks in service/manufacturing organisations (Torabi, et al., 2016).

Figure 2.3: Sources of Supply Chain Risk



Source: Rao and Goldsby (2009) - Supply chain risks: A review and typology

Researchers hold diverse perceptions of supply chain risk factors because they have approached this area from different domains. For example, as we can see from Table 2.2, Chopra and Sodhi (2004) categorised supply chain risks into nine categories, where each category represents its own drivers and needs effective mitigation strategies. Rao and Goldsby (2009) suggest five main risk factors including environmental, industry, organisational, problem-specific, and decision-maker, where a number of variables within each of these factors could contribute to overall supply chain risks. As we can see from figure 2.3, their framework does not just consider the typical supply chain risk factors such as logistics, purchasing, and operations, but also other key factors such as strategy, international business, and finance, that can negatively influence firms' supply chain networks.

The serious negative impacts of supply chain risks on the affected firms' operations have been shown by several studies (Hendricks & Singhal, 2005a; Craighead, et al., 2007). As research on operation management shows, studies have generally focused either on the internal aspects of the value chain or the external aspects of the value chain and performance implications (Li, et al., 2005; Prajogo, et al., 2016). Supply chain risks may be caused by factors inside the firm (e.g. unplanned coordination efforts and faulty inventory planning), in the supply chain (e.g. suppliers' quality issues) or by external factors (e.g. economic development or natural catastrophes) (Oehmen, et al., 2009). Furthermore, these risks can affect the whole supply chain network as well as operations performance indicators alike operational cost and cost of assets, product quality, production flexibility and capacity, and delivery reliability and lead time (Chen & Paulraj, 2004; Li, et al., 2005; Huo, et al., 2014; Park, et al., 2016). Supply chain risk factors that exist in association with the organisations connected in the chain should be continuously evaluated by managers. Effective management of these risk factors would decrease vulnerability by making the supply chain resilient (Bogataj & Bogataj, 2007). In general, supply chain risks can be divided into two main categories, internal and external risks.

2.11.1. Supply Chain Internal Risks

Li et al., (2005) state that the internal factors related to supply chains have comprised much of the current empirical research in the supply chain literature. Supply chain internal risks refer to the risks that arise as a result of how the supply chain is structured and managed (Christopher, 2011). As explained in previous sections, different risk factors can be attributed to the internal side of a supply chain. For example, information and knowledge sharing has a critical role in supply chain performance, a matter that becomes more critical during the post-acquisition process. As mentioned by Ma & Nie (2009), better knowledge management in the supply chain means better control of the corporate business environment. Recent theoretical research conducted by Hudnurkar et al., (2014) shows supply chain information sharing is highly significant in an effective supply chain collaboration. They identified several benefits of effective information sharing such as cost-saving, increase visibility, inventory reduction, and reduction in bullwhip effect that can lead to an optimised supply chain collaboration.

Chen et al., (2013a) examine the internal liquidity risk through supply chains. They state that internal liquidity risks increase the firm's uncertainties in both available liquidity and obligation payments. Bandaly et al., (2013) identify three sources of risk, including process uncertainty, labour uncertainty, and information system failures for the internal operations domain of supply chains. These internal operations risks factors have been addressed in studies of supply chain literature. For example, Cucchiella and Gastaldi (2006) outline some internal factors concerning the product such as the quantity of alternative design and delivery paths or skills and competencies incorporated in the product package that increases the supply chain complexity.

2.11.2. Supply Chain External Risks

The occurrence of external risk events such as material shortages, demand uncertainties, and natural disasters are important factors contributing to supply chain risk and vulnerability (Hult, et al., 2010; Aqlan & Lam, 2015). External risks are usually uncontrollable or unpredictable and cannot be influenced by managerial actions (Christopher, 2011). External risks can be driven by events either downstream or upstream in the supply chain. The exogenous uncertainty which originates outside the firm can be related to key suppliers and customers. They have a potential impact on the firm's performance as they are the strongest drivers of a firm's supply chain agility (Bandaly, et al., 2012).

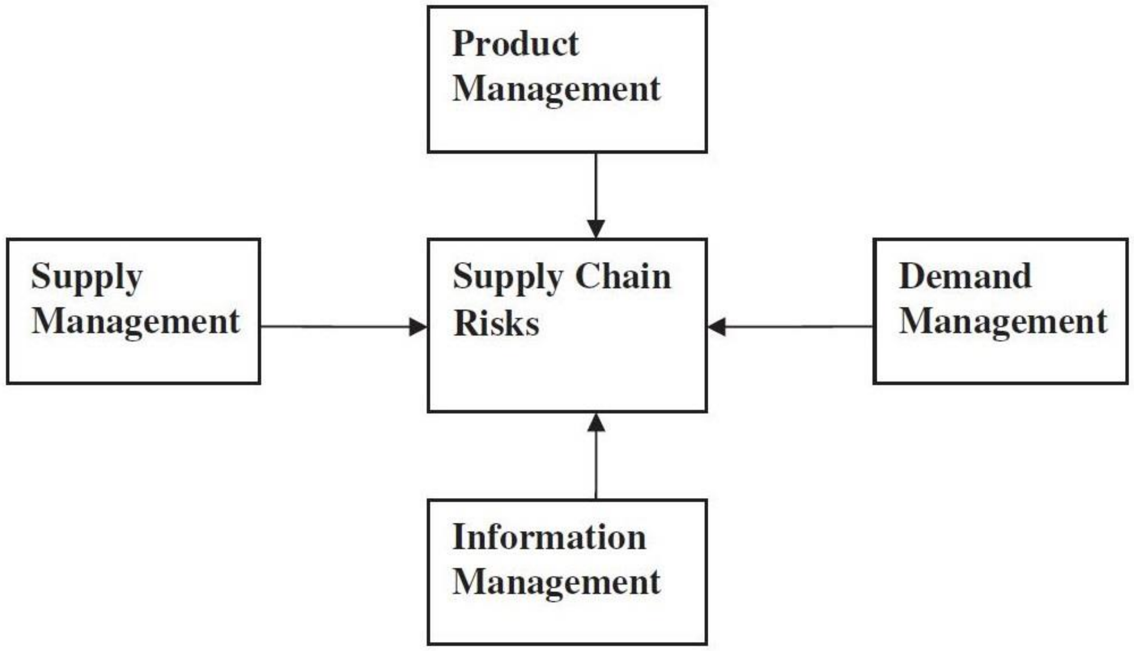
There are many examples of significant supply chain disruptions in recent years which demonstrate the external risks that businesses may face today. The cases of Ericsson and Toyota are well known in this domain. In 2000, Ericsson faced a supply chain disruption and a loss of $400 million due to a fire at a Phillips Semiconductor plant and disruption in their production (Chopra & Sodhi, 2004). In 2011, Toyota’s production dropped by 40,000 vehicles, costing $72 million in profits per day due to the earthquake, tsunami and the subsequent nuclear crisis that occurred in Japan (Pettit, et al., 2013). These risks of disruption have changed the executives’ approach to SCRM as today they believe that SCRM is critical for supply chain success. It is worth knowing that Ericsson implemented a new organisation within its operations that are responsible for developing SCRM process after experiencing that huge financial loss because of a small fire at its supplier’s plant (Norrman & Jansson, 2004).

2.12. Supply Chain Risk Management

Christopher (2011) argues that in today’s volatile and turbulent business environment, the biggest risks to business continuity lie in the wider supply chain. As mentioned, firms’ supply chains are exposed to many risks and an effective risk management system should be implemented to respond to such risks properly (Torabi, et al., 2016). Risk management plays a key role in effectively operating supply chains in the presence of a variety of uncertainties (Ho, et al., 2015). This highlights the importance of SCRM in the process of a corporate acquisition strategy as it is associated with a variety of complexity and uncertainties. Sodhi et al., (2012) conducted a study to investigate researchers’’ perspectives on SCRM. They found that there is no clear consensus on the definition of SCRM. SCRM is a subset of SCM, and its objective is to reduce the vulnerability of the supply chain (Rao & Goldsby, 2009; Sodhi, et al., 2012; Bandaly, et al., 2013).

In general terms, SCRM has been the subject of a significant amount of work in both academic and practitioner circles in order to control and mitigate the negative effects caused by such risks (Ho, et al., 2015). These large studies on SCRM so far have not been sufficient to address the challenges associated with increasing supply chain risks (Thun & Hoenig, 2011; Chen, et al., 2013b). Nowadays, managers have acknowledged the important role of SCRM in effectively managing organisational operations. Supply chain executives in IBM, one of the biggest component manufacturers in the world believe that SCRM is the second most important issue for the company (IBM, 2008). Various SCRM strategies have been examined in the literature based on actual practices. As we can see from figure 2.4, Tang (2006) has presented four basic approaches including supply management, product management, information management, and demand management that a company could implement to mitigate the impact of supply chain risks through a coordinated/collaborative mechanism.

Figure 2.4: Four Basic Approaches for Managing Supply Chain Risks



Source: Tang (2006) - Perspectives in supply chain risk management

According to the reviewed literature, it can be argued that the most successful post-acquisition integration plans must include the development of SCRM. Also, it needs a program management office as well as a flexible and cross-functional integration team

(Chen & Paulraj, 2004; Braunscheidel & Suresh, 2009; Lambert & Enz, 2017). They set the timing and financial targets as part of a larger, holistic integration plan. Although over the years, many practitioners and researchers have focused on SCRM by contributing to different key areas such as operationalising and mitigating risks, this concept has not been much discussed in the M&A literature. There are a few articles such as Paruchuri et al., (2006), Ma and Nie (2009), and Manikas and Jaswal (2015) that have attempted to bring this to the attention of researchers and M&A executives in the past few years.

Gaonkar and Viswanadham (2004) state that risk within the supply chain might manifest itself in the form of disruptions, deviations, and disasters. Supply chain disruption will occur when the structure of the supply chain system is radically transformed, through the non-availability of certain production, warehousing and distribution facilities or transportation options due to unexpected events caused by human or nature. Disruptions in production, supply, and logistics are examples of supply chain disruption. Supply chain deviation can occur when one or more parameters, such as supply and demand, cost, lead-time, etc., within the supply chain system stray from their expected or mean value, without any changes to the underlying supply chain structure. Variations in supply and demand, variations in procurement, production and logistics costs, and variations in transportation and production lead-times are examples of supply chain deviations. Finally, supply chain disaster will occur as a temporary irrecoverable shutdown of the supply chain network due to unforeseen catastrophic system-wide disruptions such as terrorist actions or earthquake. As a consequence of these events and issues, the management of supply chain disruption risks has emerged as a topical issue in recent years (Meng, et al., 2016). The focus of this research is on supply chain disruption risks in post-acquisition, which will be further discussed in the following sections.

2.13. Supply Chain Disruption Risks

Researchers in the supply chain field have identified supply chain disruption factors and causes from different perspectives. Aelker et al., (2013) state that new global markets, sourcing activities, and lower manufacturing costs have led to a global dispersion of supply chains. Supply chain networks can face lots of risks and sudden uncontrollable problems, which managers cannot predict in advance. For instance, a production disruption may occur in a manufacturing plant, which can be defined as any form of interruption in the manufacturing system, including a machine breakdown, material shortage, or any other form of humanmade or accidental disturbance (Paul, et al., 2016).

Kleindorfer and Saad (2005) evaluate different external risks arising from strikes and economic disruptions, natural disasters, and acts of purposeful agents, including terrorists, that affect supply chain design and management. They suggest a conceptual framework to manage disruption risks in supply chains based on these external risks. They state that two key dimensions are fundamental in guiding management practice and the mitigation of disruption risk in supply chains. The first dimension consists of strategies and actions directed at decreasing the severity and frequency of risks faced, across both the supply chain and firm levels. The second dimension focuses on boosting the capacity of supply chain participants (whether a separate organisation or a subsidiary facility) to sustain/absorb more risk, without major operational disruptions, or serious negative impacts.

Davis (1993) has suggested three main sources of supply chain uncertainty: supplier uncertainty, arising from degree of inconsistency, on-time performance, and average lateness; manufacturing uncertainty, arising from supply chain performance, process performance, machine breakdown, etc.; and demand or customer uncertainty, arising from irregular orders, forecasting errors, etc. This categorisation, which will be used in this thesis, has been largely applied by researchers such as Sheffi (2007), Chen et al., (2013b), Habermann et al., (2015) in the SCM field. For example, Habermann et al., (2015) divided supply chain disruption risks into three different domains: supply side, internal process, and customer side. They state that disruption can occur at the inbound material flow from the supplier (supply side), the internal production processes, and the outbound material flow to the customer (customer side) locations. In this study, the researcher considers the acquired supply chain uncertainty and disruption in the forms of supply, production process, and demand. Supply uncertainty includes indicators that represent the timeliness, quality, and the inspection requirements of the suppliers. Operational process uncertainty includes the extent of operational and organisational changes evident within the new unit. Demand uncertainty includes fluctuations and variations in demand.

2.13.1. Supply Side Disruptions

Successful SCM necessitates an effective sourcing strategy to restrain unreliable supply and meet stochastic demand (Yu, et al., 2009). Supply risk or the likelihood of supply disruptions can lead to a substantial financial loss for a buyer (Snyder, et al., 2016), and is emerging as a key challenge to SCM (Trkman & McCormack, 2009). Supply risk can be defined as the distribution of outcomes related to adverse incidents in inbound supply that affect the ability of the purchasing firm to meet customer demand (in terms of both quality and quantity) within anticipated time and costs or causes threats to customer life and safety (Zsidisin, 2003; Wu, et al., 2006; Manuj & Mentzer, 2008). Various trends that increase exposure to supply risk or the likelihood of supply disruptions, such as the reduction of the supplier base, increased use of outsourcing, globalisation, reduced buffers, shorter product life cycles or increased demand for on-time deliveries (Norrman & Jansson, 2004; Aqlan & Lam, 2015) support the important role of supply-side within the entire supply chain (Trkman & McCormack, 2009).

Kumar et al., (2010) state that supply risk leads to potential deviations in the inbound supply in terms of quality, quantity and time that may result in uncompleted orders. This disruption occurs when the suppliers of supply chain networks are not able to complete the contract (Shen & Li, 2017). A regular supply chain network consists of multiple suppliers and inconsistency in their performance will make their performance unpredictable and therefore increase supply risk. Chen et al., (2013b) state that due to the firms' multiple sourcing and outsourcing practice, the capability of suppliers to assure supply is critical for the buying firms. There are numerous factors that can affect suppliers' performance such as congestion in the production, production capacity constraints, equipment failures, lack of quality control, or problems in procuring the necessary raw materials caused by unexpected disasters (Zsidisin & Ellram, 2003; Shen & Li, 2017). All these factors can cause disruption in terms of supply lead time, quality and quantity (Chen, et al., 2013b).

In the literature on supply risk and uncertainty, supply can either be subject to complete disruptions or yield uncertainty. Complete disruptions occur when the supply side is subject to partial or complete failure, whereas yield uncertainty takes place when the quantity of supply delivered is a random variable, modelled as either a random additive or multiplicative quantity (Sawik, 2017). Norrman and Jansson (2004) state that increased use of outsourcing of manufacturing and R&D to suppliers as well as reduction of supplier base have increased the vulnerability to risks in supply chains. The growing dependency on various suppliers brings the importance of moving the focus of business strategies from local optimisation of sustainability factors, to consideration of the interface of the operation with firms' multiple suppliers. Therefore, managers need to develop an appropriate sustainable supplier management programme and process different supply-side risk factors such as supplier liquidity problems, quality issues, and supplier dependency to minimise the total cost of ordering and purchasing of requested products, to reduce the penalty cost of unfulfilled and delayed customer orders, and to mitigate the impact of disruption risks (Sawik, 2013a; Giannakis & Papadopoulos, 2016).

2.13.2. Internal Production Process Disruptions

In the supply chain context, production process disruptions have been studied by a number of researchers (Bandaly, et al., 2013; Tazelaar & Snijders, 2013; Chen, et al., 2013b; Qi, et al., 2017). Production process disruption risks are due to a failure to produce the desired quantity and quality at the right time (Kumar, et al., 2010). Chen et al., (2013b) conducted an empirical study based on collected data from more than 200 manufacturing firms in Australia to examine supply chain collaboration as a risk mitigation strategy. They examined three kinds of risks, including supply risk, process risk, and demand risk in relation to supply chain collaborations. The results show that production process risk has the strongest effect on supply chain performance and both supply risk and demand risk increase process risk.

Kleindorfer and Saad (2005) define two broad categories of risk that can affect supply chain design and management including risks arising from disruptions to normal activities and risks arising from the problems of coordinating supply and demand. Production process risk can be defined as the distribution of outcomes related to adverse incidents within the organisation that influence an organisation's internal ability to produce goods and services, timeliness and quality of production, and/or profitability (Zsidisin, 2003; Manuj & Mentzer, 2008). Bandaly et al., (2013) identify three sources of internal operations risk, including process uncertainty, labour uncertainty, and information system failures. To reduce production process disruption risks, it is vital to integrate these three strategic functions and jointly plan them in a coordinated manner.

2.13.3. Demand Side Disruptions

As customer expectations are dynamic in nature and can change very rapidly in the market, firms need to assess them regularly and adjust their operations accordingly (Chen & Paulraj, 2004). Demand risk can be defined as the distribution of outcomes related to adverse incidents in the outbound flows that influence the probability of customers placing orders with the focal organisation, and/or variance in the volume and assortment desired by the customer (Zsidisin, 2003; Manuj & Mentzer, 2008). Demand unpredictability can be considered a major contributor to overall supply chain uncertainty and disruption (Meng, et al., 2016). Kumar et al., (2010) state that "forecasting near accurate demand is the most difficult part in an efficient supply-chain management planning" (p. 3718). Firms always face the possibility that their predicted demand does not meet the actual demand. In this situation, both planning and production could have values higher than the actual demand, resulting in undesired inventory, or less than the actual demand, which results in shortages. In other words, the impact of demand-side disruption risks manifests itself in a variety of ways, negatively influencing the enterprise's plans, product offerings, operations, and strategies (Germain, et al., 2008).

Chen et al., (2013b) found that demand risks have direct negative effects on operational performance. This may support the fact that companies find it more difficult to cope with demand variations than supply variations, which makes the negative effect of demand-side more visible. In unpredictable demand environments, firms face difficulty in precisely forecasting fluctuations in demand attributable to, for instance, marketing mix variables (e.g., price changes), economic variables (e.g., purchase postponement), or market trends (Germain, et al., 2008). Tang (2006) argues that a firm can manage demand uncertainties and risks by shifting its demand across time, products, and markets. Also, it can coordinate or collaborate more with downstream partners to influence demand in a beneficial manner.

2.14. Managing Supply Chain Disruption Risk

Given the importance of supply chain networks in practice and SCM in a competitive business, there has been increased attention dedicated to disruptions to supply chains from various directions (Nagurney, et al., 2005). In other words, a disruption in the supply chain can occur at various modes - on the supply and demand sides or during production and logistic process - and due to a variety of different causes (Habermann, et al., 2015). Revilla and Saenz (2014) state that as the supply chain expands overseas (more tiers and sub-tiers in supply chains), there is a growing need for supply chain disruption management from a cross-national perspective. They state that two managerial dimensions, including internal-operational and inter-organisational should be considered in effectively managing supply chain disruptions.

Researchers in this growing research area have investigated such key domains as drivers of supply chain disruption risk (Bode & Wagner, 2015), disruption mitigation (Mari, et al., 2014; Paul, et al., 2017; Kamalahmadi & Parast, 2017), supply chain resilience (Mari, et al., 2014; Kim, et al., 2015), supply chain integration (Stonebraker & Liao, 2006; Flynn, et al., 2010; Glock & Kim, 2015; Saleh & Roslin, 2015) and global SCDRM (Dillon & Mazzola, 2010; Revilla & Saenz, 2014). Still, many opportunities in this growing research area remain to understand better the factors that decrease/increase disruption risk in a supply chain (Habermann, et al., 2015). The reason that this topic has received increasing attention is undoubtedly due to more opportunities for disruption in modern supply chains and a smaller margin for error if a disruption takes place (Kleindorfer & Saad, 2005).

In modern business environments, the management of supply chain disruption risks has become a vital part of the SCM strategy (Sawik, 2017). The topic of managing disruptions in a supply chain has been the focus of intense study in the field of SCM and SCRM in recent years (Skipper & Hanna, 2009; Bilsel & Ravindran, 2012; Kamalahmadi & Parast, 2017) due to the wide recognition that firms' supply chains within all industries are susceptible to a diverse set of disruption risks (Paruchuri, et al., 2006; Knemeyer, et al., 2009). In other words, disruptions are present in all supply chains, which can be costly, with immediate and long-term effects on firms' performance (Blackhurst, et al., 2011). Torabi et al., (2016) state that a high rate of disruptive incidents around the world has encouraged firms to design and implement their own customised risk management systems in order to be prepared for dealing with any possible supply chain disruption risks. In fact, a single supply chain disruption in any domains can cause the collapse of the entire supply chain (Kern, et al., 2012) as disruption risks of the supply chain are often interrelated and interconnected (Chopra & Sodhi, 2004; Aqlan & Lam, 2015). Therefore, a single disruption anywhere in various supply chain levels may affect the functionality and performance of other supply chain elements (internal production, downstream, or upstream).

2.14.1. Strategic Alignment

The design and structure of a supply chain that can be efficient whilst responsive to disruptions is a significantly challenging and complex task (Christopher & Peck, 2004; Pettit, et al., 2010; Nooraie & Parast, 2016). Li et al., (2005) suggest six dimensions for SCM practices, including strategic supplier partnership, internal lean practices, information sharing, information quality, customer relationship, and postponement. They argue SCM practice is a multi-dimensional concept, and both external and internal relationship management play a critical role in supply chain planning and practices. These SCM practices should be aligned with a corporate organisation strategy (Huo, et al., 2014; Lambert & Enz, 2017). Furthermore, a "strategic fit" or "strategic alignment" among environmental, structure and design, strategic and operational variables is required for the successful implementation of SCM (Stonebraker & Liao, 2006; Chopra & Meindl, 2016). The idea of and need for "strategic alignment" or "consensus" of competitive priorities among different functions in manufacturing firms was initially conceptualised by Skinner (1969) and as one of the best practices, has widely been suggested to provide much needed competitive advantage to organisations in complex and competitive environments (O' Leary-Kelly & Flores, 2002; Ang, et al., 2015). Strategic fit and alignment is a critical link between a firm's business strategy and its functional strategies (Hong, et al., 2011; McAdam, et al., 2017).

Skipworth et al., (2015), conducted an empirical study to evaluate how supply chain alignment, which remains a major challenge in SCM, can be achieved and its implications for business performance. Their findings show that different variables, such as top management support, organisation structure, and information sharing, play key roles in supply chain alignment and business performance. Sardana et al., (2016), drawing on dynamic capabilities theory, examined the influence of manufacturing operations' functioning and strategic alignment on firm performance. Their findings show that operations' strategic alignment to the organisation's strategic objectives is the single most key contributor to company performance. They suggest that managers should emphasise operations' strategic alignment to organisations' performance objectives. More importantly, they should build dynamic operational capability to be responsive to the changing business environment. Recent research by Fainshmidt et al., (2019, p. 758) shows "that the relationship between dynamic capabilities and competitive advantage is contingent upon the strategic fit between organisational and environmental factors". In the case of corporate acquisition, the ownership changes in the target company and its supply chain practices may lead to misalignment between strategy and operations.

2.14.2. Dynamic Supply Chain Capabilities

One of the key questions in SCRM is how to appropriately invest in supply chain capabilities with the aim of being more responsive to supply chain disruptions (Nooraie & Parast, 2016). In recent years, practitioners and academics have focused on the role of dynamic supply chain capabilities in managing supply chain disruption risk (Beske, et al., 2014; Masteika & Cepinskis, 2015; Ivanov, et al., 2016; Aslam, et al., 2018). While investment in supply chain capabilities improves the firm's ability to be more responsive and resilient to supply chain disruptions, it is associated with extra costs (Chopra & Sodhi, 2014). Supply chain dynamic capabilities can create a sustainable competitive advantage for firms through improving efficiency and effectiveness in operation (Beske, 2012). For many years operations managers have been faced with a trade-off between efficiency and flexibility, which prioritising one is often to the detriment of the other (Skinner, 1969; 1985; Hill, 1993; Kannan, 1998). The argument goes that a firm should pursue either a differentiation strategy supported by more flexible processes or a low-cost competitive strategy supported by efficient operational processes (Porter, 1980; 1996; Hill, 1993; Markides, 2006). However, some scholars argue that firms can be simultaneously efficient and flexible by building an ambidexterity capability (Adler, et al., 1999; Gibson & Birkinshaw, 2004; Patel, et al., 2012; Kortmann, et al., 2014; Tamayo-Torres, et al., 2017).

According to Gibson and Birkinshaw (2004), ambidextrous firms are those that are adaptive enough to changes in the environment and are aligned and efficient in the management of today's business demands. Kristal et al., (2010) define supply chain ambidexterity as a strategic choice of organisations to simultaneously pursue both supply chain exploration (flexibility) and exploitation (efficiency) practices. The trade-off between exploration and exploitation is a challenging task in SCM (Turner, et al., 2018; Gualandris, et al., 2018; Ojha, et al., 2018) and there is a limited understanding of how firms manage trade-offs to establish different supply chain designs that offset organisational routines necessary for exploration and exploitation, to allocate variegated resources and attention necessary for exploration and exploitation pursuits in a supply chain, and to develop skills, capabilities, processes, and cultures to enable each dimension (Lavie & Rosenkopf, 2006; Birkinshaw & Gupta, 2013; Jensen & Clausen, 2017).

Nooraie and Parast (2016), developed a multi-objective stochastic model to examine the trade-offs among investments in enhancing supply chain capabilities and decreasing supply chain risks, and to minimise the cost of supply chain disruptions. They designed their model for supply chain design under uncertainty and time-dependency. Their findings show that increasing supply chain capabilities can be considered as a risk mitigation strategy that enables a company to minimise the total expected cost of a supply chain subject to disruptions. Kamalahmadi and Parast (2017), developed an SCRM model to examine the trade-off between risks and costs as well as the responsiveness of different supply-disruption mitigation strategies to supplier and environmental disruptions. Their findings show that a supply risk mitigation strategy decreases the effects of both supply and environmental disruptions and minimises the expected total cost. They suggest that investment in supply chain capabilities will help firms to mitigate disruption risks. However, the initial investment required for developing these capabilities may not appear cost-effective at first.

2.15. Why Are Supply Chains More Vulnerable During Post-Acquisitions?

In previous sections, a number of reasons have been discussed why modern supply chains have become more vulnerable. What makes SCRM more challenging for firms during acquisitions is that ownership changes will influence the acquired firms' supply chain performance (Paruchuri, et al., 2006; Cooke & Huang, 2011), in addition to today's rapidly changing business environment and the fact that decision-making time frames are getting shorter (Aqlan & Lam, 2015). Acquisitions can increase the number of links in the chain as it can lead to supply chain integration, growing interdependence, and increased complexity. Therefore, managing the new supply chain network effectively must be of high importance for firms involved in an acquisition. It is important to mention that supply chain disruptions after acquisition not only cause financial loss for firms involved in corporate acquisition but can also damage their reputation or brand as a result of production disruption (Paul, et al., 2017).

According to the reviewed literature, the supply chain of the acquired firm in post-acquisition can be at the risks of disruption due to multiple causes such as the globalisation of supply chains, integrated and centralised distribution networks, volatility of demand, the trend towards outsourcing, change of the supplier base, lack of visibility and control procedures (Norrman & Jansson, 2004; Aqlan & Lam, 2015). In post-acquisition, supply, production and distribution systems can be unbalanced due to a disruption of supply chain network (Kapoor & Lim, 2007; Cooke & Huang, 2011), and consequently, the acquired firm can face enormous financial losses and decline in customer goodwill (Paul, et al., 2017).

Kapoor and Lim (2007) state that both the acquirer and the acquired firms face disruptions immediately post-acquisition and the ownership change will primarily affect the routines, resources, and activities of firms involved in a corporate acquisition. They state that these changes would be significant in the target firm. For instance, inventors at target companies would have lower incentives after their companies become research divisions within the acquirer companies. In other words, inventors at acquired firms are likely to lose productivity. From a knowledge-based view, acquisitions increase ambiguity among employees and disrupt the routines of the participating organisations (Ranft & Lord, 2002), and strategic reconfigurations may cause disruption (Karim & Mitchell, 2000).

DePamphilis (2012) identifies different key functions immediately following an acquisition. He divides these activities into five categories, including communication plan, employee retention, satisfying cash-flow requirements, employing best practices, and cultural issues. He argues that invariably, in post-acquisition, operating cash-flow requirements are higher than expected. Therefore, such expediters (e.g. maintenance) will be deferred, or inventory levels will not be adequate to maintain desired customer delivery times. Some receivables that were previously thought to be collectable may have to be written off. Finally, “more customers than had been anticipated may be lost to competitors that use the change in ownership as an opportunity to woo them away with various types of incentives” (p. 192).

As a result, it is extremely important for supply chain managers to recognise potential risk factors and to employ appropriate risk management tools in the management of their supply chains. In the supply chain disruption section, the three strategic disruption risk domains (supply, production process, and demand) are discussed in detail. In the corporate acquisition context, the acquired firm may be heavily involved in the integration process in the post-acquisition period, and that can increase its supply chain disruption risks. In the next section, we focus on the risks associated with supply chain integration.

2.15.1. Supply Chain Internal Integration Risks

Supply chain integration can be defined as the degree to which an organisation or a function strategically collaborates with other internal functions or external supply chain members to manage the inter- and intra-organisational processes necessary to attain efficient and effective flows of information, services, products, decisions and money with the objective of providing maximum value to customers (Zhao, et al., 2008; Qi, et al., 2017). It is generally agreed that organisational integration results in significant organisational disruption (Puranam, et al., 2003; Sorescu, et al., 2007; Kapoor & Lim, 2007; Chatterjee, 2009; Sears & Hoetker, 2014). Therefore, one of the central dilemmas in managing supply chains in post-acquisition - and perhaps the most critical factor in affecting employee disruption - is the decision about the level of supply chain integration between the newly acquired firm and the acquiring firm. If the acquired firm’s supply chain is not integrated, but instead is allowed considerable autonomy, there is little chance that any resource and knowledge sharing or other forms of synergy will occur (Paruchuri, et al., 2006). It is worth noting that sharing knowledge and achieving synergy are in most cases the main motives for the acquisition (Bresman, et al., 2010; Junni, 2011; Dutordoir, et al., 2014). Furthermore, if allowed autonomy, the newly acquired company would not generate much more value and potential profits than it would have created on its own, and the premium paid by the acquiring company will have been wasted (Puranam, et al., 2003).

In reality, firms have often failed in managing risks in an integrated fashion (Ma & Nie, 2009), especially in the course of the corporate acquisition strategy, which represents a high failure rate in real-life examples. Supply chain integration is an important means to achieve synergy (Chatterjee, 2007; Ji & Chen, 2012; Manikas & Jaswal, 2015). Paruchuri et al., (2006) state that acquisition integration is a key and pivotal factor in determining whether the aims of the acquisition are achieved. It has been well noted that improving supply chain integration between two firms is the key to improving the likelihood of post-acquisition success (Langabeer, 2003; Langabeer & Seifert, 2003). Acquisitions can increase the number of links in the chain as they can lead to supply chain integration, growing interdependence, and increased complexity. Christopher (2011) argues that changes in business strategy can increase the vulnerability of supply chains to disturbance or disruption. He states that many firms have experienced a change in the profile of their supply chain risk as a result of changes in their business models. Equally important is the integration strategy adopted by the acquirer company. In other words, "the success or failure of an acquisition lies in the nuts and bolts of integration" (Christopher, 2011). The risk of acquisition failure is magnified when it comes to supply chain integration. Although the benefits can be significant for firms, mistakes can be crippling.

Furthermore, if the supply chain of a newly acquired company is integrated, as highlighted by Zollo and Singh (2004), firms will face a heightened risk of organisational trauma, and there is an increased likelihood that the very resources that were so attractive to the newly acquired company will be damaged or destroyed. In fact, the literature on post-acquisition integration has provided considerable qualitative evidence that the newly acquired firms experience a greater sense of disruption and loss when they are integrated with the acquiring firms than when they are not (Puranam, et al., 2006; Schweizer & Patzelt, 2012; Chen & Wang, 2014). Obviously, decisions about the level of acquisition integration are both important and difficult. Researchers in this field - after many years of exploring the issue of acquisition integration - still have not resolved the pros and cons of this important managerial decision.

As mentioned before, firms that introduce integrated business processes (not individual systems or functions) will be able to create value for their customers, when these processes reach beyond the firm's boundaries by drawing suppliers and customers into the value creation process. Based on corporate acquisition opportunities to create value and enhance growth, firms through the integrated supply chain systems make full use of external resources, concentrate on their core competitiveness, decentralise operational risk, improve reaction speed to market and create greater customer value (Ji & Chen, 2012). As mentioned by Paruchuri et al., (2006), acquisition integration is most disruptive to post-acquisition productivity as productivity drops during this period for the combined entity.

The speed of supply chain integration is another factor that can influence the quality and outcomes in post-acquisition (Angwin, 2004; Homburg & Bucerius, 2006; Lu, 2014). During this process, the acquired firm is subject to inevitable changes and implementing a quick integration may reduce the disruption risks (Inkpen, et al., 2000). However, quick integration will bring some concurrent costs and consequences such as the impact on product quality and service (Angwin, 2004). DePamphilis (2012) also highlights the important role of the integration process and states that “failure to achieve integration in a timely manner often results in customer attrition, loss of key employees, and the failure to realise anticipated synergies” (p. 44).

There are, however, also negative effects associated with a speedy integration of supply chains. The problems with a quick post-acquisition integration approach following supply chain integration, however, comes in terms of the sufficient time – the considerable amount of time that is required to build mutual trust between the employees of two companies – a period of acclimatisation and understanding (Birkinshaw, et al., 2000; Schweizer, 2005). Ranft and Lord (2002) argue that a fast post-acquisition integration process makes cultural adoption more difficult than slow integration. In order to maximise the benefits of the strategy, challenges associated with fast integration need to be considered and addressed in advance due to the fact that it may positively or negatively impact employees’ commitments during the integration process (Schweizer & Patzelt, 2012). Furthermore, integration challenges are likely to be higher when the acquirer firm is overtaking more capable targets, given the importance of protecting and maintaining their existing resources and capabilities from the disruptive effects of post-acquisition (Puranam & Srikanth, 2007). From another point of view, the acquirer firm may find it difficult to integrate extremely weak targets that can lack the absorptive capacity to benefit from capability deployment (Kaul & Wu, 2016).

Uncertainty in the organisational environment caused by the corporate acquisition can influence the employees’ commitments and can potentially increase conflicts, which is positively related to a quick integration as scholars such as Inkpen et al., (2000) and Homburg and Bucerius (2006) have argued on the benefits of managing quick integration in M&As. A slower supply chain integration might minimize conflicts between employees and partners, develop trust-building, and decrease disruption of existing process and resources in both firms. Similarly, DePamphilis (2012) states that quick integration in post-acquisition may result in the more immediate realization of synergies, but it also contributes to employee and customer attrition. He suggests that intelligent integration involves managing these trade-offs by quickly identifying and implementing projects that offer the most immediate payoff and deferring those whose disruption would result in the greatest revenue loss.

Finally, decisions about whether and how to integrate the supply chain of target firm based on existing organisational structure, operational strategies, product line offerings, and distribution channels represent a major challenge in making value-maximizing decisions in any corporate acquisition strategy. The level of supply chain integration between the acquirer firm and the acquired firm may result in positive or negative consequences (Seo & Hill, 2005; Bauer, et al., 2015). Some researchers stressed that the higher the level of integration, the greater the disruption of routines and pre-existing resources in both organisations, which influence the performance of the combined firm (Bernad, et al., 2010; Savovic, 2012; Kiessling, et al., 2012). It supports the fact that organisational changes (e.g. changes in management, changes in company and product names) influence the organisational performance (Zarb & Noth, 2012).

2.15.2. Upstream and Downstream Supply Chain Integration Risks

As mentioned in section 2.5, researchers have commonly stressed two primary effects created by an acquisition: increased operational synergy and market power. Regarding the effect of market power, in the context of supply chains, firms can achieve two kinds of power from acquisitions – buying power and selling power (Zhu, et al., 2016b). However, conflicting conclusions have been drawn by researchers examining the effect of upstream acquisitions on selling power and downstream acquisitions on buying power (Fee & Thomas, 2004; Shahrur, 2005; Bhattacharyya & Nain, 2011). For example, Fee and Thomas (2004) found that such acquisitions exert price pressure on upstream suppliers, and their performance can be affected adversely.

Zhu et al., (2016b) explored the effects of upstream and downstream acquisitions on merging firms and vertical supply chain partners. They found that both downstream and upstream acquisitions reduce the profit for directly related supply chain partners. Guan and Rehme (2012) argue that strategic concentration is a key issue for firms when designing a supply chain. They suggest that managers should pay more attention to internal collaboration during the supply chain integration because each company in a supply chain has its own plan for its activities and ownership cannot improve the efficiency of these activities and solve all emerged conflicts in the integration process.

2.16. Supply Chain Risk Management in Corporate Acquisitions

The increased complexity of global supply chain networks plus the uncertainties of the business environment after an acquisition makes risk and vulnerability a major challenge to related firms (Revilla & Saenz, 2014; Ho, et al., 2015). Competition plus improving synergy make it necessary for firms involved in corporate acquisitions to resort to the supply chain to gain complementary resources, capabilities and technology, leading to competitive advantages. Therefore, the supply chain is becoming one of the main elements in raising the chance of acquisition success as it is a powerful weapon in improving core competence for firms and tackling competitive challenges (Yu, et al., 2015). From the perspective of SCM in post-acquisition, the key to successful SCM is achieving effective integration of business functions and chain members so that all operations and processes are well aligned to achieve the objectives of the overall system (Sahin & Robinson, 2002; 2005). Therefore, SCM must be of high importance for a corporate acquisition.

As competition in recent decades has intensified and markets became global, firms began to realise that it is not enough to work in a single product, market, or industry. We have witnessed substantial increases in corporate acquisition deals within industries. Over the same period, firms also realised that improving efficiencies within an organisation cannot be enough to compete in a globalised market and their whole supply chain has to be made competitive (Li, et al., 2005). According to Shapiro (2015), generally, firms' successful operations are subject to a favourable interplay between the network of internal stakeholders (e.g., staff and managers) and the network of external stakeholders (e.g., suppliers and buyers of goods and services) and the recognition of the risk of disruption and imbalance in the collective network induced by inadequately integrated acquisition. He states that an acquisition is "a primarily privately controlled reordering of economic, financial, and human resources that occasionally leaves significant disruption in its wake" (p. 38).

Furthermore, it has been widely pointed out that understanding and practising SCM and associated risks have become an essential prerequisite to staying in the competitive global race and to growing profitably (Kleindorfer & Saad, 2005; Li, et al., 2005; Trkman & McCormack, 2009). Manikas and Jaswal (2015) state that supply chain cost synergy is one of the main motivations for corporate acquisitions and that it can be achieved through an effective combination of two firms. In this, combined firms can benefit from closer collaboration with supply chain partners and from buying in greater volume from common suppliers. Also, administrative activities can be squeezed and downsized, resulting in cost savings. For instance, one of the main reasons for combining the two mega-firms Daimler-Benz and Chrysler was that they believed that closing some inefficient plants and realigning by combining supply chain activities, product design and administration would result in significant cost savings.

In fact, corporate acquisition strategy often destroys value, and the effects can be long-term (Harrison, et al., 2000). At the outset of the post-acquisition process, answering a key question can lay the foundation for a successful corporate acquisition strategy. How will the new supply chain look? Addressing this key question early on is even more essential when two different supply chain networks or conflicting organisational structures or cultures integrate. For example, in 2010, Shiseido Co., Japan's largest cosmetics company purchased Bare Escentuals Inc. as a part of the groups' corporate strategy. Shiseido bought Bare Escentuals in order to grow internationally as an effort to counterbalance sinking sales in its native Japan. However, as a result of the lack of internal communication and cultural differences, the acquisition didn't initially create the planned synergies and, instead, it's share price dropped around 30% in the two years immediately following the takeover, according to the Wall Street Journal (Inagaki, 2011).

In general, SCM can be conceptualised as comprising the management of both the internal and external aspects of an organisation's operations, which can include the sourcing/purchasing, logistics, production, and distribution processes involved in the offering of different types of products (Pagell, 2004; Chen & Paulraj, 2004; Prajogo, et al., 2008; 2016). Despite the concept of SCM receiving increased attention from practitioners, academicians, and business managers, the M&A literature does not offer much evidence of either empirical or theoretical study on this concept. Little empirical research has been done on the role of SCM on organisational performance in the M&A context.

Researchers such as Nagurney (2009) and Ji and Chen (2012) have provided different theoretical frameworks for the quantification of strategic advantages associated with M&As through the integration and synergy of supply chain networks. Ji & Chen (2012) argue that in post-acquisition, synergistic effects between two supply chains are the key sources of value creation, which can improve the competitiveness of the combined firm. They state that based on M&A opportunities to create value and enhance growth, firms through the integrated supply chain systems make full use of external resources, concentrate on their core competitiveness, decentralise operational risk, improve reaction speed to market and create greater customer value.

Kiessling et al., (2012) evaluated the importance of key management team retention in supply chain corporate venturing through acquisition. They conducted an empirical study based on a unique dataset of corporate acquisitions in supply chains and found that higher retention of the key management team members increases the acquired firm's performance in post-acquisition. Comez-Dolgan and Tanyeri (2015) considered inventory performance in the course of acquisition. They state that effective inventory decisions, the coordination of inventory and supply chain decisions can improve synergies in post-acquisition.

Marks et al., (2017) have considered the human side of the supply chain during an M&A. They state that an M&A can be a disruptive event for managers and employees as they may have to adapt to unfamiliar practices, policies, and politics quickly. They may also have to work with strangers from different corporate or even national cultures or adapt to being a subordinate of new bosses and report to those who know nothing about their track record or ambitions. Avinadav et al., (2017) have evaluated M&A in a supply chain involving risk-averse parties. They suggest that different types of M&A - merger, forward acquisition and backwards acquisition - can yield different outcomes because of risk considerations. They state that a decentralised supply chain can be more beneficial for the parties than a centralised supply chain. They argue that "due to the stochastic nature of the business environment, and the financial magnitude of the transactions, the risk is an integral part of most supply chains, and the risk aversion of the parties should not be disregarded" (p. 927).

Harrison et al., (2000) state two main reasons for a high failure rate of M&As in real-life, the lack of cooperation between two firms and the cost of cooperation exceeding the benefit of efficiencies gained. The main objectives of SCM are to be efficient and cost-effective across the entire operating system and ultimately to satisfy the needs of the end customer. Therefore, each operation in the chain should effectively and efficiently contribute to whatever mix of cost, quality, speed, flexibility, and dependability the end customer requires (Slack, et al., 2006). In the process of post-acquisition, the operation of chains can be negatively affected by a number of reasons that will be discussed in the following section. These supply chain disruption risk factors should be considered during post-acquisition integration in order to manage supply chain disruptions effectively.

2.17. Supply Chain Disruption Risks in Corporate Acquisitions

Given the size, dynamic, and complex nature of the supply chains of many firms involved in acquisitions, there is a need to understand and manage the impact of disruptions on the operation of the system. Generally, the purpose of combining two organisations is to produce a relationship in performance where 1+1>2 (Ji & Chen, 2012). In this process, two brands begin to share their production facilities and capabilities as well as distribution networks in order to improve the overall performance. Most importantly, it can be a significant source of supply chain cost savings during a corporate acquisition, derived from achieving economies of scale, such as pricing power and purchasing scale (Lee, 2002; Zarb & Noth, 2012). In post-acquisition, synergistic effects between two supply chains are the key source of value creation, which can improve the competitiveness of the combined firm (Ji & Chen, 2012). However, it is worthwhile to point out that, this combination does not always improve efficiency and performance (Zhu, et al., 2016b). According to recent Harvard Business Review research, the failure rate of M&As to deliver planned value is somewhere between 70% and 90% (Christopher, 2011).

Supply chain disruption risks can be in different dimensions of the acquired firm's activities. For example, for employees and managers, an acquisition is not just a corporate strategy; it can be a personally disruptive – often traumatic – event (Marks, et al., 2017). In post-acquisition, the production process may be disrupted as employees of the target company find it difficult to adapt to new practices introduced by the acquirer firm's management (DePamphilis, 2012). In fact, the human side of corporate acquisition – the management and the employees – of the target firm play a key role in determining the outcome of the acquisition, as they are involved in post-acquisition integration (Harrison, et al., 2000).

Marks, et al., (2017) state that a corporate acquisition can be a disruptive event for managers and employees as they may have to adapt to unfamiliar practices, policies, and politics quickly. According to recent Harvard Business Review research, roughly 30% of employees are deemed redundant after closing acquisition in the same industry. In such situations, uncertainty among employees and managers in target firms can potentially influence supply chain process efficiency, especially during the first months of closing the acquisition. Due to rather intensive post-acquisition restructuring, asset management, and supply chain collaborations in a short period following ownership changes, the impact on acquired firm productivity is expected to be negative in the short-run and exposed to more risks but tends to improve more significantly afterwards (Bergh, 2001; Gioia & Thomsen, 2004; Karpaty, 2007; Damijan, et al., 2015).

Furthermore, the degree of complementarity between the top management of the acquiring and acquired firm can increase or reduce post-acquisition performance (Zarb & Noth, 2012). Managerial resistance can take a variety of forms such as exit, voice and loyalty. As Harrison, et al., (2000) stated, in the post-acquisition period, the various behaviours that managers and other key performers may adopt can positively or negatively influence the acquisition outcome. They define exit behaviour as a voluntary or involuntary exit from the firm, voice behaviour as the internal contribution to support or resist the firm, and loyalty behaviour as a dedication to the new management. This resistance is more likely in related than unrelated corporate acquisitions (Holl & Kyriazis , 1997).

Lack of supply chain validation can also be one of the key reasons for supply chain disruption in the post-acquisition process (Li, et al., 2005; Harwood & Chapman, 2009). In order to fully benefit from a corporate acquisition, a validation of the entire network across both parties will be essential, taking into account different variables such as functions, management team, processes and service levels, facility locations, IT infrastructure, supplier base, transportation costs, and store associate capabilities. This validation will help executives to answer a key question related to the target firm's supply chain, what network strategy will best serve the new firm? They can pursue the most suitable strategy such as the consolidation of the two, expansion, or a fresh start. As discussed, different factors such as the transportation, systems and process implications of each option need to be taken into consideration. This can be considered as a detailed mapping that accelerates identifying overlaps in the network and opening the door to potential coverage changes to lower overhead. However, it is worthwhile to point out that, the ultimate objective of these supply chain analyses is to ensure that the M&A generates synergies and creates value.

2.18. The Acquired Firm's Strategies to Manage Supply Chain Disruption Risks

As discussed, the corporate acquisition strategy makes the supply chain network of firms very complex and dynamic. Therefore, the acquired firm requires the best possible plan that needs to be updated to incorporate changes after post-acquisition in order to generate a better outcome. According to Paul et al., (2017) "in real-world supply chain system, the plan should be revised if there are any changes in data and/or if any future changes that can be predicted in advance" (p. 881). Although, in post-acquisition, some changes in data may not be known well in advance, but can instead be detected using appropriate prediction tools such as the fuzzy inference system (FIS), which can be used to predict future changes in demand and to develop a revised plan in advance. Such predictions in mentioned three main parts of the supply chain network will aid to generate a better supply chain plan and reduce the risk of disruption.

As supply chain performance is inherently unpredictable and often a chaotic undertaking for firms (Gaonkar & Viswanadham, 2004), this instability can be increased in the course of a corporate acquisition. Operational and supply chain practitioners often must seek safety mechanisms to protect against unforeseen events. Therefore, the decisions on production and supply chain network design become increasingly important for the acquired firm to benefit from a corporate acquisition fully. While risk has always been present in the process of firms' supply chains; there are a number of factors, which can emerge during a change in the ownership and control of resources in post-acquisition. SCRM needs corresponding institutes of risk management. In the course of post-acquisition, SCRM requires a multi-functional, dynamic, and flexible team established on the basis of the repeatability and continuity of risk management. This team needs continuous support and the participation of top managers of firms (Ma & Nie, 2009). In addition, supply chain risk managers should be not only familiar with the activities and processes of the supply chain, but also familiar with potential risks associated with post-acquisition processes.

Coinciding with this surge of interest in acquisition corporate strategy and supply chain disruptions there has been significant growth in studies applying different research methodologies and analytical tools in the past few years in order to understand both phenomena and their managerial implications. Revilla and Saenz (2014) conducted empirical research based on a sample of more than 1400 organisations representing 69 countries all over the world to examine the universality of the management applicability in the supply chain disruption context. Surprisingly, their findings reveal that while risk sources are diverse in the various nations, the implementation of supply chain disruption management practices is universal. Perez-Franco et al., (2016) state that the changes to the business environment and business unit's strategy must necessitate the change of its supply chain strategy and the current literature does not provide a clear answer about how to change.

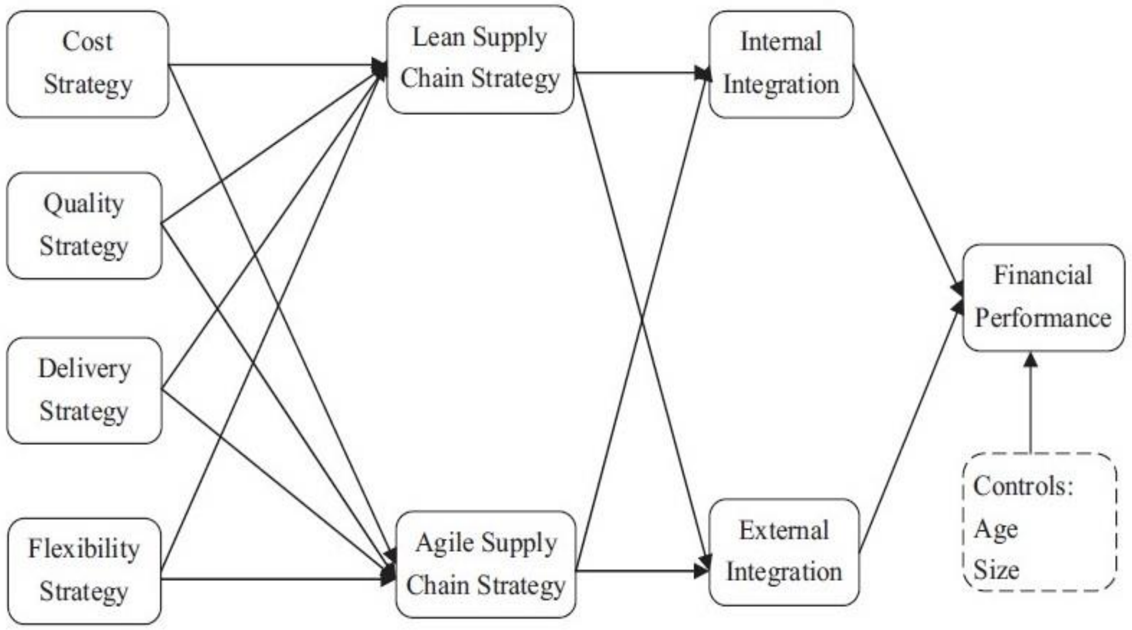
With the increasing importance of M&As and SCM, supply chain strategies should play important roles in defining firms' integrated operations strategies. From a strategic SCM perspective, the design and operation of a supply chain should be aligned with the organisational missions and strategies, (Qi, et al., 2011) and supply chain strategies work as a logical bridge between the organisational higher-level strategy and the firm's supply chain activities (Perez-Franco, et al., 2016). Many studies have investigated the importance of supply chain strategies and supply chain integration practices for the effectiveness of SCM (Qi, et al., 2017). Qi et al., (2011) state that a supply chain strategy describes how a company can gain competitive advantages through its supply chain resources and capabilities, such as cost efficiency, flexibility, and response speed.

In fact, supply chain integration can be considered as organisational capabilities (Huo, 2012) and the vision of supply chains defined by supply chain strategies can facilitate companies in developing process coordination, communication, and joint planning among functions and external supply chain partners (Qi, et al., 2017). Prior literature has traditionally classified supply chain strategies into two generic categories: lean and agile (Yusuf & Adeleye, 2002; Bruce, et al., 2004; Sukwadi, et al., 2013; Birhanu, et al., 2014). While a lean supply chain strategy efficiently streamlines the whole supply chain, the focus of an agile supply chain strategy is on the reconfiguration of a supply chain in response to dynamic and uncertain environments (Naylor, et al., 1999).

Hendricks and Singhal (2005b) mention responsiveness, efficiency, and reliability as the key drivers for supply chain performance and profitability. The acquired firms' supply chains should be able to respond quickly to internal changes and risks arising from acquisition events to maintain their performance and profitability as well as keeping their businesses efficient and dynamic. Tang and Tomlin (2008) state that disruption risks can be mitigated by flexibility. Flexibility is a key term in the supply chain that is often used in conjunction with firms that need to cope with uncertainty (Kim, 2013). Iakovou et al., (2010) argue that resource flexibility can be advantageous for organisations that are susceptible to various modes of disruption. Sheffi and Rice (2005) and Zhu et al., (2016a) state that hedging against disruption risk needs supply chains to maintain the ability to recover from disruptions. Researchers emphasise that such resilience can be built into supply chains through flexibility, adaptability, and redundancy (Zsidisin & Wagner, 2010; Mari, et al., 2014; Lee & Rha, 2016). Aqlan and Lam (2015) state that modern supply chains have to be resilient to unexpected catastrophic events. This brings an increasing emphasis on a deep understanding of supply chain risks and how to manage them.

Qi et al., (2017) developed a comprehensive model that facilitates an understanding of relationships among operation strategies, supply chain strategies, supply chain integration, and firm performance. As we can see from Figure 2.5, they analysed the agile and lean supply chain strategies to show how they can influence the firm's performance. They empirically examined these relationships based on data collected from 604 Chinese manufacturers. They found that both lean and agile supply chain strategies require higher levels of supply chain integration in terms of internal and external integration, but lean supply chain strategies are associated with a significantly higher impact on external integration than agile supply chain strategies.

Figure 2.5: Relationships Among Supply Chain Strategies, Supply Chain Integration, and Firm Performance



Source: Qi et al., (2017) - The impact of operations and supply chain strategies on integration and performance

The principles of lean thinking or lean supply chain strategy are to improve the flow of services, goods, and technologies from suppliers to customers without creating waste whilst ensuring customer value is delivered (Harrison, et al., 2014; Jasti & Kodali, 2015). Minimising waste in lean thinking is a broad concept as different types of waste have been considered in this strategy. Harrison et al., (2014) define seven types of waste related to lean thinking including the waste of overproduction, the waste of waiting, the waste of transporting, the waste of inappropriate processing, the waste of unnecessary inventory, the waste of unnecessary motions, and the waste of defects. This means the key to lean supply chain strategy is to reduce cost by minimising these waste (Qi, et al., 2017). Therefore, it is vital for leanness in post-acquisition to organise a highly efficient and integrated production and logistics process through which firms can boost productivity and reduce process-related costs to produce high-quality and volume products. The acquired firm needs to implement appropriate strategies in order to minimise the supply chain disruption risks in all three areas (supply-side, production process, and demand-side). For example, in order to minimise losses caused by the supply side (e.g. the shortage of material supplies), customer-focused firms apply different disruption management strategies, such as buying from an alternate supplier, maintaining inventory, or helping a primary supplier recover more quickly (Sawik, 2017).

The agile supply chain strategy is essentially about organising logistics capabilities around changing end-customer demands (Harrison, et al., 2014). The main principle is about being agile in response to rapidly changing and unpredictable markets, customers' requirements for customisation and choice, the rapid rates of technological innovation, shorter lifecycles, competitive priorities of responsiveness, concern for the environment and international competitiveness (Lysons & Farrington, 2012). "The ability to be agile can be a powerful competitive weapon for the firm" (Brown, et al., 2013, p. 88). This strategy emphasises market sensitivity and rapid response to the customer (Qi, et al., 2017). Advanced information technology and systems, as well as process coordination among different functions, are essential in agile supply chain strategy (Roh, et al., 2014). This strategy pushes all internal functions to work together to meet changing customer requirements and enable firms in the formation of teams to effectively resolve problems, conflicts, and mistakes (Qrunfleh & Tarafdar, 2014).

Both lean and agile supply chain strategies require firms to manage their inventories carefully to lower cost while simultaneously delivering customer service (Hines, 2013). Kamalahmadi and Parast (2017) emphasise three types of redundancy practices/strategies, including pre-positioning inventory, backup suppliers, and protected suppliers from improving supply chain responsiveness against supply-side disruptions. In pre-positioning inventory strategy, by increasing inventory or emergency supplies (also called operational slack) the supplier disruption risks can be reduced. Although this strategy can ensure production continuity by reducing supply disruption risks, excess inventory is costly and can reduce quality and profitability. In backup suppliers strategy, multiple suppliers will be used when the primary supplier is disrupted. In other words, this will be a multi-sourcing strategy that ensures the flow of required material is maintained if disruption happens in other sources. In protecting suppliers strategy, the buying firm provides different supports to its suppliers in order to strengthen their reliability and resiliency and protect them against disruptions in turbulent environments (Sawik, 2013b).

2.19. The Acquired Firm's Supply Chain Performance in Post-acquisition

Slack et al., (2006) define SCM as the management of relationships and flows between operations and processes. They state SCM refers to a string of operations or processes. In the supply chain literature, these two terms are often used interchangeably, and many of the principles of managing external supply chains (flow between operations) are also applicable to internal supply chains (flow between processes). Scholars have viewed the corporate acquisition as a means for firms to access and deploy capabilities and resources or create value by improving the performance through merging or acquiring the new firm (Puranam, et al., 2009; Berchicci, et al., 2012; Das & Kapil, 2012; Kaul & Wu, 2016). A number of empirical and theoretical studies have focused on what is the appropriate manner of evaluating and measuring the acquisition performance regarding different success factors (Burt & Limmack, 2003; Zollo & Meier, 2008; Vaara, et al., 2014).

Prior studies have mixed findings on the target company's supply chain performance in post-acquisition. Although firms go for acquisition with high expectations in improving performance, there is conflicting evidence of a positive impact of acquisitions (Liu, et al., 2007; Kumar & Bansal, 2008; Siegel & Simons, 2010; Reddy, et al., 2019), leading to poorer post-acquisition performance (Krishnan, et al., 2007). The compulsory operational changes hurt the performance of the firm once it is acquired (Kiessling, et al., 2008). Research by Tsagkanos (2010) shows that acquisitions (both vertical and horizontal) tend to be value-reducing rather than value-enhancing or value-neutral. However, some research has found the opposite effect. Research by Altunbas and Marques (2008) shows, on average, European Union banks had improved in their performance in post-acquisition. Siegel and Simons (2010) conducted an empirical analysis with a focus on firm-level financial performance to evaluate the relationship between M&As and organisational performance. Their findings show the target company's performance does not decline in the aftermath of the ownership change. Bebenroth and Hemmert (2015) studied target firms' post-acquisition business performance in Japan and Korea. Their results indicate that, on average, the business performance of Japanese and Korean acquired companies does not deteriorate after the acquisition.

2.20. Conclusion

As discussed, the acquired firms' supply chains in post-acquisition are associated with different challenges, uncertainties, and complexities, which bring the importance of formulating and implementing an effective disruption risk management plan to meet the demands of supply chain uncertainty and to enable the M&A management team to carry out appropriate business decision-making. Based on this review of the existing literature in corporate acquisition and supply chain management it appears that scholars have considered different risk factors that can have the potential for disruption of the acquired firm's supply chain system. In general, there are three main domains of risks including supply risks, production process risks, and demand risks, which has been largely applied by researchers such as Sheffi (2007), and Habermann et al., (2015) in the SCM field.

The observation of the post-acquisition integration process and a review of existing literature shows that SCDRM context in the corporate acquisition strategy is a relatively unexplored area in either strategic management or SCM research. Although more and more firms speed up the pace of business development and growth through the implementation of corporate acquisitions and SCM, many cases of acquisition failure indicate that extracting synergy from supply chain integration is the key issue. In the post-acquisition context, combining and standardising the supply chains of two firms, including financial, purchasing, processing, warehouse, and shipping systems are challenging tasks for managers. Increasing risks and uncertainties in post-acquisition can significantly affect the post-acquisition outcomes and performance. The issue is important, for both general/supply chain managers, who must understand the supply chain disruption risks associated with post-acquisition and their impact on corporate acquisition performance, as well as M&A managers, who make and implement decisions in the post-acquisition process.

Chapter 3: Theoretical Framework

3.1. Introduction

This chapter presents the theoretical framework that has been based on the literature review presented in the last chapter. The theoretical framework will be a road map for the researcher to achieve three main research objectives and answer research questions. The conducted literature review of this research in the last chapter investigated acquisition processes and transactions from strategic management and SCM perspectives. It provided a critique of the high failure rate of corporate acquisitions in the real-life business environment (Epstein, 2004; Homburg & Bucerius, 2006; Weber, et al., 2011; Chen & Wang, 2014; Lu, 2014; Rozen-Bakher, 2018; Razi & Garrick, 2019), which are often rooted in the strategic fit between the supply chains of two firms (Stonebraker & Liao, 2006; Huo, et al., 2014; Manikas & Jaswal, 2015). A corporate acquisition transaction can lead either to growth and improved performance of the acquired firm's supply chain or disruption of its supply chain. Managing different risk factors associated with corporate acquisition activities such as internal risk factors (e.g. lack of synergies, human resource, and organisational culture) are critical during the first year of post-acquisition period (Collins, et al., 2009; Yildiz & Fey, 2010; Meglio & Risberg, 2010; Durand, 2016).

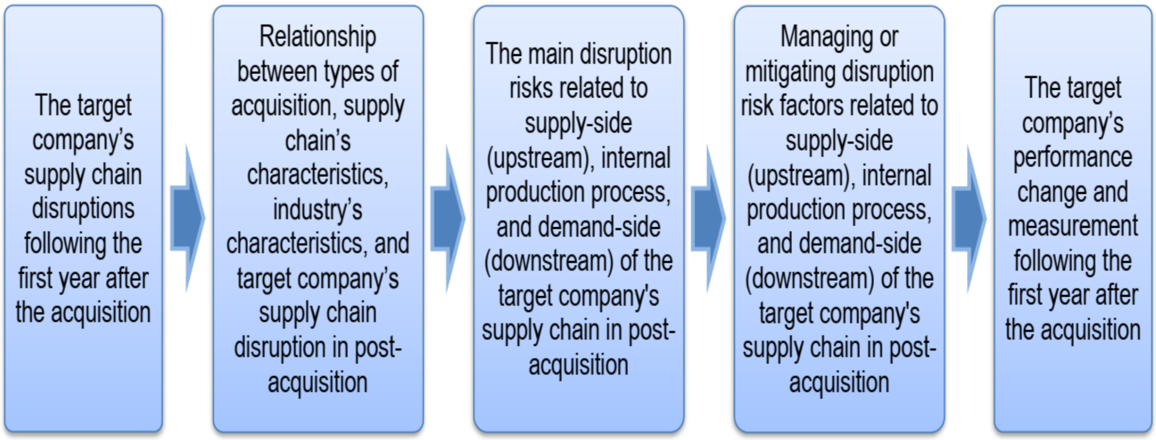
As the objectives stated for this thesis are to formulate and manage the acquired firm's supply chain disruption risks in the first year after closing acquisition, and implementing SCRM approaches to mitigate such risks and increase corporate acquisition performance, this chapter explains the theoretical framework of the research that lays the basis for exploring SCDRM and DCs in relation to corporate acquisition performance. This chapter contains three main sections. It begins with a discussion of the theoretical approach of this research study. It provides the theoretical background in which the relevance of different supply chain risks to post-acquisition performances is analysed. Specifically, it explains DCT and how this theory can be applied to SCRM in a post-acquisition context. It discusses two prior studies that applied DCT to create and capture value in the acquisition process and explains how the theoretical framework of the current study is different from those. Then, it presents the theoretical framework of this research.

Based on the theoretical discussion and practical experiments by other scholars in both SCM and M&A fields, a multi-theoretical model is presented, which enables the conceptualisation and later empirical assessment of the supply chain disruption risks associated with the first year after closing acquisition and SCRM practices to increase overall acquisition performance. The research objectives, questions, categories, and problem statement guiding this study are outlined in light of this multi-theoretical model. It provides a well-supported rationale to conduct this study and illustrates how the selected theoretical perspectives can address research questions specific to this thesis. Finally, all components of the model will be discussed in more detail. The chapter finishes with a summary.

3.2. The Research Structure

In the first chapter, the different dimensions of this research project have been explained. In specific, the research aims and objectives, as well as three research questions, have been identified and described to provide a baseline for this research project. Based on a critical review of both corporate strategy and SCM literature, this research project has been designed to respond to the call to assess supply chain disruption risks in post-acquisition and practical strategies to manage post-acquisition integration risks, with the aim of mitigating the high failure rate of corporate acquisition deals in the global context. Figure 3.1 shows the structure of this study, which is consistent with the research questions and objectives. The skeleton of research has been built on this structure, and all nine categories embedded in the research structure.

Figure 3.1: The Research Structure



Source: Designed by the Researcher

3.3. Theoretical Approach

Theories are very useful tools that help researchers to accomplish important objectives and outcomes in an academic field of study (Miles, 2012). Hambrick (2007) states that theories help us in different ways. First, to organise our ideas and thoughts about the world. Second, to generate, analyse, and explain relationships and interrelationships among people, groups, and organisations. Third, to improve our predictions and expectations about individuals, groups, and companies. Finally, to achieve a better understanding of the world. The theory is the most fundamental building block in scholarly research (Miles, 2012; Cole & Kelly, 2015). In this research project, the theoretical focus is on the ***dynamic capabilities*** (DCs) of the firm to identify the supply chain disruption factors following the first year after acquisition and the SCRM that affects the acquired firm's supply chain operation and leads the organisation towards a successfully integrated network. The researcher explored a wide range of related theories to analyse different key factors in post-acquisition and to achieve a better understanding of supply chain disruption risks associated with the first year after closing acquisition. In specific, looking to the literature review, the researcher considered the following theories as they have been widely used by other researchers in both SCM and M&A fields and are related to the nature of this research project in some ways.

Resource-Based Theory – this theory which has been widely applied in both strategic management and SCM research, examines performance differences of firms based on their resources. Based on this theory, organisational resources, which contain any tangible or intangible assets that are semi-permanently tied to the company can help it to compete better and to achieve its strategic objectives (Miles, 2012). This theory has been criticized for not paying enough attention to managerial implications, organisational situations (Priem & Butler, 2001), and where organisations obtain their resources (Barney & Clark, 2007). These weaknesses have been considered in this research, as it is clear that acquisition significantly influences the target company's situation and resources. Also, the resource-based theory has no attention to how different resources contribute in different ways to a company's sustainable competitive advantage (Kraaijenbrink, et al., 2010). As explained, one of the key motivation of corporate acquisition is to achieve sustainable competitive advantage. DCT is an extension of the resource-based theory (Warner & Fairbank, 2008). It considers the dynamic capabilities of organisations to respond to environmental changes and create and sustain a competitive advantage (Teece, 2007).

Contingency Theory – this theory which has been widely applied in SCRM research (Trkman & McCormack, 2009; Flynn, et al., 2010; Park, et al., 2016), suggests that optimal actions and decisions are dependent on internal and external factors. It indicates that uncertainty plays a crucial role in organisational performance and firm's risk mitigation actions (Park, et al., 2016). From a theoretical lens of contingency theory, there are no one best way to design an organisation and no method that can be applied in all instances (Lu, et al., 2018). Contingency theory is linked to the theory of manufacturing strategy and proposes that the most appropriate approach to management strategy in a specific context is depending on a set of 'contingency' factors (Wagner & Bode, 2008; Simangunsong, et al., 2012). Essentially, it posits that companies should adopt processes and structures to attain fit with the environment to achieve superior performance (Donaldson, 2001). Therefore, managers must analyse the business environment carefully and take into account internal organisation characteristics and adapt practices (Volberda, et al., 2012). Although contingency theory can be considered as a useful theoretical lens to view operations management issues (Sousa & Voss, 2008), it is basically complex and reactive in nature.

The Theory of Constraints (TOC) – this theory is a well-known concept in SCM. Theory of constraints (TOC) that more usually known as optimised production technology (OPT) rests on the belief that the system as a whole should work (Christopher & Holweg, 2011). The TOC, like contingency theory, states that there is no best way to organise. The control systems and organisational structures adopted for a particular company and for functions or groups of activities within the firm depend on or are contingent on the external environment in which the company operates (Lysons & Farrington, 2012). "According to the TOC, a system's output is determined by three kinds of constraints: internal resource constraint, market constraint, and policy constraint" (Reid & Sanders, 2011, p. 573). The TOC emphasises on improving system performance (financially and operationally) by focusing on constraints. It is a tool for managing controllable uncertainties for improving production efficiencies (Goldratt & Cox, 1992).

Slack et al., (2016) state that the TOC is an alternative planning and control method to lean synchronization. A central idea of the lean supply chain is the smooth flow of items through operations, processes and supply networks. Any bottleneck can disrupt this smooth progress. Therefore, it is important to pay attention to bottleneck parts and recognise the significance of capacity constraints to the planning and control process. Lean synchronization offers improvement by eliminating waste and adding value by considering the entire operation, process or supply network, while the TOC is focusing on the constraints (the 'weakest links') in the process to improve performance. The TOC has been widely used in the SCM. Simatupang et al., (2004) applied the TOC approach to investigate constraints in collaborative supply chain and to overcome difficulties in releasing potential benefits of supply chain collaboration. The TOC, as a formal operations management theory, can help managers to analyse their business and identify possible weaknesses that might be causing their organisations to perform below optimum levels. A key process in the TOC is the identification of constraints that reduce performance. In the post-acquisition, a major challenge will be how to identify constraints. This theory lacks consideration of variable factors. For example, such demand constraints for a product might vary independently from any action taken through the implementation of the theory. The target company may face a temporary constraint in product demand because of the integration process, market dynamics, or buyers' uncertainty due to ownership change.

3.3.1. Dynamic Capabilities Theory (DCT)

The concept of DCs was introduced by University of Berkeley economist David Teece (Teece, et al., 1997; Teece, 2007), and he describes it as a company's ability to renew and recreate its strategic capabilities (capabilities that are necessary for efficient operations) to meet the needs of changing environments. Table 3.1 shows different components of strategic organisational capabilities. All these strategic capabilities have elements of both resources (e.g. financial and human resources) and competences (e.g. organisational flexibility and networks).

Table 3.1: Components of Strategic Organisational Capabilities

Strategic capability		
Resources: what we have (nouns), e.g.		**Competences: what we do well (verbs), e.g.**
Machines, buildings, raw materials, products, patents, databases, computer systems	Physical	Ways of achieving utilisation of plant, efficiency, productivity, flexibility, marketing
Balance sheet, cash flow, suppliers of funds	Financial	Ability to raise funds and manage cash flows, debtors, creditors, etc.
Managers, employees, partners, suppliers, customers	Human	How people gain and use experience, skills, knowledge, build relationships, motivate others and innovate
Long-term survival and competitive advantage		

Source: Exploring Strategy (Johnson, et al., 2014)

As mentioned by Johnson et al., (2014), resources are certainly important for all organisations, but how they employ and deploy their resources matters too. The efficiency and effectiveness of human, physical, or financial resources in businesses, depend not just on their existence, but on the strategies, systems, and processes by which they are managed. It depends on managing the relationships between people, their cooperation, their adaptability and flexibility, their capacity to innovate, the relationship with suppliers and buyers, and the experience and learning about what works well and what does not. This will be more critical in post-acquisition, where the target companies are engaged in various changes and uncertainties. In addition, the fast-changing business environment in post-acquisition will make it difficult to manage such potential disruption risks effectively and maximise the probability of success in acquisition activities.

According to Winter (2003), capabilities are a collection of learned, patterned, repetitious, and high-level behaviours that enable a firm to perform better relative to its competition. Winter defines organisational capabilities as “zero-level” or “ordinary" capabilities, as they refer to how a company earns a living by ongoing sale of the same product, to the same customers, on the same scale, and DCs as “first-order” capabilities, as they refer to intentionally changing the product, the scale, the production process, or the markets served by a company. Therefore, a company has DCs when it can respond to its changing environment through integrating, building, and reconfiguring its internal and external firm-specific capabilities (Teece, 2007).

Johnson et al., (2014) argue that organisational capabilities should be changed and dynamic (not static) in order to be effective over time. They should be dynamic in order to create, modify, or extend an organisation’s existing operational capabilities. Teece (2007) suggests the following three generic types of DCs that are necessary to sustain superior enterprise performance in an open and fast-changing economy.

- ***Sensing*** - firms must constantly and consistently scan and explore opportunities across various technologies and markets. Investigating customer needs and R&D are typical sensing activities.
- ***Seizing*** - an opportunity must be seized and addressed through new services or products, activities, processes, etc. once it has been sensed.
- ***Reconfiguring*** - firms may require reconfiguration and renewal of their organisational capabilities and investments in manufacturing, technologies, markets, etc. to seize an opportunity. They must discard some of their old capabilities, build and acquire new ones and recombine them.

This view of DCT relates directly to the research topic and framework for this thesis. For example, strategic planning is a typical example of a dynamic capability (Johnson, et al., 2014). In a corporate acquisition, both post-integration strategic planning or SCRM involve activities that can sense and seize corporate acquisition opportunities, risks, and are intended to reconfigure capabilities. Specifically, sensing capabilities are essentially about evaluating and understanding the target company's strategic position; seizing opportunities relates to making strategic choices and solving complex integration issues, and reconfiguration means enacting strategies to reduce supply chain disruption risks, unlock potentials, and enhance the acquisition performance.

DCT of the firm, has been widely used by scholars in both the strategic management field (Teece, et al., 1997; Teece, 2007; Ambrosini & Bowman, 2009; Vogel & Güttel, 2013; Sardana, et al., 2016; Barqawi, et al., 2016; McAdam, et al., 2017; Cirjevskis, 2019; Haapanen, et al., 2019) and the SCM field (Rajaguru & Matanda, 2013; Masteika & Cepinskis, 2015; Eckstein, et al., 2015; Kirci & Seifert, 2015; Chowdhury & Quaddus, 2017; McAdam, et al., 2017; Aslam, et al., 2018) to examine how organisations integrate, shape, and reconfigure their DCs (internal and external firm-specific competencies) to create and sustain a competitive advantage over rivals and to develop new competencies that match the turbulent environment. For example, DCT has been used to explain how and why organisations adapt successfully to changes in their environments (Nair, et al., 2014), to understand to what extent cross-functional relationships determine the success or failure of an acquisition (Haapanen, et al., 2019), or to investigate how compatibility between supply chain partners' cultural and operational values, as well as technological systems, enhances supply chain process integration (Rajaguru & Matanda, 2019).

DCT emphasises the role of integrating the organisational resources and capabilities in order to gain distinctive competencies and sustained high performance. Based on DCT, acquisitions can be viewed as strategic actions or a source of competitive advantage that help organisations acquire and reconfigure their resources and capabilities to keep pace with environmental changes (Eisenhardt & Martin, 2000; Warner & Fairbank, 2008; Cirjevskis, 2019). DCT is an extension of the resource-based view (RBV) of the organisation (Warner & Fairbank, 2008). Miles (2012) states that the key focus of both theories is on performance differences across firms. RBV theory makes two main assumptions. First, companies within an industry may differ in their resources and capabilities, and second, these resources and capabilities may not be perfectly mobile across companies, so organisational differences in competencies can be very long-lasting. Both theories suggest that through the joint development of DCs and such resources and capabilities, firms involved in an acquisition can achieve a sustained competitive advantage and effectively respond to their changing business environment (Krug & Aguilera, 2005; Huo, 2012; Krug, et al., 2014; Haapanen, et al., 2019). Therefore, they offer useful frameworks for discussion of the management and redeployment of resources and capabilities in organisations post-acquisition (Warner & Fairbank, 2008; Sinkovics, et al., 2015; Cirjevskis, 2019). Resources and capabilities that are transferred to the acquired firm and are appropriately aligned with the acquiring firm's existing capabilities are crucial for boosting supply chain integration outcomes.

As highlighted by Zapata-Cantu et al., (2016), empirical evidence supports that successful organisations consider the DCs perspective as a basis and support for their continuous improvement. This theoretical perspective considers DCs as the firm's ability to execute a strategic plan, such as corporate acquisition successfully, and to respond faster to environmental changes through DCs. As will be reflected later in the next chapter, this research study will consider the entire supply chain disruption risk factors of the target company in post-acquisition operating in multiple industries. Therefore, this research project will be a cross-operational and cross-industry approach to analysing and managing the disruption risk factors in post-acquisition. In this thesis, DCT has been used to explain how some target company's DCs in post-acquisition reduce supply chain disruption risks and facilitate supply chain capabilities and acquisition performance in the short-term. Employing DCT, the researcher has developed a theoretical framework linking the elements of the likelihood of supply chain disruption, the supply chain disruption risks, and the managing of supply chain disruption risks in post-acquisition.

3.3.2. Why Apply Dynamic Capabilities Theory (DCT) in this Research?

The existing literature discusses a number of challenges and risks faced by firms during their corporate acquisition activities. Still, there is a lack of SCM practices to cope effectively with this complex, risky, and multidimensional phenomena. Supply chain risk factors, which are the focus of this thesis, play critical roles in the success or failure of a corporate acquisition strategy (Chen & Lin, 2009; Comez-Dolgan & Tanyeri, 2015). Lysons and Farrington (2012) state that supply chains are vulnerable to both internal and external risks. They argue that corporate acquisitions may reduce supply chain availability, and the purchasing strategy will be inevitably impacted by acquisition within the new supply chain network. Thus, this research aims to understand supply chain disruption risks associated with post-acquisition and their influences on corporate acquisition performance, as well as SCRM strategies and practices to mitigate such disruption risks.

It is believed that firms on the path of corporate acquisition transactions could benefit significantly from formulating and implementing SCRM approaches (Kalpic, 2008;

Andreou, et al., 2012; Chang, 2015), customised to fit the unique internal business-environment of the combined firms' supply chains to manage and mitigate different risk factors associated with post-acquisition. In other words, renew and recreate their strategic capabilities to meet the needs of changing business environments in post-acquisition. According to DCT, a firm systematically generates and modifies its way of doing things through its DCs (learned and stable patterns of behaviour) to become more effective (Zollo & Winter, 2002; Macher & Mowery, 2009). Applying this theory will help the researcher to explain post-acquisition phenomena and its patterns. Specifically, DCs here refers to the target firm's ability to integrate its supply chain with the acquiring company's supply chain, to build and reconfigure internal and external resources to address post-acquisition issues and shape rapidly changing business environments. This will help target companies to create and capture value resulting from DCs associated with acquisitions by managing complexities and risks, building competencies, and unlocking acquisition potential.

DCT for this research project implies that supply chain disruption risks can be analysed from three perspectives: the inbound material/information flow from the supplier (supply-side), the internal production processes, and the outbound material/service flow to the customer (demand-side) as disruption can occur in any of these domains, as they are an interconnected part of the supply chain integration process. DCT aims to understand how firms use DCs to create and sustain a competitive advantage by effectively responding to environmental changes (Teece, 2007). The present research study attempts to address supply chain disruption risks by employing a DCs perspective as a lens for exploring the main opportunities and disruption factors following the first year after the acquisition and the major antecedents and consequences of supply chain agility in post-acquisition at both the strategic and operational levels.

It is important to mention that this academic research does not intend to identify and describe new theoretical problems or observations that will lead to the creation of new theories or to challenge the existing theory. This research will clarify and improve the existing theory. Applying this theory will help people, such as M&A managers and supply chain integration managers perform their jobs better. It will aid them to understand better, describe, predict, and control behaviour in organisations, leading to progress in achieving their mission, strategies, and objectives. Therefore, this theory examines some aspect of attitudes and behaviours of individuals and some aspects of entire organisations in the process of a corporate acquisition.

This theory also looks at some aspect of management factors. The term “management” can be defined here as the process that senior managers follow to accomplish the organisational vision, mission, strategies, and objectives related to a corporate acquisition. According to Miles (2012) managers through the use of people (human resources), things (physical resources), money (financial resources), and data (informational resources) try to accomplish missions, strategies, and objectives. Good managers accomplish desirable organisational outcomes, both efficiently and effectively. Efficient managers accomplish organisational outcomes with minimal waste of human, physical, and financial resources, making the best possible use of time, materials, money, and people. One of the goals of this thesis topic is to evaluate management performance in the process of post-acquisition integration. In particular, this study aims to define how managers can create and capture value resulting from DCs associated with acquisitions by managing complexities and risks, building competencies, and unlocking acquisition potential in the fast-changing business environment in post-acquisition.

The theoretical framework positions this piece of research as a unique and leading study among others conducted in the corporate acquisition context due to the fact that it is the first to discuss supply chain disruption risk factors of the acquired firm during the first year of the post-acquisition phase and to examine this through theoretical and empirical perspectives. Also, this thesis draws upon DCT of the firm organisation and explains how DCs resulting from a corporate acquisition can enable the target company to manage supply chain disruption risks in post-acquisition and increase acquisition performance. As mentioned in chapter one, to the researcher’s knowledge, this research is the first study to apply DCT to SCDRM in post-acquisition. There are a few studies that applied DCT in the M&A context, and two of them will be discussed in the next section and their key differences with the current study highlighted.

3.3.3. Applying Dynamic Capabilities Theory (DCT) in M&A Context

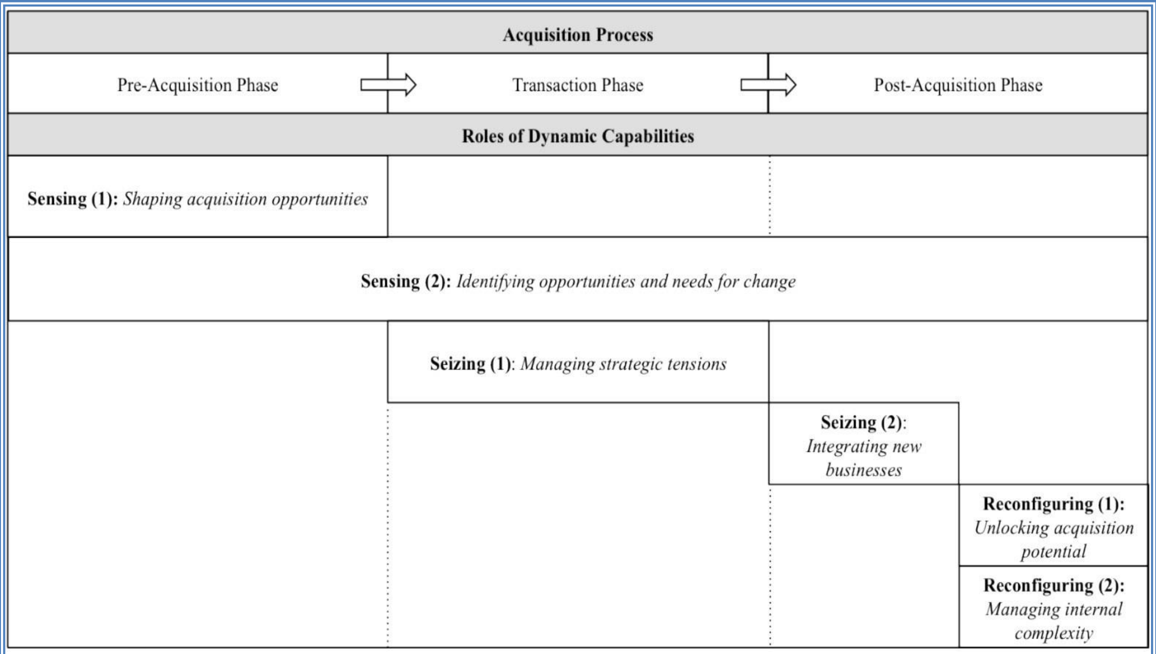
Before explaining the theoretical framework of this research, which draws on the DCT of the firm and nine categories, it is important to see how other researchers have used DCT in the M&A context. As mentioned in chapter one, to the researcher’s knowledge, this research is the first study to apply DCT to SCDRM in post-acquisition. Studies in the M&A literature, show that researchers have not fully considered the important role of supply chain integration and synergy in post-acquisition (Ma & Nie, 2009; Zhu, et al., 2016a). Also, only a few researchers such as Lowe (2015) and Berard Jr (2016) have applied DCT to assess the value creation in an acquisition process. Lowe (2015) and Berard Jr (2016) in their dissertations used DCT to explain the roles of DCs in the corporate acquisition process and suggested two frameworks to help firms to evaluate their existing resource capabilities in the area of acquisition. Their suggested frameworks have some limitations and differ from the framework underpinning this research, which is described in the following sub-sections. This strength the originality of this research and its contribution to existing knowledge. From a theoretical perspective, this study has sought to further the understanding of DCT in the M&A context and add new knowledge to the field of supply chain risk management in post-acquisition. Based on DCT, this study is structured by the building of a comprehensive theoretical framework that looks at the target company's supply chain disruption risks in post-acquisition and how by deploying DCs they can improve the acquisition performance.

3.3.3.1. Lowe's Framework

Lowe (2015) conducted an in-depth case study of an active acquirer to explore the roles of DCs in the acquisition process. The findings show that generic types of DCs, including sensing, seizing and reconfiguring capabilities, are important tasks in the case of corporate acquisition and enable firms to manage their ongoing acquisitive growth successfully. As we can see from figure 3.1, Lowe defines two important roles related to each generic type of DCs and a total of six key roles throughout the acquisition process. The two key roles of sensing capabilities associated with the pre-acquisition phase and transaction phase are shaping (attracting target companies and gathering information) and identifying acquisition opportunities (understanding changes and assessing their impacts). The two main roles of seizing capabilities associated with the transaction phase and the post-acquisition phase are managing strategic tensions (fostering relationships and prioritising different decision-making criteria) and integrating new business (achieving flexibility and enhancing the integration process). Finally, the two main roles of reconfiguring capabilities associated with the post-acquisition phase are unlocking acquisition potential (creating a culture of collegiality and facilitating the consolidation of practices) and managing internal complexity (matching acquisitive growth and realigning structures).

Lowe's studies and framework have some limitations. First, the research drew on a single case study of an acquiring company, which limits the generalisability of the findings. Second, the research only drew responses from middle managers and employees of the acquiring company's support office, which limits the representation of different perspectives on the effectiveness of DCs. Thirdly, the study drew on a single industry and market (the New Zealand dental industry). This study is different from the current study in several ways. For example, the focus of this study is on the acquired companies, not the acquiring companies. This study collects its data from senior managers and key decision-makers in multiple industries and markets. The current study considers DCs and DCT in the context of SCRM in post-acquisition, which is not discussed in Lowe's studies. Also, Lowe ignores the role of sensing activities during the post-acquisition phase and limits it to the pre-acquisition and transaction phases. Lowe does not provide a clear indication of the transaction phase time in an acquisition process.

Figure 3.2: The Roles of Dynamic Capabilities in the Acquisition Process

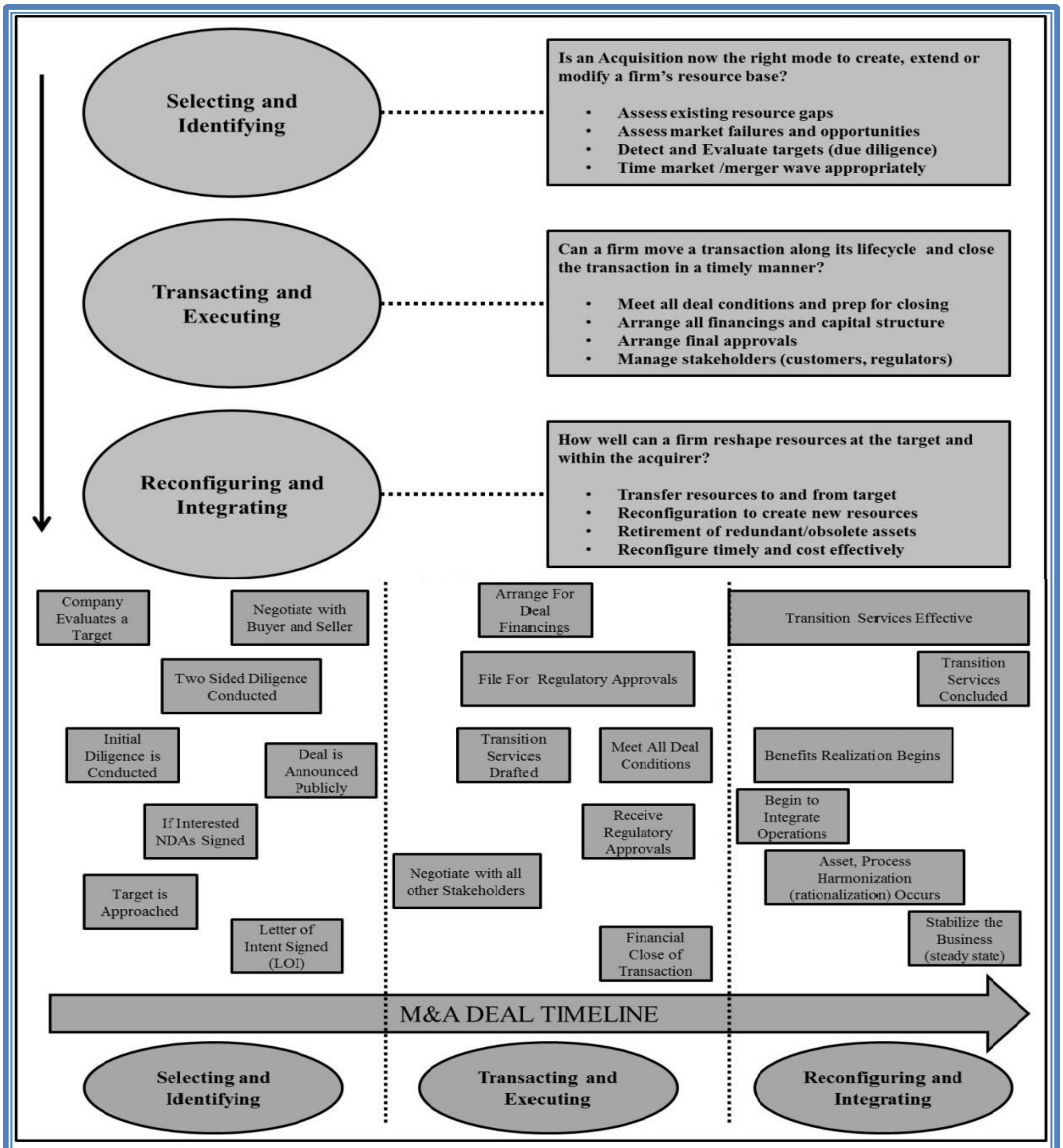


Source: Lowe (2015)

3.3.3.2. Berard Jr's Framework

Berard Jr (2016) studied 337 transactions within the energy industry to understand the most critical acquisition-based dynamic capabilities (ABDC) for enhancing value for energy firms engaged in M&A. As we can see from figure 3.2, Berard Jr divided acquisition-based dynamic capabilities into three main sections. The results suggest that despite many acquiring firms receiving some positive value accretion from the announcement and short-term post-acquisition returns, larger one-year post-acquisition reductions in value eclipse prior gains for most acquiring firms. The results validate the importance of reconfiguration and integration for the success of an acquisition.

Figure 3.3: Acquisition Based Dynamic Capability Applied to an M&A Transaction



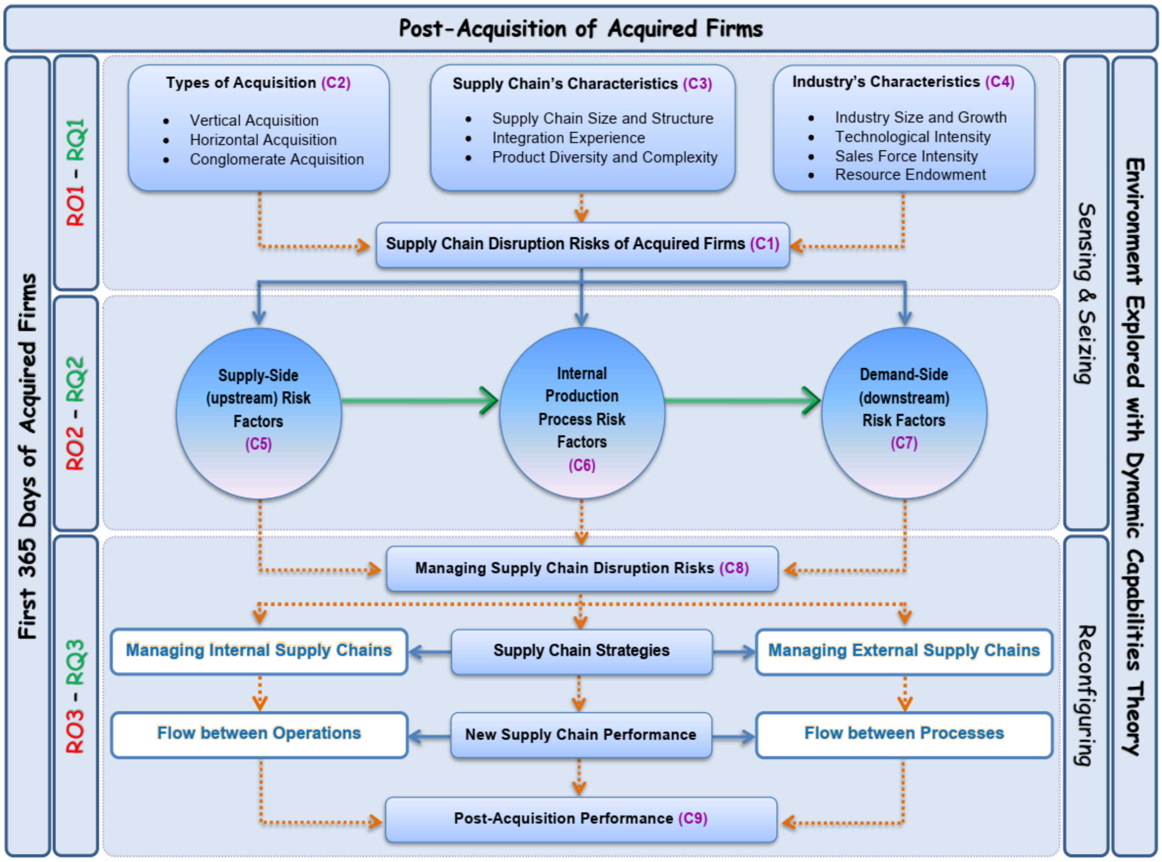
Source: Berard Jr (2016)

Berard Jr's studies and framework also have some limitations. First, the research drew on a quantitative analysis of M&A performance, which ignores human and organisational behaviours in the process of M&As. Second, the study relies heavily on the financial measurement of semi-strong measures such as cumulative abnormal return (CAR) and buy and hold abnormal returns (BHAR). It ignores other non-financial KPIs to measure M&A performance. Third, the study drew on the single energy industry. This study is different from the current study in different ways. For example, the focus of this study is on the acquired companies, not the acquiring companies. This study collects its data from senior managers and key decision-makers in multiple industries and markets. The data collection approach of this research is based on qualitative analysis that provides a richer understanding of the acquisition process. The current study considers DCs and DCT in the context of SCRM in post-acquisition, which is not discussed in Berard Jr's studies. Also, Berard Jr does not pay enough attention to other important variables such as human resources and culture in adapted ABCD, especially in executing, reconfiguring, and integrating activities.

3.4. The Theoretical Framework of Research

As indicated in the literature review chapter, theoretical and empirical research comprehensively assesses different dimensions of acquisitions structures and practices. The manner in which different risks (e.g., financial and operational) affect post-acquisition performance have individually received attention from scholars, given the critical roles of both internal and external risk factors on the success of a corporate acquisition strategy in the strategic phase post-close. The literature review signalled several areas related to internal risks associated with post-acquisition, which require further investigation. Furthermore, SCM and its application in post-acquisition have received surprisingly little attention. Following the review of theoretical perspectives on acquisition performance informing research in corporate strategy, the researcher has developed a detailed theoretical framework for the analysis of complex supply chain disruption risks associated with post-acquisition in response to the three main research objectives and three research questions stated for this study. Figure 3.3 shows the initial theoretical framework of this research, which will be updated based on the findings from the current study.

Figure 3.4: The Theoretical Framework of the Research



RO: Research Objective / RQ: Research Question / C: Categories

Source: Designed by the Researcher

As reflected in the framework, this research draws on the DCT of the firm and the following nine categories to define how DCs enable the target company to manage supply chain disruption risks effectively and to meet the needs of changing environments in the post-acquisition period. This theoretical framework has been developed based on three years of reviewing corporate acquisition and SCM literature. It links DCs and SCRM to the corporate acquisition process. Most importantly, it has been formulated to answer the research questions and meet the research objectives. Based on different components of the theoretical framework of the research, the researcher has developed nine categories, which are related to research questions. These categories are the main recipes and fundamentals of this research project. The formulation of these categories is in line with the stated disruptions/uncertainties/changes in the supply chain of the target company in the post-acquisition period. They start with exploring how generally a corporate acquisition is disruptive for the acquired company's supply chain/operation in post-acquisition and finish with identifying how those risks can be controlled or mitigated and boost target company's supply chain performance in post-acquisition.

- ***Category 1 (C1)***: *Corporate acquisition and the acquired company's supply chain/operation disruption* – this category explores how generally a corporate acquisition is disruptive for the acquired company's supply chain/operation in post-acquisition.

- ***Category 2 (C2)***: *Types of corporate acquisition and the acquired company's supply chain/operation disruption* – this category examines how different types of corporate acquisitions may cause varying levels of disruption to the acquired company's supply chain/operation in post-acquisition.
- ***Category 3 (C3)***: *Parties supply chains' characteristics, and the acquired company's supply chain/operation disruption* – this category explores how parties supply chains' characteristics may reduce or increase the acquired company's supply chain/operation disruption in post-acquisition.
- ***Category 4 (C4)***: *Industry's characteristics and the acquired company's supply chain/operation disruption* – this category explores how the acquired company's industry environment may influence its supply chain/operation disruption in post-acquisition.
- ***Category 5 (C5)***: *Supply-side (upstream) risk factors in post-acquisition* – this category explores supply-side (upstream) risk factors to the acquired company's supply chain/operation in post-acquisition.
- ***Category 6 (C6)***: *Internal production process risk factors in post-acquisition* – this category explores internal production process risk factors to the acquired company's supply chain/operation in post-acquisition.
- ***Category 7 (C7)***: *Demand-side (downstream) risk factors in post-acquisition* – this category explores demand-side (downstream) risk factors to the acquired company's supply chain/operation in post-acquisition.
- ***Category 8 (C8)***: *Managing supply chain disruption risks in post-acquisition* – this category explains how the supply chain disruption risk factors can be mitigated or handled by the acquired company during the first year of the ownership change.
- ***Category 9 (C9)***: *Target company's supply chain performance in post-acquisition* – this category measures the acquired company's supply chain performance in post-acquisition.

As we can see from figure 3.3, this research provides a novel theoretical framework that incorporates corporate acquisition and DCT and indicates how DCs affect elements of post-acquisition performance. The theoretical framework guides the categorisation of supply chain disruption risks associated with post-acquisition and supply chain risk management practices to increase the acquisition performance in multi-industry sectors presented in subsequent chapters. Supply chain risks are interrelated (Rajesh, et al., 2015), and have a direct impact on supply chain decisions and profits (He, 2017).

Furthermore, as will be reflected later in this chapter, SCRM perspectives have often been neglected in M&As context, overlooking features for corporate acquisition strategy success such as the strategic and organisational fit and execution of supply chains in the post-acquisition stage (Datta, 1991; Savovic, 2012; Dauber, 2012). This multi-theoretical model also considers three key categories of supply chain disruption risk factors in the critical post-acquisition phase of corporate acquisition activities and the interdependence of these risk factors in improving the chance of acquisition success. The model integrates corporate strategy perspectives in a post-acquisition context with SCRM practices and strategies. The proposed theoretical framework of managing supply chain disruption risks responds to recent calls for strategic management studies of operational risk factors associated with corporate acquisitions (Sufiana & Habibullah, 2013; Braguinsky, et al., 2015; Zhang & Stening, 2015) to increase overall acquisition performance and avoid the high failure rates of acquisition deals (Epstein, 2004; Homburg & Bucerius, 2006; Weber & Tarba, 2011; Lu, 2014).

Davis (1993) has suggested three main sources of supply chain uncertainty: supplier uncertainty arising from the degree of inconsistency, on-time performance, and average lateness; manufacturing uncertainty arising from supply chain performance, process performance, machine breakdown, etc.; and demand or customer uncertainty arising from irregular orders, forecasting errors, etc. The theoretical framework of this research project takes into account the three main pillars of this study, including supply chain production in post-acquisition, supply chain disruption risks in post-acquisition, and supply chain risk management in post-acquisition. These pillars are specifically related to seizing DCs as post-acquisition brings different opportunities in each of these pillars and must be seized and addressed through new services or products, activities, processes, etc. However, these opportunities are tied to different risks that need to be considered in post-acquisition. It is important to mention that these risks may not necessarily be inherently bad for the target company, as Grantham (2007) argues. She claims that accepting some risks is necessary for organisations to adjust and grow to current economic and culturally driven circumstances. The main goal of this diagram is to illustrate the structure and process of this research study in a graphic way. Therefore, the structures of 1) reviewed literature in the last chapter, 2) nine categories of this study, and 3) the next three chapters have been arranged based on the initial theoretical framework of this research.

3.5. Components of the Theoretical Framework: Analysis Under the Dynamic Capabilities Approach

This theoretical framework is driven by a set of research objectives, questions, and categories which are explained in this section, where the main elements of this research including DCs and SCRM are also synthesised to reflect how they contribute to meeting research objectives and answering the research questions. As mentioned, the DCT suggests three generic types of DCs that are necessary to sustain superior company performance in a fast-changing and open economy (Teece, 2007). This theoretical framework is grounded on nine related categories and three generic types of DCs. As demonstrated in the initial theoretical framework, the first four categories (C1, C2, C3, C4) are related to sensing DCs, three categories (C5, C6, C7) are related to seizing DCs, and the last two categories (C8, C9) are related to reconfiguring DCs. These categories will be explained in the following sections.

3.5.1. Sensing Dynamic Capabilities

This part of the theoretical framework is related to the first research question: "why do supply chains of acquired firms' may face a different level of production fluctuations or disruption risks following the first year after the acquisition?" Also, the researcher will achieve the first objective of this study, which is to examine to what extent the type of corporate acquisition strategy, the acquired firm's supply chain characteristics, and the industry's characteristics can change the likelihood of disruption to its supply chain. Therefore, the first four categories (C1, C2, C3, C4) into the areas of sensing DCs will be discussed in the following sub-sections.

3.5.1.1. Supply Chain Production in Post-Acquisitions

The first category will deal with the impact of a corporate acquisition on the acquired company's supply chain operation disruption in post-acquisition. The review of M&A literature uncovered a breadth of understanding of firms' supply chain challenges after an ownership change. The acquired firms may face a different level of production fluctuations or disruption risks following the first year after the acquisition (Bergh, 2001; Gioia & Thomsen, 2004; Karpaty, 2007; Damijan, et al., 2015; Marks, et al., 2017).

3.5.1.2. Type of Acquisitions

The second category will deal with the impact of the type of corporate acquisition on the acquired company's supply chain operation disruption in post-acquisition. As discussed in the literature review chapter, from a business structure perspective acquisitions are functionally classified into three different types. First, horizontal acquisitions, in which both firms operate and compete in the same industry and market (Chen & Findlay, 2003; Gupta, 2012). This type of acquisition is common in many industries such as banks, hotels, automotive, or oil (which formed monopolies), accounting for the majority of acquisition deals in the real-life business environment (Shahrur, 2005; Rahman & Lambkin, 2015). As noted by Ji and Chen (2012), although many companies accelerate the pace of business growth and development through the implementation of horizontal acquisition and supply chain management, many cases of acquisition failure show that how to achieve synergy from supply chain integration is the key issue. Research shows that although firms can gain a variety of benefits from horizontal takeovers such as decreasing input costs, increasing buyer power and innovation (Shahrur, 2005; Nagurney, 2010; Bhattacharyya & Nain, 2011; McCarthy & Aalbers, 2016), the problems of overlapping resources (Vu, et al., 2009) or disruptions in R&D (Colombo & Rabbiosi, 2014) are critical and need to be considered in post-acquisition.

The level of supply chain disruption can be less in horizontal takeovers as the supply chain networks of both the acquiring and acquired firms are involved in the production, storage, and distribution of homogeneous products to demanding markets. A horizontal acquisition changes the relationship dynamic between acquirer firms and acquired firms from competition into cooperation. In this situation, they share internal information and business secrets that increase the performance of the integrated supply chain. Some researchers challenge this interpretation, arguing that acquisitions may negatively influence the new supply chain performance. For example, Szucs (2014) evaluated the impact of M&A activity on the growth of R&D intensity and R&D spending of 265 acquiring firms and 133 target firms between 1990 and 2009. They found that target firms substantially decrease their R&D efforts after an M&A. According to Tsagkanos (2010) a horizontal acquisition is value-reducing in the short-term as it negatively impacts the productivity and efficiency of the acquired firms, but in the long-run shows a tendency for inversion.

Second, vertical acquisition, in which firms operate in different stages of the same industry and have a buyer-seller relationship (Gaughan, 2007; DePamphilis, 2012). In other words, vertical acquisition occurs when an upstream supplier (a forward vertical acquisition) or a downstream distributor (a backward vertical acquisition) acquires the other (Risberg, 2003; DePamphilis, 2012; Avinadav, et al., 2017). The main aim of vertical acquisitions is to control channels of distribution of raw materials and final products, providing an opportunity to decrease transaction costs significantly (Tsagkanos, 2010). In the case of forward/backward vertical acquisition, the new supply chain will be larger and more complex. Managing the new supply chain in this type of acquisition may be a more difficult task in post-acquisition, particularly in integrating intangible human resources (Ferraz & Hamaguchi, 2002). Tsagkanos (2010) examined the performance, efficiency, and productivity effects of vertical and horizontal acquisitions in the Greek manufacturing sector during the period 1995-2002. His findings show that both horizontal and vertical acquisitions cause negative effects on firms' efficiency.

Third, conglomerate or unrelated acquisition, in which two or more companies belong to different industrial sectors, combine their operations. In other words, in a conglomerate acquisition, firms do not operate in the same business sector at all (Risberg, 2003; DePamphilis, 2012; Thavikulwat, et al., 2013). The conglomerate organisational form affects the allocation and productivity of resources (Seru, 2014). An unrelated acquisition is associated with greater agency costs and operating inefficiencies that outweigh the diversification benefits (Doukas, et al., 2002). This is perhaps not surprising since the distinctive feature of conglomerate strategies is diversification in terms of combining organisations that operate in entirely different industries. In this paper, the researcher tackles the impacts of these three types of acquisition strategies following the first year of the ownership change but from the acquired company's supply chain network perspective.

3.5.1.3. Supply Chain's Characteristics

The third category will deal with the role of parties supply chains' characteristics in relation to the acquired company's supply chain operation disruption and performance in post-acquisition. This is another key factor that can influence supply chain production in post-acquisition - the characteristics of the acquired firm's supply chain network. In this section key parameters including supply chain size and structure, integration experience, and product diversity will be considered to answer to what extent these factors may influence the level of production or increase the disruption of a new supply chain following the first year after the acquisition. In both M&A literature and supply chain literature, the role of firms' size and organisational structure involved in acquisition or integration on productivity have been explored by researchers. For instance, Halkos et al., (2016) conducted an empirical study to evaluate technical efficiency gains from possible M&As in the Japanese regional banking sector. Their findings show that possible acquisitions formed by the smaller banks (which have less complexity in their supply chains) performed better compared with the possible acquisitions formed by larger banks (which have larger and complicated supply chains).

According to Manuj and Sahin (2011), supply chain structure and size refers to the number and types of connections and linkages. They outline numerous factors such as technology and process interfaces, number and type of interconnected facilities, transportation modes and shipping lanes, and the geographical dispersion of facilities related to the supply chain network structure and size that increase a supply chain's complexity and cost. Merkert and Morrell (2012) examined the relationship between organisational size and scale efficiency in M&As in aviation. They found that this corporate strategy is a ‘‘game-changer’’ and mandatory for the survival of airlines in aviation markets. Their findings show that there is a relationship between size and scale efficiency, as very small airlines and very big airlines are associated with substantial scale inefficiencies. They state that airlines with an optimal size can get the full benefit of acquisition in their operations. In contrast, Bertrand and Betschinger (2012) found that larger firm size reduces the negative impact of acquisitions, especially for domestic acquisitions. Specifically, firm size and age as organisational-level variables are related to supply chain integration (Villena, et al., 2009). The firm's size, structure, and its' position in the supply chain may influence levels of integration, the implementation of various SCM practices, and overall performance (Li, et al., 2005; Pearcy & Giunipero, 2008; Gimenez, et al., 2012).

Firms' supply chain integration experience will be important in post-acquisition. The firm's amount of integration experience (which may directly relate to the firm's age) and potential capability to manage the supply chain disruption risks in post-acquisition can influence the acquisition performance and increase the chances of successful partnerships (Zacharia, et al., 2011; Leuschner, et al., 2013; Hutzschenreuter, et al., 2014). Having learned from prior experience, firms are more likely to recognise issues and conflicts early on and resolve them. In other words, they will be able to improve the managing of integration processes for such collaborations and develop the competence to realise synergy following the supply chains' integration. In fact, the target company with no supply chain integration experience will be at risk of disruption. The literature on post-acquisition integration has provided considerable qualitative evidence that the newly acquired firms experience a greater sense of disruption and loss when they are integrated with the acquiring firms than when they are not (Zollo & Singh, 2004; Puranam, et al., 2006; Schweizer & Patzelt, 2012; Chen & Wang, 2014).

The type of product, its price and demand are the centres of the effectiveness of a supply chain and key factors to create synergy (Gupta, 2012). A key question for the decision-maker is: should the firm integrate its supply chain with the same product firm to increase its market share or with a different firm to expand its product profile and business area? The differences in the types of products and their distinct supply chain network contexts have direct impacts on the appropriate dimensions of supply chain integration activity and performance (Li, et al., 2005; Stonebraker & Liao, 2006). In the integration of the supply chains of two firms, products from different firms can share the same resources and networks, but exactly how much synergy such consolidation will yield is an answer that needs to be explored from the perspective of product characteristics (Gupta, 2012).

3.5.1.4. Industry's Characteristics

The fourth category will deal with the role of the industry's characteristics in relation to the acquired company's supply chain operation disruption and performance in post-acquisition. Firms' supply chain disruption risks vary widely because of the type of industry and the nature of their operating environments. According to Manuj and Sahin (2011) environmental conditions such as industry structure, competition, and technology changes surrounding a supply chain increase uncertainty and inability to predict future events, which consequently boosts supply chain complexity. Blackhurst et al., (2005) conducted an empirical study to analyse global sourcing and supply-chain disruptions in several industries. They identified many issues within the broad area of global sourcing, and supply chain disruptions need to be considered for disruption analysis and mitigation. For example, information sharing within the food industry makes a supply chain in the food processing industry more complex as it involves multiple interactions of supply chain participants in both the supply-side (such as manufacturers, farmers or producers, and multiple distributor channels) and the demand-side (customers) in a supply chain system (Matopoulos, et al., 2007; Kumar & Nigmatullin, 2011; Saleh & Roslin, 2015).

Bertrand and Betschinger (2012) empirically investigated the impact of domestic and cross-border acquisitions, initiated by Russian companies, on their operating performance. They examined how firm and industry level characteristics moderate the value-destroying effects of acquisitions. They found that both domestic and cross-border acquisitions destroy value and are performance-reducing. They state that the firm characteristics and industry context are destructive. For instance, acquisitions that take place in more concentrated industries that can help firms to raise their market power significantly are less value-reducing. Furthermore, technological changes within some industries force firms to apply new technologies, which means large firms may not be able to efficiently fight scale-based competition by leveraging such complementary resources as specific, proprietary and difficult-to-imitate business practices like innovative business-model concepts or state-of-the-art supply chain management models (Kalpic, 2008).

Other variables such as technology intensity, industry competition, and resource endowment are influential factors in supply chain performance in post-acquisition. Changes in the industry environment can prompt changes in organisational strategic direction (Nolas, 2008), M&As behaviour (Mudde, et al., 2014), supply chain risks (Stoneman & Kastrinaki, 2011), and supply chain operations (Gupta, 2012; Ji & Chen, 2012). In addition, as noted by Kalpic (2008), industries may show significant differences in their concentration at local, regional, or global levels, which call for variable approaches and strategies.

3.5.2. Seizing Dynamic Capabilities

This part of the theoretical framework is related to the second research question: "what are the potential supply chain disruption risks of acquired firms in the first year of the post-acquisition phase?" Also, the researcher will achieve the second objective of this study, which is to classify the potential supply chain disruption risk factors based on three main operational areas including supply-side (upstream), internal production process, and demand-side (downstream) and to investigate their impacts on the acquired firms' supply chain dynamic capabilities during the first year of the post-acquisition period. Therefore the second three categories (C5, C6, C7) concerning seizing DCs will be discussed in the following section.

This section deals with the supply chain disruption risks in post-acquisition. During the post-acquisition integration process, how to effectively manage and design the new supply chain network is an issue, and the acquired firm is exposed to the risk of supply chain disruptions – an indication of the acquired firm's inability to match demand and supply – as supply chain integration is an important means for achieving acquisition synergy (Chatterjee, 2007; Ji & Chen, 2012; Manikas & Jaswal, 2015). As discussed in the literature review chapter, researchers in the supply chain field have identified supply chain disruption factors and causes from different perspectives. This study, in particular, will assess supply chain disruption risks during the first year of the post-acquisition phase from three perspectives: the inbound material/information flow from the supplier (supply-side), the internal production processes, and the outbound material/service flow to the customer (demand-side) as disruption can occur in any of these domains (Habermann, et al., 2015). The corporate acquisition strategy can influence the DCs of the acquired firm. Teece et al., (1997) define the DCs as an ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.

Kato and Schoenberg (2014) state that changes in the customer-supplier relationship as a result of acquisition activity is of key importance for firms undertaking acquisitions. The findings of their empirical research show that post-acquisition integration processes can impact customer loyalty. They found that the underlying determinants of customer relationship quality and customer loyalty are most impacted during the post-acquisition integration period where the suppliers' service performance, flexibility, account management quality, customer orientation, employee turnover and product/service breadth can be affected. In this situation, suppliers or business partners may not remain loyal if their payment terms are not honoured in the immediate future due to the uncertainty of financial systems or a struggle for cash in the new entity (McGrath, 2011). Furthermore, potential customers and suppliers are less likely to sign lengthy contracts with the target firm during the period of post-acquisition integration activities (DePamphilis, 2012).

The categorisation in the second part of the theoretical framework has been largely applied by researchers such as Davis (1993), Sheffi (2007), Chen et al., (2013a), and Habermann et al., (2015) in the SCM field. For example, Habermann et al., (2015) divided supply chain disruption risks into three domains: supply side, internal process, and customer side. They state that disruption can occur at the inbound material flow from the supplier (supply side), the internal production processes, and the outbound material flow to the customer (customer side) locations. In this study, the researcher considers acquired supply chain uncertainty and disruption in the forms of supply, production process, and demand. Supply uncertainty includes indicators that represent the timeliness, quality, and inspection requirements of the suppliers. Operational process uncertainty includes the extent of operational and organisational changes evident within the new unit. Demand uncertainty includes fluctuations and variations in demand. Sawik (2016a) states that to realise the high performance of the supply chain, integrating these three key functions and jointly schedule them in a coordinated manner is critical and reduces the risk of supply chain disruption. In fact, a single supply chain disruption in any of these key domains can cause the collapse of the entire supply chain (Kern, et al., 2012).

3.5.2.1. Supply-Side Risks

The fifth category will deal with the supply-side (upstream) risk factors in post-acquisition. Supply risk can be defined as the distribution of outcomes related to adverse incidents in inbound supply that affect the ability of the purchasing firm to meet customer demand (in terms of both quality and quantity) within anticipated time and costs or causes threats to customer life and safety (Zsidisin, 2003; Wu, et al., 2006; Manuj & Mentzer, 2008). The supply-side or upstream of firms has become increasingly significant with regards to efforts to remain or to become competitive in recent years (Persson & Hakansson, 2007). The supplier relationships of the acquired firm are often majorly impacted in the course of an acquisition. In several cases, most of the acquired companies' supplier relationships have been intentionally broken and replaced in post-acquisition with those of the acquiring firm, in line with the acquirer firm's intention of rationalising the supply side. Therefore, in post-acquisition in most cases, this leads to subsequent changes in the structure of the target firm's supplier relationships that had not been anticipated (Bocconcelli, et al., 2007).

According to Brandon-Jones, et al., (2015) supply base complexity can increase the frequency of disruptions and reduce the organisation's performance. Supply base complexity - which is potential in post-acquisition - refers to upstream complexity in the supply chain, i.e., a large number of suppliers being actively managed by an enterprise; suppliers which are different in terms of size or technical competence; the broad geographic dispersion of the supply base as well as long and/or unreliable lead-times (Caridi, et al., 2010). One of the main objectives of a corporate acquisition strategy is to benefit from the transfer of the resources and capabilities of both parties. While this integration following supply base complexity enables firms to gain strategic capabilities, new markets, greater product variety, and competitive advantage (Cagliano, et al., 2006; Isik, 2009; Wiengarten, et al., 2016), it is generally perceived to have a negative effect on performance or exposure and vulnerability to the risk of supply chain disruptions (Fridgen, et al., 2015). Furthermore, on the supply-side, an integrated supply chain may face difficulty in the management of purchasing activities or extra cost due to suppliers' duplication and conflicts during the post-acquisition processes (Anderson, et al., 2001; Bocconcelli, et al., 2007).

3.5.2.2. Internal Production Process Risks

The sixth category will deal with the internal production process risk factors in post-acquisition. As discussed in the literature review chapter, supply chain disruption risks may arise from internal or external factors (Rao & Goldsby, 2009; Sodhi, et al., 2012). Basically, the supply-side and the customer-side of a supply chain cannot be fully controlled and may become a source of disruption in post-acquisition. In addition, the internal production process may face the risk of disruption in the course of post-acquisition. Therefore, the organisational practices of internal integration and external integration with key suppliers and customers impact the acquired firm's supply chain performance and agility (Braunscheidel & Suresh, 2009), which are areas of importance, especially in post-acquisition. Internal production process risks refer to those disruptions that occur during the internal production processes inside the acquired firm's facilities (Foroughi, et al., 2006). Production process disruption risks are due to a failure to produce the desired quantity and quality of a product at the right time (Kumar, et al., 2010). The ownership changes in post-acquisition increase the number of potential disruptions or can actually increase the acquired firm's vulnerability to disruptions. Sometimes, a lack of visibility into the new management or arrangement of operations following an acquisition can make it impossible to predict when disruptions may potentially occur (especially during the first year of integration) and to take the necessary steps to recover from disruptions.

In post-acquisition, difficulties with supply chain integration can disrupt production schedules in the acquired firm leading to a delay in responding to customers' demands. Poor supply chain coordination, product quality, and service levels lead to lost sales and long-term demand attenuation (Sana, 2010; Srinivasan, et al., 2011; Dabhilkar, et al., 2016). The corporate acquisition increases the complexity of the supply chain system, and uncertainties in the production facilities increase the probability of disruptions. Blome et al., (2013) state that process compliance is an enabler (moderator) of the relationship between supply chain competencies and supply chain agility and outlines how well the firm's employees internally execute SCM processes. They define process compliance as the perfect adherence and execution to the specified supply chain-related processes (e.g. production and distribution management processes). The acquired firm's DCs to integrate and reconfigure a supply chain in the short-term can be significantly influenced as DCs are built over time.

As mentioned, the internal production process deals with how SCM processes are internally executed and how supply chain agility is improved by enhancing the link between supply- and demand-side competences. In post-acquisition, the processes implemented are presumed to be valid and effective and to represent optimised approaches for dealing with uncertainties arising from the integration of firms' supply chain operations in supply, production, demand and distribution aspects. Related literature provides support that supply chain risks associated with post-acquisition are triggered by supply chain disruptions that hinder the flow of goods, financial resources or services (Puranam, et al., 2003; Sorescu, et al., 2007; Kapoor & Lim, 2007; Chatterjee, 2009; Sears & Hoetker, 2014) and become a major managerial problem for operations in post-acquisition (Agarwal, et al., 2012).

Pfohl et al., (2011) state that supply chain process risks describe disruptions within the value-increasing activities of a firm, like loss of operating resources or production delay. In the course of post-acquisition, the acquired firm may face an increased rate of production associated with longer production chains. According to Sana (2010), the production facility of a company may shift from an ‘in-control’ state to an ‘out-of-control’ state at any random time. He argues that increasing the rate of production may boost the likelihood of labour and machinery failures leading to a higher rate of non-conforming quality items produced. As mentioned, access to production resources and capabilities is one of the main motivations of corporate acquisition, especially in horizontal and vertical acquisitions. This may increase the new supply chain loads, leading to a failure in the production process and an ‘out-of-control’ state.

3.5.2.3. Demand-Side Risks

The seventh category will deal with the demand-side (downstream) risk factors in post-acquisition. All supply chains are characterised by uncertain demands (Rezapour, et al., 2015), and this uncertainty will be increased in the course of post-acquisition (Kim & Finkelstein, 2009; Nogeste, 2010; Cording, et al., 2014). As with the cases noted above concerning the supply-side, the customer-side is also an object of concern for the acquired firm. Demand risk can be defined as the distribution of outcomes related to adverse incidents in the outbound flows that influence the probability of customers placing orders with the focal organisation, and/or variance in the volume and assortment desired by the customer (Zsidisin, 2003; Manuj & Mentzer, 2008). Demand unpredictability can be considered a major contributor to overall supply chain uncertainty and disruption (Meng, et al., 2016).

As mentioned, post-acquisition integration processes can impact the customer-supplier relationship in different ways. From a supply-side perspective, post-acquisition integration actions can influence customers' perceptions of the combined organisation and, ultimately, their purchase decisions (Kato & Schoenberg, 2014). A newly combined supply chain can be at the risk of losing its existing customers as a direct result of an acquisition, reflecting uncertainty about product quality and on-time delivery as well as more aggressive post-acquisition pricing by competitors. Many firms, after closing, face a decline in their revenue momentum as they concentrate on realising expected cost synergies (DePamphilis, 2012). Furthermore, the strong focus on integrating product lines and operational processes and on cost-cutting rather than on serving customers makes the companies distant from the market and causes high dissatisfaction among customers during the post-acquisition integration phase (Burgelman & McKinney, 2006). Also, problems in sales and distribution integration due to conflicts between the two firms' sales forces, differences in products and prices may boost customers' confusion and dissatisfaction in the post-closing phase (Pagano & Tunisini, 2011).

Like other domains of the supply chain, disruption can occur in the downstream of the acquired firm supply chain in post-acquisition. It is worth noting that a given acquisition may realise all the synergistic potential, but the performance of the acquired company might not improve due to the fact that the "success" of the acquisition might have generated negative effects on other ongoing value creation initiatives within the organisation or in the market dynamics with customers or suppliers (Zollo & Meier, 2008). For example, employees might leave the firm, or customers sever their relationship with the firm because of poor handling of the tasks related to the integration of two organisational cultures, structures, and operations (Birkinshaw, et al., 2000; Meckl, 2004; Zollo & Meier, 2008; Schweizer & Patzelt, 2012).

3.5.3. Reconfiguring Dynamic Capabilities

This part of the theoretical framework is related to the second research question: "how effectively do acquired firms manage and reduce supply chain disruption risks to create and capture value resulting from dynamic capabilities associated with acquisitions and to diminish the adverse effect on production or fluctuations in effective quality and capacity during the intensive first 365 days of post-acquisition?" Also, the researcher will achieve the third objective of this study, which is to explore the effectiveness of strategies used by acquired firms to manage supply chain disruption risks during their first year of ownership change and to evaluate the resultant impact on their performance. Therefore, the last two categories (C8, C9) into the areas of reconfiguring DCs will be discussed in following sub-sections.

3.5.3.1. Supply Chain Risk Management in Post-Acquisitions

The eighth category will deal with the managing of supply chain disruption risks in post-acquisition and capturing value from DCs resulting from the acquisition. In the last section, the supply chain disruption risks in three main domains of the acquired firm's operation in post-acquisition are discussed. We know that it is imperative for the firms involved in corporate acquisition strategy following supply chain integration to develop strategies to mitigate the negative effects of the supply-side, internal production process, and demand-side uncertainties on their supply chain networks. Previous literature concerning SCRM has presented many examples of best guidelines, practices, and concepts of how to either minimize the causes of disruptions or to mitigate the adverse effects induced by disruptions (Khan & Burnes, 2007; Wakolbinger & Cruz, 2011; Hofmann, et al., 2014; Sawik, 2016b; Sawik, 2017). When a company moves into an integrated supply chain in post-acquisition, it must have its supply chain prepared for the new business challenges and opportunities. Successful companies understand that the right supply chain strategy is required to protect the new supply chain from the turbulence of post-acquisition. Both the supply and demand sides of the supply chain can be influenced by an acquisition. According to Lee (2002, p. 114) "given the different nature of demand and supply uncertainties of different products, different supply chain strategies are needed for different products".

The review of the literature indicates that corporate acquisition strategy is a kind of supply chain optimization management plan, and firms involved in the acquisition should pay more attention to the potential changes and risks of their supply chains during the acquisition process. Responsiveness to changes and disruption risks in post-acquisition is an indispensable requirement for firms involved in a corporate acquisition strategy, particularly for the target firm. Risk management plays a key role in effectively operating supply chains in the presence of a variety of uncertainties (Ho, et al., 2015). This highlights the importance of SCRM in the process of a corporate acquisition strategy as it is associated with a variety of complexity and uncertainties. According to Hakkinen et al., (2004), issues related to structure, process, and synergies are the main supply chain issues addressed in M&A literature. Various SCRM strategies have been examined in the literature with actual practical examples (Bandaly, et al., 2012; Bandaly, et al., 2013; Riley, et al., 2016; Sundram, et al., 2016). This research does not aim to discuss existing risk management models or present a new conceptual framework related to the supply chain disruption risk management.

When firms identify and understand the key supply chain disruption risks associated with their supply chain operations post-closing, they should work out which strategy will be implemented by the acquired firm in order to gain economies and reduce costs in post-acquisition, and how much capital they need to respond to those risks. This leads to strategic, financial and operational decisions that gives firms only as much risk capacity as they need (Buehler, et al., 2008). This step of the SCRM is expected to mitigate the identified supply chain disruption risks associated with a post-acquisition, at the same time, control costs, improve supply chain performance, and assure continuity of the integrated supply chain operations. In this study, the researcher considers the application of different strategies by the acquired firms to overcome the challenges of changing the business environment following the first year after the acquisition.

3.5.3.2. Target company's Supply Chain Performance in Post-Acquisitions

The last category (C9) will deal with the target company's supply chain performance in post-acquisition. Scholars have viewed the corporate acquisition as a means for firms to access and deploy capabilities and resources or create value by improving performance (Puranam, et al., 2009; Berchicci, et al., 2012; Das & Kapil, 2012; Kaul & Wu, 2016). A number of empirical and theoretical studies have focused on what is the appropriate manner of evaluating and measuring the acquisition performance regarding different success factors (Burt & Limmack, 2003; Zollo & Meier, 2008; Vaara, et al., 2014). Firms apply different strategies and key performance indicators (KPIs) to measure post-acquisition performance. Bebenroth and Hemmert (2015) suggest that multiple performance dimensions should be considered to assess the outcome and performance of acquisition.

Prior studies have mixed findings on the target company's supply chain performance in post-acquisition. Although firms go for corporate acquisitions with high expectations in improving performance, there is conflicting evidence of a positive impact of acquisitions on firms' performance (Liu, et al., 2007; Kumar & Bansal, 2008; Siegel & Simons, 2010; Reddy, et al., 2019), leading to poorer outcomes (Krishnan, et al., 2007). Compulsory operational changes hurt the performance of the firm once it is acquired (Kiessling, et al., 2008). Research by Tsagkanos (2010) shows that acquisitions (both vertical and horizontal) tend to be value-reducing rather than value-enhancing or value-neutral. However, some research has found the opposite effect. Research by Altunbas and Marques (2008) shows, on average, European Union banks had improvements in their performance in post-acquisition.

3.6. Conclusion

This chapter discussed the theoretical framework underpinning this study, guided by the research objectives, questions, and categories outlined for this research project. This chapter provided an overview of the formation of the initial theoretical framework and discussed its theoretical perspectives in relation to the subject of the study. It has been explained that this theoretical framework is grounded on nine related categories and three generic types of DCs, conducting this research through the lenses of the DCT, which allow all objectives stated for this research to be realised and addresses the gaps in the literature of SCRM in the M&A context. The multi-theoretical framework developed in the course of this research project lays the basis for exploring target companies' supply chain disruption risks in post-acquisition and effective strategies to manage such disruption risks to create and capture value resulting from dynamic capabilities associated with acquisitions by managing complexities, building competencies, and unlocking acquisition potential.

Chapter 4: Research Methodology

4.1. Introduction

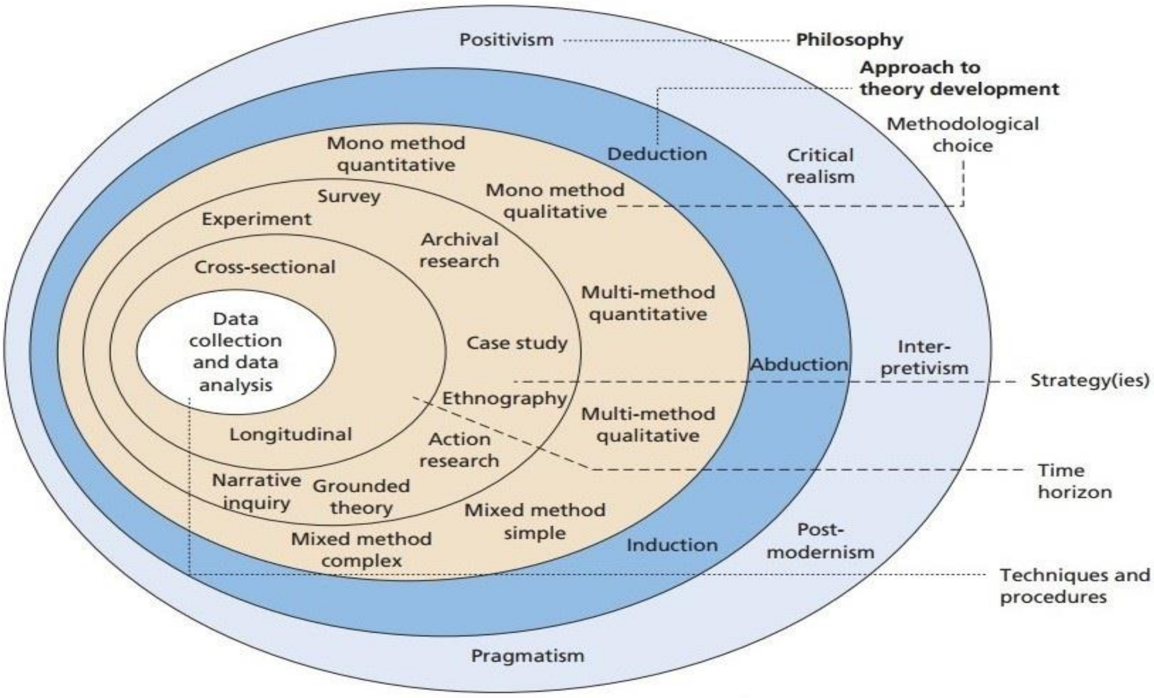
The central purpose of this chapter is to identify the research problems affecting the SCDRM in post-acquisition and to provide the core methodological review undertaken in the business and management field, as well as a framework for data collection and analysis. The previous chapter explained how the theoretical framework was developed and how key research questions were identified along with variables. Building on the theoretical framework of this research, which includes consideration of DCT, numerous factors contributed to the arrangement of the methodological part of this academic research.

4.2. The Research Onion

Saunders et al., (2016, p. 5) define “business and management research as undertaking systematic research to find out things about business and management”. In the research at hand, some key areas of both supply chain management and strategic management have been explored, which have not sufficiently analysed together in prior studies. Business and management research should address the interaction between the worlds of theory and practice as the engagement of these two aspects is critical (Saunders, et al., 2016). The concept of supply chain management in post-acquisition in both theory and practice have significant implications for improving corporate acquisition performance and lowering the chance of failure. This chapter focuses on the methodological aspect of this research, which is one of the critical elements of any research project process in terms of both theory and practice.

In this chapter, the researcher discusses the adopted methodological approach and settings for conducting the research project. Basically, it can be argued that the settings of this chapter can be linked to Saunders et al., (2016) research ‘onion’ model (Figure 4.1). The reason behind applying this model is to provide an effective diagram that contains all the necessary steps that a researcher should take when planning and conducting a research project. Building on this model, this chapter discusses the research philosophy, approach, strategy, methods and data collection and analysis techniques that have been applied for this doctoral thesis. It also highlights the ethical considerations faced.

Figure 4.1: The Research 'Onion'



Source: Saunders et al., (2016)

4.3. Research Philosophy

Newby's (2014) explanation of research philosophy is the best way to answer this question: "Why is philosophy important to our research study?" He states that the philosophical approach determines values and viewpoints about the world. The philosophical approach to research defines the researcher's assumptions about the nature and reality of the world. The philosophical paradigm can influence not just how the researcher intends to implement the research project in practice, but more importantly, what is researched, how it is researched, and how the evidence is interpreted. Therefore, it can be argued that philosophical assumptions can shape all aspects of a research project (Knox, 2004; Miller & Tsang, 2010; Saunders, et al., 2016).

According to Saunders et al., (2016), research philosophy is related to the development and nature of knowledge. It is a critical part of academic research as it shapes how the researcher writes (O'Gorman & MacIntosh, 2014). The underpinning philosophy adopted by the researcher sets out the foundations of a research study and explains the basis of the researcher's knowledge claims for readers. Saunders et al., (2016) define the philosophy of research as “a system of beliefs and assumptions about the development of knowledge” (p. 124). As has been shown in figure 4.1, in the first layer of the research onion, they stated five philosophical underpinnings or approaches for management research including positivism, interpretivism, pragmatism, critical realism, and postmodernism. These major philosophies are contributing to a researcher’s choice of methodological approach, research strategy, data collection techniques, and analysis procedures (Appendix 4A). It is worth noting that there is no agreement on ‘the best’ philosophy among researchers in business and management studies (Tsoukas & Knudsen, 2003), as each philosophy contributes a valuable and unique way of seeing the organisational world (Saunders, et al., 2016). Therefore, philosophical disagreements are inherent in business and management research.

Pragmatism is one of the philosophical choices for business and management researchers, which has been adopted in this research. The emphasis of pragmatism is on practical solutions and outcomes, which enable the researcher to follow research problems and questions, leading to richer understandings and successful actions (Saunders, et al., 2016). In other words, pragmatism is ‘practice-driven’ as it is essentially practical rather than idealistic (Denscombe, 2008). In a research context, pragmatism means problem-solving (Newby, 2014), which can be applied to all mixed, multiple, qualitative, quantitative, and action research (Saunders, et al., 2016). This research study evaluates the key supply chain disruption risks in post-acquisition and explains how these potential risks can be mitigated following the first year of the ownership change. Saunders et al., (2016) state that if researchers conduct a research project with a focus on making a difference to organisational practice, they may be leaning towards the philosophy of pragmatism. The philosophical approach in the research at hand is problem-solving to reduce the risk of the supply chain for target companies in the critical post-acquisition integration phase. The outcome of this research project can help managers to optimise organisational and operational practices in post-acquisition and reduce the chance of failure. In other words, the results of this research will help managers and decision-makers to have a better understanding of supply chain problems and disruption risks in post-acquisition using a pragmatic approach to problem-solving in the organisational world.

As noted by Saunders et al., (2016, p. 143), “for a pragmatist, research starts with a problem, and aims to contribute practical solutions that inform future practice”. Pragmatism suggests ‘what works’ to answer the research questions (Denscombe, 2008; Cohen, et al., 2011) and this approach can work with different types of knowledge and methods (Saunders, et al., 2016). Morgan (2007) defines the “pragmatic approach” as the new alternative paradigm, which can both resolve the problems caused by the metaphysical paradigm and provide a new range of opportunities for researchers in the field of social science research methodology. In addition, pragmatism, as a more grounded approach to research offers an alternative, flexible, and more reflexive guide to research design (Feilzer, 2010).

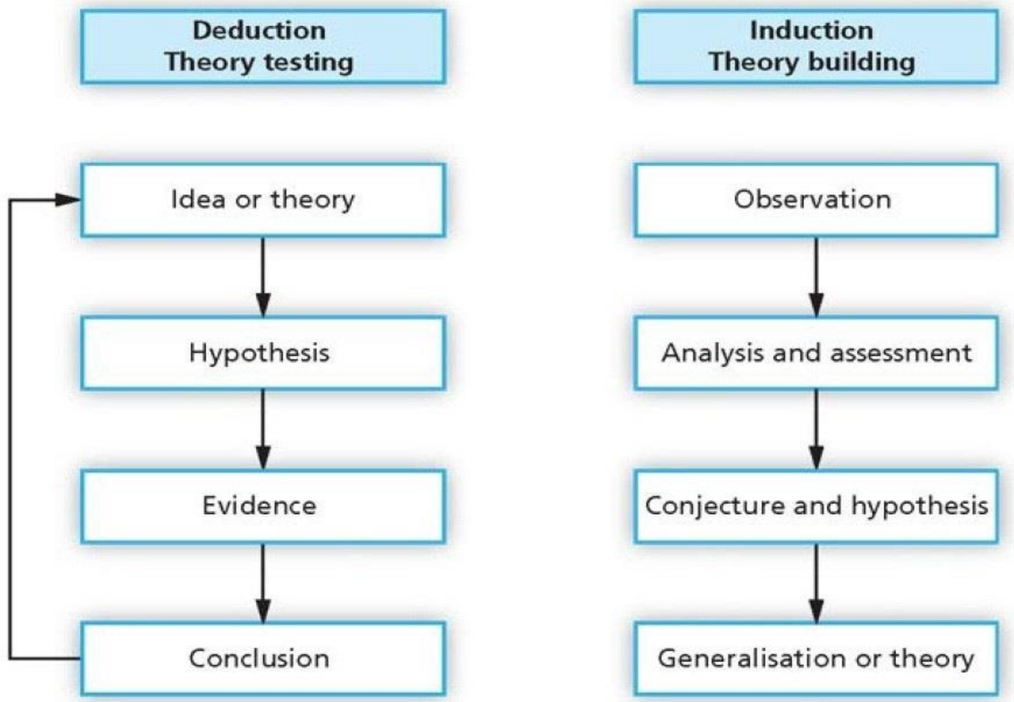
Lastly, pragmatism strives to reconcile both subjectivism and objectivism (intersubjectivity), values and facts, accurate and rigorous knowledge and different contextualised experiences (Morgan, 2007; Saunders, et al., 2016). As business and management involve people and things, the pragmatism argument promotes the idea that both subjective and objective thought and ideas are valid. The key question of this research deals with the acquired firm's supply chain vulnerability and disruption in post-acquisition. Therefore, the researcher, by applying a ***pragmatic philosophy***, combines approaches and uses 'Does it work?' as a measure of success. Applying the reasoning of pragmatism has enabled the researcher to make use of a valuable source of qualitative data and deal with the complexities of this research project. As mentioned in sections 1.3 and 7.5, this study will contribute to the supply chain and M&A literature in a number of ways and improve management decision-making quality in the post-acquisition process.

4.4. Research Approach to Theory Development

Researchers need to address preliminary considerations regarding the purpose of selecting any specific research approach as a first step in designing or planning a study. This research study is conducted with an ***inductive approach***. This approach generates a close understanding of the research context, and the researcher can gain an understanding of the meaning that humans attach to events (Saunders, et al., 2012). It will be the most appropriate approach for this study, as the researcher drives knowledge in collaboration with managers, executives, decision-makers, and M&A consultants as the participants of this research study. In addition, inductive reasoning is more exploratory and open-ended in nature, allowing the researcher to make generalisations based on the analysis, review and evaluation of the interview transcripts.

Creswell (2014) argues that decisions in connection with the research approach are important when the researcher is framing the research process. The selection of research approach should be based on different variables such as the nature of the problems being addressed, the audience for the study, and the researcher's personal experiences. Researchers have generally suggested two alternative approaches (deduction and induction) regarding theory development and knowledge building, which can be considered as falling into the stage of planning the research project. Figure 4.2 shows the process of two main approaches to theory development.

Figure 4.2: Approaches to Theory Development



Source: Newby (2014) - Research Methods for Education

Any research study for academic purposes, deductive or inductive, would always require a "critical" review of relevant literature, not just an explanation of other scholars' dissuasions and findings (Greener, 2008). These two main approaches will be compared to answer why the researcher makes use of inductive reasoning in this study. A critical literature review enables the researcher to decide either to use an existing theory (already generated) by selecting from the reading of the related academic literature or to generate a new theory. A deductive approach is usually associated with theory or hypothesis development and their testing through empirical observation (Crowther & Lancaster, 2008). Deductive research is a theory-driven approach as the researcher evaluates propositions or hypotheses related to existing theory (Saunders, et al., 2016). In inductive research, the researcher explores a topic or phenomenon, identifies themes and patterns, and develops a theoretical explanation as the data are collected and analysed. Therefore, this approach is a data collection and analysis approach, during which the researcher generates theory or a conceptual model through an investigation of the focus of research by various methods (Greener, 2008; Matthews & Ross, 2010). As mentioned by Crowther and Lancaster (2008), perhaps the greatest strength of the inductive approach to theory development is its flexibility.

The ***inductive approach*** to theory development has been used in the process of this study, as the research does not generate a new theory. This research observes potential supply chain risk factors in post-acquisition by using existing theory, dynamic capability theory (DCT). The focus of the inductive approach is on the close understanding of the research context and the collection of qualitative data. In this research, the researcher observes certain supply chain disruption risks in post-acquisition and arrives at conclusions that will improve our knowledge of potential supply chain risk factors in post-acquisition and the strategies to manage them effectively. Furthermore, the study does not start with any predetermined theoretical frameworks, does not intend to test any hypotheses associated with existing theory, and does not formulate a theory based on the conducted analysis.

Using an inductive approach, many related academic models, theories, and frameworks on the subject of the strategic management (M&A field) and the operation management (SCM field) will be considered in order to evaluate the supply chain disruption risks in post-acquisition. Furthermore, as will be discussed in the following sections, the qualitative research methodology, which is the data collection method of this research study, is conventionally held to be inductive (Newby, 2014). Qualitative researchers primarily make use of the inductive approach, by which the researcher's immersion guides the discovery of meaning and interpretation in the data (Roller & Lavrakas, 2015).

Adams et al., (2007) state that fundamentally, researchers undertake academic research to enhance knowledge of what we already know. They highlighted exploratory research, explanatory research, and predictive research as different types of research study that lead researchers to achieve different knowledge outcomes. An exploratory study is a valuable means to ask open and exploratory questions to discover what is happening and gain insights about a topic of interest. It is particularly useful if researchers wish to clarify their understanding of an issue, problem or phenomenon. There are a number of ways, such as a search of the literature or conducting in-depth individual interviews to conduct exploratory research (Saunders, et al., 2016). The research at hand adopts an exploratory approach to the literature review and uses in-depth interview technique to collect data. The aim of this study is to discover what participants think is important about the research topic (Matthews & Ross, 2010). Exploratory research has the advantage of flexibility and adaptability to change. It is very helpful to conduct exploratory, qualitative interviews to gain contextual material for a study, where the research design adopts an inductive approach (Saunders, et al., 2016).

As the purpose of the research at hand is an ***exploratory study*** to discover what is happening in the real business environment and gain insights about the topic of interest, the research design adopts an inductive approach. According to Vogt et al., (2012), exploratory research tries to find patterns, discover relationships, or generate ideas rather than to test theories. The nine categories discussed in the last chapter became evident during the critical literature review and initial exploratory study with interviews of managers and executives involved in the acquisition process. This research does not aim to test any theory. This research is exploratory in nature and based on the outcome of a small number of very in-depth interviews with particularly informative interviewees has outlined a theoretical framework to understand the target company's supply chain risk factors in post-acquisition and the effective strategies to manage/mitigate them.

4.5. Methodological Choice

The third layer of Saunders et al., (2016) research 'onion' model is concerned with methodological choice. Once the researcher has identified the research philosophy and theory development approach, a decision must be made about the research design and which method and strategy will be used. A research design is a grand plan of approach to a given topic (Greener, 2008). Designing a research project takes time, work, reading, and an understanding of the researcher's personal views. Saunders et al., (2016) define the research design as the general plan of how the researcher tends to answer the research question(s) as well as the primary methodological choice of whether the researcher will be using a quantitative, qualitative, or mixed-method research design. In deciding to utilise any of these three broad research methodologies different variables such as the research question(s) and the nature and amount of data that need to be collected and analysed to address the research question(s) must be taken into account (Matthews & Ross, 2010).

Quantitative, qualitative or mixed methods approaches have different advantages as research methods. Qualitative research is concerned with exploring and understanding life experiences and the processes that drive behaviour, while quantitative research is concerned with examining the relationship between variables using numerical data as the evidence base. Mixed methods research is concerned with collecting both qualitative and quantitative data, integrating them (numerical and non-numerical), and using distinct designs that may utilise philosophical assumptions and theoretical frameworks. Mixed methods research, which is more complex, is usually used when the insights of both approaches are required and the researcher by collecting two types of data tries to reach a good understanding of the research issues (Newby, 2014; Creswell, 2014).

As discussed, the decision regarding the research design, as well as the selection of methodology is the most important part of any academic research (Crowther & Lancaster, 2008). The study at hand makes use of a ***qualitative*** research method, as the researcher collects non-numerical, qualitative data through interviewing people involved in the supply chain integration of acquired firms in post-acquisition. This method is appropriate and helpful for achieving the various goals of this research project. As noted by Tracy (2013), qualitative data offers more than a snapshot (provides an understanding of a sustained process), interprets participant viewpoints and stories, and can help the researcher to explain, illuminate, or reinterpret data. Therefore, in order to draw insights, the qualitative research method helps the researcher to examine the organisational-level behaviour in the SCM context critically and provides insight into the phenomenon based on rich, holistic, and non-statistical qualitative data.

4.6. Research Strategy

The fourth layer of Saunders et al., (2016) research 'onion' model is concerned with the research strategy. Once we are clear about the research philosophy, theory development approach, and methodological choice, we can choose the most appropriate, helpful research strategy as well as data collection and analysis techniques. They state that a research strategy is an action plan of how to go about answering the research question(s). Like research method in general, the choice of strategy depends on the nature of the question(s) asked as well as practical considerations such as access to data and people (Adams, et al., 2007; Greener, 2008). Saunders et al., (2016) have suggested different strategies to collect data such as experiment, survey, action research, case study, or archival research and each of these strategies are affiliated with a specific emphasis, scope, and set of procedures.

The study at hand intends to apply a ***narrative inquiry*** research strategy to understand the dynamics of the target company supply chain management in post-acquisition. According to Saunders et al., (2016), narrative inquiry research interprets an event or sequence of events. In this research project, the narrative inquiry has a specific meaning related to a corporate strategy event and its sequence on the target company's supply chain in post-acquisition. Based on qualitative research interviews with senior managers in acquired companies (SMACs) and M&A Consultants (M&ACs), the researcher believes that the experiences of participants can help to understand the different dimensions of post-acquisition phase better. Therefore, the narrative inquiry research strategy has the ability to generate insights from in-depth and to preserve chronological connections and the sequencing of the corporate strategy event in its real-life context, leading to rich, and empirical descriptions. Through the storytelling of a group of senior managers, who have experienced the acquisition process or been involved in the integration process over the last years, the researcher will be able to gain access to deeper organisational realities.

Roller and Lavrakas (2015) state that when some resources such as funding and time are needed for a research project, narrative research is a critical approach when the research objective is to achieve an in-depth understanding of a complex phenomenon. The corporate acquisition is a complex phenomenon, and examining different dimensions of this phenomenon is intensive and time-consuming in nature. The narrative inquiry research is likely to generate large amounts of data in the form of interview transcripts or observational notes, which allow the researcher to analyse the linkages, relationships and constructed explanations to understand the complex processes which people use in making sense of their organisational realities (Saunders, et al., 2016). Therefore, the narrative inquiry research is appropriate for this research as it supports the qualitative research method, which is well suited to dynamic environments such as the post-acquisition integration processes. It will help the researcher to have in-depth engagement with the 'actors' in the post-acquisition context. SMACs and M&ACs that represent a variety of experiences, knowledge, and the operational situation in post-acquisition, which can increase the reliability of data and the chance to study different types of acquisitions within various industries. In addition, as human behaviour and decision play a critical role in post-acquisition operations, participants experience and knowledge will be a good way of capturing information about human behaviour and the collection of a great deal of detailed data.

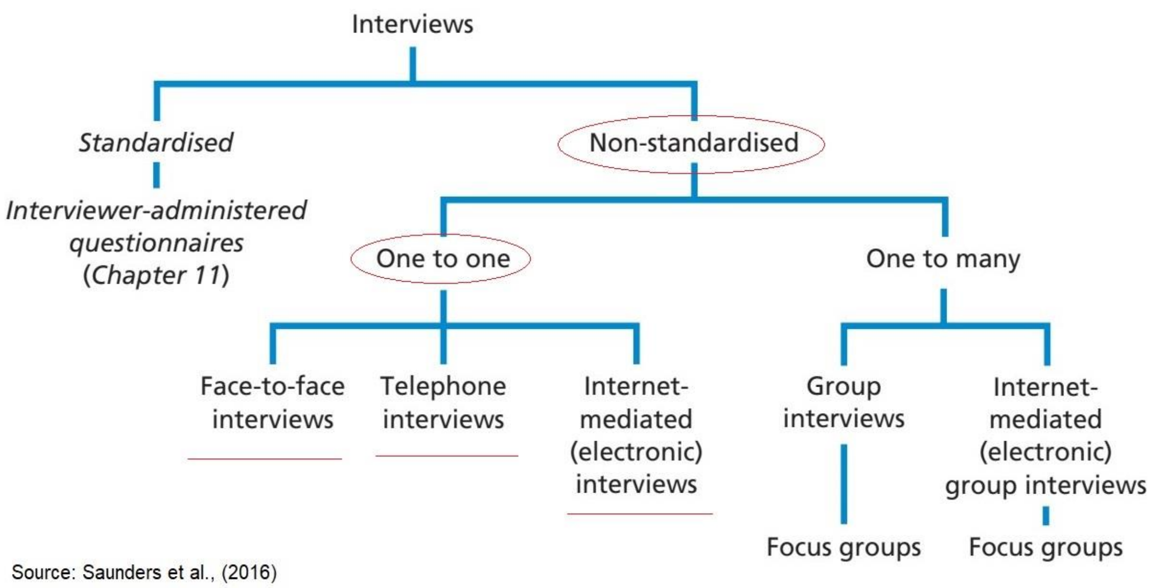
An inductive process of data generation affiliated with a narrative approach provides a greater understanding of the supply chain disruption risk factors in post-acquisition following the first year of ownership change, as interviewees in different positions and across different industries allow for greater robustness in the development of insights as well as a consideration of their context dependency. Therefore, in order to address the research gap in the literature (discussed in chapter one), the researcher in this study derived a narrative inquiry research protocol for better understanding what the main supply chain disruption risks in post-acquisition are and how they can be managed effectively. Also, to understand how and why acquired firms are at the risk of supply chain disruption following the first year of ownership change and why some M&A managers fail to address these risks and effectively manage them.

4.7. Data Source and Collection

The strategy to collect original, valid, suitable, relevant, and high-quality data for academic research is a critical aspect of research design. The researcher's ability to answer the research question(s) and meet the research objective(s) is highly depending on the effectiveness of data collection (Adams, et al., 2007). Obviously, researchers can use a number of methods to collect the required data in the course of quantitative or qualitative academic research. Saunders et al., (2012) state that the choice of data collection techniques and analytic procedures are significantly influenced by the fundamental requirements of the research such as variables required or the detail in which the data is measured. Newby (2014) suggests questionnaire, interview, observation, and group sessions as major primary data collection methods.

The researcher has used the interview data collection technique to answer research questions and meet research objectives. The general approach of this exploratory research is to conduct qualitative interviews with a group of senior managers involved in the acquisition process and senior M&A consultants, who have managed a number of acquisitions over the past years to meet the research objectives. This technique is widely used for data collection, as it is a flexible and powerful implement for researchers, enabling multi-sensory channels (verbal, non-verbal, spoken and heard) to be used for data collection from individuals (Cohen, et al., 2011; Tracy, 2013). Scholars in business and management studies have frequently used face-to-face or telephone interview data collection methods (Ranft & Lord, 2002; Brannen & Peterson, 2009; Vieru & Rivard, 2014; Giannakis & Papadopoulos, 2016). As we can see from figure 4.3, there are various forms of an interview in academic research. In this research study, all conducted interviews have been non-standardised and one to one, using face-to-face, telephone, and internet-mediated (Skype and Zoom) interviews. Although this interview data collection method allows the researcher to collect a valid and dense amount of information, it is very difficult as sample sizes (the number of people involved) tend to be small and the process time-consuming (Adams, et al., 2007).

Figure 4.3: Forms of Interview



Source: Saunders et al., (2016)

In addition, as this research is a ***cross-sectional study*** rather than a longitudinal study, and it gathers data from one point in time, the data collection process will be more difficult because of time restrictions. Therefore, due to different factors/restrictions, this study analyses supply chain disruption risks carried out by acquired firms in Europe and North America in different industries during the period 2010-2019. First, it has been tried to focus on relatively recent acquisitions (2010-2019) to make it easier for SMACs to project their supply chain situation following the first year of the ownership change. For example, SMACs might have forgotten some details of their supply chains' disruptions if we ask questions about an acquisition that took place many years ago. Second, it was relatively difficult to access SMACs that experienced the corporate acquisition in their organisations in many years ago. The key managers involved in the acquisition might have been retired or left the company. Third, due to time and financial resources restrictions, the focus has been on Europe and North America countries. For example, the majority of managers in these countries are able to speak English, making the process of interview transcription more cost and time effective. In addition, it was cheaper for the researcher to send letter and interview package to participants. Finally, the popularity of M&As in these regions are relatively high, that increases the chance of collecting data.

According to Matthews and Ross (2010), a cross-sectional research design includes more than one case, using a different-level unit of analysis. This research study looks at the supply chain disruption risks in post-acquisition at a particular time from the perspective of different people involved in the process and uses ***semi-structured interviews*** for data collection. This method enables the researcher: 1) to compare the experiences, views, and characteristics of different people involved in the supply chain integration process in post-acquisition; 2) to explore the possible relationships between the experiences and views of different people about supply chain disruption phenomenon; 3) to represent different peoples or groups within the population based on data from selected samples and the findings that may be generalisable to the population.

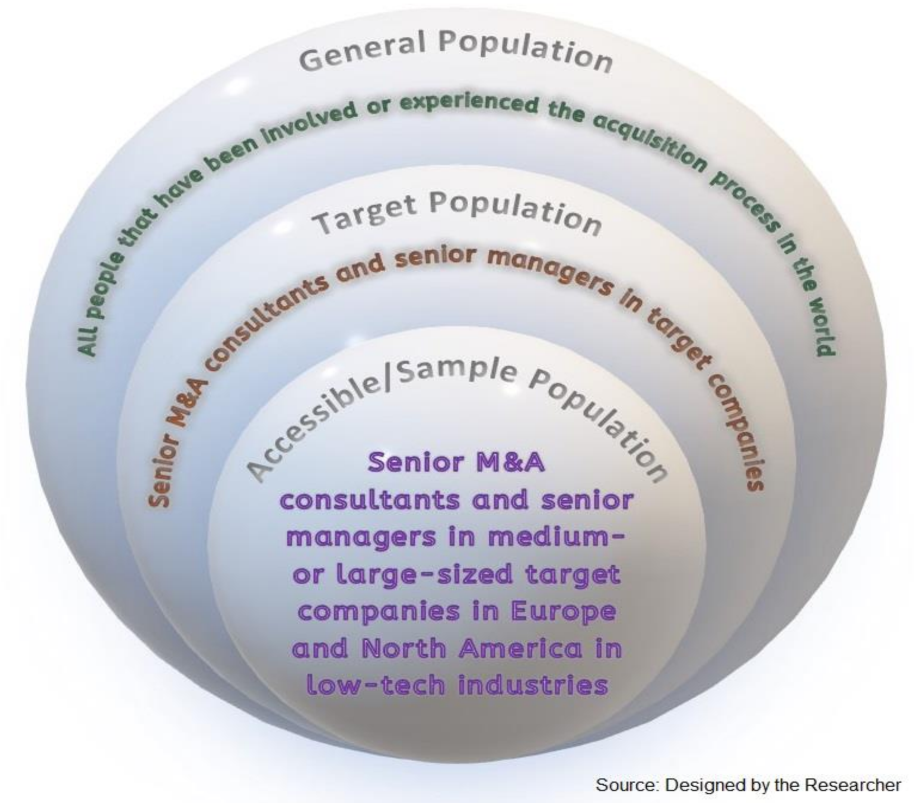
4.7.1. Sampling

"The selection of some cases from a larger group of potential cases is called sampling" (Matthews & Ross, 2010, p. 153). Sampling is a crucial element of research as the quality of a piece of research depends on the suitability of the sampling strategy that has been adopted (Cohen, et al., 2011). Several differences distinguish the sampling and coding practices of interview research and other types of research. Interviewers usually ask questions of fewer people (a smaller sample) than others. Interviewers usually select interviewees through purposive or judgment sampling, targeting individuals with specific characteristics, experiences, or knowledge. This means that the interviewees in a study often have much in common (Vogt, et al., 2012). Roller and Lavrakas (2015) suggested a set of actions such as defining the target population, selecting the listing(s) for sampling the population, and choosing a sample design in assessing how well the scope of a qualitative research project has been conceptualised, conducted, and achieved.

4.7.1.1. Target Population

Identifying target populations and pools of potential interviewees are key and challenging tasks of the data collection process. The types of research questions that qualitative researchers pursue will strongly shape their target populations and pools of potential interviewees (Vogt, et al., 2012). The target population is the entire population, or group that a researcher is interested in questioning and analysing. A sampling frame is then drawn from this target population. In a qualitative inquiry, the determination of the target population takes into account the fact that the researcher focuses on participants who can best share experiences and thoughts to address the qualitative research goal. To determine the target population, therefore, the researcher ought to identify and eliminate individuals of the general population who may not have the ability to share experiences and thoughts in ample clarity and depth (Asiamah, et al., 2017). In other words, the researcher redefines the general population as something more manageable, i.e., the target population (Saunders, et al., 2016).

Figure 4.4: Categories of Populations



Source: Designed by the Researcher

Identifying a target population in this qualitative research has been dependant on the research questions. These questions involve knowledge about corporate acquisition strategy and its processes; therefore, all the people that have been involved or experienced the acquisition process could be a general population for the purpose of this research. Asiamah et al., (2017) state that population specification is a requirement in the documentation of qualitative studies. The concepts of general, target and accessible/sample populations can be applied as an effective way of making a relatively large study population manageable for qualitative sampling. Figure 4.4 shows the hierarchical specification of the general, target and accessible populations of this research study. The general population of interest is far too large to consider gathering data, and it is difficult to access data from all its members; so the researcher refined the population to specific people, companies, industries, and countries.

As highlighted in figure 4.4, in the general population, people that have been involved or experienced the acquisition process in any position and in any organisation in the world could contribute to this research project. However, some individuals of this population may not have the ability to share experiences or may not have the right position within the company to explain different dimensions of the post-acquisition process and its supply chain risks. For example, the data that could be gained from temporary employees or part-time employees may not help the researcher to answer all research questions. Therefore, to have better answers for the research questions from fewer people, the researcher refined the general population to a smaller group of people (target population) consisting of senior M&A consultants in M&A advisory service companies (such as PWC, Delloite, or Global PMI Partners) and senior managers in target companies. Also, to interview more relevant and experienced people, the researcher has focused on some key managers such as CEOs, operation managers, commercial managers in target companies. HR managers, R&D managers, or financial managers, however, have been considered to be people that may not be able to answer key technical questions related to supply chain management and provide appropriate information about all dimensions of the acquisition.

As highlighted in figure 4.4, there are two types of managers, including senior managers in acquired companies (SMACs) and M&A Consultants (M&ACs) in the accessible sample population of this research. These managers provided different contributions (distinct or overlapping) in the process of empirical research. For example, SMACs could provide more information related to supply chain disruption risk factors in post-acquisition in the target companies based on their real experience in the target firms. However, there was an overlap with M&ACs in many areas as those with years of experience would mention the majority of the same risk factors. M&ACs have experienced the post-acquisition integration process in different organisations and industries. They could provide better and more technical information related to effective strategies in managing supply chain disruption risks in post-acquisition. They had a distinct contribution, especially in using technical concepts and providing effective strategies in relation to SCDRM in post-acquisition.

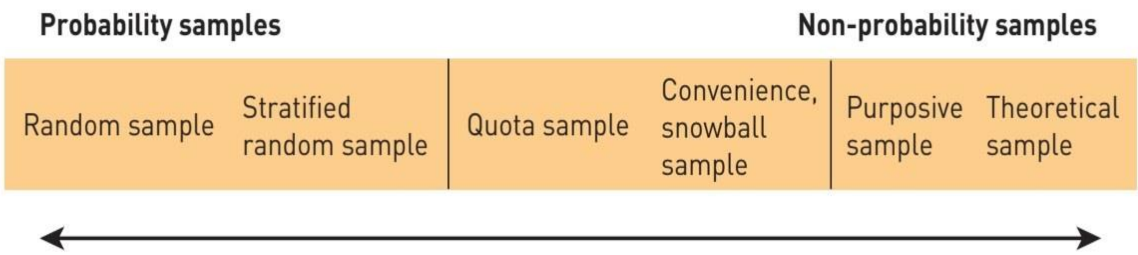
Finally, as access to all people in the target population is not practically possible, the researcher must redefine the target population as something more manageable. Therefore, the researcher defined another subgroup in the target population as "accessible or sample population" consisting of senior M&A consultants and senior managers in medium- or large-sized target companies in Europe and North America in low-tech industries to increase the chance of gathering high quality, relevant primary data. This group of people are the most eligible and convenient participant group that allows the qualitative researcher to reach "the most appropriate" sample. For example, the researcher interviewed managers in low-tech industries as all managers in high-tech industries such as aviation and computer industries declined to participate in this research study due to their companies' policies and confidentiality issues during the first months of the data collection process. Also, as the rate of response for an interview request based on the initial sample population (Appendix 4B) was very low, the sample population changed to senior M&A consultants and senior managers in medium- or large-sized target companies in Europe and North America.

4.7.1.2. Sample Design

Researchers can apply different approaches to sampling in academic research. Figure 4.5 shows a spectrum of approaches to sampling. In this research, a purposive sampling method has been applied, as the researcher draws interviewees because of their experience of corporate acquisition and relationship to the research problem. According to Roller and Lavrakas (2015), purposive sampling is the deliberate selection of particular people or groups of individuals for observation or interviewing because of their relationship to the research problem. They argue that purposive sampling is used when (a) the population of interest is very small in size; (b) only certain people have the sought-after knowledge or expertise; and/or (c) the research objectives are aimed at a very specific type of individual or group. Purposive sampling is often used with limited samples and populations with qualitative research (Greener, 2008). Purposive sampling is an approach that is non-probability based sample and is quite deliberately so. Also, in this approach, there is no attempt to create a sample that is statistically representative of a population (Matthews & Ross, 2010). The researcher does not use theoretical sampling as the aim of this method is building theory rather than achieving a sample population' representativeness. In theoretical sampling, sample selection is dictated by the needs of the emerging theory (Saunders, et al., 2016).

To select potential interviewees and a sample that can be shown to be highly representative of the whole population in terms of relevant criteria, the population has been organised into two categories based on a multi-stage sample design to help the researcher address the research questions. Based on a purposive sample approach, the researcher has divided the population into two homogenous groups (senior M&A consultants in M&A advisory service companies and senior managers in acquired companies), each group containing subjects with similar characteristics. The target companies are clustered by operational, geographical, and organisational areas. This sample of selected cases will best enable the researcher to explore the research questions in depth (Matthews & Ross, 2010).

Figure 4.5: A Spectrum of Approaches to Sampling



Source:Matthews and Ross (2010) - Research methods: A practical guide for the social sciences

The sample acquired firms were selected by using the online multi-databases of Bloomberg, Thomson Reuters, Experian Corpfin, Market Line, and Merger Market, which provides information about global and regional M&As. These databases are very comprehensive and provide reliable information sources on acquisitions, and have been used in previous research in this field (Rogan & Sorenson, 2014; Szucs, 2014; Rahman & Lambkin, 2015; Chan & Cheung, 2016). The following five criteria were used in the selection of the acquired cases. First, the acquired had to be a medium- or large-sized company (more than 150 employees) located in Europe and North America. Second, the deal value was more than £3 million. Third, at the time of collecting data, transactions had been completed, and ownership changes had been made by the original acquirers in the target company. Fourth, the acquiring party had to have a stock holding of more than 50%. Fifth, the supply chain of acquired firms had to involve at least some degree of post-acquisition integration: financial, functional, or organisational.

4.7.1.3. Sample Size

A question that often plagues novice researchers is just how large their samples for the research should be. According to Cohen et al., (2011), there is no clear-cut answer, for the correct sample size depends on the purpose of the study, the nature of the population under scrutiny, the level of accuracy required, the anticipated response rate, the number of variables that are included in the research, and whether the research is quantitative or qualitative. As this study is qualitative and requires interviewing senior managers, the sample size has been constrained by access to potential interviewees. Therefore, the sample size is relatively small compared to quantitative studies. In this research, the researcher has pursued a small number of very in-depth interviews with particularly informative interviewees in the M&A field. A sample size of 30 interviews is used by the researcher to get valid and reliable primary data. The researcher spent 14 months reaching this sample size as it was very difficult to access informative interviewees due to their higher positions in organisations. This sample size is suitable as the goal of this qualitative study is not to generalise but rather to provide a rich, contextualised understanding of the supply chain risk management aspect of human experience through the intensive study of particular cases.

A review of existing research and literature on the post-acquisition subject shows researchers have frequently used interview data collection methods based on various sample sizes and focus groups (Graebner, 2004; Deng, 2010; Shook & Roth, 2011; Wei & Clegg, 2014; Zhang, et al., 2015; Rouzies, et al., 2019). Graebner (2004) conducted a qualitative study using over 60 semi-structured interviews with a focus on three groups: the target firm managers, the target firm investors, and buying firm managers to examine the integration of eight technology acquisitions. Deng (2010) examined the performance determinants of cross border M&As by Chinese firms using a case-study research method. As part of the primary data collection process, they interviewed four senior managers who were directly involved in international expansions of two cross-border M&A cases, TCL's merger with Thomson's TV business in 2004 and Lenovo's acquisition of IBM's PC unit in 2005.

As mentioned, participants in the focus groups of this research were selected based on the following two clusters: (a) senior managers in the acquired companies (SMACs); (b) senior M&A integration consultants/experts/executives (M&ACs). A sample size of 30 interviews is used by the researcher to get valid and reliable primary data. To the researcher's knowledge, this research is the first study to collect the primary data from these two clusters in a single research project. Significantly, collecting data from M&ACs,

who possess precious knowledge and experience in the acquisition process and integrating their insights and expertise with SMACs' experience in post-acquisition can increase the validity and credibility of this qualitative research. Also, the research sample size, especially in terms of M&A, has been diverse with other studies. For example, Shook and Roth (2011) explored the impact of post downsizing in M&As and collected their primary data by interviewing 13 HR practitioners. Kato and Schoenberg (2014), conducted a series of semi-structured interviews with 18 major multi-national customers to examine the impact of post-merger integration on the customer-supplier relationship. Zhang et al., (2015) conducted qualitative research to explore the role of leadership during M&A integration using nine in-depth interviews. Rouzies et al., (2019), examined the unfolding of a post-acquisition integration process in an organisation and carried out 151 interviews over three years. They interviewed people from different plants and at different levels of the organisation.

4.7.1.4. Strategies to Gain Access to the Sample Size

Once a qualitative researcher has made all the decisions that are needed to plan the sampling part of the study carefully, a further decision needs to be made about how to gain access to and cooperation from those members of the population who were chosen for study (Roller & Lavrakas, 2015). Probably the largest risk in completing a research project of this scale is the researcher's ability to gain access to and cooperation from the sample. It is important to mention that identifying the target population in this research project was a relatively easy task, but to gain access to the sample size was a very difficult and time-consuming task. The data collection process was the longest and most challenging part of this research project as the researcher spent more than one-year gaining access to the sample size.

In doing a study of target firms' supply chains in post-acquisition through interviewing senior managers in the target companies or senior M&A consultants in big M&A consultancy firms, it may be seen as simple as sending each of them an official letter or email to request their participation in the research study. In reality, gaining access to senior managers who were sampled was the most challenging part of this research project, and the rate of response was less than 1%. The researcher sent more than 250 official letters and 150 emails to potential participants and made many phone calls to target companies and senior managers to request their participation in the research study, which for different reasons they declined or failed to respond to. First, due to the specific requirements of this research project, the researcher needed to interview senior managers, who are in high positions at the organisation and too busy to allocate one hour of their times for academic research. Second, there was little motivation for them to participate as the researcher wasn't able to provide some gift or reward for them to accept the interview request. Finally, many of them declined to participate in this research study due to their companies' policies and confidentiality issues.

As making phone calls or sending email and mail to target population had a very low response, the researcher used different strategies to gain access to the sample size. Using LinkedIn to make the first contact with the sample size and getting their initial acceptance proved useful. Then an official email/letter and research information pack were sent to see whether a short interview could be arranged. Specifically, to find M&A specialists the researcher used LinkedIn to find the people who had been involved in the M&A integration process as their knowledge and experience could be a valuable source of data for the purpose of this study. This online social network platform significantly improved access to the right people and initiated communication with the purpose of arranging a short interview with relevant senior managers.

4.7.2. Collecting Primary Data Through Interviews

Following the specific requirements of this research project, the researcher used narrative inquiry strategy based on ***in-depth semi-structured interviews*** with managers involved in the acquisition process. Managers from a variety of non-high tech industries and different countries were interviewed to obtain robust data on the acquired firms' supply chain disruption risks in post-acquisition.

4.7.2.1. Primary Data Sources and Constraints

In total, 32 senior managers were interviewed over a 14-month timeframe (May 2018-June 2019). To analyse the acquired firm's supply chain disruption risks in different industries the researcher interviewed managers in various industries and positions who had been involved in different types of acquisition, such as vertical, horizontal, or conglomerate. Therefore, the researcher was able to evaluate different supply chain disruption risks based on their acquisition types. Also, to capture research participants' views, experiences, and knowledge at different operational levels, the interviews were conducted with operational, middle, and top managers to create empirical evidence, which validates the outcome of this research project. In particular, these interviewees have been involved in different parts of the supply chain operation including supply-side (upstream), internal production, and demand-side (downstream) or all of them depending on their positions within the acquired companies or their career as a specialist to manage/advise the whole acquisition integration process. Table 4.1 provides more information about the collected primary research data using interviews.

Table 4.1: Primary Research Data Using Interviews

Interview Number	Participant's Position	Date of Interview	Interview Duration	Interview Format	Interview Category
Interview 01	Senior M&A consultant in the M&A consultancy company	15 May 2018	29 minutes	Zoom	Pilot Interview
Interview 02	Senior M&A consultant in the M&A consultancy company	17 May 2018	28 minutes	Telephone	Pilot Interview
Interview 03	Senior manager in the acquired company	24 May 2018	49 minutes	Face to Face	Main Interview
Interview 04	Senior manager in the acquired company	26 June 2018	34 minutes	Face to Face	Main Interview
Interview 05	Senior manager in the acquired company	26 June 2018	37 minutes	Face to Face	Main Interview
Interview 06	Senior manager in the acquired company	05 October 2018	54 minutes	Face to Face	Main Interview
Interview 07	Senior manager in the acquired company	05 October 2018	28 minutes	Face to Face	Main Interview
Interview 08	Senior manager in the acquired company	27 February 2019	45 minutes	Face to Face	Main Interview
Interview 09	Senior manager in the acquired company	28 March 2019	22 minutes	Telephone	Main Interview
Interview 10	Senior M&A consultant in the M&A consultancy company	14 April 2019	33 minutes	Skype	Main Interview
Interview 11	Senior manager in the acquired company	14 April 2019	32 minutes	Zoom	Main Interview
Interview 12	Senior M&A consultant in the M&A consultancy company	18 April 2019	28 minutes	Telephone	Main Interview
Interview 13	Senior manager in the acquired company	19 April 2019	28 minutes	Zoom	Main Interview
Interview 14	Senior manager in the acquired company	24 April 2019	27 minutes	Telephone	Main Interview
Interview 15	Senior manager in the acquired company	25 April 2019	44 minutes	Zoom	Main Interview
Interview 16	Senior manager in the acquired company	29 April 2019	28 minutes	Telephone	Main Interview
Interview 17	Senior manager in the acquired company	30 April 2019	30 minutes	Telephone	Main Interview
Interview 18	Senior manager in the acquired company	30 April 2019	34 minutes	Telephone	Main Interview
Interview 19	Senior M&A consultant in the M&A consultancy company	03 May 2019	42 minutes	Telephone	Main Interview
Interview 20	Senior M&A consultant in the M&A consultancy company	07 May 2019	35 minutes	Telephone	Main Interview
Interview 21	Senior M&A consultant in the M&A consultancy company	08 May 2019	32 minutes	Telephone	Main Interview
Interview 22	Senior manager in the acquired company	08 May 2019	56 minutes	Telephone	Main Interview
Interview 23	Senior M&A consultant in the M&A consultancy company	10 May 2019	29 minutes	Telephone	Main Interview
Interview 24	Senior manager in the acquired company	10 May 2019	31 minutes	Telephone	Main Interview
Interview 25	Senior M&A consultant in the M&A consultancy company	14 May 2019	32 minutes	Telephone	Main Interview
Interview 26	Senior M&A consultant in the M&A consultancy company	15 May 2019	44 minutes	Zoom	Main Interview
Interview 27	Senior M&A consultant in the M&A consultancy company	15 May 2019	51 minutes	Telephone	Main Interview
Interview 28	Senior M&A consultant in the M&A consultancy company	17 May 2019	36 minutes	Zoom	Main Interview
Interview 29	Senior manager in the acquired company	24 May 2019	35 minutes	Telephone	Main Interview
Interview 30	Senior manager in the acquired company	05 June 2019	44 minutes	Telephone	Main Interview
Interview 31	Senior M&A consultant in the M&A consultancy company	11 June 2019	25 minutes	Telephone	Main Interview
Interview 32	Senior M&A consultant in the M&A consultancy company	25 June 2019	38 minutes	Telephone	Main Interview

Undertaking cross-sectional qualitative research involving in-depth interviews with more than 30 people from different companies enabled the researcher to examine interactions between the factors or effect of each independent variable on the supply chain disruption risk of the acquired firm following the first year of ownership change. In order to increase the validity of the data and assess these risks from three perspectives: the inbound material/information flow from the supplier (supply-side), the internal production processes, and the outbound material/service flow to the customer (demand-side), the researcher increased the sample for interviews as much as possible within three constraints:

1. All interviewees are currently involved in post-acquisition or have been involved in post-acquisition in recent years.
2. Their organisations were target companies acquired by other companies or as advisory companies involved in the post-acquisition integration process.
3. Interviewees hold different organisational roles/positions during the post-acquisition integration process.

The reason for the first constraint is to ensure that all interview participants have relevant knowledge and experience to contribute to the research topic. In particular, they know about one tier of supply chain operations and processes at least. With regards to the second constraint, as the primary focus of this research project is on acquired firms, only potential interviewees involved in the supply chain integration of the acquired firms in post-acquisition have been considered in the sample. Therefore, only interviewees who have knowledge and experience of the vulnerability and uncertainty of the acquired company's supply chain (not the acquiring company) are deemed suitable for this research project. The last constraint is set to test different tiers of theoretical frameworks and ensure the findings capture the viewpoints of different levels within the target company. Accordingly, the interviews have been arranged with various people such as M&A managers, supply chain managers, operational managers, project managers, or project team members, who can provide a better and more realistic image of the acquired firms' supply chain in the first year after the ownership change.

4.7.2.2. The Rationale for Data Source Selection

As discussed in the literature review chapter, the integration process in post-acquisition involves bringing together the people, operations, processes, and systems of two organisations. Therefore, people who have been part of the post-acquisition integration process or who have been part of integration projects and actively execute the integrated supply chain tasks, such as M&A consultants, are a rich source of data as their experience in the running and handling a post-acquisition supply chain provides insights into what actually happens during the integration process. Table 4.2 shows a demographic profile of interviewees. As we can see, the main primary research data consist of interviews with 30 individuals (excluding pilot interviews) who are post-acquisition integration executives and experts or managers in the target companies at various levels such as directors, M&A managers, operations managers, or commercial managers. These people experienced corporate acquisition in different positions and industries, which gives the opportunity to the researcher to analyse supply chain disruption risks across multiple levels.

In general, the rationale for data source selection has been threefold. First, the aim was to uncover underlying supply chain risk factors and see how they differed across organisations in a variety of industries and product types. Second, to evaluate how types of acquisitions and firms' supply chain characteristics influenced the nature of disruption risks. Finally, the researcher also wanted to compare the design and execution of supply chain integration or supply chain strategies in post-acquisition by acquired firms to minimise disruption risks and maximise the probability of success in corporate acquisition activities. To do this, the researcher used cluster sampling and compared their insights regarding supply chain disruption risks and strategies to overcome those risks in-post-acquisition. Cluster one consists of senior managers in the acquired companies (SMACs) who have experienced or were involved in post-acquisition as a key manager at various levels such as directors, M&A managers, or operation managers. Cluster two consists of senior M&A integration consultants/experts/executives (M&ACs) in big M&A consultancy firms who have been involved in many post-acquisition integration projects over recent years. Table 4.2 provides more information about these managers.

As we can see from table 4.2, 60% of the sample population (18 interviews) are related to cluster one, and 40% of the sample population (12 interviews) are related to cluster two. The researcher used this ratio for two main reasons. First, collecting more data directly from senior managers in target companies (cluster one) can provide richer and more detailed information of different dimensions of post-acquisition integration and its impact on multiple layers of supply chain/operation management. They can provide information as people who have experienced a real acquisition in their organisations. Second, due to senior M&A integration consultants/experts/executives' (cluster two) knowledge and experience related to the research topic, generalisability of emerged data from these people is relatively easier than cluster one. Therefore, the researcher has tried to allocate the biggest proportion of the sample population to cluster one.

Table 4.2: Demographic Profile of Interviewees

Sample Clusters	NVivo Interview Code	Interviewee's Position	Company's Location	Experience in the Acquired firm	Experience in M&A Advisory Field
Cluster One	SMAC-01	Group Operations Director	United Kingdom	28 years	X
	SMAC-02	Group Quality Manager	United Kingdom	11 years	X
	SMAC-03	Group Head of Purchasing	United Kingdom	10 years	X
	SMAC-04	Group Chief Operating Officer	United Kingdom	27 years	X
	SMAC-05	Group Sourcing Director	United Kingdom	5 years	X
	SMAC-06	Director of M&A	United Kingdom	7 years	X
	SMAC-07	Chief Operating Officer, Infrastructure & Environment	United Kingdom	2 years	X
	SMAC-08	Business Development Manager	Canada / United Kingdom	3 years	X
	SMAC-09	Regional Sales Manager	Belgium / United Kingdom	3 years	X
	SMAC-10	Marketing Director	United Kingdom	5 years	X
	SMAC-11	Vice President, Business Development Manager	USA / United Kingdom	2 years	X
	SMAC-12	Vice President, Business Development and Project Manager	Canada	3 years	X
	SMAC-13	Managing Director	United Kingdom	15 years	X
	SMAC-14	Business Development Manager	Canada / United Kingdom	3 years	X
	SMAC-15	Supply Planning Manager: Croatia, Hungary & Serbia Factories	Croatia / United Kingdom	14 years	X
	SMAC-16	Vice President Of Business Development	United Kingdom	3 years	X
	SMAC-17	International Commercial Director	United Kingdom	11 years	X
	SMAC-18	VP Design & Development	United Kingdom	7 years	X
Cluster Two	M&AC-01	M&A Senior Advisor	United Kingdom	X	14 years
	M&AC-02	M&A Integration Specialist	United Kingdom	X	20 years
	M&AC-03	Supply Chain Integration Director / M&A Advisor	USA / United Kingdom	X	28 years
	M&AC-04	M&A Post-Acquisition & Business Integration Senior Specialist / Managing Director	United Kingdom	X	30 years
	M&AC-05	Global Operations Integration Director / M&A Digitalisation	Belgium / United Kingdom	X	20 years
	M&AC-06	Senior M&A and Integration Manager	United Kingdom	X	20 years
	M&AC-07	Co-founder of Global PMI Partners - Senior M&A Consultant	Sweden / Belgium	X	28 years
	M&AC-08	Senior M&A Consultant	Australia	X	20 years
	M&AC-09	Head of M&A Integration - CEO	Germany	X	27 years
	M&AC-10	Senior Integration Management Director	Germany / Belgium	X	8 years
	M&AC-11	Chief Operating Officer & M&A Integration Manager	United Kingdom	X	20 years
	M&AC-12	Senior Global Workforce Transition and M&A Manager	United Kingdom	X	10 years

Codes: Merger and Acquisition Consultant (M&AC) / Senior Manager in Acquired Company (SMAC)
Sample Clusters: Cluster One - Senior managers in the target companies / Cluster Two - Senior M&A integration consultants; experts; executives

4.7.2.3. The Acquired Companies Profile

As discussed in the literature review chapter, it is generally agreed that organisational integration is a complex phenomenon and results in significant disruption (Puranam, et al., 2003; Sorescu, et al., 2007; Kapoor & Lim, 2007; Chatterjee, 2009; Sears & Hoetker, 2014). The differences in the types of products and their distinct supply chain network contexts have direct impacts on the appropriate dimensions of supply chain integration activity and performance (Li, et al., 2005; Stonebraker & Liao, 2006). Additionally, different types of acquisitions, such as forward and backwards, can yield different outcomes because of risk considerations (Avinadav, et al., 2017). As we can see from table 4.3, in cluster one, 18 senior managers from 12 target companies in different industries have been interviewed to answer the research questions. The diversity of the acquired firms, industries, and their types of acquisition will help the researcher to have a better understanding of supply chain disruption risks in target firms in post-acquisition.

Table 4.3: Acquired Companies Profile and Deal Attributes

Acquired Companies	*NVivo Interview Code*	*Target Industry Sector*	*Target Country*	*Acquirer Industry Sector*	*Acquirer Country*	*Deal Attributes*	*Types of Acquisition*	*Completion/ Termination Year*
Company A	SMAC-01	Communications / Manufacturing	United Kingdom	Communications / Manufacturing	China	Company Takeover / Cross Border	Horizontal / Market Extension	2016
	SMAC-02							
	SMAC-03							
Company B	SMAC-11	Pharmaceutical / Service	United Kingdom	Financial / Service	USA	Company Takeover / Cross Border	Conglomerate	2018
	SMAC-16							
	SMAC-18							
Company C	SMAC-04	Technology / Manufacturing	United Kingdom	Technology / Manufacturing	Japan	Company Takeover / Cross Border	Product and Market Extension	2015
	SMAC-05							
Company D	SMAC-08	Pharmaceutical / Service	United Kingdom	Technology / Manufacturing	United Kingdom	Company Takeover	Conglomerate	2018
	SMAC-14							
Company E	SMAC-06	Engineering / Service	United Kingdom	Engineering / Service	Canada	Company Takeover / Cross Border	Horizontal / Market Extension	2017
Company F	SMAC-07	Engineering / Service	United Kingdom	Engineering / Service	Japan	Company Takeover / Cross Border	Horizontal / Market Extension	2017
Company G	SMAC-09	Technology / Service	United Kingdom	Financial / Service	United Kingdom	Company Takeover	Conglomerate	2018
Company H	SMAC-10	Industrial / Manufacturing	United Kingdom	Financial / Service	South Africa	Company Takeover / Cross Border	Conglomerate	2018
Company I	SMAC-12	Pharmaceutical / Service	Canada	Pharmaceutical / Manufacturing	Luxembourg	Company Takeover / Cross Border	Horizontal / Market Extension	2017
Company J	SMAC-13	Engineering / Service	United Kingdom	Financial / Service	United Kingdom	Company Takeover	Conglomerate	2017
Company K	SMAC-15	Tobacco / Manufacturing	Croatia	Tobacco / Manufacturing	United Kingdom	Company Takeover / Cross Border	Vertical	2015
Company L	SMAC-17	Cosmetics / Manufacturing	United Kingdom	Cosmetics / Manufacturing	Brazil	Company Takeover / Cross Border	Horizontal / Market Extension	2017

4.7.3. Semi-Structured Interview

This research project focuses on supply chain risks in post-acquisition. To understand to what extent the acquired firm's supply chain will be at risk of disruption in the first year after the acquisition and how the potential risk factors can be mitigated, exploratory semi-structured interviews were arranged with SMACs and M&ACs. As interviewees have been involved in the post-acquisition integration process, it allows post-acquisition integration phenomena to be described and supply chain risk factors to be discussed. According to Greener (2008), a qualitative research interview aims to let the respondent describe his or her experience, and due to the complex and open-ended nature of the questions, a ***semi-structured in-depth interview*** is likely to be the most advantageous approach in obtaining data (Saunders, et al., 2012).

The use of a semi-structured in-depth interview is an appropriate technique to gather valid and reliable data that are relevant to the research questions and objectives. In this exploratory and explanatory research to answer what the main supply chain disruption risks in post-acquisition are and how they can be managed, in-depth interviews can be very helpful to find out what is happening in the target company's supply chain in post-acquisition and to understand the SCRM context. Semi-structured interviews provide important background or contextual material for this study. Although semi-structured interviews are a rich source of data for this research study and allow questioning to explore supply chain issues, they have been very time-consuming and expensive for the researcher.

As mentioned, all primary data was collected principally through qualitative semi-structured interviews as they have the potential to generate contextualised data. Under the ***pragmatist paradigm*** adopted for this research, interviews were employed to comprehend interviewees' views of the acquired firms' supply chain risks and problems in post-acquisition. Using semi-structured interviews of SMACs and M&ACs in this research is a value because of both the structure and the flexibility of this type of interview. In addition, the semi-structured interviews were sufficiently open-ended to enable the contents to be reordered, new avenues to be included, and further probing to be undertaken (Cohen, et al., 2011). As firms involved in acquisitions are usually large organisations, arranging interviews with individuals in senior positions is very difficult. However, access to these people can be a valuable source of insight for researchers even where the particular set of interview questions or prompts are not an exact match for the requirements of the research (O'Gorman & MacIntosh, 2014).

4.7.4. Design of Interview Questions

As mentioned in table 4.2, the interviewees have different positions and responsibilities in the acquired firms (cluster one – SMACs) or have M&A integration experience (8-28 years of experience) based on their positions as consultants/experts/executives in big M&A consultancy firms (cluster two –M&ACs). Also, they have been involved in different parts of the supply chain operation including supply-side (upstream), internal production, and demand-side (downstream) or all of them depending on their position within the acquired companies. As the data collection was executed through semi-structured interviews, the researcher has prepared nine main question areas in advance for the interviews. According to the level and position of participants, the researcher prepared four designs of the interview questions before conducting interviews (see Appendix 4C). In all interviews, these nine key question areas have been asked in different ways. These questions, including other related documents such as a research synopsis, participant information sheet, and Brunel University ethical research approval (Appendix 4D) were sent to participants several days before interviewing as part of the introductory material. Having this material can be helpful for respondents to understand the interview aims and procedures. They also will be able to prepare more descriptive and factual answers about the topic before the interview time. The general questions in four different designs have been carefully and logically ordered to make sense to the respondents. In addition, the design of the general questions has been based on the research questions and objectives with a concentration on the initial theoretical framework of this research project. Therefore, the interview questions covered all three tiers of the theoretical framework and applied the DCT in this research.

Having these questioners' designs helped to collect more relevant and valuable data related to the supply chain disruption risks of acquired firms in each stage of operation. For example, more demand-side related questions from marketing managers can help the researcher to have a better discovering of potential supply chain disruption risks regarding the company's buyers. All questions in the process of interviews were open-ended questions. Conducting open-ended questions is a good strategy to explore the personal reactions of the participants, and a great range of topics can be explored and compared to the structured way (Hammond & Wellington, 2013). The use of open-ended questions, gave more opportunity to interviewees to share their experience in terms of how they participated in the supply chain integration process, their roles, what went well and what did not, potential risks, challenges and issues surrounding supply chain integration design and execution in the first year after acquisition.

4.7.5. Interview Procedure

The data for this research project was collected over 14 months (May 2018 – June 2019). As highlighted in table 4.1, the first two interviews were pilot interviews, which were audio-recorded and transcribed to improve the quality of the main interviews. They are intended not for data collection as such but as an aid to the design of later research. By conducting these pilot interviews, the researcher tried to see if the subject being investigated was adequately (or potentially adequately) captured by the proposed interview procedure and schedule of questions. All main 30 one-to-one interviews were conducted by phone or internet mediums (Skype or Zoom) or face-to-face at the acquired firms, and they were audio-recorded and professionally transcribed. The researcher received permission before recording the interviews and kept the information as private and confidential as possible in the process of this research.

All interviews took place in English, and the researcher chose only those interviewees who had a significant role in the post-acquisition integration process as the aim was to get in-depth information about the acquired firm's supply chain uncertainty and vulnerability following the first year after acquisition. So, the focus of data collection was on key members of the supply chain post-acquisition integration team (SMACs) or M&A consultants (M&ACs). For each acquired firm, the researcher interviewed as many different people in charge of the post-acquisition integration process as possible and then asked for their recommendations and potential strategies to reduce/mitigate the impact of disruption risks resulting from an acquisition. As convincing people to participate in this research study was very difficult, the researcher could only arrange multiple interviews from managers in 12 target companies, as explained in table 4.3.

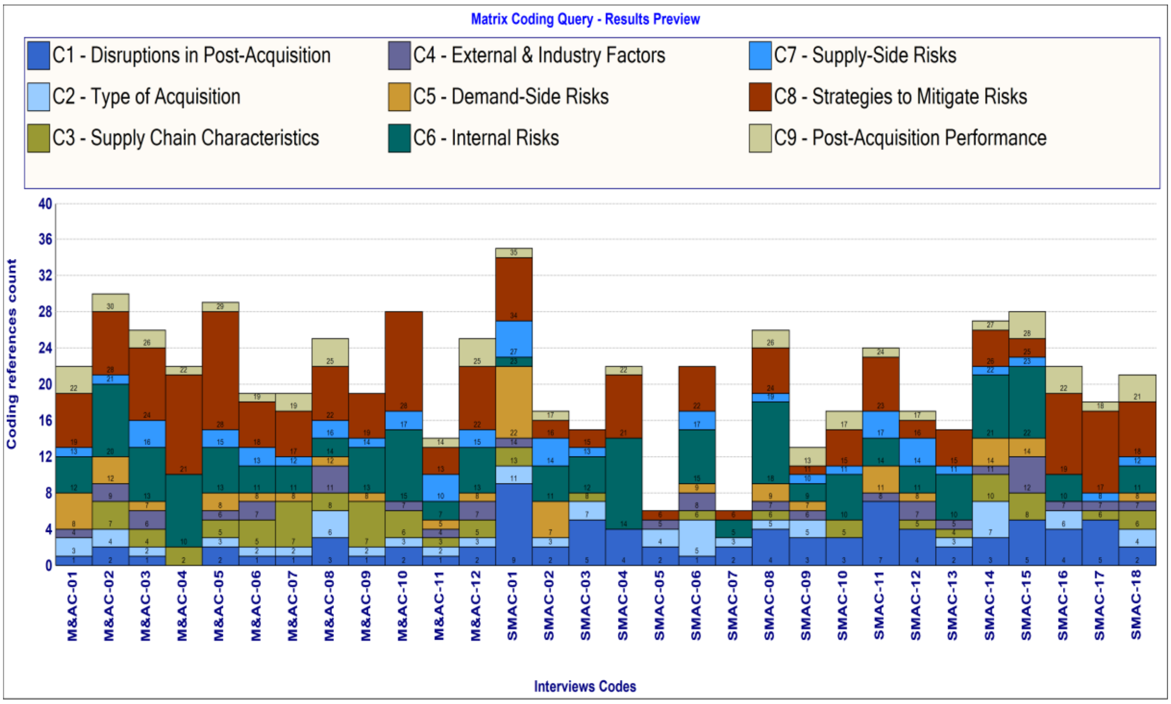
4.8. Data Analysis

Cohen et al., (2011, p. 27) state "qualitative data analysis involves organising, accounting for and explaining the data; in short, making sense of data in terms of the participants' definitions of the situation, noting patterns, themes, categories and regularities". There are several approaches to qualitative data analysis. Saunders et al., (2016) discussed two approaches: deductive or inductive. As mentioned, this research study is conducted under an inductive approach. This approach gives a close understanding of the research context, and the researcher can gain an understanding of the meanings that humans attach to events. It is also an appropriate approach to data analysis, as the researcher starts to collect data and then explores it to see which themes or issues to follow up and concentrate on. This helps the researcher to generate knowledge based on a collaboration with managers, executives, and decision-makers, who have been attached to post-acquisition events as the participants of this research study.

There are significant complexities and challenges associated with the empirical examination of explanations for M&A activities (Seth, et al., 2002). Accounting-based methods or market figures can be considered the main measures applied by M&A scholars. It is important to mention that "focusing on what is measurable means that one might overlook other aspects of M&A processes that are likely to affect M&A outcomes" (Meglio & Risberg, 2010). The quantitative data have been collected to examine supply chain disruption in post-acquisition. Qualitative data analysis is often heavy on interpretation. In constructing a narrative qualitative data analysis, "the researcher can introduce verbatim quotations from participants, where relevant and illuminative; these can add life to the narrative and often convey the point very expressively – without it being mediated or softened by the academic language of the researcher" (Cohen, et al., 2011, p. 553). In the data analysis of this research project, the researcher has used verbatim quotations in different parts of both the data analysis and findings chapter and the discussion chapter to convey the point very expressively.

Narrative analysis by dealing with research interview data looks at statements produced by individuals (Newby, 2014). According to Tracy (2013), transcribing is a key part of the data analysis process in academic research. Transcription facilitates the close examination of data, which is so imperative for interpretation. When the primary data was collected, the data analysis process started with transcribing audio files and organising the data. The key results of qualitative data analysis have been represented in the findings chapter (chapter five) of this paper. A qualitative data analysis software, namely NVivo, were used for the content analysis of qualitative data. First, all transcripts and academic journals loaded into NVivo. The researcher then categorised academic journals into different topics such as SCM, post-acquisition integration, and risk management, and read the transcripts by highlighting and coding them. Table 4.2, the demographic profile of interviewees, shows coding of interviewees through allocated NVivo code for each interview transcript. As shown in figure 4.6, to make the data analysis process easier based on nine main categories of this research, nine nodes have been created. As mentioned, important explanations related to each node have been highlighted by the researcher, and we can see coding references count for each node. Participants provided more information related to category 6 (internal risks) and category 8 (strategies to mitigate supply chain disruption risks).

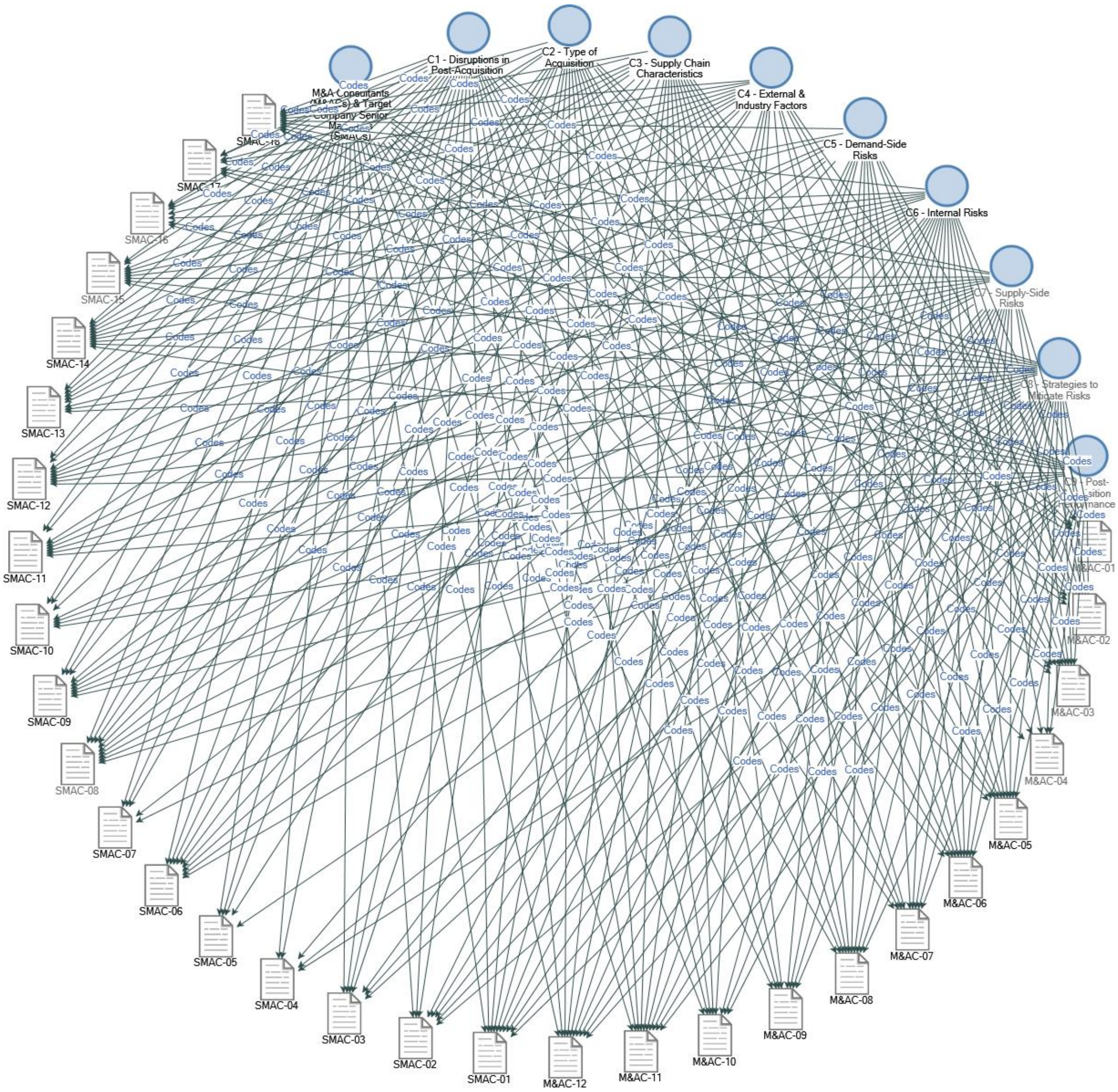
Figure 4.6: NVivo Nodes of Interview Transcripts



Using NVIVO, different content analysis and several queries have been performed that explained in section 5.5. These queries provide some interesting evidence of qualitative data regarding the relationship between the statements of the interviewees. Also, it enabled the researcher to create a project map to explain the relationship between the nine nodes of this research project and the statements of the interviewees. Figure 4.6 shows a map of this research project.

Using this software helped the researcher to search large data sets, including hundreds of academic journals and interview transcripts. The main reasons for using this qualitative data analysis software were saving time, reducing human error in the data analysis process, increasing the credibility and reliability of data analysis, and the potential for identifying unexpected insights, ideas and preservation of rich textual narrative. It helped the researcher to create codes to identify patterns and themes across the data sets. All interview transcripts, as well as related academic journals, were coded and entered into NVivo software in order to make the data analysis manageable and attempt to limit the interrelatedness of the variables. The concepts in the theoretical framework of this research were used as nodes for coding (labelling and systematising the data) the empirical data. All qualitative data organised according to the research theoretical framework elements and nine categories, due to the iterative nature of this study. Therefore, by coding and analysing collected qualitative data through NVivo software, the researcher created more precise and credible analytic claims.

Figure 4.7: The Project Map



4.8.1. Process of Data Analysis and Coding

The process of data analysis began with the verbatim transcription of conducted interviews. This process was one of the most difficult and time-consuming parts of this research project as the researcher needed to transcribe all audio files (around 20 hours of audio data) into text documents. A separate transcript was created for each interview, and all 32 interview transcripts (including two pilot interviews) (Appendix 4E) were coded and imported as data source files into the NVivo software. Then, each interview transcript was read and analysed word by word by the researcher several times to validate unique codes using the content analysis approach. For content analysis, the researcher used the coding feature of the NVivo, which involved identifying, analysing, and reporting patterns within the collected data. In total, more than 600 statements have been highlighted related to nine main categories (or NVivo nodes) of this research project (Appendix 4F).

The researcher used the inductive or bottom-up analysis for identifying more richer data-driven themes providing an in-depth description of the critical post-acquisition supply chain issues raised by the participants. Various methods of coding data have been applied in this research project based on the type of participants divided into two main clusters – SMACs and M&ACs. All interviewees and target companies were strategically coded to enable qualitative data that was aggregated and analysed via descriptive measurements. No prior list of codes for interviews and target companies was utilised as the researcher created data-driven codes that emerged from the interview data. NVivo has a powerful codification function that has been very useful in categorising qualitative data generated from interviews into structural themes. After completing the coding of all interview transcripts using NVivo's codification function, the researcher exported the codes list with further explanation about each interview in different Excel spreadsheets (tables 4.1; 4.2; 4.3). This data coding structure made the data analysis easier. It helped the researcher to categorise different supply chain risks factors and strategies to manage such risks based on data generated from the interviews. The results of the data analysis are in chapter five, supported by NVivo queries.

4.9. Validity, Reliability, and Generalisability

The factors of reliability, validity, and generalisability of qualitative research are important in the data gathering process, and to overall research quality, they increase the credibility of a qualitative study (Ali & Yusof, 2011; Roller & Lavrakas, 2015). These factors are described below.

4.9.1. Validity

According to Matthews and Ross (2010), validity is a measure of research quality. Validity in research means that the data that researchers are planning to gather and work with to answer the research questions is a close representation of the social reality they are studying. In other words, it means whether researchers are actually capturing what they intended to study and accurately reporting what they have seen or heard (Ali & Yusof, 2011). The researcher has considered two main criteria to make this piece of research valid. First, the data is ***representative*** of the post-acquisition issues that this research project is investigating. The researcher has paid particular attention to the processes of sampling and choosing examples. To meet this validity requirement, the researcher carefully selected managers who have enough knowledge and experience about the M&A process and its impacts on companies' supply chain operations. The researcher properly recorded and transcribed all interviews and accurately reported the methodological process. Our sample, which includes 32 senior managers in acquired companies (SMACs) and M&A Consultants (M&ACs), is representative of the issues and provides the ability to collect data that has a high likelihood of being meaningful. Also, the diversity of participants' positions, responsibilities, and experiences significantly helped the researcher to develop valid knowledge to support post-acquisition supply chain disruption problem-solving.

Second, the presentation of the entire research processes and results are ***transparent***. "Without transparency, people will start to think that problems have been swept under the carpet" (Newby, 2014, p. 18). To meet transparency expectations, in section 4.7.1, the researcher has specified the sampling process and the reasons for selecting the particular sample size. In particular, it has been tried to be clear about why and on what basis the researcher selected a specific sample size, and how many people responded to interview requests. Also, it has been tried to be transparent about the problems the researcher faced during the five years of this research project.

Furthermore, the researcher considered qualitative validity by checking the accuracy of the findings. Content validity was supported by a domain search of previous literature, executive interviews, careful synthesis and critical evaluation of existing constructs, two pilot interviews, and an iterative construct review. After data collection, the researcher performed a series of analyses to test the validity of the constructs. Also, the data analysis process helped the researcher to ensure that the theoretical framework of this research satisfied established criteria for the validity and credibility of qualitative research. By checking the interview questions beforehand and amending some of them based on pilot interviews, the researcher makes sure that the research questions valid and each respondent is given the same opportunity to respond.

4.9.2. Reliability

According to Crowther and Lancaster (2008, p. 80), "reliability relates to the extent to which a particular data collection approach will yield the same results in different occasions". Reliability is essentially about consistency (Adams, et al., 2007). In the process of this research, the researcher constructed different variables such as 'post-acquisition performance' and "types of acquisition" and asked respondents a series of questions to garner their opinions related to these variables. According to Saunders et al., (2016, p. 202), "reliability refers to replication and consistency". In this research projects, the researcher replicated earlier research designs in terms of applying DCT and achieved the same findings that DCs play critical roles to manage supply chain risks successfully (Blome, et al., 2013; Lee & Rha, 2016; Aslam, et al., 2018), and to improve organisational performance (Protogerou, et al., 2011; Wang, et al., 2015; Jiang, et al., 2018). The researcher used a clear and unambiguous definition of all the variables and concepts during the data collection process and artificial constructs being used in the research design. To ensure consistency of data collection (dependability), reliability, and credibility, the researcher conducted a member checks (respondent validation) before the interview process, involved in a prolonged engagement in the field, and persisted in carrying out more observations in the field.

Furthermore, to increase the reliability of the research process, the researcher independently conducted the analysis using NVivo qualitative analysis software for improving the reliability and accuracy of the interviews data analysis compared to manual procedures. Also, to ensure the credibility and reliability of data that are generated in qualitative content analysis through the transcribing, coding, and analysing processes, the researcher regularly monitored the consistency and accuracy of the data. The researcher used a semi-structured interview approach, which increases reliability and scope for comparability (O'Gorman & MacIntosh, 2014). In the data analysis process, the researcher considered a constant data comparison method. All 30 interview transcripts have been reviewed, and the codes, themes, and findings repeatedly checked to ensure the reliability and accuracy of the data analysis process and outcomes of the present study.

4.9.3. Generalisability

Generalisability is another dimension of validity quality in data. It relates to the extent to which results or outcomes from data can be generalised to other situations (Crowther & Lancaster, 2008). "Generalisation can often be the key to a successful study" (Salkind, 2017, p. 86). According to Newby (2014), the researcher should know where their research might lead, either to a deeper understanding of a specific situation and even the development of a model or to a general understanding and the development of a theory or model. The aim of this research is to have to a deeper understanding of the target company's supply chain disruption risks in post-acquisition and any generalisation from this piece of research is in the form of a model and not a theory. Generally, qualitative research is associated with low generalisability (Salkind, 2017). Due to the inductive nature of this research, observation, analysis, and assessment have been critical parts of this study. The researcher generalised the findings based on careful observation of existing literature and analysis of data. For example, if other people have assessed things like conflict, cultural shock, and miscommunication in post-acquisition integration, the researcher generalised certain patterns from the data.

Furthermore, the researcher avoided personal biases and developed codes using a data-driven approach, which was relevant to the categories of this research indicated in the initial theoretical framework (Figure 3.4) to ensure the generalisability of the findings. The researcher increased the sample size to 30 interviews to lower the likelihood of error in generalising to the target population. In addition, the researcher based on a summary of findings has developed two theoretical frameworks, which the revised theoretical framework (Figure 6.1) could usefully be tested against for generalisability in larger-scale empirical work. Finally, as discussed in section 7.6.2, all findings of this research project may not be generalisable because the sample population used and the nature of an interpretive study. In the process of this research, a relatively small number of in-depth interviews has been conducted, including 18 senior managers in acquired companies (SMAC) and 12 M&A Consultants (M&AC). In addition, this study involved only 12 target company, limiting representation to a small number of acquisitions, types of acquisitions, and industries of operation. Therefore, there are limits to some generalisation that can reasonably be made from the research findings of the present study.

4.10. Ethical Issues

Throughout a research project, it is important to consider and engage in ethical practices and to predict the ethical concerns that will likely arise (Creswell, 2014). As mentioned by Saunders et al., (2012), business and management research studies almost inevitably involve individual participants and ethical considerations are greatest where research involves people, regardless of whether the research is conducted person-to-person. The ethical considerations of a research study that need to be anticipated are extensive. The ethical considerations and issues are reflected in the research process and apply to all research methods and all stages of research (Cohen, et al., 2011; Creswell, 2014). The researcher has considered the following factors to address the ethical issues during this research project:

- **Prior to conducting the research study**: the researcher anticipated potential ethical issues related to data collection and received the Brunel university research ethical approval (Appendix 4D).
- **Beginning the research study**: the researcher identified a research problem related to a target company's supply chain disruption in post-acquisition

whose solution will benefit participants. The researcher contacted participants and disclosed the general purpose of the study. There was no pressure on participants to participate in this research study, and their concerns and differences were respected.

- **Collecting data**: the researcher was truthful and direct with participants and made sure that all of them received the same treatment. The researcher discussed the purpose of the current study and how collected data would be used with full regards to data protection and privacy. Also, during the interview, the researcher stuck to questions stated in the interview protocol and sent to the participants beforehand.
- **Analysing data**: the researcher respected the privacy and anonymity of participants and reported contrary findings.
- **Reporting, sharing, and storing data**: the researcher avoided plagiarism and disclosing participants' personal information. The researcher reported all findings in an honest manner and stored confidential data and materials securely.

Chapter 5: Data Analysis and Findings

5.1. Introduction

The central purpose of this chapter is to analyse the primary data and present the findings of this study. As mentioned in the last chapter, the study at hand makes use of a qualitative research method, as the researcher collected non-numerical, qualitative data in the process of this research. The structure of this chapter has been grounded in the logic of the initial theoretical framework of this research. The chapter has been organised in terms of three generic types of DCs discussed in chapter 3. It is important to mention that the categories explained (e.g. C3, C6 and C8) are based on themes that emerged from the findings of this research project.

This chapter consists of five main sections. The first section provides a profile of 12 target companies investigated in this study. The second section provides a short background of participants in this research project. These participants have been divided into two main clusters to have a deeper insight into target companies' business environments in post-acquisition. Then, in the third section, building on a data set of 30 interviews, the findings of this research study are presented. As this research draws upon DCT of firm organisation and explores how DCs resulting from a corporate acquisition can enable the target company to manage supply chain disruption risks in post-acquisition and increase acquisition performance, data analysis has been structured based on this theory. Therefore, all findings have been presented in a clear and logical sequence based on three generic types of DCs and the nine categories discussed in chapter three. The fourth section provides some diagrams extracted from NVivo data analysis software to improve transparency and accountability. The last section provides a summary of the data analysis and the findings presented in this chapter.

5.2. Target Company Profiles

In the research methodology chapter, a basic profile of the target companies in the sample population of this research study was provided (Table 4.3). All these organisations have been acquired by others over the last five years (2015-2018). These companies are in secondary and tertiary sectors, representing different supply chain characteristics and different integration levels with the acquiring companies. These 12 target companies are operating in different industries and markets. Although the majority of the target companies are in the UK, they are multinational organisations. Some of the interviewees work for these companies in other countries such as Canada or the USA. Additionally, these target companies represent different types of acquisitions, and the majority of the acquiring companies are not British, they are multinational organisations from five different continents. This diversity of operations, structures, locations, and type of acquisitions can significantly help the researcher to answer the research questions and meet the objectives of this study.

5.3. Participants' Demographics

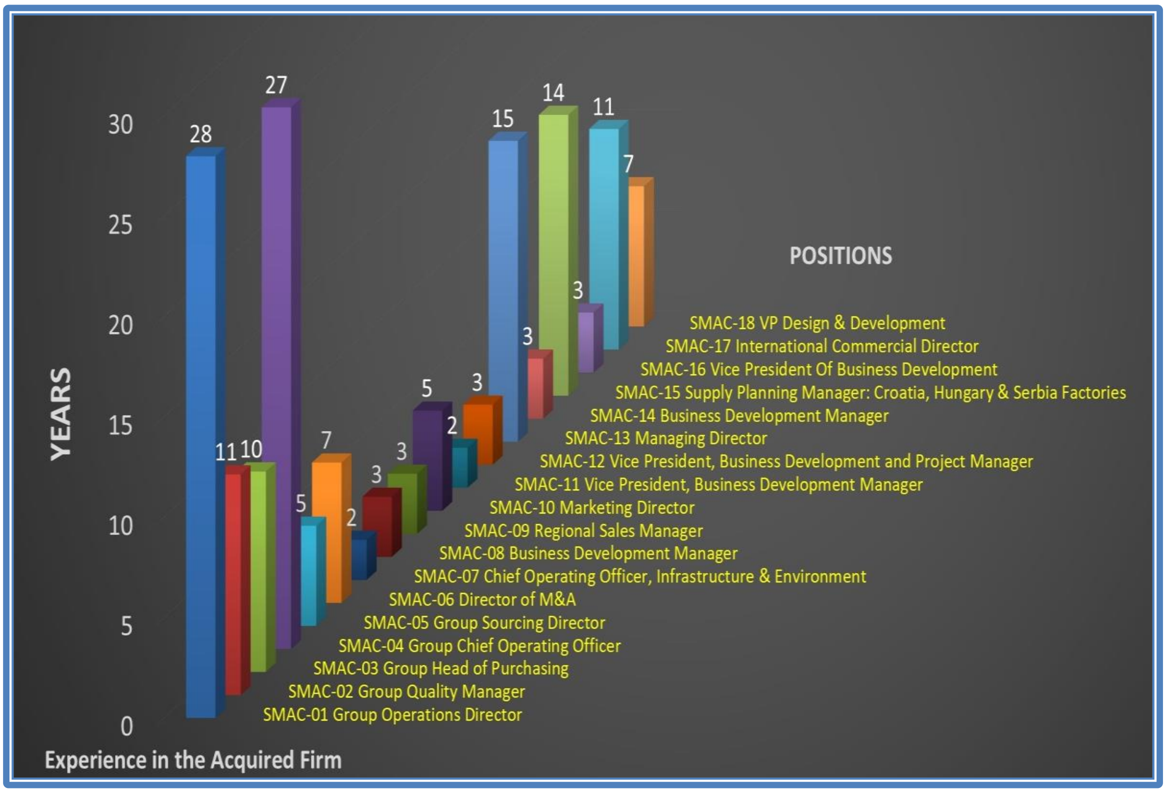
In the research methodology chapter, the sample population and demographics of participants in this research study were briefly discussed. As explained, 30 senior managers who have been involved/experienced/managed post-acquisition integration participated in this research study (see Table 4.2). All interviewees provided answers to questions based on the nine categories, drawing on their individual experience and different organisational roles/positions during the post-acquisition integration process. To have a better understanding of supply chain disruption risks and supply chain disruption management in post-acquisition, the researcher used cluster sampling and collected data from two main clusters. As all interviewees are currently involved in post-acquisition or have been involved in post-acquisition over the past few years, and have had different levels of experience and engagement in the post-acquisition process, they generate a diverse data set, which needs to be sorted and analysed to answer the research questions.

5.3.1. Cluster One

In order to explore the target company's supply chain disruption risks, the first option is to receive data from the target companies' workforce. As not all people in the target companies may be able to answer the research questions and have not been strategically involved in the acquisition process, the focus has been on the relevant senior managers in the target companies. These people can provide the most reliable and valuable information related to the impact of the acquisition on their operations and companies. Therefore, the majority of the sample population (18 interviews / 60% of whole data) is related to senior managers. Cluster one consists of senior managers in the target companies who have been involved in post-acquisition at various levels such as directors, M&A managers, or operation managers. Also, all participants worked in the target companies before and after the acquisition. It means they can analyse the impact of ownership change by comparing pre- and post-acquisition situations and provide a better insight into potential disruption risks and strategies to manage them in the critical post-acquisition integration phase.

The first interview questions were about interviewees' positions and M&A experiences. All senior managers in the acquired companies (SMACs) have been in the target company more than the acquisition age. It means they have experienced pre- and post-acquisition situations in the target company. Figure 5.1 shows their positions and experience in the target companies. Some of these managers have been involved in other acquisitions in the past. For example, SMAC-1, SMAC-6, SMAC-17, and SMAC-18 have also been part of the acquisition process in an acquiring company, when their companies acquired other companies before being acquired.

Figure 5.1: SMACs' Positions and Work Experience in Target Companies



5.3.2. Cluster Two

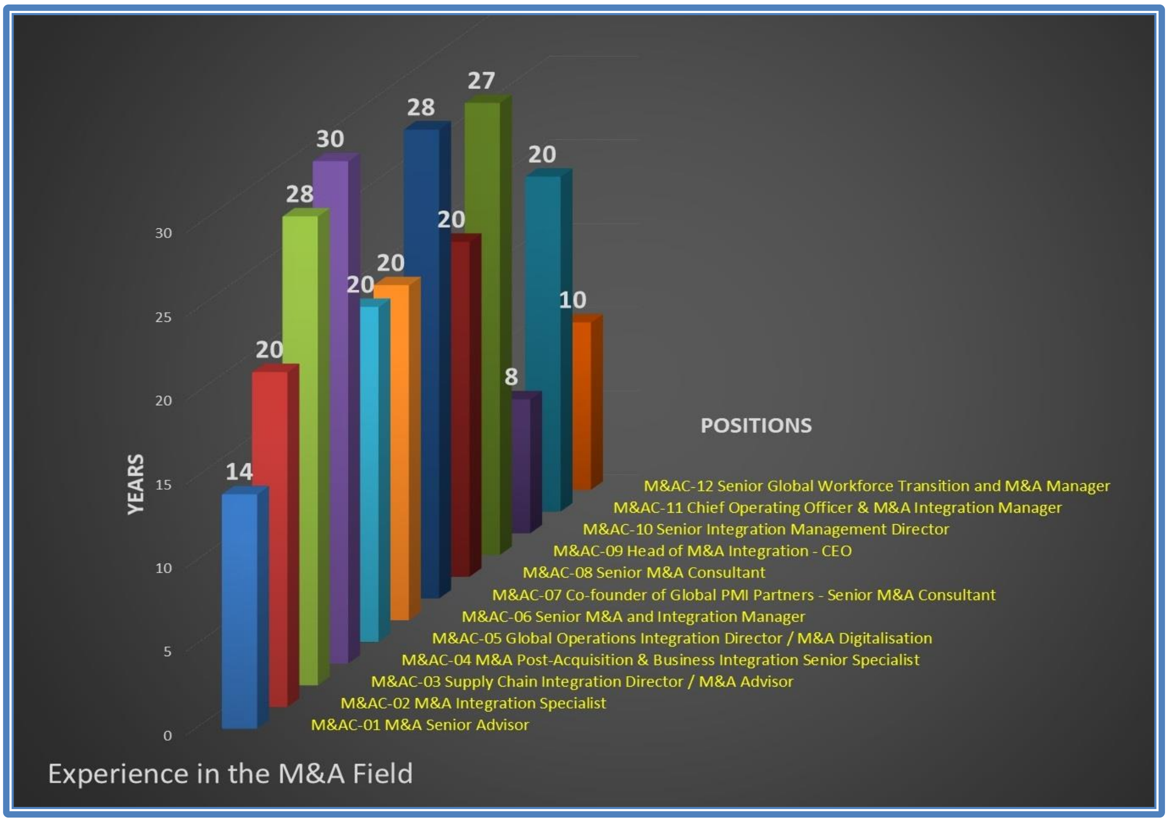
The second option to critically explore the target company's supply chain disruption risks and SCRM in post-acquisition is to gain data from M&A specialists. People who as a consultant or expert managed the post-integration process for their clients, companies involved in corporate acquisitions. Cluster two consists of senior M&A integration consultants/experts/executives in big M&A consultancy firms. Table 4.2 provides more information about these managers. Twelve interviews (40% of whole data) are related to this group of managers, whose very valuable knowledge and unique experience are important sources for this research study. They are a unique source as they have been involved in many and diverse post-acquisition integration projects and shed light on dimensions of the post-acquisition integration process that many senior managers in target companies have not faced during their limited acquisition experiences.

All M&A Consultants (M&ACs) have been in the M&A advisory field for many years. They have been involved in all aspects of the acquisition process, such as acquisition strategy, planning, negotiation, due diligence, or integration. Figure 5.2 shows their positions and experience in the M&A field. Also, they have been involved in different types and sizes of acquisitions across various industries. Here are some answers related to their experience in the M&A field:

- “I’ve been leading the integration as integration director for small to large deals, so £1m, £10m, £100m, £4bn, £6bn, £10bn, that sort of stuff in the UK and across Europe and globally, across all the workstreams, work functions and across about 15 different industries” (M&AC-2).
- “I’ve been an independent consultant now for about thirty years, and I would say that most of the work I’ve done from the mid-90s has been involved in either major business integration or post-acquisition integration projects” (M&AC-4).
- “So I’ve got about 19 years M&A experience, I worked on about 35 transactions in that time, yes, 35 transactions, and I’ve worked with all the major consulting firms, so that’s Ernst & Young, Price Waterhouse Coopers, Accenture, Boston Consulting Group” (M&AC-8).

This extent of experience in the M&A field as a valuable source of data has enabled the researcher to ask some technical questions related to the post-acquisition period and participants by sharing their knowledge and experience from different industries provided a comprehensive picture of the research topic and effectively answered all research questions related to each layer of the supply chain.

Figure 5.2: M&ACs' Positions and Experience in the M&A Field



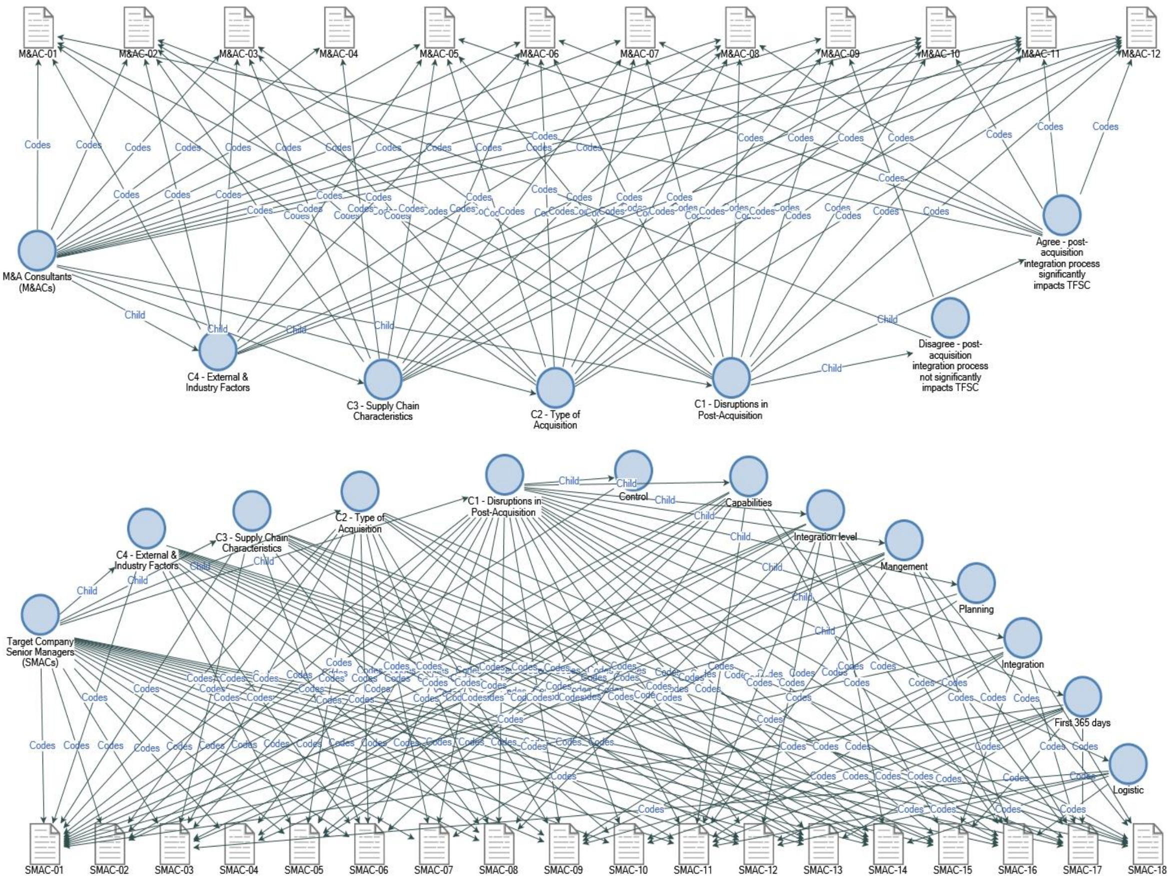
5.4. Supply Chains Explored with Dynamic Capabilities Theory

In previous chapters, we discussed that firms on the path of corporate acquisition transactions could benefit significantly from formulating and implementing supply chain risk management approaches, customised to fit the unique business environment and manage and mitigate risk factors associated with post-acquisition. In other words, to renew and recreate their strategic capabilities to meet the needs of changing business environments in post-acquisition. Based on DCT, this section analyses a data set of 30 interviews and provides findings related to each category, guided by the research questions and objectives. It is important to mention that the structure of following sections is based on the initial theoretical framework of this research as interview questions have been designed in terms of different elements of the initial theoretical framework and nine categories discussed in chapter three. The presented categories and sub-categories (data organising and linking) also come from the interview data. For example, participants discussed different risk factors that have been highlighted, categorised, and presented in a clear and logical sequence. The researcher had no intervene in the presented data and honestly presents findings. There is no exaggerating about the importance of any factor or manipulating of the participants' answers.

5.4.1. Sensing Activities

According to Teece (2007), firms must constantly and consistently scan and explore opportunities across various technologies and markets. Sensing dynamic capabilities in post-acquisition is important to maximise the benefits of the corporate acquisition strategy by identifying and understanding opportunities, risks, and threats associated with post-acquisition for the target companies' supply chain. This section of interviews concentrates on scanning the target companies' supply chain environment in post-acquisition and identifying opportunities, risks, and threats associated with post-acquisition for their supply chain operations. In order to scan and monitor changes in target companies in post-acquisition, four categories were drawn from the literature review. In interviews, the researcher asked participants to identify and interpret potential supply chain disruption risks in post-acquisition. This section concentrates on the first four categories (C1, C2, C3, C4) in the area of sensing DCs. Figure 5.3 shows the data map for sensing activities. This figure indicates that the majority of participants agree that there are disruptions for target companies' supply chain in post-acquisition. These disruptions are related to different factors such as people and process and negatively influence various operational activities such as planning and controlling.

Figure 5.3: The Data Map For Sensing Activities



5.4.1.1. C1: Corporate acquisition and the acquired company's supply chain operation disruption

The first questions in this section were related to participants' thoughts about the impact of the acquisition on the target company's supply chain. The interviewees were asked to evaluate the risk of acquisition or the ownership change on the target firm's operations in the first 365 days and whether they agreed with the statement that the post-acquisition integration process significantly impacts the acquired firm's supply chain and operations in the first year of operation or not.

Cluster 1: Senior Managers in Acquired Companies (SMACs)

All SMACs confirmed that they experienced disruption in their supply chain in post-acquisition. "The impact was quite strong. We were in the position, where the company was starting to get into the stress before you required, so our supply chain was really nervous in terms of when they going to get paid, our customer base was nervous and we wouldn't be able to still supply, and we are in an industry with our customers take our products and keep them for 10 years or more. So, they do not want suddenly to have to change because it cost them lots of money" (SMAC-01). "First three months horrific because of the uncertainty it causes so what you have is a loss of production, people concerned about their futures" (SMAC-08). "We had some shocking results, especially in the first few months, there was a clash of personalities and definitely clash of cultures, that we wanted to operate in certain ways, and they did not necessarily comply with it, but after workshop, after more working together, after more collaboration, we come to more like aligned, mutual understanding" (SMAC-15).

However, some of them did not agree that the acquisition significantly influenced their operations or at least had little impact in the first year. For example, **the sales cycle** can influence the disruption time and level. "In our business, we are in a long sales cycle and considering this you do not see directly the impact or…it's not something you can really measure within a period of one year, it's not something you see directly. So, because changing the structure, changing the, or setting up strategic plans, take time, the other thing that will take time after that is the implementation of those plans at the operational level and only after this you can have an impact on sales really. So, as the normal sales cycle is rough, I would say, eight months or more for most projects we are in, yes; I cannot say I've directly seen the impact of this" (SMAC-09).

Cluster 2: Merger and Acquisition Consultants (M&ACs)

Almost all M&ACs believe that an acquisition can significantly impact the acquired firm's supply chain and operations in the first 365 days. One of the main reasons for this is that the target companies have to change or restructure because they have to align benefits and acquire synergy even if there is minimal consolidation (M&AC-02; M&AC-05). There are the pressures of improving their bottom lines, reducing costs, and exploiting economies of scale resulting from the acquisition, which may have a negative impact on performance during the first year (M&AC-12). "Yes, it does significantly impact the acquired business's operation. Because it's disruptive in many different ways. The first is most likely the…if you think of it as strategy, systems, processes and people, the acquiring company would have its own strategy which might be consistent or slightly inconsistent with the acquiree's strategy. The acquiring people has its own people and invariably in most acquisitions, there's some change of those people. The acquiring company will definitely have different processes than the acquired company's, and also very often they have different systems. Each four of those things on its own is a major disruption, and all four together are as huge disruption" (M&AC-11).

Some M&ACs agree that the risks at ownership change may lead to an immediate impact on supply chain operations in any integration, but that this can depend on the level supply chain integration in the first year, and that there may not be that much disruption in that period (M&AC-12). They state that the amount of disruption is dependent on variables such as "how much money you're willing to spend on the changes, how rapidly you're going to do them, how good you are at doing them, and how much back up money you've got for other safety things" (M&AC-02). Some argue, it depends on the deal, level of change, and integration strategy (M&AC-02; M&AC-09). "So, if you're asking about how much disruption is there to the supply chain during the first year, or even longer, really the answer is how long a piece of string is? There could be no disruption, and there could be lots of disruption (M&AC-02). "Yes and no, it depends on what you defined pre-signing as your integration approach going to be. If you are talking about a full integration, it's a clear yes. If you're talking what I call an integration at the edge of the company, you leave the target company largely to itself, what you do integrate is the finance side, the compliance side, and then you infuse cash for the business to grow on its own, and you revisit a deeper integration into the acquiring business 24/36 months later, that's what I call integration at the edge. Then I would say for this first period, and it's a clear, no" (M&AC-09).

5.4.1.2. C2: Types of corporate acquisition and the acquired company's supply chain operation disruption

In order to explore the possible impact of the type of corporate acquisition on the target company's supply chain operations, the interviewees were asked to give their opinions on how the type of acquisition influenced or could influence the target company's operation.

Cluster 1: Senior Managers in Acquired Companies (SMACs)

The majority of SMACs mentioned some disruptions and opportunities connected to the type of acquisition. The highlighted opportunities and threats faced in post-acquisition emerging from types of corporate acquisition confirm that this can add positive or negative value to the target company's supply chain operation. Here are some of their answers which are related to the types of acquisition.

Horizontal Acquisitions: "In this situation, we had some advantages in that we have our overlapping product ranges with customers. Our product range was actually better than the acquirers" (SMAC-01). "The opportunity that the takeover gave us is the opportunity to use them (the acquiring company) as a supplier as well. So, the risk is basically as we start them up, we have no experience of them; it's like a new supplier" (SMAC-02).

Vertical Acquisitions: "So, if the acquirer, the one who is acquiring another company has got a complex model, complex supply chain, many to many supplier relationships, with significantly vast customer bases, then that will dictate the whole supply chain strategy that the acquired company needs to undertake or needs to employ because I don't think it will work any other way" (SMAC-15).

Product Expansion Acquisitions: "If we was taken over by a trade competitor, which had certain technologies already in the portfolio, because our company has, what, five or six different types of printing technologies, and you had a takeover where a company had probably two or three of those but you want to acquire three or four it hadn't got, then that would have been completely different with the synergies of the supply chain etc. So this was almost, you're buying…not just acquiring a company, you're acquiring the design philosophy as well as the supply chain that went with it, and that's hence why there was very little synergy because the supply chains were alien" (SMAC-05).

Market Expansion Acquisitions: "So one of the issues we find ourselves challenged with now, is we have had overlapping sales teams, so even post-acquisition we still find ourselves with a situation where the acquiring company's salespeople are competing with the acquiring company's salespeople and they're…they're undercutting each other, which is silly, because all we're actually doing is benefitting the customer" (SMAC-03). "I think we're similar enough for those things to have not been too much of an issue. I think there's an education piece, so we were operating certain contracts in certain jurisdictions that had certain approvals" (SMAC-06). "Advantageous, because there is certain… what we are practically looking to do at the moment, there's a geographic separation between the two organisations, so we have our operations in the UK and Ireland and Australia, they are primarily operating in Japan and the Asian markets" (SMAC-07).

Conglomerate Acquisitions: "The company that acquired us has no idea about the service that we provide, specific to the pharmaceutical sector, so the product and the service that we provide is a complete…alien to them. So, trying to explain to them what we do is very, very difficult and it's a challenge to not only explain it to them but also become seasoned enough and understand it enough in order to support us" (SMAC-08). "We are talking about private equities. It's not actually changing the operational level as such, so I believe they just check that what we do is done in a, well, sensitive way, so everything needs to make sense, basically, just to say: "Okay why would you do this, why is your strategy that or that?" and we have to convince them. They do not come with the plan and tell us "you should do this" or "you should do that", it's more an analysis of what we are doing" (SMAC-09).

Cluster 2: Merger and Acquisition Consultants (M&ACs)

All M&ACs commonly agreed that the type of acquisition could create different opportunities and threats for target companies during post-acquisition in terms of their supply chain operations. They highlighted different operational risks in post-acquisition that have a direct relationship with the type of acquisition and parties' industry of operation. Here are some of their answers relating the case of different types of acquisition.

Horizontal Acquisitions: "Where you've built up, kind of, your own client base and if there are clients that you have in common then, again, the…that can be a bit disruptive" (M&AC-01). "So if you try and bucket it, then, the vertical integrations are easier than the horizontal integrations because you're just tagging it on end and not changing it too much, whereas the horizontal integrations, the same thing and you're mushing it all together and therefore substantially, more difficult" (M&AC-02). "An acquisition which is a consolidation acquisition probably has the most disruption" (M&AC-11). "If horizontally, your problem-solving level is same, but variety increases and the things that you do increases" (M&AC-12).

Vertical Acquisitions: "Vertical acquisitions are easier, horizontal acquisitions are harder. Well, the reason being is that they potentially are not competing, so there's an element of complementary…what is happening…so the two firms haven't had…there hasn't been any rivalry as much, or limited rivalry between the two, so effectively it becomes a friendly acquisition" (M&AC-08). "I'm buying this company because I want to extend my value chains vertically - then it's a different story because at that point in time, you're acquiring the target company specifically for that reason and the target company brings along everything that you need to extend your value chains vertically" (M&AC-09). "A vertical market, I suspect that vertical market integration is impactful, but it's only impactful in parts of the business, whereas a horizontal acquisition will probably be impactful in every single part of the business because, basically, there are lots of overlaps and they're consolidating them" (M&AC-10).

Product Expansion Acquisitions: "Sometimes it can be an advantage because you can, there can be client synergies that can be unlocked" (M&AC-01). "So, if we're acquiring something that is adjacent to us, different product, different route to market, then our cost synergy targets will be a lot less, so we may not be combining factories or combining supply chains so our financial targets will be less. However, there could be some commercial benefit by having a wider product portfolio, so it'll really depend on that mix and that type of acquisition as to how much focus will be on the cost side in terms of saving and efficiency versus the commercial benefits of acquiring the new company" (M&AC-06).

Market Expansion Acquisitions: "A company…an acquisition which is, kind, of, more focussed on growth, and growing in new markets, probably has the least acquisition integration" (M&AC-10). "Sometimes, you just do a geographical extension, and then it may not at all increase the complexity because it's just another product that you add to your portfolio…that was missing in your portfolio, and because of the gap analysis, you identified that this target company would actually close the gap that you are experiencing in your product portfolio. So, it may not create any complexity or may not add any complexity to the overall portfolio" (M&AC-09).

Conglomerate Acquisitions: "When you're dealing with private equity, that's a different type of deal. Whenever I'm talking, I'm talking about corporate deals, I mean, private equity – all they do, private equity, they just buy the company, they don't touch anything, they just leave it alone" (M&AC-08). "I think if you use a rule of thumb, you could argue that an unrelated acquisition in an adjacent market, probably has less synergies, the less disruption" (M&AC-11).

Also, participants mentioned that a hostile takeover has a far greater risk for the target company compared to a friendly takeover. In a friendly takeover two sides typically enjoy better cooperation which can significantly improve the acquisition results (SMAC-17), while in a hostile takeover there is far less willing to engage and act, and a company is more likely to lose key people (M&AC-03; M&AC-05).

5.4.1.3. C3: Parties supply chains' characteristics and the acquired company's supply chain/operation disruption

In order to explore the possible impact of the companies' supply chain characteristics (both acquiring and acquired companies) on the acquisition performance, the interviewees were asked to give their opinions on the role of parties' supply chain characteristics such as size, structure, product diversity and complexity, and integration experience on the target company's productivity during the first year of the acquisition.

Cluster 1: Senior Managers in Acquired Companies (SMACs)

SMACs stated that a company's supply chain characteristics such as size and experience had played a significant role in their performance in post-acquisition.

Experience: A company's acquisition experience can improve its post-acquisition performance as it can use previous learnings to improve outcome. For example, a British company reduced its supply chain integration risks with a Chicness acquiring company due to its acquisition experience in previous years. "I think the impact was less for a couple of reasons. One is we've already got good experience moving supply chains around the world. We've always done it…. Because if you've never been to China and haven't dealt with Chinese companies, it does take some time to get that experience and it is the experience you need. You can't just read a book about it all you have to live it" (SMAC-01). Experience can also help companies to reduce disruption and use effective tools such as communication to limit uncertainty during the post-acquisition period. "I've heard that they've made over 17 acquisitions so far, so they're very experienced with integration and with implementing new procedures and bringing people together. So I think that plays a huge role in the way they are bringing the message across, they're very active in communicating, they almost over-communicate, and I think that's a great thing, people not sitting in the dark; that really helps the morale and helps people understand and get used to the idea" (SMAC-08).

Experience as a key skill is absolutely important for both sides. "Logically for the acquiring company because they will incorporate the supply chain of the target company into theirs if it’s full integration. Also, on the side of the target company itself, the reason for that is sometimes you need very specific know-how that the acquired company may not have” (SMAC-09).

Size: The companies’ size can be considered to have a positive or negative effect on acquisition performance. “The size of the company has helped in the acquisition process. It’s relatively, it’s not a big company in terms of the management structure. Before the takeover, it was two directors, that certainly helped speed things up, it made the whole process a lot quicker” (SMAC-10). “I feel that there is a lot of holes in how that was done, it wasn’t well planned out, and they were…I think because of…as I told you, the scale, from one company to another, we were almost equivalent in size and so, their infrastructure…to expect to acquire a company that’s almost equally the same size as you, using the same, like you said, HR and all of those components of infrastructure to be able to merge in a new company, I think is pretty foolhardy, you need to prepare for the amount of extra and additional strain that that’s going to put upon your organisation” (SMAC-14).

Product diversity and complexity: The diversity and complexity of the companies’ products can bring different disruption risks for the target company’s supply chain. “What I’m trying to say here is that it’s not one strategy or another, it doesn’t work like, okay, one strategy can be better than the other, it depends…I think it depends a bit too much on the scale of the operation and the complexity of the acquirer. So, if the acquirer, the one who is acquiring another company has got a complex model, complex supply chain, many to many supplier relationships, with significantly vast customer bases, then that will dictate the whole supply chain strategy that the acquired company need to undertake or need to employ because I don’t think it will work any other way” (SMAC-15).

“I think there’s a number of factors around which you would define diversity and complexity of product mix. So, for example, you might consider the number of products, the number of – you’re familiar with SKUs (Stock Keeping Unit), right? – the number of SKUs that was run in the business is the business an own-label business or is it selling a multiplicity of branded goods? How many suppliers does it have? Is the product perishable product, for example, fresh food? Does the product have a short lifecycle, for example, fashion? So, we can define…we can sit here between us and we can define probably ten or fifteen characteristics around which you could describe the nature of a product mix; I think the good news for the target company is their product assortment is simple, on almost every count, they have a small assortment, they have no…or low levels of perishability…products that last three years, let’s say, there’s very little fashion-ability, there are relatively low levels of volume – on a global basis it's large volumes, but on an individual store level, the volumes are not so significant – the demand is very predictable. So, therefore, this is easy, this is quite an easy assortment to manage from a supply chain concept" says international commercial director of one of the biggest cosmetic brands in the world, acquired by a Brazilian cosmetic company (SMAC-17).

Cluster 2: Merger and Acquisition Consultants (M&ACs)

M&ACs that have been involved in different sizes of acquisitions in different markets provided more evidence that a company's supply chain characteristics and their types of product can significantly influence the target company's supply chain performance in post-acquisition.

Experience: "If people within the company have made acquisitions before, so they've got a better understanding of the challenges and risks that are involved in acquisitions. For instance, I would not normally do business with people who've gone through, say, one or two acquisitions, because they don't understand the risks and from my point of view it's a pretty hard sell sometimes, to get them engaged, for me to be able to work with them. Companies that have gone through multiple acquisitions know what they're doing, they know about the risks; they know that they'll probably need someone to help" (M&AC-03). "Yes, I mean certainly people who have acquired a lot of companies then are very skilled in integrating the supply chain aspects of it" (M&AC-07).

Size: M&ACs gave different opinions about the relationship between size and the target company's supply chain risks. Some argued that small companies are relatively less complex businesses which reduce the risk around the acquisition (M&AC-05). Some argued large size companies have more challenges and risks. "Sometimes it's a merger of equals, where two equally strong companies merge, and they haven't done it that often and then there are some challenges in integrating supply chains around those" (M&AC-07). However, some M&ACs had the opposite opinion. Sometimes small firms can also be at the risk of disruption, especially during the first year as managers try to implement all sort of changes and reconfigurations during the first months in smaller deals making post-acquisition reasonably a complex period that can cause supply chain issues (M&AC-02).

"Most of the time it was the scenario, where the acquiring company is huge, and the target company is, relatively smaller, there is a very common scenario. So, the huge company will have, customer relationship management software, they will have ERP, they will have a process for vendor, they will have a process for RFP, right, and so on, so forth, whereas target company might be doing most of their work on hand registers and on personal relationships. So, just trying to bring everything closer and trying to say that these are the work best practises, might not be relevant to the context of small business at all. Just because sometimes it's giving a good economy of scale for the larger business does not mean that the same formula, same processes will work in maybe a relationship-driven company which works on one-to-one business" (M&AC-12).

Sometimes, these risks are less for large organisations. "So, size-wise, the larger an organisation is, the clear…the more clearly the supply chain processes are structured. That means we're talking about second sources to ensure that I have not a supplier falling to the wayside. Based on a lot of the transactions you may have to do a renegotiation of a lot of the supply chain contracts, simply for the reason that they may have Changed in Control Clause in it. If you have an assets deal you will need to do this anyway; if you have a shared deal, you may also be asked to do a renegotiation of such supply chain contracts because of Change in Control Clauses in asset trading shared deals, that's when that actually also needs to be done. So, the larger an organisation is going to be, the better prepared they will typically be to handle such needs on renegotiating supply chain…the supply chain contracts. That also, kind of, links to experience; the smaller an organisation is, the fewer will be the supply chain contracts, probably, they will be more immature, they may be dependant on one supplier because they have not yet implemented second source policies for example" (M&AC-09).

Structure: If companies use similar systems and structures in their supply chains, it can reduce integration risks and increase integration speed. "I think there are certain parts of the business that could integrate very quickly and those integrations could happen even more quickly if for example you were just simply on the same system, so if I think of HR, if you're on the same HR systems, or you basically run the business the same way it could be very quick. The same with finance actually, there is some amalgamation of accounts which is not simple but I think it could probably be done much more quickly than implementing the amalgamation of a complex product range" (M&AC-03). "To merge the two supply chains, you need to describe products and services, what flows through in a similar manner if you want to integrate them" (M&AC-07).

"The acquiring firm, you can think of it more in money dimensions, right now it's very popular to take more analogue companies and to take them to a digital transformation. So if you consider somebody who has already digitally transformed, buying a more analogue company, then there's a huge difference in how their supply chain is set up and how much they are data-driven, analytics-driven, and the digital components in their supply chain. So there's a huge difference, and sometimes it could be the reverse – a very analogue company buying a very digital company in order to get that knowledge and that, and then it's a complete operations and supply chain renewal or transformation that is required" (M&AC-07). "For example, if one has a just-in-time supply chain and the other one has a different supply chain, or the supply chain is not synchronised, it causes problems in major places" (M&AC-10).

Product diversity and complexity:

In post-acquisition, companies with a complex product range and production platforms need careful integration planning and skillsets to understand these complexities (M&AC-03). "If you're buying a simple company that's got a very straightforward, simple, straightforward supply chain process, you could address it in the first year. If you're addressing…if you're buying a complex…a company that has got a complex supply chain processes, it may not be technically feasible to actually address all those issues or migration or integration type activities in twelve months" (M&AC-04). "The more products, the more complex it is, the more things that's going on in the target company, the more products, SKUs, (in the consumer industry – Store Keeping Units) and so forth, that influences complexity, how you need to set up the supply chain and so forth" (M&AC-07).

"Yes, it does, in actual fact, it's a real issue. The problem is, you see with the product diversity is that that's riven through the supply chain, so you may have certain product characteristics that have a downstream impact. In other words, there are things that you need to do in the supply chain in order to satisfy that particular product requirement. So I would say that it has a compound impact, so I would say that product diversity and complexity … I wouldn't say exponentially, that's inappropriate too significant, but it magnifies the complexity of the post-acquisition integration process because what it means is that you're going to have to change some of the supply chain functions, whether it's in terms of people, or technology, or in terms of process, to satisfy that product mix" (M&AC-08).

5.4.1.4. C4: Industry's characteristics and the acquired company's supply chain/operation disruption

In order to explore the possible impact of external factors and the industry's characteristics on acquisition performance, the interviewees were asked to give their opinion about the impact of external industry environment factors such as technological intensity, sales intensity, industry's size, growth, and resource endowment on the performance of the target company's operations in post-acquisition.

Cluster 1: Senior Managers in Acquired Companies (SMACs)

SMACs indicated different external factors that can influence acquisitions from case to case and industry to industry. One of the key external factors is related to the acquired company and acquiring home countries. First, the acquisition process and regulation in each country is different that may positively or negatively influence the acquisition performance. "I think one element for me is the trading blocs that the companies are operating in i.e. EU, whereas there's outside EU, in this case, EU versus EFTA and things like that…if tomorrow a company in the UK acquire another company in the UK, obviously, they are probably still operating within the same trading regulations, tariff, customs, etc, etc. and even the governing bodies will probably be the same provided that they are in the same business. If a company in the UK tomorrow goes and tries to acquire a company in Australia or China or somewhere else in the world, we're talking about whole different ballgame; it's…it changes a lot of things, the dynamic of the operating environment from a more, I would say, from macro-economic level and also from a political point of view, which part of the world, which country, which trade bloc etc, etc. This can have a significant impact on the whole process of the acquisition, in my opinion" (SMAC-15).

Second, the acquiring company's home country may cause many disruptions in the supply-side or demand-side of the target company. For example, in the case of a cross-border acquisition (Interviews 1-3 – Company A), a British target company experienced many commercial risks (control, quality, safety, etc.,) because of its Chinese acquiring company. "If we've been acquired by a UK company or a European company probably would have been none of these problems but if it says it is an Asian company or Middle East company or a U.S. company I think you have to plan" stated the operation manager of the target company in this case (SMAC-01).

Third, the target company's home country can be a source of some supply chain integration problems. For example, in the case of acquisition of manufacture in Croatia by British multinational, many issues came from the target company's home country. "So, for a company that has been acquired previously operated only within a region outside EU, yes in Central Europe but most of the markets are not, they are part of EFTA but not part of the EU, this means a more checkpoint, this means we need to conform to certain processes, policies, requirement by governing bodies in terms of design of your supply chain, in terms of supply selection, in terms of who can you work with and who you cannot work with, in terms of your product specification and so on and so forth. That product specification and the design obviously means that you require different machineries, different technologies, of course, they still producing the same product but, obviously, with different specification. So this brings more complexity and if you're not really geared up to do this you are going to require a lot of help from the company which is acquired your company to be able to operate and compete; without these, chances of survival is…are very slim, if none and the impact on the overall supply chain are massive. So this is…this can be a real, major disruption if the companies are not thinking about this because, again, when you're operating at the global level and now supplying to the other part of the region or other…on the continents, other markets across the globe, yes, it's technically impossible, legally you will be in trouble, so you have to, obviously, think of the elements of how the external factors are going to impact" (SMAC-15).

Technology and competitiveness within the industry can also influence the supply chain's operation and strategy. "The supply chain strategy is really conditional on the type of technologies you want to use, which dictates what certain supply chains you use or don't use because it's based on…it's technology-driven" (SMAC-05). "You don't have full control on what the competition is doing so, of course, the acquisition will never change that, we are still always subject to novelties that competition can bring to the market, maybe they do it faster than we do, maybe they have a better marketing, maybe they have a very aggressive price policy, pricing policy, and all those elements can play a role in your success" (SMAC-09). "So, the impact of technology on retail and consumer landscape first of all the way that they acquire goods and services and transact - massive change. The other enormous change is the effect of sustainability, the need for strategies and operations to be in place which not only delivers the right financial outcomes, but deliver the right outcomes in terms of environmental and social performance, and personally, I see technology and sustainability being the two primary drivers of change and performance through this century in the consumer and retail sector" (SMAC-17). Also, if the level of competition and technology within the industry is high, and firms need to differentiate themselves from other companies, their supply chains experience extra pressure to cope with these external forces. For example, they may need to reduce costs or pay for the latest technology, which can influence their post-acquisition performance (SMAC-18).

SMACs also highlighted the role of industry and market in supply chain performance in post-acquisition. For example, adherence to regulatory requirements is very important in the pharmaceutical industry and cause delays when there is an ownership change. "We as a health science-oriented provider we have requirements for Health Canada and the

FDA and the European Pharmacopoeia to file proper paperwork and name change and all that kind of stuff…. those are the sorts of things that have been, kind of, inconvenient and difficult for us to deal with, making my job a lot busier lately" (SMAC-14). Acquisitions in the tobacco industry have been influenced by the industry's growth rate. "To my knowledge, the acquisition or the merger in the tobacco industry are dictated by the industry declining rate. So if you…you might know that globally tobacco industry is in decline and there is an average rate of, I don't know, 5-6% decline every year, there is more pressure, there is more awareness about the impact on tobacco on individual health etc., etc. So, obviously, the industry as a whole is declining, so for the major players in the industry the only way that they can maintain profitability, or even dare to think about growth, is by acquiring other player's market shares and volumes". "The tobacco industry is a highly regulated industry by multiple governing bodies, so the supply chain has to comply with these things" (SMAC-15).

SMACs stated that companies in service sectors are usually less at the risk of supply chain disruption due to their industries' products and fewer logistical issues (SMAC-06; SMAC-11). In the manufacturing sector, and with any fast-moving consumer goods, there are a lot of dependencies in the supply chain, which increases overall complexity and disruption risks (SMAC-06). "Some industries are more regulated, which decrease the integration speed such as the pharmaceutical industry. "I can tell you from a pharmaceutical perspective, you need to give a lot of time to your customers to change their filing, so it's really important to allow it enough time and provide them with written notices so that they can be prepared. So, in pharma, you can't just switch, because all the documentation and the names are all filed with the regulatory bodies of the country that you're selling your drug to" (SMAC-08).

Cluster 2: Merger and Acquisition Consultants (M&ACs)

M&ACs also believe that external factors can improve or worsen the effectiveness and results of a corporate acquisition. The business environment is different from country to country and this can increase integration cost and speed. For example, the acquiring company may decide to close the target company plant to reduce costs and integrate it into its own supply chain. This means different procedures and challenges for the company from country to country. "On the larger deals where we actually own our own supply chain, we've got our own manufacturing plant, our own warehouses, possibly even our own distribution (although that's quite regularly outsourced), if you want to close a plant in Europe, given the laws in various different European countries, certainly it's different in America, and the Americans come unstuck when they buy in Europe because they don't know the laws, and certainly it's different in Asia, but in Europe, it takes about 18 months to close a plant, so actually when you look at the first year you're missing a trick because quite a lot of the restructuring goes…actually happens and cuts through to the month 18 to 24, or even later" (M&AC-02).

"There are countries where it is more regulated; executing the acquisition might be difficult. So, yes, so the local regulation norms at certain countries, yes, that helps, government regulation also help, right, certain countries, it would be very favourable, other countries, might see you as a challenge" (M&AC-12). "Don't underestimate the consideration in all of this of government and regulators…. if you're a UK organisation and you're going to acquire a foreign business will that create problems for you from a regulatory perspective, are you going to be potentially working with a company that actually the British state would rather you did not or simply means you could not work with certain other companies, so I'm thinking of, there are all sorts of organisation where you might be excluded, and particularly in the modern era where ethical sourcing is becoming increasingly important, environmental considerations, just very recently becoming really important, so if you have an ethical and environmental pedigree and you're buying a company which is maybe less so, how will you address that and making sure your customers and your profile is managed in such a way that you don't degrade that" (M&AC-03).

The industry lifecycle can also case an advantage or threat for the target company's supply chain. "What I would say is that if you're acquiring a business which is a new product or a new industry, the supply chains may not be as mature as other industries. So within capital goods which I'm in, so pumps and valves, the supply chains are quite mature, so there is a possibility of pretty good savings if you have overlapping products and supply chains to make savings. If it's something that's quite new, a new product, new part of the market, there'll obviously be less scope to make those sorts of savings, but on the flip side, if it's something new, it may have a better growth trajectory than a more mature product or in-market application" (M&AC-06).

M&ACs held different opinions about the impact of the type of acquisition on the supply chain performance. Some argued that acquisitions in service industries are easier and less challenging than in manufacturing industries. "If the industry you're dealing with deals with hard goods, in other words, like, physical goods, then there's a much greater complexity in the supply chain exercise. If it is digital, like a digital business, then the complexity is much reduced". Some argued that acquisitions in product companies are relatively easier than service companies. "A product company is…acquisitions are relatively easier, right, because the customer interaction is direct with the product and not with services. Product company versus a services company, I would say product company acquisitions are easier. Manufacturing versus an IT, again, I say manufacturing is easier. So, of course, it depends on the industry; it might also depend on the maturity of the workforce and, kind of, regulations of the workforce" (M&AC-12).

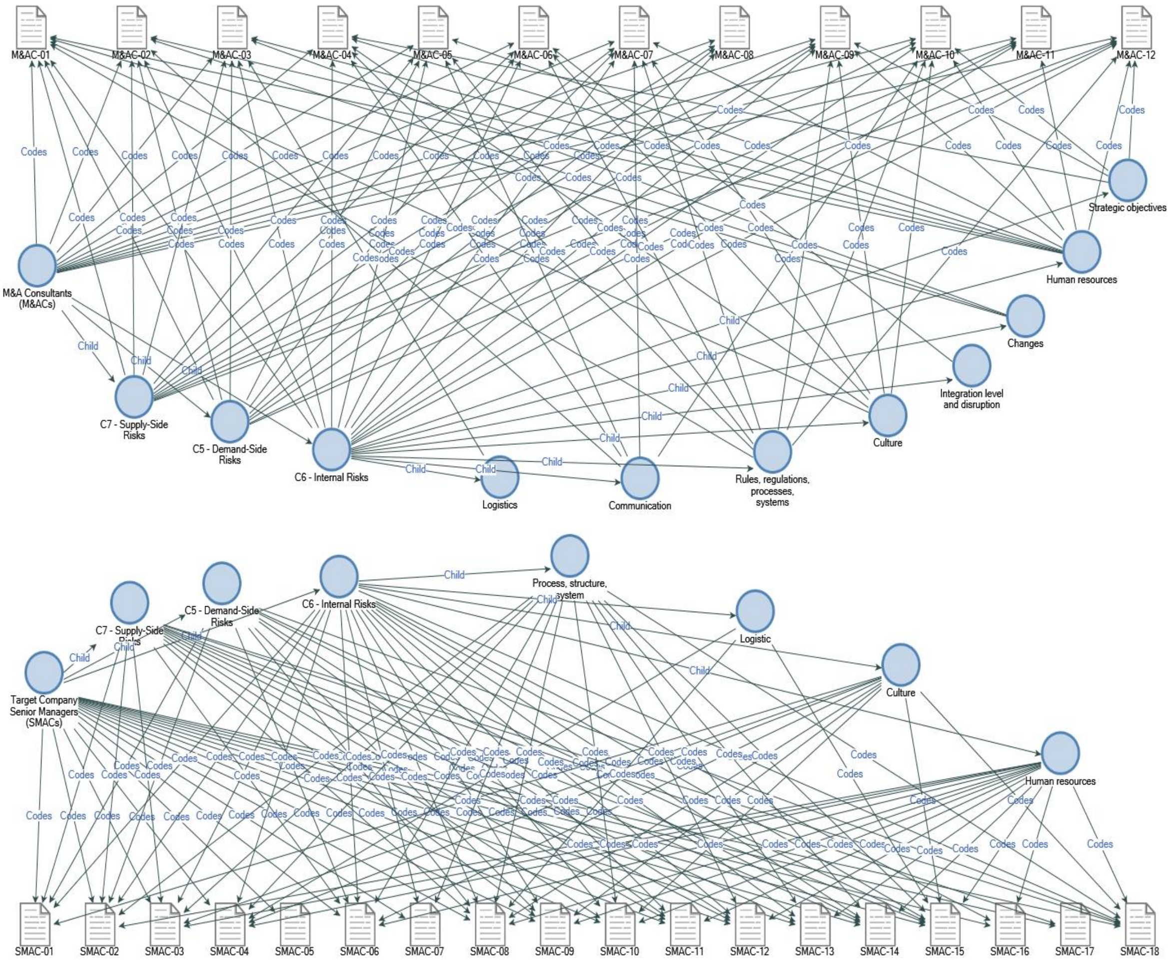
Some M&ACs stated that supply chain and complexities are very industry-specific (M&AC-08; M&AC-10; M&AC-12). "So, the different supply chain challenges each one, so it's hard to talk about supply chains in a general sense unless you start talking about a specific industry, and then you can make some particulars out of it. It's just that I think supply chains tend to be quite different when it comes to the way it operates, depending on what industry you're talking about" (M&AC-08). "I have examples where we acquired companies which were acting in completely different markets than we were, let's say, make very simple, like, acquired company was only in automotive and then you acquire another company who was very strong in the finance sector or in insurances, so that has a big influence because you need to find a way how to deal with that because the experts are in the acquired company and you need to protect that business because if they are successful there, you want to stay successful and your criteria from your experience, they don't match that market. So, that definitely has a big impact" (M&AC-10).

Finally, some M&ACs argued that the impact of the industry environment on the target company's supply chain operation and performance is very low. "It's not about the industry it's about what you're trying to achieve, and different companies have different amounts of synergies they're trying to change, so if you try and change everything dramatically it's more difficult than changing things a little bit. The industry doesn't really matter; it's how difficult your integration is going to be and actually, that's dependant on the supply chain and what you're trying to do. Now, I would agree different industries are younger or older and will have different amounts of fixed costs and so might not have changed very much and so some of the supply chains when you go in different industries, you'll go in and you won't try to change very much, some of them will be easier to change and some of them you'll want to spend a lot of money changing. So, it will depend on the industry I guess but it's really dependant on what you try and attack, and different companies try and attack different things. It also depends how much money you've got, some companies have got loads of money and so they can try and make it a lot more efficient, some companies don't have so much money, so they spend instead of doing it all this year we'll do it over the next three years or four years. So, the amount of money you've got in the bank makes a difference too, to that" (M&AC-02).

5.4.2. Seizing Activities

This section of interviews concentrates on three key categories of supply chain disruption risk factors to address how new post-acquisition integration capabilities can be exploited by managing these risks, making appropriate decisions, and mobilising resources and capabilities. In order to seize opportunities in post-acquisition, all these main supply chain layers should be effectively investigated, synchronised, and managed. Specifically, this section deals with exploring three main layers of the supply chain in post-acquisition discussed in chapter three. This seizing of DCs in post-acquisition is important to maximise the benefits of the corporate acquisition strategy by building competencies and achieving new combinations in post-acquisition. This section concentrates on three categories (C5, C6, C7) concerning the area of seizing DCs. Figure 5.4 shows the data map for seizing activities. This figure indicates that seizing activities related to internal production risks (C6) are more important as all participants emphasised on a wide range of internal factors that will cause disruptions in the target company's supply chain operation in post-acquisition.

Figure 5.4: The Data Map For Seizing Activities



5.4.2.1. C5: Supply-side (upstream) risk factors in post-acquisition

After asking several general questions related to participants' backgrounds, experiences, and their thoughts about post-acquisition integration and its impact on the target company's supply chain, in this section, interviewees were asked to explain how the acquisition affected their supplier relationship in post-acquisition. In other words, this section is the first part of the seizing process as the acquisition provides new opportunities and threats to all layers of the target company's supply chain including the inbound material/information flow from the supplier (supply-side), the internal production processes, and the outbound material/service flow to the customer (demand-side). This section concentrates on the inbound material/information flow from suppliers and potential risks associated with post-acquisition.

Cluster 1: Senior Managers in Acquired Companies (SMACs)

The majority of respondents indicated that the acquisition affected their terms and relationships with suppliers in post-acquisition. Suppliers always have questions and uncertainties about the payment of their invoices (SMAC-02; SMAC-11) and their business relationships (SMAC-06; SMAC-02). Therefore, one of the key supply issues in post-acquisition is to convince suppliers that it will be "business as normal" and that there wouldn't be disruption to the supply chain (SMAC-01). This requires a lot of extra work for the target company to give the required assurance to suppliers that there will be no risk or discontinuity (SMAC-02). In a real scenario, this relationship will influence suppliers in different ways. For example, the target company may have certain approved vendors that they are not allowed to use anymore because the acquiring company has alternatives (SMAC-14; SMAC-15). However, the supplier relationship can sometimes become much stronger because of increasing financial capabilities and number of projects due to the ownership change in the target company or increased sales volume. For example, suppliers could actually be relieved that there's a large capital investment into one of their customers if they were struggling financially before (SMAC-11).

In some cases, during the first months, the target company may hold back on some purchase requisitions or the acquiring of new capital equipment due to new permission procedures or control systems, which may negatively influence the target company's supply chain performance (SMAC-08). The target company may also be forced to use some of the acquiring company's key global suppliers which increase complexity for both the target company and the new supplier, especially if the target company is located in a region which brings extra logistical issues (SMAC-11). For example, the target company could be located on a different continent to the supplier. Also, this issue will be more complex when the acquired company was a part of a big corporation, and the acquiring company only bought this company, brand, or business unit. In this situation, the supply chain of the target company has been integrated into the selling corporation for many years, which obviously creates an element of risk (SMAC-17).

Respondents also highlighted that an acquisition sometimes brings more pressure on the suppliers in terms of their costs, when the ownership change results in changes in the buying process of the target company. For example, “in the past the purchasing manager may have a favoured supplier that he would use for a certain part, now if it’s above a certain amount that has to go out to three or more different suppliers, so there’s a process of driving the costs down from suppliers, so probably putting our suppliers under more pressure in terms of price” (SMAC-10). When the target company goes under the parent company’s umbrella (which most of the time are larger organisations), will have a better negotiation standpoint of getting better prices for instruments, equipment, raw materials as being a part of a bigger company and having a better bargaining power. Also, when the target company become part of a big company, then its’ reputation becomes more important in terms of on-time delivery (SMAC-12). The parent company’s lack of understanding of relationships with the new suppliers and the kind of commercial terms that exist between suppliers and the target company in terms of the cost of goods, credit payment, or their priority as a customer may also cause disruptions (SMAC-17).

In some cases, the target company can benefit from the acquired company’s capabilities to supply its required products. This can improve the target company’s performance. It has a positive effect from the perspective of unit cost because rather than paying a contract manufacturer a profit margin, that profit now goes back to the group business (SMAC-02). In a horizontal and market extension acquisition (Interviews 1-3 – Company A) the target company in the UK benefited from its acquired company’s capabilities in China. According to the group operations director: “we saw the benefit of resourcing products where we had contract manufacturing outside of the group to group factories. So, where we had products made in Romania, by contract manufacturing company. We have insourced those if you like over the last year to our group factories in China and Spain. Now, this would have been our own strategy anyway, but it suited our parent company because obviously, they are getting more businesses into their own manufacturing. That didn’t involve spending quite a lot of money, something like 1.5 million Euros investment in equipment and labour, so it wasn’t something that we did easily and the programme is certainly not finished off after one year” (SMAC-01).

At the same time, this insourcing decision can introduce multiple risks for the supply-side of the target company's supply chain, especially during the first year of operation. For example, in-housing and managing all the details of a large supply chain will be very risky and difficult (SMAC-01). An in-house strategy can be a negative signal for current suppliers as they will be concerned about losing business. This basically represents a significant disruption, especially during the first year. The following example demonstrates what type of supply-side disruption they may face:

> "We had a contract with them, that contract had a long period of notice, it was about twelve months. So, we advised them of a cease in the contract, we gave them a twelve-month build-out but it's fair to say their quality has dropped, their support levels have dropped, because they're looking for the next thing, they're not really focused on us now and that is a challenge. Because you're looking at them delivering products where they've gone 'it's fine just ship it', or you don't get the turnaround time you expect, or you can't ring them up and go 'can you make this amount extra?' because they don't have the components because they're winding everything down. So, they removed some of the contact points for us, their quality has reduced somewhat, so what that means is we have to do more to check the quality of the product when it comes in. We don't want to accept poor products. Their energy levels in engineering, looking to improve the yield, to make processing improvements just stops. As far as they're concerned, they're not making process improvements now because they don't have a process to improve in six months' time so why continue to do it for us when all we're going to do is take the benefits of that work. So, you find everything just slows down, stops, they only do the bare necessity of what they need to do. And then of course when you finally finish, there's a section of these products and this is the over-run, these are things we couldn't finish, what do we do with them, so there's a bit of a discussion about over-sourced materials for instance. So, it does take a lot of work and a lot of planning" (SMAC-02).

So, maintaining product quality and supplier relationships is key when there is a transition between sites. For example, the target company might be dealing with a supplier in the UK that it has been using to achieve a certain product quality at a smaller scale; as the company increases scale and transitions to sites in the US the new vendor who supplies the same material at a slightly different quality then causes issues with overall product quality (SMAC-18).

Cluster 2: Merger and Acquisition Consultants (M&ACs)

M&ACs also mentioned some expected supply-side disruptions simply because of post-acquisition integration issues and distraction to the business from being acquired. "So we would expect there to be a period of time where there's an adjustment period, and there's a lot of internal work that is happening that takes some of the focus away from the external, kind of, client or supplier base. There's a lot that goes on during that period that results in a certain amount of inefficiency in operation" (M&AC-01). This adjustment period may cause a late payment to suppliers (finance risks) and negatively influence the company's relationship with suppliers (M&AC-02). The target company may also lose its effective communication with its vendors and suppliers during that time (M&AC-05).

Fundamentally what we're talking about from a logistics perspective is amalgamating logistics networks, optimising the warehouse, the distribution network and the supplier base wherever the company possibly can from a commodity and procurement perspective so that the company makes sure it is gaining absolute maximum leverage from its' buying position with its' supplier base and there's a lot of risk in that. If there's any commonality or overlap in suppliers (these days some suppliers will limit their exposure to certain companies), and this commonality is high, suppliers may not be happy to have a big single buyer source (M&AC-02) or they have a bigger incentive to make sure they don't mess up in terms of mistakes or disruption at the start of the post-acquisition period (M&AC-06). For example, "if a target company represents fifteen per cent of a supplier's volume and then the acquiring company comes along and they were already representing twenty-five per cent of the supplier's volume, the supplier might say I am happily supplying you thirty per cent, but I don't want forty per cent of my production exposed to you, that's too big a risk, I'd rather go and try to find somebody else to work with" (M&AC-02).

Also, because of the change of ownership, the target company might find that the suppliers want to re-negotiate because they recognise a change of ownership and because the acquiring company might come in and change payment terms. Additionally, their contacts in the company may move on and there is a different approach in terms of management and the supplier relationship. Therefore, the whole process of supply management, supplier integration and supplier implementation needs to be carefully managed because if target companies cannot maintain that supplier relationship positively then clearly they run the risk of impacting their supply chain. Hence, the process of implementation, transition and migration might take more effort than managing supply chain day to day (M&AC-02). This renegotiation can also be from the target company or acquiring company side when they have the bigger volume they often try to renegotiate with third party suppliers based on that or might decide to change payment terms (M&AC-07; M&AC-09; M&AC-12). If they push the target company supplier towards accepting new terms and conditions, they may again be creating a huge issue for themselves and damaging their relationships with suppliers, and they need to transition these mistakes (M&AC-09).

M&ACs also indicated the risks and advantages associated with switching suppliers in post-acquisition. The acquirer may want to change some of those suppliers because strategically, it's inappropriate to continue with them. On the one hand, this can be a big opportunity for synergies in the supply area (M&AC-10). On the other hand, this change or consolidation of suppliers can represent a disruption in terms of the supply lead time quality and quantity especially during the first months although it may save some costs in the long-term (M&AC-08). For example, the target company had a supplier for twenty years and had certain terms and conditions with that supplier; before transitioning to the new supplier of the acquiring company, they need to be first of all sure that the new supplier will be able to produce to the specs that they have had with its supplier for twenty-one years. If they do anything else, they are making a huge mistake (M&AC-09).

5.4.2.2. C6: Internal production process risk factors in post-acquisition

After asking supply-side related questions, in this section, interviewees were asked to explain how the acquisition affected their internal operation. As a part of the seizing process, an acquisition provides new opportunities for the internal production of the target company. This section concentrates on the potential positive or negative changes in internal production processes in post-acquisition. Specifically, those factors that are internal (controllable) and can cause disruption in the target company's operation.

Cluster 1: Senior Managers in Acquired Companies (SMACs)

From the SMACs' point of view, the biggest impact of the acquisition is on the internal production/operation of the target company. Different risks were highlighted by interviewees that can influence the target company's operation in post-acquisition.

Managing Change Risk

Whenever an organisation undergoes a change, it is like a tree shakes and leaves fall (SMAC-11). It is a shock to the target company's system and obviously its employees (SMAC-15). In many cases, nearly all the changes will be around minimising costs across the business, so there will be a big push to reduce spending in all operational areas. That may make employees, suppliers, or buyers unhappy and cause some disruption in the supply chain (SMAC-10). The target companies have a shock period during the first months as they don't know how the acquisition is going to work or how the acquirer wants them to operate. During this period, ineffective change management can cause operational issues. For example, when an acquiring company buys a portfolio of companies (Interviews 8 and 14 – Company D), the target company may get less attention from the acquiring company and integration or rebranding takes more time than usual (SMAC-08; SMAC-14). Another key issue related to change management is people being resistant to change for different reasons: they are older, they are closer to being retired, or they don't like new procedures or technologies (SMAC-08; SMAC-15), which has a deleterious effect on the operation. The management team may face a lot of challenges trying to get people to learn new ways of doing things and not to stick to their old ways. They may not contribute to the new mission and leave the company. Sometimes people leave the organisation because the pace of change is too high (SMAC-11). There is sometimes a lack of trust in post-acquisition integration as people are slightly nervous that they might lose their job, and the acquiring company might replace them with their own people (SMAC-15).

People Risk

Employee risk is probably one of the biggest risks that a target company can encounter in the post-acquisition process as all participants (SMACs and M&ACs) emphasised multiple risks in the human resources area. There are uncertainty, concern, and questions for the employees after the ownership change. There will be a concern that we are now going to be fired, we are going to be closed down, they are going to asset-strip us and it is going to be the end of our company (SMAC-02; SMAC-08; SMAC-10; SMAC-11; SMAC-13; SMAC-14). The employee's concerns about what is happening for the future and the management team uncertainties that they will remain in power will kill the company's morale and motivation and all those good things (SMAC-04; SMAC-08; SMAC-15). "I think certainly in the first thirty, sixty days it was a holding pattern, everybody waiting to see what the next step would be……first three months horrific because of the uncertainty it causes so what you have is the loss of production, people concerned about their futures. It's not real, it's imagined, but it's palpable. Once it settles down and change doesn't come floating through the business and people's pay keeps coming into their banks every month it kind of settled down so operationally over the first year there wasn't a significant change other than to staff's perceptions, and I guess their stability or their sense of stability", says a managing director of a target company (SMAC-13).

One of the main issues in terms of people risk is related to an increased workload for the target company's employees during the first year of operation. This can be more for senior and operational managers as they are involved in different supply chain integration tasks, such as setting up production, quality control, auditing etc. (SMAC-02; SMAC-09). Sometimes, this affects employee performance as they have been removed from their day jobs and put into other sorts of roles. The acquisition may increase their responsibilities, change their roles, and increase their paperwork, which can be inconvenient and difficult for them to deal with, making them less productive and their jobs a lot busier (SMAC-12; SMAC-14; SMAC-16).

There is a definite disruption to the target company's senior staff because they have more uncertainty around their future career and job (SMAC-06). One of the key employee risks is related to appointing the new management team at the top of the target company right after the ownership change. This approach has been applied in many target companies, which resulted in some disruptions in internal operations (SMAC-06; SMAC-08; SMAC-16). This experience of one manager in his previous job can explain how this decision can be disruptive for the target company's operation and performance in the post-acquisition period:

> "I worked for a domestic appliance manufacturer in the UK, and they were acquired by an Italian business, and they took a very, very different approach to acquisition whereby on day one of the acquisition a coachload of new management turned up on the doorstep, and all key directors and senior management throughout the business were removed and replaced with Italian heads. That was very, very disruptive for the business, and it caused the whole business to be very unsettled for a long period of time" (SMAC-03).

There is a common belief that keeping the management team will enable a level of stability, as in post-acquisition people are always very concerned, they speculate about what the future might hold, whether they are going to keep their job, is the intention to close the business, all sorts of nightmare scenarios go through people's heads. This has been one of the main success factors of the target company (Interviews 1-3 – Company A) in post-acquisition as the acquiring company supported them and kept the management team in place, which actually stabilised the workforce quite quickly (SMAC-03). However, managerial change can be beneficial in some ways. One respondent stated that these changes are necessary, as sometimes there's an opportunity for people to review old practices and flush them out and refresh, bring new thoughts, bring new people and allow employees to refresh their systems and become more in par with the times (SMAC-08). Another respondent stated “our overhead burden was too high, in that we had layers of senior management which were…you were considered to be unnecessary for the business…for the size of the business that we were, so that layer was removed and actually has enabled us to return to profitability quite quickly (SMAC-03).

Post-integration is usually associated with a change in organisational structure, which if managers are senior, impacts them more. One of the key issues is the loss of talents and old management of the target company in post-acquisition (SMAC-11; SMAC-14; SMAC-16; SMAC-18). “It’s because there isn’t clear communication, there isn’t a strategy, there isn’t control of the narrative, there isn’t suitable buy-in from good people, and they just think “Well, I don’t want to stay here anymore”, so they leave” (SMAC-18). Also, the new organisational change may push senior managers one level down in an organisation, which can be an issue for people in terms of a long-term career. So, there are highly ambitious “want to be a CEO one-day” kinds of character, that is not a good thing for them so they might then look for opportunities where they can get back into that level or go that next step (SMAC-03). In other words, they will be moved down the corporate ladder (SMAC-14).

Culture Risk

Culture risk is another internal issue that has been highlighted by respondents that can influence the target company’s operation in post-acquisition. In the integration process, understanding different cultures and how to deal with different cultures in business and supply chain are key to success. Because organisational cultures are different from company to company, from region to region. The cultural diversity between two companies can be an issue for managers that is often ignored. Target company’s employees need to know more about new parent company and experience different cultures and how to deal with (SMAC-01). In the case of a cross-border takeover, the acquiring company’s management team might have different attitudes, operating model, and communication styles that take more time to understand them during the first year of operation (SMAC-10; SMAC-15). This is a cultural shock to both sides and changing a culture of the operating model is one of the biggest challenges for senior managers (SMAC-18).

This cultural diversity can be about different things. For example, sometimes it can be about companies’ ways of working. Maybe from the target company employees’ perspective, the acquiring company's way of working is more fast-paced and stressful, requires long hours of work, and brings extra pressure and lots of complexity in the whole process. The way they run supply chain is completely different from the way they are running their supply chain, making some issues in operation (SMAC-15). "Where it gets pretty different is around more the Group function area, so the Montreal headquarters, which is very French Canadian, and the legacy target company, I guess, corporate functions, which is a…was largely British. It's not just about French Canadian and British; it's also about the history of the company that acquired us, the role of French Canada in Canada, the role (they've got an anchor shareholder), the role of their anchor shareholder, it's just…it's a very different culture and the command and control nature of the way the functions operate is quite different to what the target company did" says an M&A manager of the target company, whom her British company acquired by a Canadian company (SMAC-06).

The post-integration is not just about integration of systems or productions. It is also an integration of people and cultures. "So I think where integrations have not been successful is where the person in a company required hasn't got an open mind and adopt some cultures and ways of working," says an operation manager of the target company, who has experienced the integration of a British company with a Chinese company (SMAC-01). In the case of a vertical or conglomerate acquisition, the organisations' cultural differences can be an element of risks. "The company that acquired us has no idea about the service that we provide, specific to the pharmaceutical sector, so the product and the service that we provide is a complete…alien to them. So, trying to explain to them what we do is very, very difficult and it's a challenge to not only explain it to them but also become seasoned enough and understand it enough in order to support us. We are in the pharmaceutical industry, which is a completely different language to an organisation that's in aerospace, oil and gas, transportation and fire safety testing. So, it's definitely been a huge challenge to us, trying to do that" (SMAC-08).

The cultural change in a cross-border acquisition is more likely to be completed. Three comments of participants from two UK manufacturing target companies involved in a cross-border acquisition with Chinese and Japanese companies can help to understand more about cultural differences and its impact on the supply chain. "They (acquiring company) do different, do work differently. Their brains are different. It doesn't mean to say they are wrong, and maybe they are different…..I always say if you use times free, whatever meeting you'll have in a European nation to explain going through something, it's going to takes three times as long in China." (SMAC-01). "Their attitude (acquiring company) to making change is, it's often pushed through without really understanding the business case, where our decision making has always been based on business case, so at times there has been a little bit of conflict where acquiring company has said we would like you to change the supplier to X and we have argued that doesn't make sense because the return on the investment for making that change is very weak. So, we have seen a conflict of cultures" (SMAC-03). "So, the acquiring company being however many miles away they are, 6,000 miles away and Japanese in culture, and Japanese culture is one that's really…is quite a different culture to British culture etc. So really the biggest risk we thought we were facing was how do we navigate that, the language barrier, the time barrier and then the cultural differences between the different companies? I'd say that was the main risks…. when you see the engineers working to engineer, it's very hard because they don't always say what they really think or they mean etc., and it's…that's where the difficulty starts to come, you don't always understand each other properly" (SMAC-04).

Logistic Risk

In the case of post-acquisition integration, differences in logistics and operation can represent risks for the target company's operation. For example, the target company's operation philosophy might be different from that of the acquiring company. " They (the acquiring company) don't do much supplier development at all; they just want cheap products…they manufacture a little bit in Japan, their machine tools business is in Japan, but most of the low-cost products are elsewhere, so, China, Vietnam, Philippines, and it is run like a boot camp, which we don't do, and they have a very different philosophy in a sense of we have everything supplier quality assured" sated a COO of a British target company acquired by a Japanese company (SMAC-04). Sometimes lack of equipment, knowledge, or skills brings operational risks to the target company's supply chain due to differences in resources and capabilities (SMAC-15). Logistical and operation risks might also be related to the target company's operating and investment decisions which can be influenced by the acquisition. For example, the target company might have an expansion or investment plan for its production that is halted by the acquiring company (SMAC-04). "There's also…there's been a lot of things put on hold, so no hiring, no firing, no purchase requisition that's going to be approved; so, everything has been, sort of, on a standstill, for the most part. There were some plans in place previously as well, in order to do a major repair of our building – that's been put on hold as well" (SMAC-08). Also, as mentioned earlier, in many cases, nearly all the changes will be around minimising costs across the business, so there will be a big push to reduce spending in all operational areas. That may make employees, suppliers, or buyers unhappy and cause disruption in the supply chain (SMAC-10).

Process Risk

The target company's supply chain is at the risk of disruption due to the impact of the acquisition on their systems, structure, and organisation - what we call process risks here. SMACs highlighted these risks in their answers, underlining the importance of this internal risk on acquisition performance. Acquisition parties often use distinct systems and processes that can be a source of disruption during the first year of the operation. For example, the acquiring company may use a different enterprise resource planning (ERP) system, customer relationship management (CRM) system, and IT system. Sometimes, it is difficult for the target company to take over the supply chain because it can be unique in lots of ways (SMAC-04; SMAC-06). The target company may use an in-house IT service model, and the acquiring company use an outsourced model (SMAC-06), or the acquiring company replaces the target company's IT department with its own (SMAC-08; SMAC-12), which can bring more pressure on the operation of the target company in post-acquisition or additional administrative requirements. "When we took over this process, the factory in Croatia (the target company) they only had one-week scheduling process, and when we were looking for examples of how you are doing material traceability and checking availability we realised that, I mean, there was no consistent processes in place to ensure that material availability. I'm not saying this in a negative connotation that they didn't know what they do or things like that; it was just simply because they…how they were operating" (SMAC-15).

An acquisition may increase or change monitoring and controlling processes in the target company (SMAC-10; SMAC-15). For example, the acquiring company usually closely monitors spending in post-acquisition. "Whereas post-acquisition there was more of a process to follow, to get that permission in place, so you'd have to get, once the two directors and myself had confirmed we were happy to go ahead with it, we then had to speak to the financial director, who was basically brought in at the beginning of the acquisition process, and then he'd have to get permission from the group chairman, the chairman of the acquiring group. So, it takes longer to get the go-ahead on things which I guess is normal in a lot of companies which have been taken over – just like a bigger management structure", stated marketing manager of a British company acquired by a South African firm (SMAC-10). Therefore, sometimes, the target company in order to meet the new controlling process or KPI reporting requirements needs to move to a fully electronic system which has a massive impact on their operation (SMAC-13).

Acquisition often changes the reporting process and line in the target company (SMAC-02; SMAC-06; SMAC-12; SMAC-14). "From an audit perspective, Japan follows a US audit system, which is in the US, Sarbanes-Oxley, it's called J-SOX in Japan, and that has…has a very different type of financial audit and the processes that are required for that audit…so there's been some system change in the business in terms of how we document our processes" (SMAC-07). "I think the biggest change for me as a team is that I used to report to a manager that was in Spain. So, I didn't report to local managers, I reported to a Spanish manager, who then reported back to a manager here. What happened with the integration with the acquiring company is they looked at those two businesses and said actually we want these to be two separate businesses, so we want you to sever all ties between two businesses – they become companies under the acquiring company banner as separate entities. So, they have their own management and there's no tie-up between the two. So, what that meant was that my boss was suddenly not my boss anymore and I had to transition back to a local manager. So that was probably the biggest effect on the team organisation. It also meant that I together with two other of my colleagues reported directly to this director" (SMAC-02). This new process and additional layers of management can also put the company at the risk of being more bureaucratic (SMAC-06).

Integration Risk

One potential risk to the supply chain of the target company can be reorganisation during post-acquisition. Removing departments or integrating sections can influence the operation (SMAC-06; SMAC-14; SMAC-18). For example, the target company may integrate HR, marketing, or IT departments in order to reduce costs. "We've had IT integration, so we have a centralised IT, we have centralised HR and we have centralised marketing. Now the centralised marketing to the target company has been less effective and important than some of the others. IT has been fractious in they're remote, so it's the corporate feel without the hands-on, so the introduction of portals etcetera to deliver HR documentation has been clunky" (SMAC-13).

Cluster 2: Merger and Acquisition Consultants (M&ACs)

M&ACs also expressed the above risks, as indicated by SMACs. They mentioned that other internal risks could significantly decrease the target company's performance in post-acquisition. So internal risks within the supply chain could be anything, so anything that is used in the supply chain could go wrong (M&AC-02).

Managing Change Risk

Post-acquisition integration needs careful change management. A lack of understanding of the rationale for the integration and no clear vision for key stakeholders is probably one of the biggest risks that a company could run in the acquisition process (M&AC-04; M&AC-09). "The process of change requires proper change management; it requires communicating to the people regularly, helping them understand what is happening, what is the vision, how is it going to be different in the future, how will things be different for them in the future from a positive perspective but also be realistic about potential risks and how you're going to manage those and so if you don't manage the change properly" (M&AC-03). Many M&ACs highlighted lack of communication as a potential risk during the change management process (M&AC-04; M&AC-05; M&AC-07; M&AC-10; M&AC-12). "A lot of this stuff actually happens because there isn't a decent communication plan that's developed either just before the acquisition or during the first 100-day plan" (M&AC-04).

Integration Risk

Usually, in the year of acquisition, a company's performance will be reduced because of integration issues and distraction to the business from being acquired (M&AC-01). Therefore, the integration decision and level of integration play an important role in the target company's supply chain performance. "It's not completely compulsory that you would change it, if you've acquired a business in an adjacent space that's a different product, different supply chain, there could well be no need to alter it at all. It just depends on the strategy of acquiring the company as to how important that co-ordination and integration will be" (M&AC-06). "There's a huge amount of activity in that which would need to be managed carefully, all of that transition migration represents a significant risk in the acquiring company" (M&AC-03).

People Risk

Like the SMACs, M&ACs claim that the biggest impact of the acquisition on the internal production/operation of the target company is related to human resources. "The biggest risk that you have is people, and the reason why I am saying it is people because companies are not there because we have a company, companies are there because people make these companies successful" (M&AC-09). In the process of post-integration, employees may not stay with the business going forward because they don't like change, the new management, the new ownership structure, and the new rules and regulations (M&AC-01; M&AC-04; M&AC-10). "If people within the company have made acquisitions before, so they've got a better understanding of the challenges and risks that are involved in acquisitions" (M&AC-05), and this increases the chance of success.

The uncertainty associated with acquisition may encourage people to look for new job opportunities outside the company. Therefore, in post-acquisition “some of the people leave and we have to use contractors, and the hourly wage goes up slightly, so maybe the profitability of the supply chain goes down slightly” (M&AC-03). Sometimes, the new management team has a poor understanding of the target company’s talent pool and is not able to manage or motivate them, negatively impacting the organisation’s operation (M&AC-09; M&AC-10). “There’s significant risk or flight potential if you don’t communicate well if you don’t work to make sure you do really understand who/what is the core team of the business you need to keep then you’d be making a mistake if you let them go and I think that’s a significant risk” (M&AC-03).

Culture Risks

Sometimes, the acquiring company will dictate everything to the target company, which may not be compatible or acceptable in terms of the target company’s cultural values (M&AC-10). “That can be quite disruptive because the culture of the larger organisation will override the culture of the smaller, acquired organisation, and that can affect your staff quite considerably” (M&AC-01). “I think that’s a cultural thing and that is that the acquiring company will tend to dictate what is to be done and the sense of ownership from the target company goes down, and so they can feel not part…or don’t feel responsible for what’s happening and so it means that the performance can drop, and so there will be a drop in operational capability post-acquisition” (M&AC-08). Also, understanding the people behaviour in both parties plays a key role in implementing a successful post-acquisition integration plan (M&AC-09).

Any supply chain has a language which a company has developed over time that describes what they do. Because the supply chain doesn’t have a standard set of terms, the terms are determined within the organisation and a lack of understanding of this language may cause some disruption. “The potential internal production risk is, one is language, so, it’s the terminology that the two organisations work actually to determine what they call it…when you’re dealing with supply chain, every company has a particular language they use, and that’s one issue, language” (M&AC-08). “Of course, then a lot of cultures comes into it because each operation has XL based on certain cultural values with their leadership and how they set up their production. So, whether it’s a Japanese style or some other style of beliefs that they have in their operations, it’s very important to sort those things out and try to learn from each and so forth. So, it’s soft factors that mostly disrupts things I would say, in the supply chain” (M&AC-07).

Financial Risks

Target company supply chain disruption has a relationship with the company's financial capabilities or working capital. The number of problems acquisition is going to cause can depend on how much money the acquiring company is willing to spend on the changes, how rapidly they are going to do them, how good they are at doing them, and how much back up money they have got for security (M&AC-02).

Process Risks

In post-acquisition, we would expect there to be a period of time where there's an adjustment period and there's a lot of internal work that is happening (M&AC-01). "You always find there's a number of processes that people don't really understand very well" (M&AC-04) that can actually add a real delay to the integration. In post-acquisition, often there are different rules and regulations, there's usually a bigger company so there's usually a lot more processes in place, and some of those corporate structures can interfere with the target company's ability to incentivise its staff (M&AC-01). "There are detailed processes that impact what one supply chain…what one company does versus another" (M&AC-08). "I can give you examples where we've acquired business whose factory operations are of pretty poor quality in terms of lean, efficiency, safety as I've mentioned before, so in order to bring those up to a standard which my parent company would be satisfied with, and to make it more of a business within the group, there are things that have needed to change in terms of internal processes around lean culture, safety culture, and the structure of the business. So yes, it has caused some disruption to normal routine but with a view to changing to high quality, the more efficient routine of running the business" (M&AC-06). Also, if there is not a good exploration of existing systems and processes, changing them in post-acquisition can negatively impact the target company's operation. "If you don't make a good discovery and you start to change processes, rules, tools in the internal production, you might run into the risk that you cannot deliver the same product and the same quality, or you're not able to bring that to the customer at the right time, based on internal production errors" (M&AC-10).

5.4.2.3. C7: Demand-side (downstream) risk factors in post-acquisition

After asking questions related to the first two layers of companies' supply chains in post-acquisition, in this section, interviewees were asked to explain how the acquisition affected their customers' approach and relationships in post-acquisition. This section is the last part of the seizing process. As the acquisition provides new opportunities and threats to the outbound material/service flow to the customer (demand-side), this section concentrates on the potential positive or negative changes in demand-side in post-acquisition. Specifically, those factors that are connected to customers and can cause disruption in the target company's operation.

Cluster 1: Senior Managers in Acquired Companies (SMACs)

SMACs mentioned that the target company's supply chain nervousness in post-acquisition could influence the demand-side of the business. Generally, the first year following the ownership change is a challenging period for target companies, when a lot of customers put off buying decisions because they were nervous about the acquisition, being successful. Would the strategy of the parent company change? Would they still be getting the same quality products? This means that sales may decline for the first months or some clients may leave the business. "For half of the first year, it was negatively influenced. Because it took us quite a long time as I said earlier to build the confidence up in terms of security and potential disruption of quality" (SMAC-01). However, an acquisition sometimes has a very positive impact on the demand-side even during the first year. For example, the acquisition can bring more financial resources for the target companies and they can immediately and effectively respond to client demand by getting enough people and equipment (SMAC-14).

Different elements related to the acquisition can increase customer uncertainty in post-acquisition. They may suspend their orders to make sure that their concerns have been addressed. For example, in the case of a cross-border acquisition (Interviews 1-3 – Company A), the customers of the target company weren't happy that a Chinese was the acquirer. As the product of the target company was high-tech electronic devices, its customers had various security considerations or quality considerations during the first year of the acquisition. As in that case, it can take lots of time to convince customers that it will be "business as normal" and that there wouldn't be any security issues or disruption to the supply chain or quality. "That was quite an impact on our business for that time because of course customers weren't buying because you are Chinese" (SMAC-01).

Sometimes, an acquisition brings different concerns related to the security of supply, quality of products, brand changes, etc., for customers that can negatively influence their relationships with the target company (SMAC-01; SMAC-02). For example, changing the target company's brand may cause paperwork or licencing issues for a pharmaceutical company's customers (SMAC-08; SMAC-11). Also, if the target company's customers keep the products long term (e.g. 10-15 years), they will be more nervous about the consequences of the acquisition. So, in the process of post-acquisition integration, the target company must put a lot of effort into the engineering side as well as the supply chain side to make sure that quality control doesn't produce another issue for clients (SMAC-01).

In some cases, the target company may pay less attention to its customers, damaging the relationship, and that can negatively influence the demand-side. "Or the fact that they feel less valued, you might be working with a smaller company and then they see you increase in size and they become a smaller part and they feel less valued and they might go somewhere else where they feel as though, they'll be treated, in a way that they do feel more valued". "I think there's a much higher chance that you lose the customer. Yes, I mean, you lose some good people, and the customer has developed relationships with that person rather than the company, again, that's an issue with loss of customer" (SMAC-18).

If there is customer consolidation in post-acquisition, the target company can be at the risk of losing its effective relationship with customers. "One of the things the parent company has done is taken control of some of our international markets in terms of the ongoing supply chain customers that is negatively affecting our business so far because we had quite tight control over outgoing service and logistic in communication with international customers which is now being passed to our parent company they do not have yet such good relationships with our partners and customers, and that is what is causing some discontent and the loss of business" (SMAC-01). Sometimes, a horizontal acquisition may bring conflicts for demand-side. "For example, on a big construction project the target company might be client-side, supporting the client, and the acquiring company could have been delivering the project, or construction, and we're essentially a check and balance on them, that presents as a conflict from a client's perspective" (SMAC-06). There may be no consolidation of customers, but due to the changed in the target company's process (e.g. using new ERP or ERM systems and delivery methods), the customer will be affected and may leave the business (SMAC-15).

Cluster 2: Merger and Acquisition Consultants (M&ACs)

M&ACs also highlighted some disruptions in demand-side that may emerge for the target company's supply chain in post-acquisition. They argue that managing the demand-side is critical for the success of an acquisition. "When you actually acquire a target, the idea is that you're acquiring the revenues and the profits of that business, and you don't expect them to go away. So, typically you wouldn't expect to see customers, kind of, walking away once a business is acquired. Otherwise, that would immediately erode the value of the business for the acquiring party" (M&AC-01). "So demand side is very important, and changes can change dramatically depending on the deal, competitors start to do things, the salesforce does things, we might change pricing, we might change the products, we might change what's in the products, so there's a whole slew of things that we might want to change, in effect, in the demand side of the supply chain and the issue for supply chain is the interface between supply chain and whoever's giving them that information" (M&AC-02).

They stated that in the year of acquisition, "you would expect there to be a period of time where there's an adjustment period, and there's a lot of internal work that is happening that takes some of the focus away from the external, kind of, client base etc." (M&AC-01). Acquiring companies want to make efficiencies in post-acquisition. They may see an acquisition as an opportunity to change prices or contract terms with buyers, so there will be pressure on the customer, the demand side. "They will not care that you are acquiring, they will want to see the benefits, they will not want to see any downside, not want to experience any potential impact on service and so any service failures will not be tolerated and will put you in a significant risk" (M&AC-03). Customers also may not be happy with the acquisition as they have specific terms and conditions in their contracts. For example, if the target company is a supplier in the military sector and another company takeover this supplier. This situation may cause many issues (e.g. security and confidentiality issues) for the buyer in the military sector (M&AC-05).

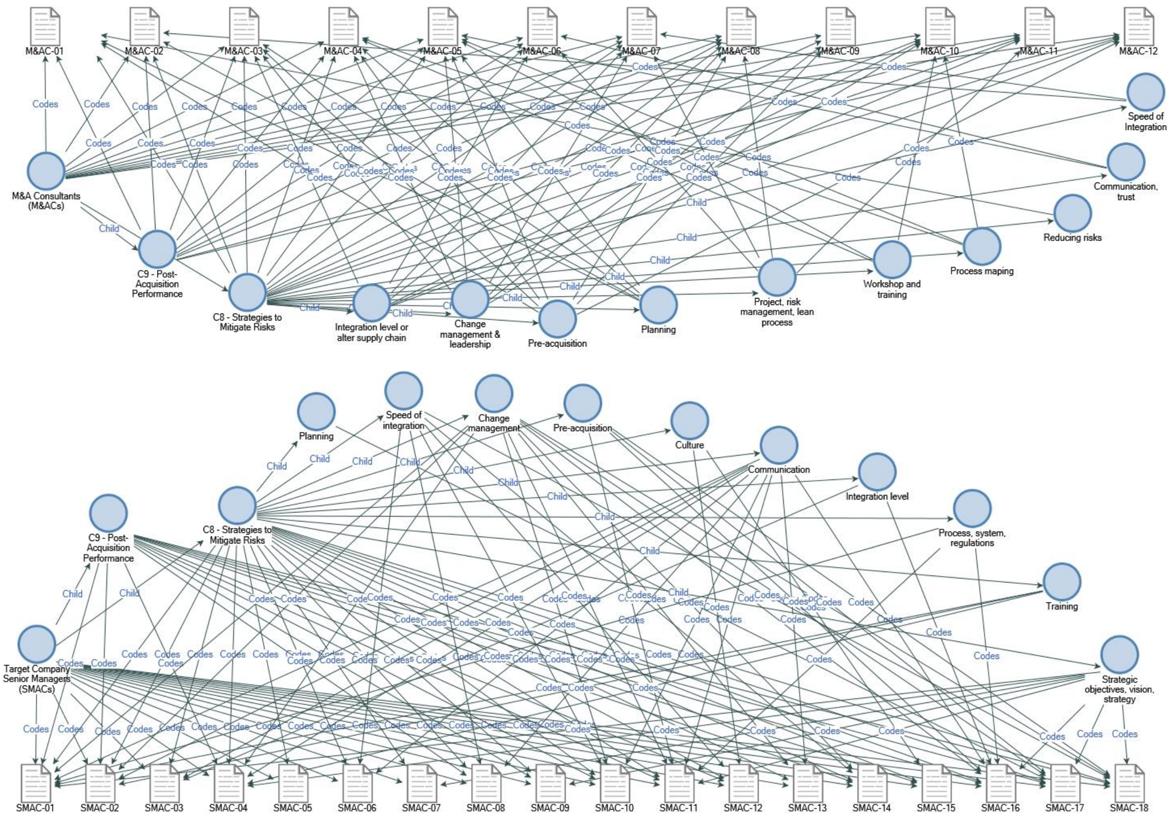
In the case of a horizontal acquisition, if there are clients that the acquiring and acquired companies have in common, then that can also be disruptive. While the client experience may not be unduly or negatively affected, from an operational point of view, the manner in which the clients are dealt with, the relationship holding, all of that can change. Sometimes it can be an advantage because there are client synergies that can be unlocked (M&AC-01). This customer or channel overlap can often be quite disruptive as managing demand-side will be complicated in different ways (M&AC-11). For example, sometimes the acquiring company has a bad reputation or quality of products, which can negatively influence the customer perspective of the target company (M&AC-12).

Change in existing process and structure in post-acquisition may also cause some disruptions for clients. "I think the one thing is when you change ERP system and you change legal entity - so you've been acquired and suddenly the invoices come from another company and the orders…the EDI orders if you have an electronic interface, should come from another company, and that transition for buyers are sometimes hard to do that" (M&AC-07). Also, "the target company and the employees will have a reduced sense of ownership, so that impacts their performance and when it impacts their performance, then it impacts the demand side" (M&AC-08). In other words, "the people are more worried about what's happening internally, and they lose focus on the customers" (M&AC-11).

5.4.3. Reconfiguring Activities

The last section of interviews concentrates on managing supply chain risks discussed in previous sections and supply chain performance in post-acquisition. The third set of dynamic capabilities - transforming and reconfiguring - contribute to creating value from the acquisition and increasing post-acquisition performance. In order to reconfigure opportunities in post-acquisition, all potential strategies to manage the supply chain disruption risks discussed in the last sections will be explored. This section concentrates on the two last categories (C8, C9) into the area of reconfiguring DCs. Figure 5.5 shows the data map for reconfiguring activities. This figure indicates that there is mostly a fluctuation in the target company's performance after the takeover. Also, it indicates that reconfiguring activities and in specific mitigating supply chain disruption risks in post-acquisition (C8) are very important for target firms as all participants emphasised on a wide range of strategies that could help in minimising the target company's supply chain disruptions in post-acquisition. Based on a content analysis of data, these strategies have been categorised in eight main areas that will be explained in the following sections.

Figure 5.5: The Data Map For Reconfiguring Activities



5.4.3.1. C8: Managing supply chain disruption risks in post-acquisition

After asking questions related to different aspects of post-acquisition integration and the potential risks associated with each layer of the target companies' supply chain, in this section, interviewees were asked to explain what they consider to be the most effective strategies/tools to reduce disruption risks during the post-acquisition process.

Cluster 1: Senior Managers in Acquired Companies (SMACs)

SMACs, in response to the question of how the target companies can manage different supply chain disruption risks in post-acquisition, highlighted different strategies that can be used to mitigate risks. They didn't really adhere to a specific manufacturing strategy or lean manufacturing way. "It is not one strategy or another; it doesn't work like, okay, one strategy can be better than the other, it depends…I think it depends a bit too much on the scale of the operation and the complexity of the acquisition" (SMAC-15). Acquisitions are not minor or casual events, so identical business models cannot be applied. The majority of SMACs believe that communication and change management are two effective strategies to manage risk in post-acquisition.

Strategic Objectives

When there are a clear vision and strategy for all stakeholders - internal stakeholders in particular - they can play positive roles in the post-acquisition process. Understanding the strategic objectives of the acquirer is very important for managers in target companies. It significantly reduces post-acquisition uncertainty and encourages people to participate. "I have tried to understand what the company wants from the situation and then really try and instil that into the people around me, so the people who report through me, through the people I work very closely with, to really get their buy-in so that I can build support on my level" (SMAC-18). "I think the point to note is, very quickly after the acquisition, the President of acquiring company made the very clear statement that this site was to be the Centre of Excellence for the acquiring company technology, so that essentially secured the long-term future for this site" (SMAC-03). It is important to define long-term objectives and monitor the fulfilment of those objectives. "The acquisition was started from a really good place, in the sense of the synergy was clear, and we knew that we wanted a management team to work with that had a massively long-term view compared to a short-term one" (SMAC-04).

Pre-Acquisition Due Diligence

Some SMACs highlighted the crucial role of pre-acquisition due diligence in managing change in post-acquisition. They argued that managing supply chain disruption risks starts before the acquisition when the acquiring team study different dimensions of the target company's operations. "The new group coming in they've had a period where they just studied the business and how it was operating and were looking for way they could improve it, and there were various areas, across the board really, in terms of production, making production more efficient, products that were kind of inefficient to manufacture and weren't kind of the biggest moving products" (SMAC-10). Pre-acquisition due diligence provides the necessary information to avoid inappropriate and hasty decisions in post-acquisition. "The company that bought us had done extensive due diligence on us… The reason why we're successful is because they could see many positives of the company they worked with that they wanted to preserve and therefore they…rather than actually try and disrupt that they tried to build on it, they tried to invest into it to make it better…They've had a lot of feedback from clients that worked with us and therefore there was no real passion to change the actual mechanics of the organisation. The only thing they needed to change was the way the company was being organised and managed, which they did quickly" (SMAC-16).

Some stated that pre-acquisition is a golden time to effectively manage post-acquisition disruption risks that often companies do not fully appreciate. "Where there is a disconnect is when you don't carry out sufficient due diligence and the time is taken before…between making a decision and committing to strategy and then delivering on that strategy, that's not long enough to actually understand what the issues are. If it's too rapid, I think then the due diligence process…or the due diligence process doesn't involve the right people doing due diligence because there isn't an executive leadership cap, let's say, that's when I think some issues are always bound to, you know, raise themselves in terms of understanding, post-M&A, how it's going to work, basically. So, it's not a right fit for now, it's got to be a right fit for the future, and that maybe always hasn't been fully appreciated" (SMAC-18).

Planning

SMACs commonly stated that acquisition is not an everyday process; it is complex and associated with multiple risks. Lack of planning can increase disruptions in post-acquisition. "The implementation of the process and how to role it out…I feel that there is a lot of holes in how that was done; it wasn't well planned out" (SMAC-14). To make it work, we need to make sure there is a set of concrete and detailed transition arrangements in place (SMAC-17). “We made sure we had very detailed project plans we shared with suppliers and obviously manufacturers to make sure that they knew exactly when everything was happening what was expected of them” (SMAC-01). “From the initial takeover there was a hundred-day plan of what was going to happen, not convinced it was as successful as it should have been, but there was a plan there” (SMAC-02).

Transition Team

Having a transition team in the critical post-acquisition period can reduce the risk of disruptions in a target company’s supply chain activities. A transition team with the resources, experience, and knowledge to identify where things are not working properly or where there are some difficulties and challenges in making that transition, a team that is either a part of the organisation or they are contracted in is vital (SMAC-14). Some companies allocated a dedicated team during the deal period and for the first eighteen months of the acquisition, to figure out how they must unravel the target company from old systems and integrate it into a new system (SMAC-17).

“I think there needs to be the implementation of a team that’s - and we do, kind of, have it, but they’re not well resourced - is to have a team that actually is in charge of assessing the differences between the two organisations and then giving a layout and advisement to the people who are actually forced to implement these changes, so, looking at what the differences are in systems, assessing which system is going to remain in place, and then advising the people who have to make the change and assisting in that transition” (SMAC-14). Sometimes this transition team can be external people from M&A management consulting firms that play a necessary role when the target company is undergoing periods of significant change, de-integration and integration. This strategy has been used in many small to big acquisitions (SMAC-17).

Change Management

Post-acquisition integration is a complex and multifaceted process, which is associated with substantial changes in the value chain. Therefore, effective management of change and disruption in post-acquisition is key to success. There are several variables that should be taken into account in the change management process. For example, acquiring companies shouldn’t change anything in advance, and the level and type of change can influence the target company’s supply chain performance. “Don't change anything apart things you have to change of making sure your supply chain is robust. It's the old rule of change only change one thing at a time. Then make sure that's working and then change another thing” (SMAC-01). Sometimes, immediate changes can significantly increase disruptions in the target company's operations. "They had a period of maybe two or three months where they didn't do much at all, yes in terms of actual changes, they just monitored the company and just tried to learn how it worked, and then once they had done that, and they had a better understanding they started making more changes" (SMAC-10).

Also, change management requires placing the right people at the centre of the strategy. For example, sometimes to achieve the strategic objectives of an acquisition, an immediate change at managerial level is required. "I think, that acquisition didn't go particularly well primarily because the original owners of the companies in the US were allowed to stay in position and they had their own views on how those companies should be run, based on what they have done before, and it wasn't aligned with the overall strategy of the new parent company. It took about 12 months properly, 12-18 months to integrate properly. The CEO, the previous CEO, just thought that by changing the name of the company to the new company from the original parent companies would mean integration but it wasn't like that at all" (SMAC-16). From other perspectives, change management requires appropriate human resources, who can positively contribute to the post-acquisition integration process and do not resist change. However, sometimes there are potential risks associated with management discontinuity of the operations function at a senior level or in middle management roles, that can be mitigated by offering a new contract to them (SMAC-17).

One of the elements related to managing change is understanding the target company's cultural values before implementing any change. "I think one of the strategies that should be avoided is to try to introduce your own culture into the new company; I've seen that the other way around where it's not always received favourably. This time round that didn't happen, so, therefore, the transition was a lot smoother and there was no, kind of, interruption to the business" (SMAC-12). "I think it is very important that when a company is acquired, even the company who is acquiring the second company, they need to be aware of the cultural gaps, the cultural differences because without understanding how two different culture work, and how they can be integrated, or how they can operate at least for a while until the integration process is put in place, it is my experience…it's very, very difficult just to use a strategy or a combination of some strategy to minimise the disruption" (SMAC-15).

Communication

Almost all SMACs highlighted the importance of communication to the success of a post-acquisition integration. They stated communication is a key tool to reduce the negative impacts of acquisitions on all supply chain aspects. It is important for the target company to maintain its ongoing and effective communication with all internal and external stakeholders. “We had a lot of communication and visiting key suppliers to make sure that they knew exactly what going on when and how” (SMAC-01). “So, you can look at communication, but that is key to any change process, you know it’s keeping people involved and giving them the right information at the right point in time” (SMAC-02). “I think communication is key and no matter what the stakeholder that’s key. So, in terms of from our senior managers or into the organisation, external into the organisation, I think we did a top-down, bottom-up communication. There were webinars, there were all those sorts of things around reaching the people” (SMAC-06). “I’m glad that acquiring company is communicating a lot, there’s also a rebranding team that we met and there are, again, they’re giving us a lot of warm and fuzzies as well as far as their intention is concerned, that they’re here to grow together and be partners…Acquiring company is very active in communicating, they almost over-communicate, and I think that’s a great thing, people not sitting in the dark; that really helps the morale and helps people understand and get used to the idea… We just communicated the change to our customers formally, so we gave them a heads-up; during the audits, we provided them with the acquisition information, but we told them business is, as usual, nothing has changed” (SMAC-08).

“I think, what is the most important thing and what the new CEO has done better than any CEO is intimately be involved with each of our customers… So, essentially when you have that level of commitment from the highest levels of the company, it’s very reassuring to the customers” (SMAC-11). “I have been involved in acquisitions in the past, I’ve been involved in companies that have acquired other companies and I’ve been in a different situation where there is less communication and so you’re basically looking over your shoulder all the time thinking - well where do I fit in this organisation, is there going to be redundancy in terms of, will there be another department coming in from the parent organisation that will replace my role etc etc.? - With this acquisition, it was very swift but also the communication was very timely, very clear and it was also very decisive as well, so I think it was basically put to people that this is the way the company is going, this is what we’re going to be doing, it’s all very exciting etc etc. but there’s no democracy here, this is exactly what’s going to happen. I think it gave people the opportunity to think – well, do I fit within this organisation, does it fit with my career aspirations and therefore, do I stay, or do I go?” (SMAC-16).

Trust

Some SMACs indicated trust as a strategic weapon to improve cooperation and performance in post-acquisition (SMAC-11; SMAC-16). Trust should be between both the acquiring and acquired firms and also, between all people involved in the post-acquisition integration process in the target company. Trust has a key role in knowledge transfer and the alignment of objectives. For example, if the acquiring company has a consultative approach and trusts the acquired company's management team, this can reduce some post-acquisition problems. “The acquiring company has been particularly consultative in terms of their approach and nothing proceeds without the sign-off of the heads of the different businesses” (SMAC-13). “Because we have had a lot of experience over the years of moving the manufacturing around the world and they haven't. They only made stuff in China. Then they were happy for us to take the lead” (SMAC-01).

Knowledge Sharing

Knowledge sharing appears to be characteristic of successful integration efforts. Knowledge sharing can increase post-acquisition integration efficiency and reduce disruptions. For example, using the acquired company's knowledge about the market or their dynamic capabilities can improve decision-making in post-acquisition. It is a common mistake that acquiring companies, without generating enough knowledge about the acquired company's capabilities and strategic positions, use their previously successful experience for another acquisition (SMAC-08).

Cooperation

Cooperation between companies and people regardless of the type of acquisition (e.g. hostile takeover or friendly takeover), can significantly improve the acquisition performance. For example, cooperation between old and new management teams or owners can reduce the risk of discontinuity. A highly cooperative relationship and spirit or a “can-do” approach among people and companies can make the integration process easier and more effective. “First of all if the heads of both companies get on very well, then it's a massive enabler to doing lots of things, even if it is an aggressive set of changes if your two leaders get on very well and understand each other then it can work a lot better” (SMAC-04). “The biggest single reason why this was such a successful acquisition and integration was that both parties, both the selling and the acquiring company, were 100% dedicated to it being successful….both had such a high level of cooperation between the management teams on both sides to have minimal disruptions to all operations, including the supply chain” (SMAC-17).

Leadership

Having strong executive leadership is one of the most effective strategies to reduce potential disruption risks in post-acquisition and increase acquisition performance

(SMAC-18). Post-acquisition needs a strong leadership culture. It can help the target company to meet post-acquisition challenges and motivate people to participate in the integration process actively. It will enable very quick decisions and unblocking things from a corporate point of view (SMAC-04). Leadership can define roles and responsibilities for people and guide the implementation of post-acquisition integration. “Essentially, the reason why we’re more successful now is that people have defined roles, they have a clear role, decisions are made very quickly” (SMAC-16).

Training

SMACs highlighted the role of education and training in the post-acquisition performance. They used this strategy for both people in the acquiring company and people in the acquired company for achieving the acquisition’s objectives. “Before like start manufacture, we have almost to do some training and facilitation and mentoring of staff again in our parent company. To make sure we got the right result…We had to do that in detail face to face with them in China. There was a lot of long sessions to be done, making sure they understand the detail. They've got everything covered, every single last nut bolt. Before like start manufacture, we have almost to do some training and facilitation and mentoring of staff again in our parent company” (SMAC-01).

Integration Speed

As there are different studies related to the speed of integration (mentioned in the literature review chapter), some researchers argued that the speed of integration reduces or increases disruption in post-acquisition integration. The interviewees were asked to provide their opinions on the role of integration speed in reducing post-acquisition integration disruptions. SMACs had different views related to the impact of the speed of integration.

On the one hand, some SMACs suggested that fast integration is an effective strategy to reduce risks. “Having been through a very long and slow integration, I think that I would highly recommend not. I think the situation would have been benefited from having a very rapid integration or as much more rapid than years of integration, and a slow integration is, for me, a lack of decision making. Strong leadership, strong, fast integration through driving a positive change from the executive team downwards shows a very strong narrative and I think you buy a vision. During acquisition, people expect things to change, that is the one, single opportunity to, for me, to be able to then put in place some really strong key elements moving forward. If you don’t take that opportunity, that opportunity is never going to present itself ever again, that opportunity is then lost. So, slow integrations, for me, I think, have significant issues. That might work for some industries, it might work for some companies, but I would say, in general, on the whole, and talking to other people, who've been through similar, I would say a strong and rapid integration, influence would be much more beneficial" (SMAC-18).

On the other hand, some SMACs argued that fast integration is associated with risks and does not necessarily improve post-acquisition performance. It may also not be possible in some industries. "I can argue both! I think people are ready for the change in that initial period, so if you are going to change, you need to change then. If you're not going to change much, then overtime is fine because…whereas if you leave it for six months and then…or if you leave it for twelve months and then do a whole lot of change – very difficult. That will be disruptive, and that will cause problems for the business. So, if you're going…if it's a big change programme, it needs to start straight away, and you need to move it and get it done and finish quickly. If it's not a big change programme, and you will leave organisations next alongside, then you probably can do more over time, it's not as important" (SMAC-06).

"I think you need the time for integration, especially in a regulated environment such as our sector. I can tell you from a pharmaceutical perspective, you need to give a lot of time to your customers to change their filing, so it's really important to allow it enough time and provide them with written notices so that they can be prepared and there is no disruption to supply. So, in pharma, you can't just switch, because all the documentation and the names are all filed with the regulatory bodies of the country that you're selling your drug to" (SMAC-08).

"I guess it depends on how much disruption there is – I guess if it's kind of fast integration and it's not causing too much friction or too many major changes the I'd definitely say fast is better, but if it's disrupting departments or staff and there's a lot of change involved then maybe a softer approach might be better in terms of staff morale" (SMAC-10).

"I'm sure each has its plus and minuses and also it depends on how the integration goes, right? I think integration, from a financial reporting, needs to be quick because a company's acquired you that spent a lot of money buying you, so they want to know, financially, how you're doing, so that's…that needs to be quick. Then the other stuff, in terms of organic growth of your own company, can happen little bit longer because there is that, I guess, relationship building and understanding of what the business needs to be; and then also, I guess, the IT integration can happen a little bit longer as well because that's always very demanding on resources" (SMAC-12).

Cluster 2: Merger and Acquisition Consultants (M&ACs)

In this section, M&ACs expressed their opinions on effective strategies to manage post-acquisition integration risks. As they had worked in well-known large M&A consultancy firms such as Deloitte, PWC, and Ernst & Young, they could provide more information about their consultancy services to the target companies in managing post-acquisition integration risks. They stated that there is no single strategy to manage post-acquisition risks. “Deal by deal, there will be different synergies, different possibilities, and so our plans will be different. What we will do is we will decide what we are going to change, improve, and we will then set about changing it” (M&AC-02). Here are some strategies that M&ACs suggested to mitigate the risks discussed in the previous sections.

Managing Change Risk

“The process of change requires proper change management; it requires communicating to the people regularly, helping them understand what is happening, what is the vision, how is it going to be different in the future, how will things be different for them in the future from a positive perspective but also be realistic about potential risks and how you’re going to manage those” (M&AC-02). Managing change requires a careful analysis of the target company and effective planning. “We have used a number of tools and techniques in the past, the one that I’m working on at the minute is based on capability analysis. What we actually do identify all the capabilities that are required by the new business, map those out with the capabilities from the older business as a thing that needs to be integrated and develop a change management plan between the two. During the development of the change management plan or the integration plan, that is whenever you actually will do your risk analysis. You can actually do some risk analysis upfront based on the due diligence but the real issue with a lot of traditional or commercial due diligence, it doesn’t really take into account of the integration challenges” (M&AC-04).

M&ACs widely emphasised planning in post-acquisition to reduce disruptions. “So, the 100-day plan following an acquisition, which is hugely important in determining how successful that acquisition is” (M&AC-01). “When you buy a company, is you write a plan as to how you’re going to change and improve the company based on synergies” (M&AC-02). “Planning to have an organisation which has enough strength in depth and breadth to be able to absorb more activity would be a major positive in managing risk” (M&AC-10). “Whenever you’re developing your integration plans, you need to actually work out pretty quickly about what is achievable in the very first one hundred days and from the first one hundred days it’s then identifying which particular integration projects you’re going to pass over to the operational teams for them to manage, in how long it takes" (M&AC-04). "we have an integration master plan, which has all the mandatory controls on and things like that" (M&AC-05).

One of the key strategies to reduce disruptions related to change is to study and understand the target company's business environment. "You need to deeply understand the target company's value proposition, its skills and capabilities, and how value proposition and skills and capabilities, or competencies, actually relate to the products and services they offer" (M&AC-08). "I know one of the things that I always did as soon as an acquisition was made is to go round and meet and actually work with the staff from the acquired company as much as you can so you aren't being seen as hiding away in your own business where you've got a pretty good understanding" (M&AC-04).

To reduce risks, it is important to consider people's experience and to apply a teamwork approach. "What we did wrong to begin within that Belgium experience, so we were very linear, it was very "Do this, Do that" and then we set all these people up and then they don't talk to each other and it becomes impossible to manage. So, we turned that around and now we have this team approach with this very tailored to fit approach and with all these different steps… we try and connect up early as possible with the key people in the organisation, bring them along on the journey and sign them up as to what we're doing, it's a fast integration or a slow one, and we bring them into our team, into that integration team to develop the strategy and approach together, and then we rely on them to sell that into their organisation and, you know, and be open and be encouraging" (M&AC-05). One of the strategies to reduce employee resistance to change is related to the way change management is implemented. "It's going to be quite difficult to change those people, so you've got to have a very firm change management process in place and you may actually find blockages in the middle management and senior management who don't like change very much. Sometimes that can actually add a real delay to the integration, and I would say that's probably the biggest challenge" (M&AC-04).

One of the key strategies to reduce change management risks is to align leadership in the post-acquisition integration period. "In our practice, we stress the importance of leadership alignment, I think that is the number one thing that…if you have a new factory under a company that has many factories or one supply chain under another company it's alignment of the strategies, the production strategies, the supply chain operational strategies, that is very important, but that's between people, that they need to understand and agree on – this is how we're going to build the future – the technologies etc., the methods and tools. So, it's all about people and middle management, both the more executive leadership but also to engage middle management in that kind of change or merger" (M&AC-08). Also, their experience can be a key to manage risks. "The biggest difference is the experience in acquisition and integration, it's, sort of, to understand them, anticipate and understand the risks, and put in risk mitigation strategies to resolve them… So, there are different sorts of mitigation strategies that help that, but the key thing more than anything else is that kind of experience of acquisition integration, what the challenges are there, having good planning and anticipation of risks, and putting in activities to manage those risks" (M&AC-11).

Communication plays a key role in mitigating change management risks. In this period, honest and effective communication can increase post-acquisition performance. "The worst thing that can happen for the acquired company is if the management of the acquiring company comes in and tells them nothing will change because that's simply not true, don't make them believe everything will continue like in the past; it's a lie. That's important" (M&AC-10). "We want the integration to be a positive thing so it's about teaming up and networking and driving it together and trust-building that trust and approach and everything is key, and putting the big items on the table and stepping back and reconsidering and all of that. You really have to be close to it, and you can't do it from a distance either, you have to get to know the people, talk with them, talk with their team and work out a joint communication strategy" (M&AC-05). "Logically, when you look at what you need to focus on post-signing, post-closing, we're talking about the operational integration that needs to be handled well; we're talking about the communication between signing and closing and also post-closing, that needs to be handled well, and that goes back to the stakeholder analysis; we're talking about the change management, which goes back to behavioural alignment" (M&AC-09).

One of the key factors to successful post-acquisition change management is education and training. "We formed a management team across those five businesses, and we ended up having eight people. We got the subject matter experts of each of those businesses to come and be workshopped with them and we drew through their processes for each of those five businesses, and it meant that the senior management team of this particular business unit actually fully understood all of the aspects of those five businesses within about a pretty intense period of about three weeks. It made the transformation and the integration plan much more straightforward by having a thorough understanding" (M&AC-04).

People Risks

One of the potential risks in post-acquisition is losing employee loyalty when talent and key managers leave the target companies in post-acquisition. "So what we would typically do to mitigate that ahead of a sale process is have an EMI scheme whereby they are basically given, at the time of sale, they are provided with options in the business so they basically effectively become small shareholders in the business. Then typically an acquirer will put in place an earn-out structure, where they will need to stay with the business for usually two to three years and during that time if the business continues to perform on the same trajectory, then they will get paid through that earn-out period, further payment. So by making them sort of, co-owners of the company, you kind of buy their loyalty, and you would typically do this with all your succession management and all your senior staff because they're the ones who, if they leave, will often take clients with them or there would be more churn following their departure, so to mitigate that these earn-out structures are put in place" (M&AC-01). "The process of implementation and transition, migration might take more effort than managing supply day to day. So there's a spike of activity if you like which might actually mean the supply chain managers in the procurement team who you may have been targeting to let go as part of the benefits realisation that you were pursuing actually you may need to pay them a little bit extra to keep them on for three to six months to make sure that the process of migrating suppliers is actually smoother than you'd anticipated" (M&AC-03).

One of the key strategies to mitigate people risks is training or communication (M&AC-05). "I think actually keeping a focus on people is the most important thing during the first twelve months" (M&AC-04). "We had a playbook, we also had a training concept for the people in the acquired company because you have to make sure that you train them on new tools, on changing environment, on compliance, on…you know, there are so many, many things, but the problem when I started, to be honest, was, it was not a tailored training, it was a very generic training, but we were forced, in a way, to do tailored training which really fits the acquired company" (M&AC-10).

Finance Risks

To reduce financial risks in post-acquisition all key spending and costs should be recognised in advance and enough resources allocated for smooth operation in post-acquisition. "One of the core things we do is we have a deep dive analysis very early in the process where we send in, like, the experts from purchase to pay and payment, things like that to go into the company and get the analysis of the spend files and work out what the key spend areas are, which ones are business-critical and also to understand which ones there can, essentially, improve, but that's around the areas for us more like, facilities and, what else, facilities and travel and expenses" (M&AC-05).

An important strategy to reduce disruption risks in post-acquisition is to maintain appropriate working capital during the critical first year of the integration. "Now, really what that comes down to is the amount of working capital, the amount of money you're willing to put into it, because clearly, that affects your business. What you're saying is how many problems is this going to cause customer end, and really it depends how much money you're willing to spend on the changes, how rapidly you're going to do them, how good you are at doing them, and how much back up money you've got for other safety things" (M&AC-02).

Process Risks

M&ACs use a dedicated strategy team to assess and manage process risks in post-acquisition. "We have a very developed sales team as part of our M&A strategy who work with that and we also have a process committee, the process teams, so we split our integrations into value, function and process. So, for us the process is everything from the software process from lead order to revenue recognition and to delivery; and then the value is everything around the sales side, services, the R&D, the marketing, the branding; and then the functions is, like, the typical, HR, IT, accounting, all of that. So we bring all those three parts together, for every single integration we do we create a strategy team to fit the challenge, and then we live and breathe that as the day to day integration challenge so with all the cross-functional aspects with that sales content is a key part" (M&AC-05).

One of the strategies to reduce operation and process risks is process mapping. "We would actually do a fair degree of process mapping and understanding the issues and faults with not only the current process but actually with both the acquired and the acquirer. We actually do a comparison of the processes and the environment between the two businesses at a very detailed operational workforce level, so we actually understand what the qualities and what the differences are. Even in a lot of supply chain and client services type situations you can actually do, you'll actually find that comparing the two sets of processes is normally actually surprisingly, quite straightforward and you can then begin to identify which particular organisation has got the better process and which areas you can actually learn from each other" (M&AC-04).

Culture Risks

Transparency is key to unlocking cultural values and motivating people. “The most important thing at the beginning is transparency, so you need to do a really deep discovery meeting of the characteristics to find out, let’s say, on the one hand, the pain points, to find out the advantages of the processes, and then compare it to the acquiring company, and then you have to figure out how could a transformation look like. So, you have to make sure that at the beginning of the integration, not two months in, not three months in, not six months in the beginning, you learn the cornerstones of those characteristics. So, if they have a – I make example now – if they have a special way of doing inside sales or they have a special way of logistic process, need to gather that information, put it in an overall summary of all the supply chain processes and then you can compare it with what you know from the acquiring side. That for me, one of the success factors at the beginning because that’s what you need, my experience again, right” (M&AC-10).

One of the strategies to implement successful change management in post-acquisition is to increase cooperation culture and make sure all people know about the aims of the acquisition. “So, basically, what you’ve got to do - and it’s the cultural issues - is make sure that people’s, first of all, their roles are safe, they have positions, they’re secure in their roles, they have a future, and that their role, what they do, they’ll be listened to and they will have an equal voice or a say in terms of what is done and their ownership is shared so that there is a sense that, as the target, company move along, that they have a shared outcome with the acquiring company and that they do things together” (M&AC-08).

Integration Risk

The first step to reducing integration risks is to consider a strong and experienced integration team. “I think it starts with the integration team, so you need, on the side of the acquiring company, a strong team, people who know how to deal with acquisitions, and you need, on the side of the acquired company, people who are supportive of the integration, who are key players and who can talk to the team and can take the team with them. Having said that, the integration team itself needs to be a team out of people who are very open-minded, who are willing to do a transformation, a change process, and who are acting in a very honest and direct way, and the last thing is - and who have a feeling for international, let’s say, competence or international culture. So that’s very important because if you have the team together, they can drive the change and the executive management need to support them and, like, and free them up of other topics because an integration is not just like: “Yes you can do it on top of your normal daily work” – the first three months are full of really, really lot of work. So, again, it's mainly the team, yes, if you have the right people in your organisation to do that, my view" (M&AC-10).

The interviewees were also asked to give their opinions about the importance of the acquired company's alteration of its supply chain strategy based on the acquiring company's supply chain in post-acquisition. M&ACs stated that this was not completely compulsory (M&AC-03; M&AC-06). "It depends on the strategy of the acquiring company as to how important that co-ordination and integration will be" (M&AC-06). However, some parts of the business such as HR and finance, could integrate very quickly and reduce operating costs (M&AC-03). If the companies want to achieve synergies, they integrate the two supply chains, which results in different changes for the target company's operations (M&AC-07). "There's a lot of advantage in term of operational improvement and operational innovation that you inevitably would want to take on as part of the job, and quite frankly, I think that's all part and parcel of why you do M&A, is that you'd want to be altering the supply chain strategy" (M&AC-08).

The integration of a complex product range brings more risks and needs a set of skill to understand all dimensions of design capability (M&AC-03). Supply chain integration and adjustment are dependent on the type of deal. For example, in private equity, all they do, they just buy the company, they don't touch anything, they just leave it alone (M&AC-08). In some cases, companies have to undertake deep integration. Most importantly, altering the supply chain to achieve synergy and economy of scale is not always the right strategy. "So, just trying to bring everything closer and trying to say that these are the work best practises, might not be relevant to the context of small business at all. Just because sometimes it's giving a good economy of scale for the larger business does not mean that the same formula, the same processes will work in maybe a relationship-driven company which works on one-to-one business… If something of supply chain needs to be changed, change only that, but do not change just because you can get save some money or you can do something. So it's not a rule to alter things or change things, absolutely not, suppose whatever was your target of making the revenue in market, if you can meet that without changing anything, in fact, leave it like that and let it be a pull than a push, and slowly the business heads will come and see…or bigger organisation, they'll see a pull of the value, and they'll adopt it slowly" (M&AC-10).

The majority of M&ACs argued that post-acquisition supply chain management is related to the pre-deal acquisition assessment and due diligence. This implies that plenty of supply chain disruptions can be addressed ahead of time if the acquisition has proper due diligence. "One of the things they can do is diligence and obviously we would recommend when we're advising on a deal that anything which is fundamental to the business outside of the business' control needs to be properly due diligence" (M&AC-01). "I think it's actually before you've even made the acquisition, you've got to really carefully plan out and understand these issues very well" (M&AC-03). "We spend a lot of time with…well my team is in the due diligence part of the deal so before we actually close and we try and set there the integration concept, and then, so, we have our understanding of how the business is but that's very…usually develops in a lot of different ways after we get to know the company a lot more after we close the deal" (M&AC-05).

"I ought to say, that I evaluate integration risks before the ownership change actually occurs because ownership change is related to when an acquisition is completed. So, once an acquisition is completed, that's when an ownership change occurs. The integration risk is something that you do before the ownership change happens" (M&AC-08). "Well, product diversity and complexity, it's something, we need to structure before planning the integration. Planning and integration, it's slightly different, we don't make an acquisition and then think how do we want to integrate. The moment that you are looking at a target, the moment you are doing a due diligence, you start planning your integration from then, so it is not a post-merger, it is an integration question, but technically not a post-merger; if you're doing it at that point of time then definitely, that's a bit of a disaster" (M&AC-12).

"You need to do pre-deal stakeholder analysis to find out what are stakeholders and what are potentially the risks of these stakeholders, that they see in the acquiring party acquiring the target company, and how will these fears and anxieties impact a potential integration at a later point in time" (M&AC-10). "I think the most important strategy is, even before signing and closing the deal, they should have a common working session with both the teams and combat a market trust, rather than just trying to do everything post-acquisition. So the integration work starts just before the signing where you get both the teams and they debate, they criticise and they see that each other's plan there is something missing, but they need to very open, trust environment where people can debate, rather than, the acquiring company trying to push their ways on the target; there should be both way communication, where they come together with a common plan and then that the common plan" (M&AC-12).

One of the strategies to reduce operation and integration risks is using a complexity matrix. "We have a complexity matrix which we apply to the company to try and work out, we've got different types of integration we do, so we have, like, a fast track one for smaller acquisitions where we try to do it within ninety days, or we've got a more traditional one, which can take one or two years, for the bigger companies, and then we've also got one which is more tailored to fit which is more for specials where they've got some sort of freedom to act" (M&AC-05).

Supply-Side Risk

One of the key strategies to reduce supplier uncertainty in post-acquisition is communication. "I think one of the key things for me is communication with the supply chain, so very early on identifying the key suppliers of the target business, communicating with them what the approach is going to be, having pretty early face to face meetings and forums with them and bringing them through the process rather than leaving a degree of uncertainty in place. I think communication is the key to that. I think you're more likely to have disruption if you're not communicating properly with the supply chain because if they have more uncertainty, they're more likely to try and win business elsewhere, perhaps at your expense during that period, so I think communication is key" (M&AC-06). "Make sure that you're not headquarters-focussed and you need to get out into all the places where you have your supply chain in the different areas for that" (M&AC-07).

One of the ways to reduce supply-side risk is commercial due diligence. "Well, you can only get a good idea of what the supply or procurement contracts are like as part of, just normal commercial due diligence. If you do enough analysis before the acquisition or shortly after the acquisition, you should have a good idea of which suppliers are probably preferable to use. It's not always just cost-based, it's also relationship-based and quality-based, so you've got to identify what is going to be the key criteria you need for your own particular operation and to do your supplier analysis or vendor analysis" (M&AC-04). This helps the company to find the best approach to deal with suppliers. "Using a "best of both" approach rather than saying - newly acquired company, you will take all of your supply from supplier A,B,C - that's not our approach, our approach is to get the best outcome for everyone" (M&AC-06).

Integration Speed

Like SMACs, M&ACs were asked whether integration speed could reduce supply chain disruption risks or not. They stated that the speed of integration is important for synergy delivery and has a direct relationship to post-acquisition uncertainties. If the integration process is too long, some key people might leave or operational costs increase (M&AC-01; M&AC-10). Generally, some recommended fast integration and some did not, and they indicated different reasons that might force or encourage managers to apply fast or slow integration.

Fast integration can reduce complexity and operational disruptions (M&AC-01). "Speed is important actually to keep people on track, and it's important to get the impetus from the start and give the staff, a vision and direction of what the integration is going to look like" (M&AC-04). "It's an 80/20 rule, you're better fast…going fast and capturing 80% of the benefits in a short amount of space and time rather than trying to capture 100% of the benefits in a long space of time. So, you try, and you go fast, you realise the cost synergy quickly and that provides faster shareholder return" (M&AC-08). "If it's low complexity we tend to do it fast, and the fast integration is, by definition, more aggressive, so we drag and drop them into our control environment and…so it's got pluses and minuses. Obviously, the minus is they're going to go through change very quickly, but the plus is once we've got them in our business, they can move forward, so they can heal pretty quickly and move forward" (M&AC-05).

In some situation, companies cannot apply fast integration. For example "if you're going to restructure your supply chain it takes a certain period of time, if you're going to close a plant in France it takes 18 months to 2 years, so the concept of – we're going to go really fast and oh that'll mess it up and it's a problem – it's irrelevant, and the same for all of the other sorts of things" (M&AC-02). "The actual integration for a complex supply chain is not going to be done in a hundred days or maybe even, one, two, three years, but you've got to keep the impetus going with the staff to address that. So, I think the…what you find with companies that are focussed just on speed, they will lose out on…if speed is going to be your only driver, you'll always find that you are beginning to cut the scope to achieve the date, which you could begin to gain a better understanding of the company you've actually acquired. So, the big issue there is that you begin to lose the synergies and the business values of what you've actually acquired" (M&AC-04).

"The reason for going slow, or not slower, slowly or at an appropriately medium pace, is that actually if we go too fast, we won't plan correctly, we won't have the correct information and therefore we won't deliver a good integration, we'll make poor decisions" (M&AC-02). Some M&ACs stated that speed is the wrong word in post-acquisition. "I think speed is the wrong word; it's not about speed; it's about delivering synergy" (M&AC-04). Some M&ACs argued that everything slows down during post-acquisition. "Generally during mergers, companies go slower because everyone's concerned about information and jobs and…so it all slows down, and you just try to speed it up to normal pace or faster if you can" (M&AC-02). Also, the speed of integration depends on the size of the company (M&AC-10; M&AC-11) and amount of people involved (M&AC-07).

Demand-Side Risk

A potential risk in post-acquisition is losing customer loyalty, as they may leave the target company because of uncertainties in post-acquisition. “The way to mitigate that and what happens is ahead of the sale, and an acquirer will often conduct customer due diligence towards the end of a process where they will actually interview the customers and hear directly what the value of the services that this business provides are. So, unless there is actually a conflict of interest or sometimes there are conflicts of interest or just a bad history with an acquiring party, then those clients may choose to resign that business” (M&AC-01). Sometimes, the target company may lose its strong relationship with clients. “Typically, the strategy would be to have senior-level relationships. The strength of the relationship is quite strong and therefore, when you are sold as a business, the relationship should continue” (M&AC-01).

5.4.3.2. C9: Target company’s supply chain performance in post-acquisition

In the last section of interview quotations, the focus was on supply chain performance. First, interviewees were asked to explain about the acquired company’s performance in post-acquisition, especially during the first 365 days. Then they were asked to explain how they would define success in the supply chain integration post-acquisition and how they measure performance during the first year of the transaction.

Cluster 1: Senior Managers in Acquired Companies (SMACs)

There were mixed results in the performance of target companies in the first year after the ownership change. Some SMACs stated that their performance was decreased during the first year in post-acquisition and in particular, the first six months were very challenging for them (SMAC-01; SMAC-02; SMAC-14; SMAC-15; SMAC-18). Some SMACs stated that their performance was increased during that time (SMAC-08; SMAC-10; SMAC-11; SMAC-12; SMAC-16). However, some believe it is not possible to measure actual performance during the first year as it depends on variables such as the sales cycle (SMAC-09). They used different formal measures of operational performance during the first year of the transaction, such as financial outcomes (e.g. sales, number of orders, and profit), and non-financial outcomes (e.g. customer reviews, customer feedback, customer quality, and complaints).

Cluster 2: Merger and Acquisition Consultants (M&ACs)

The majority of M&ACs stated that in the year of acquisition, the target company’s performance would often be below the forecast that was expected simply because of integration issues and distraction to the business from being acquired (M&AC-01; M&AC-

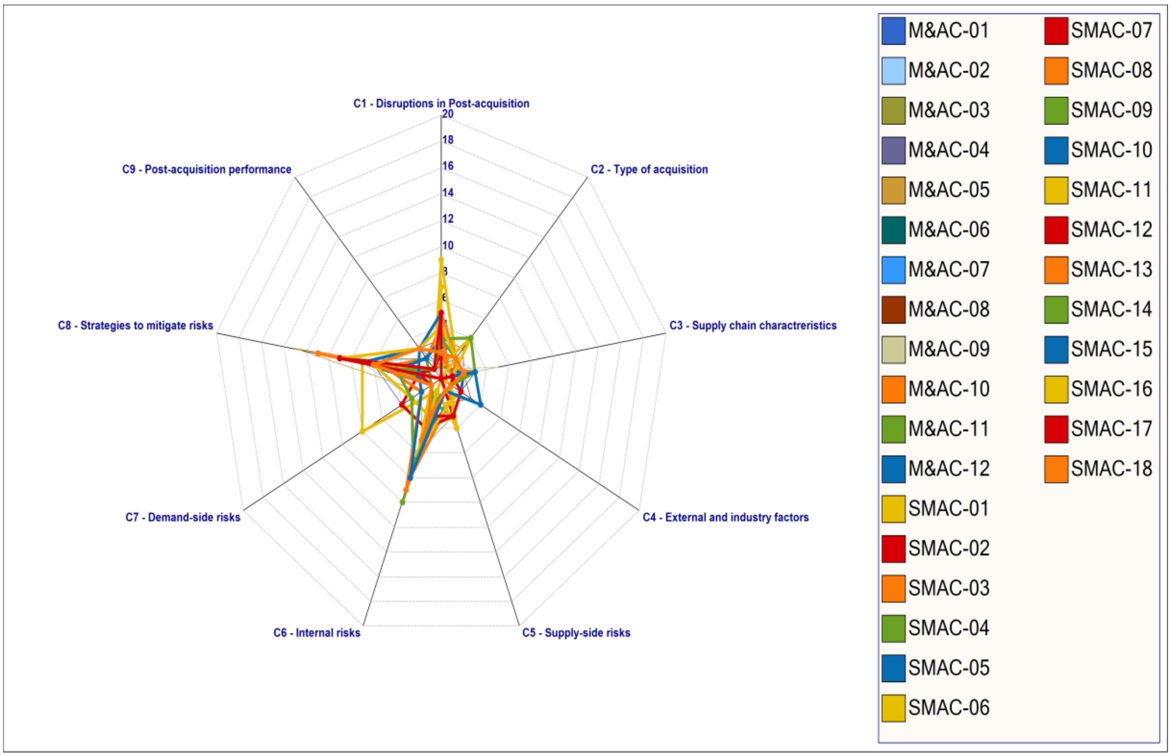
03; M&AC-04; M&AC-11; M&AC-12). “Certainly, we had cost deficiencies, but I would say it’s more in the first eighteen months because some contracts are new and take, sort of, over twelve months to unravel. I would say procurement deficiencies are usually driven out within the first twelve to eighteen months” (M&AC-11). “When we’re trying to interact more with the two organisations and trying to use each other’s knowledge, sources and then you start facing some tussles inside, and then you see that all the world is not as good as you planned for, right, some of the people might actually start feeling disengaged, and then it dips down” (M&AC-12). However, some of them did not agree that the acquisition significantly influenced their operations or at least had little impact in the first year. They stated we would have a different answer as it really depends on whether you are planning to change things and what you’re planning to change. It depends on the company size, deal complexity, and the industry’s specific situation (M&AC-02).

There are a number of metrics and KPIs to measure the performance of an acquisition, which has been used by M&ACs. “So if we start from the customer and work backwards, so from a customer’s perspective, we will look at on-time delivery, delivery to a customer requirement in terms of lead time will be one metric, then we’ll go back into the operations and measure efficiency, productivity, quality of products, and the cost of quality and also health, safety and environment (HSE) performance as well, so if we’ve gone in and found that we need to make substantial changes in terms of HSE to reduce risk, we should see that in terms of improvement of lost time accidents and those other KPIs around health and safety. Then in the supply chain, it will be about quality of that supply chain, on-time delivery, inbound in terms of suppliers and we’ll also look at, if it’s acquiring a business where there are significant overlaps in terms of suppliers, we will actually have metrics to look at reduction in the total number of suppliers that we have. So if we have, for example, two organisations that have a hundred suppliers, but there was overlap on half of them then we would seek to…rather than combine two hundred, we’d seek to reduce that down substantially to somewhere a hundred and a hundred and fifty, so we’ll have targets around reducing the number of suppliers as well” (M&AC-06). “We also look at employee engagement into the transition process, so we do customer surveys, we do client surveys and so forth, how much customers engage, how much employment engage, how many customers leave, how many employees leave and those kinds of measurements that’s not part of the ordinary business operation’s KPIs measurements” (M&AC-07).

5.5. NVivo Queries of Qualitative Data

As mentioned in the last chapter, a qualitative data analysis software, namely NVivo, were used for the content analysis of qualitative interview data. The structure of data analysis and findings chapter and discussion chapter follows the integration of the initial theoretical framework of this research with the inductive coding process in NVivo, therefore adding relevant sub-categories which emerged from the interviews. By running different queries in NVivo enabled the generation of different types of data analyses, which demonstrated in related sections. These queries provided some interesting evidence of qualitative data regarding the relationship between main categories (NVivo nodes) and the statements of the interviewees. Figure 5.6 shows the majority of participants data are related to C6 and C8. It indicates internal production risks are relatively important than demand-side risks and supply-side risks of the target company's operation in post-acquisition.

Figure 5.6: The Distribution of Qualitative Data in Terms of Research Categories



Another NVivo query was created to calculate word frequency in interview responses. The top five words with the highest frequency during the interviews are supply chain (530 times), business (504 times), change (427 times), people (395 times), and product (393 times). This result provides better support of provided data analysis and finding in the last sections and confirms that the interview guide and the participants' answers to the questions are aligned with the purpose of this research. Figure 5.7 shows the first 100 high-frequency words in frequency order in interview responses.

Figure 5.7: Word Frequency in Interview Responses – Top 100 Technical Words

5.6. Summary

In this chapter, the researcher summarised the interview answers related to nine main categories. The focus of all questions was on different supply chain disruption risks and how they managed those risks in post-acquisition. Interviewees had different positions and levels of knowledge and experience about the acquisition. Generally, they confirmed that target companies face various changes, difficulties, and uncertainties that can significantly influence their performance in post-acquisition. They argued that the amount of disruption that happens in the supply chain will depend on the number of opportunities there are to deliver those changes, and how well you go about delivering the changes (M&AC-02). They sometimes had mixed views about post-acquisition and key risks for target company supply chains in post-acquisition.

This chapter is based on around 28 hours (more than 400 pages of transcripts) of interviews with senior managers who experienced the post-acquisition process or were involved in post-acquisition in recent years. This source of data has increased the richness, validity, and reliability of the overall findings reported in this chapter. The findings support the view that an acquisition is an abnormal event for target companies that can significantly influence their supply chain operations and performance in post-acquisition. Also, as highlighted, there are always changes for target companies even in the case of a conglomerate acquisition or private equity purchase. This underlines the importance and worthiness of this research topic, "exploring the relationship between post-acquisition and supply chain disruption risk of acquired firms during the first year following acquisition".

Chapter 6: Discussion

6.1. Introduction

This chapter analyses the findings of the research and provides a discussion on interviewees' data in the light of existing academic articles reviewed in chapter two. In order to answer the research questions and meet the objectives of this study, this chapter has been designed based on dynamic capability theory (DCT) and comprises four main sections. The first section concerns sensing activities related to the corporate acquisition. In this section, the first four categories will be discussed based on the findings from interviewees' answers and compared with existing academic articles in M&A and SCM fields. These four categories are related to opportunities and threats associated with the target company's supply chain in the acquisition context. The second section is related to seizing dynamic capabilities in post-acquisition. In this section, three categories related to the location of the target company's supply chain will be discussed in more detail, and the findings will be compared with those of other researchers. The third section looks at reconfiguring dynamic capabilities in post-acquisition. There are two categories in this section related to managing the target company's supply chain disruption risks in post-acquisition and measuring organisational performance. These three sections cover discussions on the interviewees' points of view about each specific category and compare the results with the findings of existing academic studies in M&A and SCM fields. It is important to mention that provided risk categories and strategies to mitigate those risks are derived based on research findings in chapter five. Therefore, the rationale behind all headings in the first three sections in this chapter is to categorise finding and to demonstrate interviewees' perspectives on each category. In section four, the researcher will provide a conceptual model to manage the target company's supply chain risks in post-acquisition based on a comprehensive analysis and discussion of the data in the last three sections. In the end, a summary of the chapter will be presented by highlighting the main findings.

6.2. Sensing Dynamic Capabilities in Post-Acquisition

According to Teece (2007), firms must constantly and consistently scan and explore opportunities across various technologies and markets. Sensing dynamic capabilities helps us to identify opportunities and threats associated with post-acquisition for the target companies' supply chain. It helps to understand how new dynamic capabilities resulting from an acquisition can be exploited by managing these risks, making appropriate decisions, and mobilising resources and capabilities. Firms' sensing activities positively affect their supply chain adaptability and alignment because understanding the magnitude of variability or change in the business environment can be considered the primary step towards building a flexible and efficient supply chain design and network (Christopher & Holweg, 2011; Aslam, et al., 2018). Our argument that sensing dynamic capabilities in post-acquisition will help the target company's supply chain to respond to the changing business environment in post-acquisition effectively is in line with previous research stating that supply chain adaptability and agility decreases the restrictions on the organisation's response to changing requirements efficiently, by spotting new resources and problem-solving (Schoenherr & Swink, 2015).

Exploring the Acquisition Environment - as discussed, the first section of DCT concerns to sensing activities. In this research, we consider some sensing activities related to types of acquisition, a firm's supply chain characteristics and its industry's characteristics. In other words, sensing capabilities are to do with evaluating and understanding the target company's strategic position. The first four categories concentrate on identifying opportunities, risks, and threats associated with post-acquisition for the target companies' supply chain. This section covers explicitly research objective one and answers the first research question.

6.2.1. C1: Corporate acquisition and the acquired company's supply chain operation disruption

This section discusses the findings from conducted interviews about the relationship between a corporate acquisition and the acquired company's supply chain operation disruption. The first step to effectively manage an acquisition is to answer a fundamental question: will an acquisition increase operational disruption risks for the target company? In other words, as the first step, we have to know if the target company will face any impact, disruption, and deficiency in post-acquisition or not. The findings show that the acquisition mostly has a significant effect on the target company's supply chain and its operation. The research findings also confirm the risk of disruption of the target company's supply chain is potentially high the year following the ownership change due to massive changes in the ownership and control of resources in the post-acquisition phase. Consistent with the literature, due to rather intensive post-acquisition restructuring, asset management, and supply chain collaboration in a short period following ownership changes, the impact on acquired firm productivity is expected to be negative in the short-term and exposed to more risks, but tends to improve more significantly afterwards (Bergh, 2001; Gioia & Thomsen, 2004; Karpaty, 2007; Damijan, et al., 2015).

All SMACs confirmed that they had experienced disruptions in their supply chain operations even if there were very low-level changes in their operations, structures, and systems in post-acquisition. Also, nearly all M&ACs believe that an acquisition can significantly impact the acquired firm's supply chain operations in the first 365 days. They stated that an acquisition could be disruptive in many different ways and that the extent of the disruption depends on variables such as the level of integration. These findings are consistent with Rees and Edwards (2009) and Agarwal, et al., (2012), who argue that the higher the level of integration, the greater the potential disruption of routines more generally their "ways of doing things" and pre-existing resources in the newly formed unit, which influence the performance of the combined firm.

These findings have also been consistent with other studies in showing that there is a direct relationship between a corporate acquisition and the acquired company's supply chain operational disruptions. For example, the Business Continuity Institute's recent survey (2016) of 526 organisations in 64 different countries shows that around 70% of firms experienced at least one disruption in their supply chains, with a 68% loss of productivity. In addition, the literature on post-acquisition has provided considerable qualitative evidence that supports the acquisition impacting the target company's operation in post-acquisition (Puranam, et al., 2006; Schweizer & Patzelt, 2012; Chen & Wang, 2014). Therefore, the risk of supply chain disruption in the course of a corporate acquisition will be significant as acquired firms often face a tremendous impact on their organisations and operations (McGrath, 2011). This initial result provides support for the acceptability and credibility of conducting this research project.

6.2.2. C2: Types of corporate acquisition and the acquired company's supply chain operation disruption

This section discusses the findings from conducted interviews about the relationship between types of corporate acquisition and the acquired company's supply chain disruptions in post-acquisition. In the literature review chapter, different types of the corporate acquisition were discussed, and their key characteristics compared. As a sensing activity, the researcher looked at how the type of corporate acquisition can influence the acquired company's supply chain operation in post-acquisition. In other words, in this section, the focus is on the impact of the acquisition type on the target company's supply chain operation and to evaluate and understand different opportunities and threats associated with each type of acquisition. The findings show that some supply chain disruptions are connected to the type of acquisition. The findings fit with previous studies that show the type of acquisition can yield different outcomes because of risk considerations. Avinadav et al., (2017) evaluated M&A in a supply chain involving risk-averse parties. They suggest that the type of M&A - merger, forward acquisition and backwards acquisition - can yield various outcomes because of different risk considerations. The literature also suggests challenges, opportunities, and outcomes for cross-border acquisitions versus domestic acquisitions (Bertrand & Betschinger, 2012; Bertrand & Capron, 2015). For example, acquisition costs are higher for cross-border acquisitions than for domestic acquisitions (Takechi, 2011). Cross-border acquisitions are associated with more agency problems, information asymmetries, and managerial issues (Moeller & Schlingemann, 2005); and they may represent a different level of improvements in organisational operations relative to domestic acquisitions (Moeller & Schlingemann, 2005; Gregoriou & Neuhauser, 2007).

Horizontal Acquisitions – the findings show that horizontal acquisitions are associated with some opportunities for the target company, such as having an overlapping product range with customers. This type of acquisition can be seen as a mechanism to strengthen a firm's ability to compete (Mudde, et al., 2014). It can increase the market power of the combination and may allow firms cost savings through economies of scale and the sharing of experience and knowledge (Bhattacharyya & Nain, 2011; Thavikulwat, et al., 2013). As they operate in the same industries, sometimes the acquiring company can be a supplier of the target company, which can bring financial benefits for the target company by reducing supply chain costs. Firms usually redistribute efficiency gains at the upstream production stage (Bertrand & Zitouna, 2008). The problem-solving level is the same in this type of acquisition, which increases synergy and the speed of integration. However, horizontal acquisition most likely to involve a high level of consolidation of supply chains (as companies look for synergies by acquiring a rival company in the same industry), which causes more disruptions. For example, a study of 31 horizontal acquisitions in high- and medium-tech industries by Colombo and Rabbiosi (2014) shows that horizontal acquisitions are disruptive to R&D personnel and negatively affect post-acquisition innovation performance. Also, "when you are dealing with a horizontal exercise, they are effectively competing, with the share being the same customers, same people, the same industry, and so there is a higher degree of rivalry between what they do" (M&AC-08). Therefore, two companies' salespeople may compete and undercut each other, which is a threat to their business (SMAC-03).

Vertical Acquisitions – the findings show that vertical acquisitions are easier than horizontal acquisitions, as the two companies potentially are not competing (M&AC-08). In other words, a vertical acquisition is less impactful as it is only impacting some parts of the business. In contrast, a horizontal acquisition will usually be more impactful in every single part of the business because there are lots of overlaps and company consolidation (M&AC-10). A vertical acquisition also can be value-enhancing if it helps the target company better exploit its existing resources and capabilities, or it is undervalued due to poor management (Gaur, et al., 2013).

Product Expansion Acquisitions – the findings show that product expansion acquisitions have mixed results with regards to synergy. They can bring some commercial benefit by generating a wider product portfolio; however, there could be a lot less synergy as their supply chains are alien (SMAC-05; M&AC-06). For example, in product expansion, if firms are acquiring a different product, different route to market, then their cost synergy targets will be a lot less, as they may not be combining factories or combining supply chains so their financial targets will be less (M&AC-06). Addressing the overall effectiveness of a supply chain requires assessing the trade-off between investments in synergies and capabilities of a supply chain and the costs associated with disruptions (Nooraie & Parast, 2016).

Market Expansion Acquisitions – the findings show that market expansion acquisition potentially has the least acquisition integration and complexity (M&AC-10; M&AC-09). In this type of acquisition, there is an education piece that may not create any complexity in operations and may not add any complexity to the overall portfolio (SMAC-06; M&AC-09). The finding of Bang and Joshi (2010) supports this as they indicated a positive correlation between firms' market expansion strategy and their sales revenue and profits.

Conglomerate Acquisitions – the findings show that conglomerate acquisition has the lowest level of integration and synergy, and the two companies only interact in some specific areas such as the financial. An unrelated acquisition typically has fewer synergies and less disruption (M&AC-11). However, this finding is not consistent with of Rozen-Bakher (2018) research findings as she found conglomerate acquisitions lead to integration success and synergy success in both industry and service sectors. Also, the finding shows, in this type of acquisition, the acquiring company may have no knowledge and understanding of the target company's business, and that may create some issues in post-acquisition (SMAC-08). Also, if the acquiring company is a private equity firm, there is often no change at the operational level. In this type of acquisition, the private equity company does not come with a plan and tell the acquired company "you should do this" or "you should do that", it is more an analysis of what they are doing. Most of the time, they leave the target company alone (M&AC-08; SMAC-09).

These findings are in agreement with earlier research studies, confirming different types of acquisitions have different effects on performance, efficiency, and productivity. For example, Tsagkanos (2010) examined the effects of both horizontal and vertical M&As on performance, efficiency, and productivity of the target firms in the Greek manufacturing sector during the period 1995-2002. He found that the horizontal acquisitions caused adverse effects on the efficiency and productivity of acquired firms during the first year of the post-acquisition period. This also implies in the short term that acquisitions are value-reducing. Rozen-Bakher (2018) investigated the relationship between the types of M&A and M&A success. The findings show that horizontal, vertical, and conglomerate M&As have diverse effects on M&A success. The results show that horizontal and conglomerate M&As lead to integration success and synergy success in industries, while vertical M&As lead to a failure of integration and synergy success. Hijzen et al., (2008), investigated whether trade costs affect horizontal and non-horizontal M&As differently. They found that trade costs affect cross-border M&As activity negatively, and the impact differs significantly across horizontal and non-horizontal M&As. The impact of trade costs is less negative for horizontal M&As compared to non-horizontal M&As.

6.2.3. C3: Parties supply chain characteristics and the acquired company's supply chain operation disruption

This category is another sensing activity with a focus on companies' supply chains characteristics. This section is a discussion on the impacts of both the acquiring and acquired companies' supply chain characteristics on the operation and performance of the target company in post-acquisition. The findings show that supply chain variables could create both threats and opportunities for the target company's supply chain operation in post-acquisition. This section will discuss some of these main variables and explain how these key factors can influence the target company's supply chain performance during the first year of the acquisition.

6.2.3.1. Product Diversity and Complexity

The findings show that product diversity and complexity can influence the target company's supply chain performance. It can bring different disruption risks for the target company's supply chain and extra costs associated with product diversity (Shim, 2011). SCRM in post-acquisition is highly dependent on the scale of the operation and the complexity of the companies. For example, "if the acquirer, the one who is acquiring another company, has got a complex model, complex supply chain, many to many supplier relationships, with significantly vast customer bases, then that will dictate the whole supply chain strategy that the acquired company need to undertake or need to employ" (SMAC-15).

Research on the effects of product complexity in the SCM field has provided mixed results. Product diversity and complexity have been linked to deteriorated performance in supply chains, reduced service levels, reduced delivery reliability, increased holding costs, and higher inventory levels (Closs, et al., 2010). For example, Brandon-Jones et al., (2015) show that supply base complexity can increase the frequency of disruptions and reduce organisation performance. Other researchers have suggested that product diversity and complexity may not just result in negative performance effects and may actually enhance operational efficiency (Salvador, et al., 2002; Bozarth, et al., 2009; Blome, et al., 2014). For example, the research findings of Eckstein et al., (2015), who applied DCT to examine the links between supply chain adaptability and performance, show that product complexity positively moderates the links between supply chain adaptability and cost performance, and supply chain adaptability and operational performance.

Our findings also show that the nature and complexity of products can impact supply chain integration and cause disruption in post-acquisition. Different key features such as product life cycle, product mix, product perishability, purchasing policy, customer variety, inventory strategy and external collaboration can significantly increase supply chain disruption in post-acquisition. For example, the supply chain process and complexity of cigarette manufacture is different from food or cosmetic manufacture. Shim (2011) used a set of product diversification variables to examine the impact on corporate performance. Their findings show companies with higher levels of product diversification experience lower financial performance due to the costs related to diversification. This result is also consistent with the findings of Bozarth et al., (2009), who examined the impact of supply chain complexity on manufacturing plant performance. Their findings show that upstream (supply-side) complexity, internal manufacturing complexity, and downstream (demand-side) complexity all hurt manufacturing plant performance. Therefore, in post-acquisition, companies with a complex product range and production platform need careful integration planning and specific skillsets to understand these complexities first (M&AC-03) thoroughly. Also, our findings show that the complexity of the service supply chain is less than the consumer goods supply chain.

6.2.3.2. Experience

Many SMACs and M&ACs believe experience as a key skill is absolutely important for both sides. In particular, firms' prior integration experiences are key to ensuring meaningful and smooth integration. The literature on post-acquisition integration has provided considerable qualitative evidence that a firm's prior acquisition experience can reduce the level of supply chain disruption in the post-acquisition phase. Researchers have emphasised a firm's capacity to learn from previous acquisition experience as a critical factor in ensuring the successful management of both pre- and post-acquisition phases (Duncan & Mtar, 2006). Their findings support that those companies that have gained experience as a result of previous acquisition activities are more likely to understand the risks and difficulties associated with integrating supply chains in post-acquisition (Robbins & Stylianou, 1999; Nadolska & Barkema, 2007; Yang & Hyland, 2012). However, Cho and Arthurs (2018), who examined the influence of acquirers' alliance experience on acquisition outcomes showed that those firms do not exhibit any worse or better post-acquisition performance.

Nevertheless, the findings of this research strongly indicate the important role of the companies' acquisition experience in mitigating supply chain disruption risks in post-acquisition and improving the acquisition performance. Acquisitions are always linked with numerous complexities and uncertainties in their processes (McGrath, 2011). Companies with acquisition experience can apply their lessons to improve efficiency and avoid repeating mistakes. Findings show that target companies with prior acquisition experience are more capable of handling uncertainty and the potential risks of their supply chain in post-acquisition. Acquiring and acquired companies' knowledge and experience are valuable capabilities that could help to reduce disruption and use effective tools such as communication to reduce the uncertainty during the post-acquisition period. "Companies that have gone through multiple acquisitions know what they are doing, they know about the risks" (M&AC-03). Furthermore, creating an acquisition learning process by articulation, codification, sharing, and internalisation helps build up an M&A capability, which in turn is positively related to a company's overall acquisition performance (Trichterborn, et al., 2016).

6.2.3.3. Supply Chain Size

Researchers in both strategic management and SCM have commonly referred to the size of organisation or supply chain as an important consideration to manage disruption risks (Moeller, et al., 2004; Griffin, 2004; Azofra, et al., 2008; Manuj & Sahin, 2011; Merkert & Morrell, 2012; Chen, et al., 2015; Barbero, et al., 2017). The findings of this research show that there are diverse opinions about the relationship between size and the target company's supply chain risks. Some argue that small companies are relatively less complex businesses which reduce the risk around the acquisition, and large size companies have more challenges and risks. Therefore, supply chain size can be considered as a moderator of supply chain integration, cultural alignment, collaboration and relationship (Manuj & Sahin, 2011).

However, some have the opposite opinion. Sometimes small firms can also be at the risk of disruption, especially during the first year as managers try to make changes and reconfigurations during the first months, making post-acquisition reasonably complex and causing supply chain issues. For example, "when the acquiring company is huge, and the target company is relatively smaller, there is a very common scenario. So, the huge company will have customer relationship management software, they will have ERP, they will have a process for the vendor, they will have a process for RFP, and so forth, whereas target company might be doing most of their work on hand registers and personal relationships. So, just trying to bring everything closer and trying to say that these are the work best practises, might not be relevant to the context of small business at all. Just because sometimes it's giving a good economy of scale for the larger business does not mean that the same formula, same processes will work in maybe a relationship-driven company which works on one-to-one business" (M&AC-12). Merkert and Morrell (2012) research supports that there is a relationship between size and scale efficiency. Their results suggest that both very small organisations and very big organisations are associated with substantial scale inefficiencies.

The findings also show that sometimes, integration risks might be less for large organisations. Their size is relatively helpful to the acquisition process and integration tasks. For example, they have a more clear and established supply chain. They have a more mature and prepared supply chain that can positively influence post-acquisition integration. These findings are in line with Chen et al., (2015) as they found that the robustness of recovery strategies for supply chains facing disruptions increases as the size of the supply chain increases. However, some research studies show that organisation size negatively influences the ability of managers to execute changes (Boyne & Meier, 2009; Schmitt & Raisch, 2013). Therefore, the companies' size can be considered to have a positive or negative effect on acquisition performance, and it is not given that smaller firms face less disruption in post-acquisition.

6.2.3.4. Supply Chain Structure

Hendricks and Singhal (2005b) mention responsiveness, efficiency, and reliability as the key drivers for supply chain performance and profitability. The acquired firms' supply chains should be able to respond quickly to internal changes and risks arising from acquisition events to maintain their performance and profitability as well as keeping their businesses efficient and dynamic. The findings of this research show that the acquiring and acquired companies' supply chain structure can also influence performance and disruption risks in post-acquisition. For example, if companies use similar systems and structures in their supply chains, they can reduce integration risks and increase integration speed. Supply chain structure can be considered as a moderator of supply chain integration, cultural alignment, collaboration and relationship (Manuj & Sahin, 2011).

Tang and Tomlin (2008) state that disruption risks can be mitigated by flexibility. Flexibility is a key term in the supply chain that is often used in conjunction with firms that need to cope with uncertainty (Kim, 2013). Our findings show companies' compatibilities in different parts of the business such as HR, IT, or ERP systems and flexibility in adopting new systems and processes can reduce complexity and integration disruptions in post-acquisition. This requires an appropriate supply chain design that contributes to the responsiveness and resiliency of a supply chain. As Nooraie and Parast (2016, p. 8) mentioned, "addressing the overall effectiveness of a supply chain requires examining the trade-off between investments in supply chain capabilities and the costs associated with disruptions". Additionally, two firms similarities in the supply chain process and strategies can reduce disruptions in post-acquisition. "For example, if one has a just-in-time supply chain and the other one has a different supply chain, or the supply chain is not synchronised, it causes problems in major places" (M&AC-10). These findings verify the research findings by Chin et al., (2004), Germain et al., (2008), and Bode and Wagner (2015) that the structure of firms' supply chains affect the occurrence of disruptions.

6.2.4. C4: Industry characteristics and the acquired company's supply chain operation disruption

This section discusses the findings from conducted interviews about the relationship between types of industries and the acquired company's supply chain operational disruptions in post-acquisition. As the literature shows, researchers have been investigating corporate acquisitions in different industries and findings indicating industry-specific characteristics can positively or negatively influence company supply chains (Paruchuri, et al., 2006; Knemeyer, et al., 2009; Rao & Goldsby, 2009) and an acquisition performance (Hagendorff & Keasey, 2009; Brakman, et al., 2013; Beladi, et al., 2013; Falkum, et al., 2014). As a sensing activity, the researcher has looked at how the type of industry can influence the acquired company's supply chain operation in post-acquisition. In other words, to evaluate and understand different opportunities and threats associated with operational industries and the impact of the industry on the target company's supply chain operation. The findings show that some supply chain disruptions are connected to the target company's industry of operation due to differences in industries and operations. For example, the supply chain process and complexity in the tobacco industry is different from food or cosmetic industries. "The tobacco industry is a highly regulated industry by multiple governing bodies, so the supply chain has to comply with these things" (SMAC-15).

Also, there are different operational risks in post-acquisition that have a direct relationship with the specific industries' conditions. For example, in some industries, clients have a long term relationship with suppliers. In this situation, the target company may face a different level of operational risks. "We are in an industry (telecommunication equipment) with our customers to take our products and keep them for ten years or more. So, they do not want suddenly to have to change because it cost them lots of money" (SMAC-01). Technology and competitiveness within the industry can also influence the supply chain's operation and strategy. "The supply chain strategy is really conditional on the type of technologies you want to use, which dictates what certain supply chains you use or don't use because it's based on…it's technology-driven" (SMAC-05). These findings related to risks associated with industries' conditions fit with previous studies that show there are different risks for the company's supply chain across different industries, and conditions within each industry affect acquisition value creation (Nocke & Yeaple, 2007; Huyghebaert & Luypaert, 2013; Falkum, et al., 2014; Alimov, 2015). For example, Nocke and Yeaple (2007) findings show that firms' post-acquisition performance can change based on country and industry characteristics.

6.3. Seizing Dynamic Capabilities in Post-Acquisition

According to Teece (2007) and Katkalo et al., (2010), seizing capabilities reflect the company’s capacity to address new organisational and market opportunities, and changes are underpinned by the business procedures, structures, and decision-making protocols that enable companies to make appropriate decisions and mobilise resources to create and capture value. Seizing dynamic capabilities in the context of acquisition are related to building competencies and achieving new combinations in post-acquisition. This section of discussion concentrates on three key categories of supply chain disruption risk factors and how they affect a firm’s ability to create and capture value in post-acquisition. It discusses how new post-acquisition integration capabilities can be exploited by managing these risks, making appropriate decisions, and mobilising resources and capabilities. In order to seize opportunities in post-acquisition, all these supply chain layers should be effectively investigated, synchronised, and managed. Supply chain risks are interrelated (Rajesh, et al., 2015) and have a direct impact on supply chain decisions and profits (He, 2017).

This section, in particular, will assess supply chain disruption risks during the first year of the post-acquisition phase from three perspectives: the inbound material/information flow from the supplier (supply-side), the internal production processes, and the outbound material/service flow to the customer (demand-side) as disruption can occur in any of these domains. It is important to mention that these risks may not necessarily be bad for the target company. Grantham (2007) argues that not all risks are inherently bad for firms. She claims that accepting some risks is necessary for them to adjust and grow to current economic and culturally driven circumstances. Three categories of the current study concentrate on these supply chain main domains, which discuss dynamic capabilities and the operational issues of each part of the target firm’s supply chain in post-acquisition. This section covers research objective two and answers the second research question.

6.3.1. C5: Supply-side (upstream) risk factors in post-acquisition

This section concerns the first part of the seizing process as the acquisition provides new opportunities and threats to all layers of the target company’s supply chain. It concentrates on the inbound material/information flow from suppliers and potential risks associated with post-acquisition. The findings show that there are several reasons that the ownership change in post-acquisition might disrupt the target company's suppliers. Acquisitions are always linked with numerous complexities and uncertainties in their processes (McGrath, 2011). SMACs revealed that the acquisition had affected the terms and relationships with their suppliers in post-acquisition. Supplier uncertainty, which arises from a degree of inconsistency, on-time performance, average lateness etc. is one of the main sources of supply chain uncertainty and disruption (Davis, 1993; Sheffi, 2007; Chen, et al., 2013b; Habermann, et al., 2015). The acquisition raises many questions and uncertainties for the suppliers about the payment of their invoices and future business with the target company. Therefore, one of the key supply issues in post-acquisition is to convince suppliers that it will be "business as normal" and that there would not be disruption to the supply chain. This generates a lot of extra work for the target company as it endeavours to provide the required assurance to suppliers that there will be no risk and discontinuity.

The findings also indicated risks and advantages associated with switching suppliers in post-acquisition, when the acquiring and acquired companies have their own suppliers that they have worked with for many years. The acquirer may want to change some of the acquired company's suppliers because strategically, it is inappropriate to continue with them. If there is any commonality or overlap in suppliers, on the one hand, this will be a big opportunity for synergies in the supply area. On the other hand, this change or consolidation of suppliers can represent some disruption in terms of the supply lead time quality and quantity especially during the first months; however, it may save some costs in long-term. These changes, such as the reduction of the supplier base or increased use of outsourcing, increase exposure to supply risk or the likelihood of supply disruptions (Aqlan & Lam, 2015). Norrman and Jansson (2004) support our findings that increased use of outsourcing of manufacturing and reduction of supplier base will increase the vulnerability to risks in supply chains.

Also, in post-acquisition, both parties may have to renegotiate supply chain contracts, or the acquiring company pushes the target company supplier towards accepting new terms and conditions, again creating a huge issue for themselves, damaging their relationships with their suppliers, and resulting in a need to transition these mistakes. This result is consistent with Anderson et al., (2001), who argue that acquisition can be considered as critical incidents that cause radical changes in business networks and negatively influence the relationship between customers and suppliers. They found that managers' failure to recognise the companies' external business relationships is one of the reasons for high failure rates of acquisitions. They also found that it is not always easy or even possible to take over a company's supplier relationships.

In a real scenario, the formation and development processes of business relationships in post-acquisition will influence suppliers in different ways. For example, the target company may have certain approved vendors that they are not allowed to use anymore because the acquiring company has alternative approved vendors (SMAC-14; SMAC-15). In some cases, during the first months, the target company may hold off on some purchase requisitions or purchasing of new capital equipment due to new permission procedures or control systems, which may negatively influence the target company's supply chain performance (SMAC-08). The target company may also be forced to use some of the acquiring company's key global suppliers, and that increases complexity for both the target company and the new supplier, especially, if the target company is located in a region which can bring extra logistic issues for their key global suppliers (SMAC-11). These findings are in line with Bocconcelli et al., (2007) findings, who studied the impacts of horizontal acquisitions on buyers and suppliers. They found that between 20% and 80% of the supplier relationships were either newly developed or broken in the three years following the acquisition.

Also, we would expect that post-acquisition will be a time where there is an adjustment period, and there is a lot of internal work. This may take some of the focus away from the external, supplier base that results in a certain amount of inefficiency in operation. This adjustment period may cause a late payment to suppliers (finance risks) and negatively influence the company's relationship with them (M&AC-02; M&AC-05). In addition, findings show that the acquisition sometimes brings more pressure on the suppliers in terms of their costs, when the ownership change results in changes in the buying process in the target company. These pressures on suppliers will increase exposure to supply risk or the likelihood of supply disruptions (Norrman & Jansson, 2004; Aqlan & Lam, 2015). Also, the parent company's lack of understanding of relationships with the new suppliers and the kind of commercial terms that exist between suppliers and the target company in terms of the cost of goods, credit payment, or the priority as a customer may also bring some disruptions (SMAC-17). There is some evidence in the literature confirming these findings that lack of supply chain validation can be one of the key reasons for supply chain disruption in the post-acquisition process (Li, et al., 2005; Harwood & Chapman, 2009).

However, acquisition can also improve the target company's supply-side performance in various ways. For example, when the target company is brought under the parent company's umbrella (they are usually the larger organisation), they will have an improved negotiation standpoint for getting better prices for instruments, equipment, raw materials etc., as they are part of a bigger company and have increased bargaining power. In some cases, the target company can benefit from the acquired company's capabilities to supply its required products. This can improve the target company's performance. It has a positive effect from the perspective of the unit cost because rather than paying a contract manufacturer a profit margin, that profit now goes back to the group business (SMAC-02). These findings verify the research by Fee and Thomas (2004), who investigated the upstream product-market effects of a large sample of horizontal M&As and found improved buying power and productive efficiency as sources of gains to horizontal M&As. At the same time, our findings show this insourcing decision can introduce multiple risks for the supply-side of the target company's supply chain, especially during the first year of operation. For example, in-housing and managing all details of a large supply chain can be risky and difficult (SMAC-01). An in-house strategy is a negative signal for current suppliers as they will be worried about losing their business. This basically represents a significant disruption, especially during the first year.

6.3.2. C6: Internal production process risk factors in post-acquisition

This category discusses all risks related to the internal operation of the target company in post-acquisition. According to our findings from the last chapter, we can categorise all supply chain internal production risks into six main domains that will be discussed below. After a comprehensive content analysis, the researcher has come out with these six main internal production risk domains, which covers all internal risk factors discussed by the research participants. The findings strongly indicate that the main risks associated with the target company's supply chain operation are internal and related to the flow between processes. The existing literature supports this argument, as the majority of M&A researchers' studies on post-acquisition risks have concentrated on these internal risks (Harrison, et al., 2000; Paruchuri, et al., 2006; Cooke & Huang, 2011; DePamphilis, 2012; Marks, et al., 2017; Razi & Garrick, 2019). Internal uncertainty and risk arising from supply chain performance, process performance, cross-functional collaboration, machine breakdown, etc. is one of the main sources of supply chain uncertainty and disruption (Davis, 1993; Sheffi, 2007; Chen, et al., 2013b; Habermann, et al., 2015). The findings suggested that internal risks can be related to different aspects of the target companies' operations, which can be categorised in different risk profiles.

6.3.2.1. Change Management Risks

Findings show that post-acquisition integration is associated with changes in the target company even if the level of integration is not high. In many cases, disruption in communication or lack of a proper change management plan negatively influences the post-acquisition integration process (M&AC-03; M&AC-04). Sometimes it is a shock to the target company's system and obviously its employees, especially during the first months (SMAC-15). Also, the response strategies of typical corporate acquisition and supply chain risks aim at reducing complexity, minimising costs, improving responsiveness, and optimising operational efficiency (Sahin & Robinson, 2005; Stiebale, 2013; Beladi, et al., 2013; Giannakis & Papadopoulos, 2016). The value creation of corporate acquisitions in spite of cost reduction pressures may push firms to reduce spending in all operational areas. That may make employees, suppliers, or buyers unhappy and cause some disruption in the supply chain (SMAC-10). Barros and Dominguez (2013), who explored integration strategies for the success of corporate acquisitions state cost reduction pressures always affects in a significant way to back office, as support services, technology and wage increases.

The possibility of these changes resulting from cost-reduction pressures or synergy pressures is unavoidable as they are a part of the corporate acquisition philosophy and its strategic objectives (Schweiger & Very, 2003). Therefore, it needs a careful change management process. During this period, ineffective change management can bring some operational issues. For example, when an acquiring company buy a portfolio of companies, the target company may get less attention from the acquiring company and integration or rebranding takes more time than usual. There may be a resistance to change in the target company or not enough contribution to the new mission (SMAC-08; SMAC-11; SMAC-14; SMAC-15). It has been found that most M&As fail because of poor handling of change management (Kansal & Chandani, 2014).

In fact, supply chain integration can be considered as organisational capabilities (Huo, 2012) and the vision of supply chains defined by supply chain strategies can facilitate companies in developing process coordination, communication, and joint planning among functions and external supply chain partners (Qi, et al., 2017). One of the key risks associated with change management is when there is a lack of understanding of the rationale for the integration and no clear vision for all key stakeholders, one of the biggest risks that a company could run in the acquisition process (M&AC-04; M&AC-09). As stated by Chakrabarti and Mitchell (2004), goal diversity can reduce corporate performance and increase managerial efforts.

Finally, if there is not a good examination of the existing system and process, changing them in post-acquisition can negatively impact the target company's operation. If managers start to change processes, rules, and tools in the internal production, they might run into the risk that the company cannot deliver the same product at the same quality, or it is not able to deliver it to the customer at the right time, based on internal production errors (M&AC-10). A post-acquisition integration represents a radical event and threshold of changes for the target company, and emergent change cannot take place immediately and requires some pre-conditions. Therefore, the target company may not support the change process from the beginning (Lauser, 2010).

6.3.2.2. Operation and Process Risks

Acquisitions are always linked with numerous complexities and uncertainties in their processes (McGrath, 2011). Operating risk concerns the fact that the new entity may not be able to generate the expected outcomes (Hooke, 1997). Findings show that in the case of post-acquisition integration, differences in logistics and operation can represent some risks for the target company's operation. For example, the target company's operating philosophy might be different from that of the acquiring company. They might have different operational and logistical strategies related to supplier development, production quality, cost-saving, investment decisions, etc. Findings also indicate that in the first year after the acquisition there are a lot of things on hold (such as buying new equipment) because of the ownership change, which may cause disruption in the target company's supply chain.

Lack of supply chain validation can also be one of the key reasons for supply chain disruption in the post-acquisition process (Li, et al., 2005; Harwood & Chapman, 2009). Sometimes lack of equipment, knowledge, or skills may bring operational risks to the target company's supply chain due to differences in resources and capabilities (SMAC-15). Also, any supply chain has a language which a company has developed over time and describes what they do. As the supply chain doesn't have a standard set of terms, the terms are determined within the organisation and describe what they do. Lack of understanding of this language may cause some disruption (M&AC-08). In order to fully benefit from a corporate acquisition, a validation of the entire network across both parties will be essential, taking into account different variables such as functions, management team, processes and service levels, facility locations, IT infrastructure, supplier base, transportation costs, and store associate capabilities. This validation will help executives to answer a key question related to the target firm' supply chain, what network strategy will best serve the new firm? They can pursue the most suitable strategy such as consolidation of the two, expansion, or a fresh start.

Findings show that the target company's supply chain may be at risk of disruption due to the impact of the acquisition on their systems, structures, and organisations, what we call process risks here. Acquisition parties may use different systems and processes and that can be a source of disruption during the first year of the operation. For example, the acquiring company may use different enterprise resource planning (ERP) systems, customer relationship management (CRM) systems, and IT systems. The target company may use an in-house IT service model and the acquiring company use an outsourced model (SMAC-06), or the acquiring company replaces the target company's IT department with its own (SMAC-08; SMAC-12), which can bring more pressure on the operation of the target company in post-acquisition, or additional administrative requirements. These findings are in line with Chakrabarti and Mitchell (2004) statement that acquisitions tend to increase system diversity across the organisation and can negatively influence corporate performance by requiring greater managerial effort and increasing the opportunity cost of managerial efforts.

Furthermore, the acquisition may increase or alter monitoring and controlling processes in the target company (SMAC-10; SMAC-15). This may disrupt the supply chain or slow down the performance of the target company. For example, the target company, in order to meet the new controlling process or KPI reporting requirements, needs to move to a fully electronic system, which may cause a massive impact on their operations (SMAC-13). Kansal and Chandani (2014, p. 210) state "each organisation consists of systems which constantly exchange ideas with each other". They suggest that dynamic system factors such as internal politics, IT systems, technology, and accounting systems often affect the alignments and relationships in post-acquisitions.

Also, in post-acquisition, often there are different rules and regulations to apprehend, and usually, a bigger company has been created, so there are a lot more processes in place, and some of those corporate structures can interfere with the target company's ability to incentivise its staff (M&AC-01). For example, acquisition often changes the reporting process and line management in the target company (SMAC-02; SMAC-06; SMAC-12; SMAC-14). Production process risk can be defined as the distribution of outcomes related to adverse incidents within the organisation that influence an organisation's internal ability to produce goods and services, timeliness and quality of production, and/or profitability (Zsidisin, 2003; Manuj & Mentzer, 2008). Chen et al., (2013b) conducted an empirical study based on collected data from more than 200 manufacturing firms in Australia to examine supply chain collaboration as a risk mitigation strategy. They examined three kinds of risks, including supply risk, process risk, and demand risk in relation to supply chain collaborations. Their results show that production process risk has the strongest effect on supply chain performance.

6.3.2.3. People Risks

The findings showed that people risks are the most critical and common type of internal risk in post-acquisition. There are lots of uncertainties, concerns, and questions for the employees after the ownership change, which may damage the target company's morale and motivation (SMAC-04; SMAC-08; SMAC-15). In the process of post-integration, employees may not stay with the business going forward because they don't like change, the new management, the new ownership structure, and the new rules and regulations (M&AC-01; M&AC-04; M&AC-10). The impact of post-acquisition integration on internal stakeholders such as employees and managers has been relatively widely researched and confirms various impacts of post-acquisition stress, uncertainty, and change to their work productivity, commitment, loyalty, and collective learning (Ranft & Lord, 2002; Cartwright & Schoenberg, 2006; DePamphilis, 2012; Schweizer & Patzelt, 2012; Marks, et al., 2017).

According to Kansal and Chandani (2014), resistance to change in post-acquisition can be attributed to a lack of communication, no proper reward system, the force of habit, confusion and frustration, fear of the unknown, job insecurity, and lack of support. Our findings show, that one of the key employee risks is related to the job or position security in post-acquisition. Findings show many people will be fired or opt to leave the target company after the ownership change. The uncertainty associated with acquisition may encourage people to look for new job opportunities outside the company. Therefore, one of the key issues is the loss of talent and existing experienced management team of the target company in post-acquisition (SMAC-11; SMAC-14; SMAC-16; SMAC-18).

According to Kiessling et al., (2008), compulsory changes in post-acquisition integration appear to be an important factor in the turnover of top management team members, resulting in diminished value for the target organisation. They argue that the target company's post-acquisition performance will be detrimentally affected by the top management team turnover. Our findings show that one of the key employee risks is related to appointing a new management team at the top of the target company right after the ownership change. This approach has been applied in many target companies, which resulted in some disruptions in internal operations (SMAC-06; SMAC-08; SMAC-16). Furthermore, the degree of complementarity between the top management of the acquiring and acquired firm can increase or reduce post-acquisition performance (Zarb & Noth, 2012).

However, although in some cases, top management change had a very positive impact on the target company's performance in post-acquisition (SMAC-11), this finding is not consistent with other research. Krug and Aguilera (2005) findings show an integration of the acquired firm often intensifies instability within the acquired firm's top management team. They argue that this long-term instability affects the acquired firm's performance in-post-acquisition and leads to further integration efforts as the company tries to improve performance. Kiessling et al., (2008; 2012) findings show that during the post-acquisition tumultuous period, the top management team of the target firm is integral to acquisition success. Compulsory changes of the top management team during this period can diminish the value of the acquired firm and higher retention of key management team members leads to better performance in post-acquisition.

Findings also show that the new organisational change may push senior managers one level down in an organisation, which can be an issue for people in terms of a long-term career as they find themselves lower down the corporate ladder (SMAC-14). In the post-acquisition period, the various behaviours that managers and other key performers may adopt can positively or negatively influence the acquisition outcome (Harrison, et al., 2000). In such situations, uncertainty among employees and managers in target firms can potentially influence supply chain process efficiency, especially during the first months of closing the acquisition deal (Ranft & Lord, 2002; DePamphilis, 2012; Marks, et al., 2017).

One of the main issues in terms of people risk is related to increased workload for the target company's employees during the first year of operation. This can be especially true for senior and operational managers as they are involved in different supply chain integration tasks, such as setting up production, quality control, auditing etc. (SMAC-02; SMAC-09). In post-acquisition, the production process may be disrupted as employees of the target company find it difficult to adapt to new practices introduced by the acquirer firm's management (DePamphilis, 2012). Sometimes, this affects employees' performance as their roles have changed. The acquisition may increase their responsibilities, and paperwork, which can be inconvenient and difficult for them to deal with, making them less productive and their jobs a lot busier (SMAC-12; SMAC-14; SMAC-16). According to Ullrich et al., (2005), acquisitions so often end in failure partly because the change is designed in discontinuous ways and employees do not feel they are doing the same task or job after the integration as before. Prior studies have shown that acquisition can be a disruptive event for managers and employees as they may have to adapt to unfamiliar practices, policies, and politics quickly. They may also have to work with strangers from different corporate or even national cultures or adapt to being a subordinate of new bosses and reporting to those who know nothing about their track record or ambitions (Marks, et al., 2017).

6.3.2.4. Culture Risks

Culture risk is another internal issue that has been highlighted by respondents that can influence the target company's operation in post-acquisition. Findings show that the cultural diversity between two companies or cultural shock to both sides and the changing culture of an operating model can be an issue for senior managers. Especially, in the case of a cross-border acquisition, the acquiring company's management team might have different attitudes, operating models, and communication styles that take time to understand during the first year of operation (SMAC-10; SMAC-15). Some research studies show that post-acquisition organisational cultural change is a traumatic experience for employees and generates resistance, resulting in culture clashes and contributing to acquisition failure (Kavanagh & Ashkanasy, 2004).

This cultural diversity can be about different things. For example, sometimes it can be about companies' ways of working. The way acquiring companies run supply chains may be completely different from the way acquired companies are running their supply chain, creating issues in operation (SMAC-15). "So I think where integrations have not been successful is where the person in a company acquired hasn't got an open mind and adopt some cultures and ways of working," says a target company operation manager, who experienced the integration of a British company with a Chinese company (SMAC-01). Cultural issues in post-acquisition impact people interactions and information-exchange transactions resulting in what is often branded as "M&A failure, due to culture conflict" (Dauber, 2012; Frantz, 2015). Prior studies have shown that cultural factors and differences - national and organisational - as antecedents of post-acquisition conflict have a significant effect on the integration process and level in post-acquisition and value creation (Sarala, 2010; Sambasivan & Yen, 2010; Lee, et al., 2015; Panibratov, 2017). Findings also show that sometimes, the acquiring company will dictate everything to the target company, which may not be compatible or acceptable in terms of the target company's cultural values (M&AC-10). Also, in the case of a vertical or conglomerate acquisition, the organisations' cultural differences can be an element of risk, when the acquiring company has less knowledge about the products that the acquired company provides or it's business operations. These findings confirm the importance of both organisational cultural differences and acculturation factors in post-acquisition integration, crucial factors which inform the essential dynamics of post-acquisition integration (Sarala, 2010).

6.3.2.5. Integration Risks

In post-acquisition, synergistic effects between two supply chains are the key source of value creation, which can improve the competitiveness of the combined firm (Ji & Chen, 2012). However, it is worthwhile pointing out that this combination does not always improve efficiency and performance (Zhu, et al., 2016b). According to recent Harvard Business Review research, the failure rate of M&As to deliver planned value is somewhere between 70% and 90% (Christopher, 2011). Findings show, one potential risk to the supply chain of the target company can be the reorganisation during the post-acquisition integration process. Removing departments or integrating sections can influence the operation (SMAC-06; SMAC-14; SMAC-18). For example, the target company may integrate HR, marketing, or IT departments in order to reduce the cost of operation. Zollo and Singh (2004) found that higher levels of integration contributed to post-acquisition performance. However, these integrations can be a strategy of downsizing and centralizing to reduce costs and increase efficiency and productivity (Kansal & Chandani, 2014).

6.3.2.6. Financial Risks

Finance risks and uncertainties are associated with effective management and control of finances in post-acquisition (Hooke, 1997). Findings show that the target company supply chain disruption has a relationship with the company's financial capabilities or working capital. How many problems acquisition is going to cause an organisation's operation depends on how much money the companies are willing to spend on the changes, how rapidly they are going to implement them, how good they are at this, and how much back up money they have got for security (M&AC-02). Sometimes, the target company may face a lack of financial capabilities or working capital in the first months after the ownership change, negatively influencing its operation in post-acquisition. These internal liquidity risks increase the firm's uncertainties in both available liquidity and obligation payments (Chen, et al., 2013a).

6.3.3. C7: Demand-side (downstream) risk factors in post-acquisition

This category concentrates on the outbound material/information flow to the customers and potential demand-side risks associated with post-acquisition. Demand or customer uncertainty, from irregular orders, forecasting errors, delivery issues, etc. is one of the main sources of supply chain uncertainty and disruption (Davis, 1993; Sheffi, 2007; Chen, et al., 2013b; Habermann, et al., 2015). The findings show that post-acquisition has less impact on the demand side compared to the other two dimensions of the target company's supply chain: supply-side and internal production. As the last section of the seizing process, there is some evidence that an acquisition provides new opportunities and threats to the outbound material/service flow to customers. SMACs revealed that acquisition had affected their terms and relationships with customers in post-acquisition. For example, the target company's supply chain nervousness in post-acquisition and many internal changes may reduce the company's attention to its customers or lose the effective customer relationship, negatively influencing demand-side.

Generally, the first year following the ownership change is a challenging period for target companies, where a lot of customers put off buying decisions because they are nervous about the acquisition being successful (SMAC-01). Cross-sectional empirical work in the marketing and strategy fields has similarly found that a high degree of post-acquisition integration can be detrimental to customer retention and financial performance (Homburg & Bucerius, 2005; Bocconcelli, et al., 2007; Zollo & Meier, 2008), although the impact appears to be moderated when the integration has a strong customer orientation (Homburg & Bucerius, 2005). However, the data shows that an acquisition sometimes has a very positive impact on the demand-side even during the first year. For example, acquisition can bring more financial resources for the target companies, and they can immediately and effectively respond to client demand by receiving enough people and equipment (SMAC-14).

Sometimes, an acquisition brings different concerns related to the security of supply, quality of products, brand changes, etc., for customers that can negatively influence their relationship with the target company (SMAC-01; SMAC-02). For example, a change of the target company's brand may cause paperwork or licencing issues for a pharmaceutical company's customers (SMAC-08; SMAC-11). Also, if the target company's customers typically keep the products long term (e.g. 10-15 years), they will be more nervous about the consequences of the acquisition. So, in the process of post-acquisition integration, the target company must put a lot of effort into the engineering side as well as the supply chain side to make sure that quality doesn't produce another issue for clients (SMAC-01). There is also evidence from the existing literature to show that post-acquisition integration actions can influence external stakeholders' perceptions of the acquired organisation and, ultimately, their purchase decisions (Kato & Schoenberg, 2014).

Findings also show that one of the demand-side risks in post-acquisition is related to customer consolidation. If there is customer consolidation in post-acquisition, the target company can be at risk of losing an effective relationship with its customers (SMAC-01). This result is consistent with Anderson et al., (2001), who argue that acquisition can be considered a critical incident that causes radical changes in business networks and negatively influences the relationship between customers and suppliers. They found that managers' failure to recognise the companies' external business relationships is one of the reasons for the high failure rates of acquisitions. They also found that it is not always easy or even possible to take over a company's customer relationships. The findings of this study also verify the research by Bocconcelli et al., (2007) that between 20% and 80% of the customer relationships will be either broken or newly developed in the three year period following an acquisition. However, sometimes, there is no consolidation of customers, but due to the change in the target company's process (e.g. using new ERP or ERM systems and delivery methods), the customer will be affected and may leave the business (M&AC-07; SMAC-15).

Another demand-side risk is related to changes in terms and conditions with buyers. Acquiring companies usually want to create efficiencies in post-acquisition. They may see the acquisition as an opportunity to change prices or contract terms with buyers, so there will be pressure on the customer, the demand side (M&AC-03). Customers also may not be happy with the acquisition and these changes as they have specific terms and conditions in their contracts. The prior research findings revealed that changes and disruptions in customer relationships could be related to increased formalisation introduced by the acquirer company. For example, greater use of standardised procedures and formal contracts may negatively influence the effective relationship and reduce technical exchanges and communication with customers (Bocconcelli, et al., 2007).

6.4. Reconfiguring Dynamic Capabilities in Post-Acquisition

This section of discussion concentrates on the last part of DCT, reconfiguring DCs in post-acquisition. The third set of DCs - transforming and reconfiguring - contribute to creating value from the acquisition and increasing post-acquisition performance. To exploit potential synergies between two firms and create value from an acquisition deal, post-acquisition integration and resource reconfiguration are critical parts of the acquisition transaction cycle (Cording, et al., 2014). In order to do this, this section discusses potential strategies for managing supply chain disruption risks explored in the sensing and sizing sections. This section consists of two categories concentrating on

SCDRM and post-acquisition performance in the first 365 days of acquisition. This section specifically covers research objective three and answers the third research question.

6.4.1. C8: Managing supply chain disruption risks in post-acquisition

SCM can be conceptualised as comprising the management of both the internal and external aspects of an organisation's operations, which can include the sourcing/purchasing, logistics, production, and distribution processes involved in the offering of different types of products (Pagell, 2004; Chen & Paulraj, 2004; Prajogo, et al., 2008; 2016). As discussed in the literature review chapter, although the concept of SCM has received increasing attention from practitioners, academicians, and business managers, the M&A literature does not offer much evidence of either empirical or theoretical study on this concept. From the perspective of SCM in post-acquisition, the key to success in achieving effective integration of the business functions and chain members so that all operations and processes are well aligned to achieve the objectives of the overall system (Sahin & Robinson, 2002; 2005).

This category discusses all potential strategies to manage risk factors associated with the three main domains of a supply chain discussed in the last sections. Acquisitions are not minor or casual events that an existing article, strategy, or business model can be applied to. In other words, there is no single strategy to manage post-acquisition risks. Deal by deal, there will be different synergies and possibilities, so integration plans will also be different. Prior literature has traditionally classified supply chain strategies into two generic categories: lean and agile (Yusuf & Adeleye, 2002; Bruce, et al., 2004; Sukwadi, et al., 2013; Birhanu, et al., 2014). These strategies are discussed in the literature review section; however, the findings show that companies do not really follow a specific manufacturing strategy or lean and agile manufacturing. An acquisition is a broad and complex phenomenon that cannot be managed by only classical SCM models such as lean/agile or strategies such as push/pull. The findings indicate that a wide range of strategies can be applied by target companies to mitigate their supply chain disruption risks in the critical post-acquisition stage, where there is potential for disruption of the acquired firm's supply chain system. According to our findings from the last chapter, we can categorise all strategies to mitigate disruption risk factors associated with all three main domains of a supply chain into eight main areas that will be discussed below. It is important to mention that the researcher has come out with these eight main areas after a comprehensive content analysis conducted in chapter five. These eight areas mostly cover all best practices and strategies discussed by the research participants to mitigate disruption risks of target company's supply chain during the first year following the acquisition.

6.4.1.1. Managing Supply-Side Risks

Findings show that **communication** is a key strategy to manage multiple disruption risks in all three main dimensions of a supply chain. Almost all SMACs and M&ACs emphasised communication as a key tool to reduce the negative impacts of acquisition on all supply chain aspects. Communication plays a key role in reducing suppliers' uncertainties during the post-acquisition period. It is important for the target company to maintain its ongoing and effective communication with external suppliers and to make sure that they know exactly what is going on (SMAC-01). The findings of Kato and Schoenberg (2014) research highlight the importance of a set of critical supplier relationship variables through which post-acquisition integration actions can influence external stakeholders' perceptions and, ultimately, their purchase decisions.

Findings show that one of the key strategies to reduce supply-side risk is **commercial due diligence**. The realisation of strategic and organisational fit depends on the ability of managers to handle the post-acquisition process in an effective manner (Birkinshaw, et al., 2000). According to Haspeslagh and Jemison (1991), M&A research should focus on pre-M&A decision-making and the post-M&A integration processes, aiding a better understanding of how M&As actually work and how companies can use them as a strategic renewal device. This helps the company to use the best approach to deal with suppliers. Researchers consider due diligence (or evaluation, investigation, and valuation) as a very important step in the acquisition process and a strategic tool to uncover issues which may lead to the failure of the acquisition during the post-acquisition integration phase (Angwin, 2001; Lemieux & Banks, 2007; Nogeste, 2010). "Operational" and "commercial" due diligence enhances acquisition decision making (Lau, et al., 2012), and companies' cross-functional micro-foundations factors such as structures and processes (Haapanen, et al., 2019).

6.4.1.2. Managing Change Risks

Findings show that the first step to managing different disruption risks in post-acquisition is to define a **clear vision** and **strategic objectives**. As stated by Chakrabarti and Mitchell (2004), goal diversity can reduce corporate performance and increase managerial efforts. When there are clear vision and strategy for all stakeholders - internal stakeholders in particular - they can play their roles more positively in the post-acquisition process. Understanding the strategic objectives of the acquirer is very important for managers in target companies. It significantly reduces post-acquisition uncertainty and encourages people to participate. For example, cultural change processes in post-acquisition are dependent on the clarification of goals and changes in what is expected of organisational members (Bijlsma-Frankema, 2001). From a strategic SCM perspective, the design and operation of a supply chain should be aligned with the organisational mission and strategy (Qi, et al., 2011) and the supply chain strategy works as a logical bridge between the organisational higher-level strategy and the firm's supply chain activities (Perez-Franco, et al., 2016). Therefore, it is important to define long-term objectives and monitor the fulfilment of those objectives.

Findings also show that different risk aspects in post-acquisition can be effectively addressed by **pre-acquisition due diligence**. Understanding patterns and key elements of every step in the process of an acquisition transaction is important for acquisition outcome because it enables decision-makers to manage better the processes, which can be the key difference between the success or failure of an acquisition transaction (Haspeslagh & Jemison, 1991). In other words, a part of SCM in post-acquisition is related to sensing process in pre-acquisition due diligence. Both SMACs and M&ACs argue that managing supply chain disruption risk starts before the acquisition when the acquiring team should study different dimensions of the target company's operations. Pre-acquisition due diligence provides essential information which prevents decision-makers from making inappropriate and hasty decisions in post-acquisition. Steger and Kummer (2007) argue that the acquisition transaction goes hand-in-hand with task complexity and is perceived as being difficult to do. Having the whole process insight as a big-picture makes for a better understanding of the parts and significantly improves the change management process.

Managing change requires a **careful analysis** of the target company and **effective planning**. Planning can be key for the execution of effective management of changes and disruption in post-acquisition. One of the key strategies to reduce disruptions related to change is to study and understand the target company's business environment. In the change management process, different variables should be taken into account based on a careful analysis of the target company. The level and type of changes can influence the target company's supply chain performance. For example, acquiring companies shouldn't change anything in advance. Sometimes, immediate changes can significantly increase disruptions in the target company's operations. Eriksson and Sundgren (2005) suggest that to deal with change management issues in post-integration, firms need to apply a common and shared language for communicating change strategies across the organisations. It is an important factor that might not just improve understanding and acceptance of change processes, but also enhance the efficiency of change.

Planning gives the target company a sense of direction and purpose. It is a key strategy to mitigate the overall integration risk in post-acquisition and change management risk. Findings show that an acquisition is not an everyday process, it is complex and associated with multiple risks, and lack of planning can boost the chance of disruptions in post-acquisition. To make it work, we need to make sure there is a set of concrete and detailed transition arrangements in place (SMAC-17). According to Kansal and Chandani (2014), most M&As fail because of poor handling of change management. They mentioned confusion and frustration and the lack of communication as an attribute of the resistance to change within the organisation.

Having a **transition team** or a **dedicated team** in post-acquisition can help to handle and manage changes smoothly and minimise the post-acquisition integration impact taking place due to the change. A transition team with resources, experience, and knowledge to facilitate, deliver, and sustain change, a team that either is a part of the organisation or contracted in is vital (SMAC-14). Also, to reduce managing change risk, it is important to consider people's experience and to apply a teamwork approach. According to reviewed literature, it can be argued that the most successful post-M&A integration plans need a program management office as well as a flexible and cross-functional integration team (Chen & Paulraj, 2004; Braunscheidel & Suresh, 2009; Lambert & Enz, 2017). This team needs continuous support and the participation of top managers of firms (Ma & Nie, 2009).

Findings also show that change management requires placing the right people at the centre of the strategy. One of the main ways to reduce change management risk is to align **leadership** in the post-acquisition integration period. As highlighted by Lauser (2010), in the post-acquisition situation a number of different stages of the change process occur at the same time, and one of the challenging tasks for managers is to combine leadership behaviours to deal with planned and emergent change. Furthermore, prior studies have shown that dynamic leadership capabilities such as self-efficacy, behavioural support for change, and the affective commitment to change can achieve successful change management (Orakwue & Dorasamy, 2017). Our findings also show, sometimes to achieve the strategic objectives of an acquisition, an immediate change in managerial level is required. However, there are potential risks associated with management discontinuity of the operations function at a senior level or in middle management roles that can be mitigated by offering them a new contract (SMAC-17).

6.4.1.3. Managing Operation and Process Risks

One of the strategies to reduce operation and process risks is process mapping. This is a comparison of the process and environment of the two businesses at a very detailed operational workforce level, so managers can actually understand what the qualities of and differences are. They can then begin to identify which particular organisation has a better process and in which areas they can actually learn from each other (M&AC-04). Bandaly et al., (2013) identify three sources of internal operations risk, including process uncertainty, labour uncertainty, and information system failures. It is vital to integrate these three strategic functions and jointly plan them in a coordinated manner to reduce production process disruption risks. Recent research by Haapanen et al., (2019) confirms our findings that understanding and managing processes and routines are very important in managing supply chain disruption risks in post-acquisition successfully. Their findings show that major differences between merging companies' cross-functional micro-foundations including structures, skills, routines, and processes might either erode or enforce the seemingly promising synergies at both product and market levels, depending on the management team's awareness of their nature.

6.4.1.4. Managing People Risks

As mentioned, findings strongly indicate that **communication** is a key strategy to manage multiple disruption risks in post-acquisition. Senior managers need to maintain their ongoing and effective communication with all people within the target company to reduce the overall uncertainty and keep them involved by giving them the right information at the right point in time (SMAC-01; SMAC-02; SMAC-06). This finding extends Tanure and Gonzalez-Duarte (2007) results showing that in processes of radical change, such as acquisitions, the senior management team of the acquiring company has a critical role in establishing the understanding, by the consistency between discourse and practice, that people absorb.

According to Kansal and Chandani (2014), resistance to change in post-acquisition can be attributed to no proper reward system, job insecurity, confusion and frustration, and lack of support. Managerial resistance can take a variety of forms such as exit, voice and loyalty. Therefore, one of the potential risks in post-acquisition is losing employees' loyalty, when talent and key managers leave the target companies in post-acquisition. This risk can be mitigated ahead of a sale process by having an **Enterprise Management Incentive** (EMI) scheme whereby employees are provided with options in the business, so they effectively become small shareholders in the business. Typically an acquirer will then put in place an earn-out structure, where talent and key managers need to stay with the business for two to three years, and during that time if the business continues to perform on the same trajectory, they will attain further payment. So by making them feel like, co-owners of the company, their loyalty is retained, and this would typically be done with all succession management and senior staff because they are the ones who, if they leave, will often take clients with them or cause disruption following their departure (M&AC-01).

Findings also show that having strong executive **leadership** is one of the most effective strategies to reduce potential human-related risks in post-acquisition and increase acquisition performance (SMAC-18). For example, executives have a key role in retaining talents during M&A (Zhang, et al., 2015). Our findings show post-acquisition needs a strong leadership culture. It can help the target company to meet the post-acquisition challenges and motivate people to participate in the integration process actively. It will enable quick decisions and unblocking things from a corporate point of view (SMAC-04). Leadership can define roles and responsibilities for people and guide the implementation of post-acquisition integration. Also, understanding people behaviour in both parties plays a key role in implementing a successful post-acquisition integration plan (M&AC-09). Evidence found in the literature does not only support the important role of leadership in post-acquisition but also its key impact on integration and acquisition performance (Waldman & Javidan, 2009; Lauser, 2010; Schweizer & Patzelt, 2012; Zhang, et al., 2015). In the case of the integration process, leaders must combine traditional and new management behaviours. They must also develop a vision for the new organisation and formulate a challenging and inspiring mission (Lauser, 2010).

Findings highlight the role of **education** and **training** in post-acquisition performance. Many companies have used this strategy for both people in the acquiring company and in the acquired company for achieving the acquisition's objectives. Education and training positively affect organisations' recovery capabilities and SCRM capabilities (Riley, et al., 2016). Consistent with the literature, training and development are pivotal in post-acquisition. To develop integration capability, minimise the conflicts and associated cognitive complexity, and increase post-acquisition performance, both companies' employees are expected to be involved in the acquisition process and must learn about the other firm and its culture, structure, people, HR practices, assets, and their own roles in coordinating and transferring specific resources across the two organisations. Also, managers and employees must be trained to meet the requirements of new positions and responsibilities being created and to replace those who leave as a result of the high turnover that follows the ownership change (Weber & Tarba, 2010; 2011; Weber, et al., 2011; Jain & Ramesh, 2015).

There is a common belief that retaining the management team will enable a level of stability. This has been one of the main success factors of the target company in post-acquisition as the acquiring company supported them and kept the management team in place, which actually stabilised the workforce quite quickly (SMAC-01; SMAC-03). Kiessling et al., (2008; 2012) findings show that during the post-acquisition tumultuous period, the top management team of the target firm is integral to the acquisition's success. Higher retention of key management team members of the target company leads to higher performance in post-acquisition. In the course of post-acquisition, SCRM requires a multi-functional, dynamic, and flexible team established on the continuity of risk management. This team needs continuous support and the participation of top managers of firms (Ma & Nie, 2009).

Findings also indicate that **trust** is a strategic weapon to improve cooperation and performance in post-acquisition (SMAC-11; SMAC-16). Honest and effective communication can encourage trust between people and increase post-acquisition performance. Trust has a key role in knowledge transfer and the alignment of objectives. For example, if the acquiring company has a consultative approach and trusts the acquired company's management team, this can reduce some post-acquisition problems. This result supports the strategic focus on building trust in post-acquisition, consistent with the findings of Bijlsma-Frankema (2001), who investigated success factors of cultural integration and cultural change processes in acquisitions. Her results show that cultural integration in post-acquisition is furthered by mutual trust among organisational members. Trust can be built by shared goals, looking for shared norms, dialogue, and monitoring and handling deviance.

6.4.1.5. Managing Culture Risks

Findings show that one of the elements related to managing post-acquisition supply chain risk is understanding the target company's **cultural values** and **cultural gap** before implementing any change or integration (SMAC-12; SMAC-15). At the same time, the target company's employees need to know about the new parent company and how to experience different cultures (SMAC-01). The multiculturalism of the acquiring company could potentially reduce post-acquisition conflict (Sarala, 2010). Multicultural firms with a good level of compatibility in the contents of their respective cultures are more likely to value diversity (Carroll & Harrison, 2002). Findings also show that **transparency** is essential to unlocking cultural values and motivate people. This finding verifies the research by Rani et al., (2014) and Zhang and Stening (2015) that transparency (operational and financial) and information disclosure of integration leadership can create trust among managers and employees of the target company.

6.4.1.6. Managing Integration Risks

In fact, supply chain integration can be considered as an organisational capability (Huo, 2012). In the post-acquisition integration process, how to effectively manage and design the new supply chain network is an issue, and the acquired firm is exposed to the risk of supply chain disruptions as integration is an important means for achieving acquisition synergy (Chatterjee, 2007; Ji & Chen, 2012; Manikas & Jaswal, 2015). Our findings show that the first step to reducing integration risk is to consider a strong and experienced **transition team**. Acquisition needs a strong transition team, people who know how to deal with acquisitions. According to the reviewed literature, it can be argued that the most successful post-acquisition integration plans need a program management office as well as a flexible and cross-functional integration team (Chen & Paulraj, 2004; Braunscheidel & Suresh, 2009; Lambert & Enz, 2017). Findings show that having a transition team in critical post-acquisition period can reduce the risk of disruptions in the target company's supply chain activities. A transition team with the resources, experience, and knowledge to be able to identify where things are not working properly or where there are potential difficulties and challenges in making that transition, a team that is either a part of the organisation or are contracted in is vital (SMAC-14). This team needs continuous support and the participation of top managers of firms (Ma & Nie, 2009).

Findings show that lots of supply chain integration disruptions can be addressed if the acquisition has proper **due diligence**. The starting point for the integration process is the observation phase, where the two parties of a deal observe each other and the situation (Lohrum, 1992). Companies need to do pre-deal stakeholder analysis to find out who they are and what the potential risks involving these stakeholders are, how they perceive the target company, and how any fears and anxieties may impact integration at a later point in time (M&AC-10). Parties should have a common working session and construct a market trust, rather than trying to do everything post-acquisition (M&AC-12).

Findings show the success of post-acquisition integration is largely dependent on **cooperation** between companies and people regardless of the type of acquisition (e.g. hostile or friendly takeover). A highly cooperative relationship and spirit or a "can-do" approach among people and companies can make the integration process easier and more effective (SMAC-04). It can significantly accelerate the integration process and change the acquisition performance. For example, the cooperation of old and new management teams or owners can reduce the risk of discontinuity. To do so, managers need to increase employee involvement in post-acquisition. Kansal and Chandani (2014) suggest employee involvement is an effective strategy to handle change in post-acquisition and reduce post-acquisition integration risks.

Findings show that sometimes **altering the target company's supply chain strategy** based on the acquiring company's supply chain can increase post-acquisition integration performance. The integration of a complex product range brings more risks and needs a skillset to understand all dimensions of design capability (M&AC-03). So, supply chain integration and adjustment are dependent on the types of acquisition deals. These adjustments can be, for example, downsizing and decentralising to reduce costs and increase productivity in post-acquisition (Kansal & Chandani, 2014). However, findings show that altering the supply chain to achieve synergy and economy of scale is not always the right strategy. "So, just trying to bring everything closer and trying to say that these are the work best practises, might not be relevant to the context of small business at all. Just because sometimes it's giving a good economy of scale for the larger business does not mean that the same formula, same processes will work in maybe a relationship-driven company which works on one-to-one business" (M&AC-10).

Knowledge sharing appears to be characteristic of successful integration efforts. As mentioned by Ma & Nie (2009), better managing risks of knowledge management in the supply chain helps to control the corporate business environment. Knowledge sharing can increase post-acquisition integration efficiency and reduce disruptions. For example, using the acquired company's knowledge about the market or their dynamic capabilities can improve decision-making in post-acquisition. Recent theoretical research conducted by Hudnurkar et al., (2014) shows supply chain information sharing is highly significant in effective collaboration. It is a common mistake that acquiring companies, without garnering enough knowledge about the acquired companies' capabilities and strategic positions, use their previously successful experience for another acquisition (SMAC-08). To gain knowledge, managers need to increase employee involvement in post-acquisition. Kansal and Chandani (2014) suggest employee involvement gives an opportunity to both sets of employees to interact, build trust, and build their knowledge by sharing expertise about their respective processes, operations, budget and systems.

The post-integration period is not just about integration of systems or productions. It is also an integration of people and cultures. One of the key strategies to manage integration risks is using an appropriate **integration speed**. Findings show the speed of integration is important for synergy delivery and has a direct relation to post-acquisition uncertainties. SMACs and M&ACs have different views related to the speed of integration.

On the one hand, some suggest that fast integration is an effective strategy to reduce risk. It can lessen the complexity and operational disruptions (M&AC-01). They believe a strong and rapid integration would be much more beneficial (SMAC-18) and would realise cost synergy quickly which provides faster shareholder return (M&AC-08). However, in some situations, companies cannot undertake a fast integration as restructuring the supply chain takes a certain period of time (M&AC-02). These findings are in line with previous research showing that the speed of integration is key to post-acquisition success. Speed of integration is important because failure to achieve integration in a timely manner can cause disruptions in the target company's supply chain such as loss of key employees, customer attrition, and the failure to realise anticipated synergies (DePamphilis, 2012). Speed of integration can have a positive impact on employee commitment and acquisition success in general (Ranft & Lord, 2002; Homburg & Bucerius, 2005). It increases employees' motivation and reduces the amount of stress and uncertainty that frequently come up in the process of post-acquisition integration (Schweizer & Patzelt, 2012). However, the integration speed is widely dependent on the target company's size.

On the other hand, some SMACs argue that fast integration is associated with risk and that it does not necessarily improve post-acquisition performance. If companies go for a fast or aggressive integration, they may not plan correctly; they may not have the correct information, they will make poor decisions leading to delivering poor integration (M&AC-02). There are different studies related to the speed of integration. Although some researchers suggest quick integration, some argue speed of integration increase disruption in post-acquisition integration. Speedy integration of supply chains in post-acquisition may negatively influence performance as a considerable amount of time is required to build mutual trust between the employees of two companies. It involves a period of acclimatisation and understanding is required to maximise integration performance (Birkinshaw, et al., 2000; Schweizer, 2005). Also, fast post-acquisition integration process makes cultural adaptation more difficult than slow integration (Ranft & Lord, 2002).

6.4.1.7. Managing Financial Risks

All key spending and costs should be recognised in advance and enough resources allocated for smooth operation in post-acquisition to reduce the financial risks (M&AC-05). Therefore, an important strategy to reduce disruption risks in post-acquisition is to maintain appropriate working capital during the critical first year of the integration (M&AC-02). It can reduce the overall liquidity risk of the firm (Kumar & Bansal, 2008). According to Biao, the complex and fast-changing environment of acquisitions brings substantial financial risks in every step of the acquisition process. Biao argues that liquidity risk (the possibility of payment difficulty and the lack of short-term financing) and operational risk (resulting from the loss of enterprise funds) are two principal financial risks in post-acquisition. Biao suggests that strengthening financial supervision, optimising the allocation of resources, and establishing early warning and monitoring systems for financing risk can prevent this occurring during the post-acquisition integration operation.

6.4.1.8. Managing Demand-Side Risks

As mentioned, an acquisition has less impact on the demand-side compared to the other two supply chain sections, but M&A specialists argue that managing the demand-side is critical for the success of an acquisition. When there is an acquisition, the idea is to gain the revenues and the profits of that business, and they are expected to remain. So, typically, we would not expect to see customers walking away once a business is acquired as that would immediately erode the value of the business for the acquiring party (M&AC-01). However, one of the potential risks in post-acquisition is losing customers' loyalty as they may leave the target companies due to uncertainties in post-acquisition. Findings show that one of the key strategies to reduce demand-side risks is **customer due diligence** (M&AC-01). This helps the company to understand customers and use the best approach to deal with them. Kansal and Chandani (2014) suggest customer focus is an effective strategy to handle change in post-acquisition and reduce its impacts on the downstream. They argue that it is very important that the acquired firm shares the future roadmap with existing customers and provides assurance to them that the company will continue to serve them as before with the same quality and support. This will reduce the number of unsatisfied customers in the critical post-acquisition integration period, make customers feel safe about their purchase orders, and thus increase customer base and profitability.

Findings also show that **communication** plays a key role in reducing buyers' uncertainties during the post-acquisition period. It is important for the target company to maintain its ongoing and effective communication with its external suppliers and to make sure that they know exactly what is going on (SMAC-01). The findings of Kato and Schoenberg (2014) research highlight the importance of a set of critical customer relationship variables through which post-acquisition integration actions can influence external stakeholders' perceptions and, ultimately, their purchase decisions. As mentioned by Oberg et al., (2007), acquisitions may change the landscape of business networks dramatically, which in turn affect managerial cognition and activities. They suggest that during the fast-changing post-acquisition period, the target company needs effective communication or strategic signalling on an ongoing basis in the focal network such as customers.

6.4.2. C9: Target company's supply chain performance in post-acquisition

Scholars have viewed the acquisition as a means for firms to access and deploy capabilities and resources or create value by improving performance through merging with or acquiring a new firm (Puranam, et al., 2009; Berchicci, et al., 2012; Das & Kapil, 2012; Kaul & Wu, 2016). A number of empirical and theoretical studies have focused on what is the appropriate manner of evaluating and measuring acquisition performance regarding different success factors (Burt & Limmack, 2003; Zollo & Meier, 2008; Vaara, et al., 2014). In the last section of data analysis, participants discussed the acquired company's performance change in post-acquisition, especially during the first 365 days. Also, they were asked to explain how they would define success in the supply chain integration post-acquisition and how they measure performance during the first year of the transaction. In this section, the findings related to performance measurement in post-acquisition will be discussed and will be compared with prior research.

The findings show that there are mixed results for the performance of the target companies in the first year after the ownership change. Some SMACs stated that their performance decreased during the first year in post-acquisition and that the first six months were very challenging for them. Some SMACs stated that their performance increased during that time. In contrast to previous studies (Bertrand & Zitouna, 2008; Tsagkanos, 2010; Bertrand & Betschinger, 2012), these results show that an acquisition does not always contribute to value-reducing or value-destroying effects on the acquired firms. The majority of M&ACs stated that in the year of acquisition, the target company's performance would often be below the forecast that was expected simply because of integration issues and distraction to the business from being acquired. However, some of the M&ACs did not agree that the acquisition significantly influenced their operations or at least had little impact in the first year.

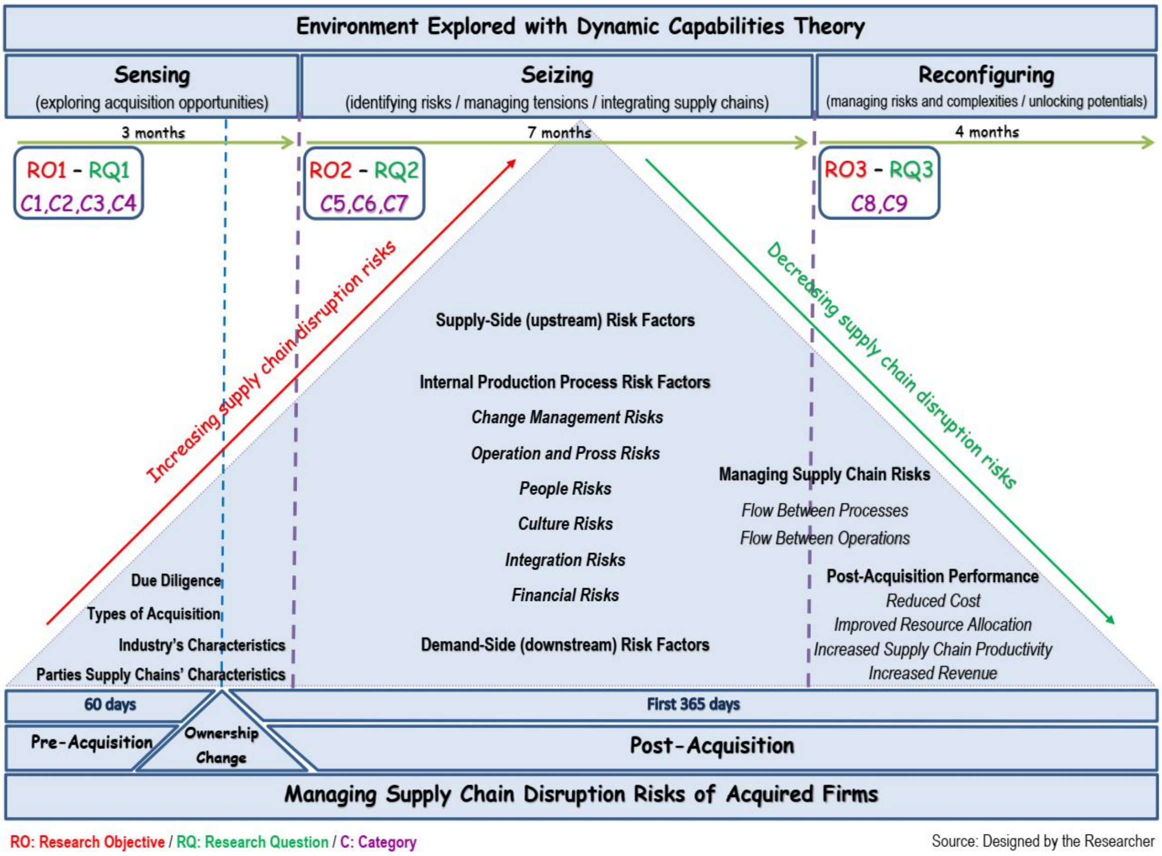
Prior studies have mixed findings on the target company's supply chain performance in post-acquisition. Although firms go for corporate acquisition with high expectations in improving performance, there is conflicting evidence of a positive impact (Liu, et al., 2007; Kumar & Bansal, 2008; Siegel & Simons, 2010; Reddy, et al., 2019), leading to poorer post-acquisition performance (Krishnan, et al., 2007). The compulsory operational changes hurt the performance of the firm once it is acquired (Kiessling, et al., 2008). Research by Tsagkanos (2010) shows that acquisitions (both vertical and horizontal) tend to be value-reducing rather than value-enhancing or value-neutral. However, some research has found the opposite effect. Research by Altunbas and Marques (2008) shows, on average, European Union banks improved in their performance post-acquisition. Siegel and Simons (2010) conducted an empirical analysis with a focus on firm-level financial performance to evaluate the relationship between acquisitions and organisational performance. Their findings show the target company's performance does not decline in the aftermath of the ownership change. Bebenroth and Hemmert (2015) studied target firms' post-acquisition business performance in Japan and Korea. Their results indicate that, on average, the business performance of Japanese and Korean acquired companies does not deteriorate after the acquisition.

In addition, findings show that sometimes it is not possible to measure the actual performance during the first year as it depends on different variables such as the sales cycle. Bebenroth and Hemmert (2015) suggest that multiple performance dimensions should be considered to assess the outcome and performance of acquisition. Buckley et al., (2014) found variations in the performance of target firms in post-acquisition. They argue that variables such as acquiring companies' resources and experience cause these performance variations. Similarly, Batsakis et al., (2018), state that the target company's post-acquisition performance depends upon whether the target firm has an affiliation to a business group and the size of acquisition (volume of shares acquired). Therefore, we will have different answers as it really depends on whether companies are planning to change things and what they are planning to change. It depends on the company size, deal complexity, and the industry's specific situation. There are a number of metrics and KPIs to measure the performance of an acquisition, which have been used by M&ACs. Findings also show firms use different formal measures of operational performance during the first year of the transaction, such as financial outcomes (e.g. sales, number of orders, and profit), and nonfinancial outcomes (e.g. customer reviews, customer feedback, customer quality, and complaints).

6.5. A Theoretical Model to Manage the Target Company's Supply Chain in Post-Acquisition

In chapter 3, the researcher based on a review of relevant published literature applied an initial theoretical framework (see Figure 3-3) to analyse the target company's supply chain disruption risks in post-acquisition and to understand how these risks can be revealed, avoided, mitigated and resolved. That theoretical framework was designed based on DCT and nine categories to sense, seize, and reconfigure dynamic capabilities in post-acquisitions. Consequent to the findings of this research project represented in chapter 5 and discussed in this chapter, it is imperative to update the literature review and revise the theoretical framework. Analysing the findings of this research helped the researcher to develop that framework further. Therefore, based on the empirical evidence coming from the present study and critical analysis of the collected primary data, as we can see from figure 6.1, the theoretical framework of this research has been updated.

Figure 6.1: Post-empirical Update of Theoretical Framework



In the revised theoretical framework, the researcher used findings related to nine categories with an emphasis on the period of SCRM in an acquisition process and three main locations of disruptions in the target company's supply chain. In addition, the researcher explained the level of supply chain disruption risk during an acquisition process and what the main risk factors are in a post-acquisition integration period. The findings of this research show that the target companies' main supply chain disruption risks in post-acquisition can be divided into six broad categories including change management risks, operation and process risks, people risks, culture risks, integration risks, and financial risks. These findings have been reflected in the revised theoretical framework, with emphasis on the time and level of disruption during the first year following the acquisition. This version also indicates the importance of some operational and commercial due diligence in the pre-acquisition period. It is important to mention that the focus of this research is on the post-acquisition period and based on our findings we explain how managing some of the supply chain disruption risks in post-acquisition can be started before ownership change.

The revised theoretical framework is thoroughly relevant to the research objectives and questions. It considers the SCDRM and creating value in post-acquisition based on dynamic capabilities. The findings of this research show that integrating the supply chain right after the ownership change will be very disruptive for the target companies' operations in post-acquisition. Also, the findings indicate that some of the supply chain risks in post-acquisition can be revealed and mitigated before ownership change. Therefore, the researcher in the revised theoretical framework added the last 60 days of pre-acquisition as a time to discover opportunities and risks for decision-makers in order to manage the post-acquisition integration effectively. As one of the M&A consultants mentioned: "the moment that you are looking at a target, the moment you are doing a due diligence, you start planning your integration from then, so it is not a post-merger, it is an integration question, but technically not a post-merger; if you're doing it at that point of time then definitely, that's a bit of a disaster" (M&AC-12).

As we can see from the revised theoretical framework, the DCT has been used to understand how the acquired firm uses dynamic capabilities to create value by effectively responding to massive changes and complexities in its operations in post-acquisition. Employing the DCT, the researcher has developed the revised theoretical framework to link the likelihood of supply chain disruption, the supply chain disruption risks, and the managing of supply chain disruption risks in post-acquisition. To meet research objectives and answer research questions, the findings from all nine designed categories have been projected in the revised theoretical framework.

In the sensing section, based on the empirical evidence coming from the present study, it can be argued that managers need to consider a minimum of three months for sensing and effectively to shape acquisition opportunities and to explore acquisition risks. This period is divided into 60 days before the ownership change (pre-acquisition) and 30 days after the ownership change (post-acquisition). The reasons that unlike previous studies such as Lowe (2015), the sensing period encompasses one month of the post-acquisition period and is not purely limited to pre-acquisition are (i) understanding of all dimensions and capabilities of the target firm's supply chain is not possible in the pre-acquisition phase alone. Managers need to have a basic understanding of parties' supply chain characteristics and capabilities to formulate change and create value effectively; (ii) starting sizing capabilities, which are associated with implementing changes and integrating the supply chain at the time of ownership change is not practically possible and can significantly increase supply chain disruption risks. For example, changing the target company's top management team may lead to a diminished value of the target organisation (Kiessling, et al., 2008); (iii) depending on the type of the acquisition, it is necessary to expand the sensing process to post-acquisition. For example, in conglomerate acquisitions, the acquiring and acquired companies may have not enough knowledge and understanding of the industries' business environment. This short period can be considered as an interaction and adaptation period for parties to discover opportunities and challenges.

The findings also revealed that the target company might face a wide range of supply chain disruptions during the first 6-8 months after the ownership change. There are many reasons behind supply chain disruptions during this period that have been critically discussed in the previous sections. This important period is mainly related to seizing dynamic capabilities when the target company's supply chain is slow and unstable, and the company is engaged with a wide range of uncertainties. The findings show this part of SCRM takes the longest as post-acquisition integration is a complex and time-consuming process. Furthermore, as we can see from the revised theoretical framework, the level of disruption risk has been graphically represented and indicate that disruption starts from a few months before ownership change and will be at its highest level in the 6-8 months after the ownership change. For example, there are lots of uncertainties, concerns, and questions for the employees during and after the ownership change, which may damage the target company's morale and motivation (SMAC-04; SMAC-08; SMAC-15).

In the seizing section, like the previous version, the emphasis is on different layers or locations of the target company's supply chain. Based on the empirical evidence of this research, it can be argued that there is a wide range of opportunities and disruption risks in all three main operational areas including supply-side (upstream), internal production process, and demand-side (downstream) of the target company's supply chain in post-acquisition. Identifying these opportunities and disruption risks, managing strategic conflicts, and integrating supply chains are key activities of seizing dynamic capabilities in post-acquisition. Findings show that in order to implement changes and create value through integration, understanding of companies' value chains is very important. "The process of change requires proper change management; it requires communicating to the people regularly, helping them understand what is happening, what is the vision, how is it going to be different in the future" (M&AC-03). "You cannot copy and paste a part of a supply chain, a part of a production, and make that work in another company without taking account a full production or chain, or supply chain" (M&AC-07).

In the reconfiguring section, the target company will have a better understanding of associated opportunities and risks in post-acquisition. The company has identified opportunities and disruption risks, recognised necessary changes, and already integrated some part of its supply chain. This can help the target company to integrate its supply chain with the acquiring company's supply chain and to build and reconfigure internal and external resources to address issues of the rapidly changing business environment in post-acquisition. During the reconfiguring period, the level of people uncertainties and supply chain nervousness have been reduced, and the target company has skills or capabilities to create value and achieve the acquisition objectives.

6.6. Summary

This chapter critically analysed and discussed the findings from the qualitative data presented in chapter 5. This study confirmed that an acquisition is a very complex process and involves many risks and opportunities for the target company. Because of a number of factors inherent in M&As such as the uncertainty of the external environment, the information flow and asymmetry, organisational and cultural integration, management activities, supply chain synergy, and complexity, the target company supply chain faces many risks during post-acquisition integration. The present study provides empirical evidence that almost all target companies face a level of change and disruption in their supply chains in post-acquisition. Even in conglomerate acquisitions, in which the level of integration is low or zero, the target company's operational productivity and performance can be affected directly or indirectly by the ownership change. This study revealed that a successful acquisition is built on good management of supply chain disruption risk during massive changes in the ownership and control of resources in the post-acquisition phase when disruption is more possible.

The present study provides empirical evidence that many internal or external factors can influence the target company's supply chain performance in post-acquisitions. These factors can also carry different types of opportunities and levels of risk for target companies' supply chain operation. For example, industry characteristics and business environments, as well as the type of acquisition can influence the performance of the target company's supply chain in post-acquisition. This study has also confirmed that supply chain disruptions can happen in any three main locations of the target company's supply chain including supply-side (upstream), internal production process, and demand-side (downstream) in post-acquisition. The present study has shown that the post-acquisition period exposes the internal production of the target company's supply chain to a wider range of disruptions compared to demand-side and supply-side. Results show that acquisition has the lowest impact on demand-side (downstream) of the target company's supply chain in post-acquisition.

The findings show that target companies' supply chains are involved in a wide range of disruption risks in post acquisitions and that we can divide them into six broad categories including change management risks, operation and process risks, people risks, culture risks, integration risks, and financial risks. The present study has shown that companies do not really follow a specific manufacturing strategy or lean and agile protocols. An acquisition is a broad and complex phenomenon that cannot be managed by only classical SCM models such as lean/agile or strategies such as push/pull. Companies apply a wide range of strategies such as communication, due diligence, capability analysis, and reward schemes to mitigate these risks in the fast-changing business environment in post-acquisition. Finally, this research demonstrates that an acquisition can contribute to value creation or value destruction as it can positively or negatively influence the company's dynamic capabilities and performance in post-acquisition. There are a number of metrics and KPIs to measure the performance of an acquisition, which have been used by M&ACs. Findings also show firms use different formal measures of operational performance during the first year of the transaction, such as financial outcomes (e.g. sales, number of orders, and profit), and nonfinancial outcomes (e.g. customer reviews, customer feedback, customer quality, and complaints).

Chapter 7: Conclusion

7.1. Introduction

This doctoral research aims to critically evaluate the disruption risks facing a target company's supply chain operations in post-acquisition and how to manage them effectively. This study focused on the roles of DCs in the post-acquisition integration processing in capturing value, and it was founded on a critical review of literature in both the M&A field and the SCM field. The literature review revealed that SCM is an unexplored domain in the corporate acquisition field and needs more attention as companies' supply chain operations are exposed to a wide range of disruption risks due to increasing organisational complexity, integration and coordination activities among two firms in post-acquisition. This research also responded to the calls to assess supply chain disruption risks in post-acquisition and strategies to manage them and improve the high failure rate of acquisition deals in the global context (Epstein, 2004; Homburg & Bucerius, 2006; Weber, et al., 2011; Chen & Wang, 2014; Lu, 2014; Rozen-Bakher, 2018; Razi & Garrick, 2019). By investigating these risks in different industry sectors, this research updates the current academic knowledge of SCDRM in the M&A context and evaluates how the acquired firms can manage such potential disruption risks effectively and maximise the probability of success in corporate acquisition activities. Therefore, this study has attempted to achieve the research objectives and explore the following issues:

- To examine to what extent the type of corporate acquisition strategy, the acquired firm's supply chain characteristics, and the industry's characteristics can change the likelihood of disruption to a supply chain (Research Objective 1; Research Question 1; Categories 1-4).
- To classify the potential supply chain disruption risk factors based on three main operational areas including supply-side (upstream), internal production process, and demand-side (downstream) and to investigate their impacts on the acquired firms' supply chain dynamic capabilities during the first year of the post-acquisition period (Research Objective 2; Research Question 2; Categories 5-7).
- To explore the effectiveness of strategies used by acquired firms to manage supply chain disruption risks during their first year of ownership change, and to

evaluate the resultant impact on their performance (Research Objective 3; Research Question 3; Categories 8-9).

In order to fulfil these research objectives and answer the stated research questions for this thesis (see Chapter 1), the researcher explored and revised a wide spectrum of related academic literature and publications of M&A and SCRM consultancy firms and empirically investigated the target companies' supply chain disruption risks in post-acquisition by collecting primary data from senior managers in acquired companies (SMAC) and M&A Consultants (M&AC). Firstly, the researcher conducted a field study in 12 target companies and 18 SMACs, exploring the potential supply chain disruption risks in post-acquisition, effective SCRM strategies and approaches to manage such disruption risks, and the roles of dynamic capabilities in the post-acquisition integration process. Secondly, the researcher looked at target companies' supply chain disruption risks and strategies to manage those risks from the lens of 12 senior M&A integration consultants/experts/executives views in big M&A consultancy firms, whose valuable knowledge and unique experience have been important resources for this research study.

The remainder of this chapter comprises eight main sections. The first section focuses on observations of the main findings and presents conclusions based on these. The second section explains the process of developing and revising the theoretical framework during the five years of this research study. The third section provides some suggestions to decision-makers, managers, and practitioners to effectively manage eight main supply chain disruption risk factors in post-acquisition based on the findings of this research. The fourth section reports contributions of the present research to the field study. The fifth section indicates the strengths of this doctoral research and highlights its limitations. The sixth section reports the challenges and difficulties encountered by the researcher in undertaking the current research project. The seventh section suggests some recommendations for further research in the domain of SCRM in the M&A context in the future. The recommendations will be directions for future research based on the knowledge and experience gained during this research project. The last section presents a summary of the chapter that concludes this doctoral thesis.

7.2. Summary of Findings

This study has examined the potential internal or external operational risks that the supply chain of an acquired firm may face during the first year of the post-acquisition phase from three perspectives: the inbound material/information flow from the supplier (supply-side), the internal production processes, and the outbound material/service flow to the customer (demand-side) as disruption can occur in any of these domains. The researcher has tried to evaluate the SCRM of the target company by using dynamic resources and capabilities resulting from a corporate acquisition. The empirical results of this study shed new light on the existing research in the supply chain aspects of corporate acquisition strategies by revealing the importance of SCDRM in the short-term performance of acquisitions. The results are discussed below.

7.2.1. The Acquired Company's Supply Chain/Operation Disruption in Post-Acquisition

According to the dynamic capability theory (DCT), the first step to create and capture value is sensing business opportunities and threats (Teece, 2007). In the case of an acquisition, sensing DCs helps us to identify opportunities and threats associated with post-acquisition for the target companies' supply chain and understand how new capabilities resulting from post-acquisition integration can be exploited by managing these risks, making appropriate decisions, and mobilising resources and capabilities. As discussed in the literature review chapter, it is generally agreed that organisational integration is a complex phenomenon and results in significant organisational disruption (Puranam, et al., 2003; Sorescu, et al., 2007; Kapoor & Lim, 2007; Chatterjee, 2009; Sears & Hoetker, 2014). The differences in the types of products and their very different supply chain network contexts have direct impacts on supply chain integration activity and performance (Li, et al., 2005; Stonebraker & Liao, 2006). An acquisition can cause different types of disruptions due to changes in operations and processes. Almost all these changes are inherent in acquisitions and target companies involved in all types of acquisition experience a level of change and disruption. As mentioned by a senior M&A consultant:

> "The worst thing that can happen for the acquired company is if the management of the acquiring company comes in and tells them nothing will change because that's simply not true, don't make them believe everything will continue like in the past, it's a lie. That's important" (M&AC-10).

Research findings indicated that acquisition has different impacts on the target company's supply chain operation and showed the risk of disruption is potentially higher in the year following the ownership change. Results indicated that target firms experienced disruptions in their supply chain in post-acquisition even when there were low levels of change in their operations, structures, and systems. An acquisition can be disruptive in many different ways, and the amount of disruption depends on variables such as the level of integration. These findings are in line with previous qualitative evidence supporting that the acquisition significantly impacts a target company's operation in post-acquisition (Puranam, et al., 2006; Schweizer & Patzelt, 2012; Chen & Wang, 2014).

7.2.2. Types of Corporate Acquisition and the Acquired Company's Supply Chain/Operation Disruption

The findings of this exploratory research revealed that the type of acquisition could increase or decrease the target company's supply chain disruption risk levels in post-acquisition. The findings fit with previous studies that show different types of acquisitions can yield different outcomes because of risk considerations (Avinadav, et al., 2017). For example, acquisition costs are higher for cross-border acquisitions than for domestic acquisitions (Takechi, 2011). The present study also showed that DCs resulting from a corporate acquisition could vary based on the type of acquisition. The findings showed that horizontal acquisitions are usually associated with some opportunities for the target company, such as having an overlapping product range for customers. This type of acquisition can be seen as a mechanism to strengthen a company's ability to compete (Mudde, et al., 2014). It can increase the market power of the combined entity and may allow firms cost savings through economies of scale and the sharing of experience and knowledge (Bhattacharyya & Nain, 2011; Thavikulwat, et al., 2013). The problem-solving level is the same in this type of acquisition, which increases synergy and speed of integration. However, horizontal acquisition may generate a high level of supply chain consolidation (as companies look for synergies by acquiring a rival company in the same industry), which causes more disruptions.

In addition, the findings showed that vertical acquisitions can be easier than horizontal acquisitions as the two companies involved are probably not competing. In other words, the vertical acquisition can be less impactful as it only impacts some parts of the business, whereas a horizontal acquisition will probably be more impactful in every part of the business because there are lots of overlaps. The findings also showed that conglomerate acquisition has the lowest level of integration, synergy, and usually, the two companies interact only in some specific areas such as the financial. However, this finding is not consistent with Rozen-Bakher (2018) research as she found conglomerate acquisitions lead to integration success and synergy success in both industry and service sectors. However, this exploratory research showed, in this type of acquisition, the acquiring company may have no knowledge and understanding of the target company's business and that may create some issues in post-acquisition.

7.2.3. Parties Supply Chains' Characteristics and the Acquired Company's Supply Chain/Operation Disruption

The present study findings suggest that both the acquiring and acquired companies' supply chain characteristics may have impacts on the operation of the target company in post-acquisition, and their supply chain variables could create both threats and opportunities. The findings showed that companies' product diversity and complexity could influence the target company's supply chain performance. It can also bring extra costs associated with product diversity for companies (Shim, 2011). Also, the nature and complexity of products can impact supply chain integration and cause disruption in post-acquisition. The findings highlighted the firm's previous acquisition experience as an important capability in managing supply chain disruption risks in post-acquisition effectively, and it is key to ensuring meaningful and smooth integration. Acquisitions are always linked with numerous complexities and uncertainties in their processes (McGrath, 2011). Companies with acquisition experience can apply their lessons to improve efficiency and do not repeat some mistakes. Findings showed that target companies with prior acquisition experience as a strategic dynamic capability were more capable of handling uncertainty and the potential risks of their supply chain in post-acquisition. Also, both acquiring and acquired companies prior knowledge and experience as a valuable organisational capability could help them to manage disruptions and use effective tools such as communication to reduce the uncertainty during the post-acquisition period.

The present study also showed that the acquiring and acquired companies' supply chain structure could also influence performance and disruption risks in post-acquisition. For example, if companies use similar systems and structures in their supply chains, they can reduce integration risks and increase integration speed. Supply chain structure can be considered as a moderator of supply chain integration, cultural alignment, collaboration and relationship (Manuj & Sahin, 2011). For example, companies' compatibilities in different parts of the business such as HR, IT, or ERP systems can reduce complexity and integration disruptions in post-acquisition.

7.2.4. Industry's Characteristics and the Acquired Company's Supply Chain/Operation Disruption

Consistent with previous findings, this research revealed that there are different risks for the company's supply chain across different industry sectors and industries' conditions affecting corporate acquisition value creation (Nocke & Yeaple, 2007; Huyghebaert & Luypaert, 2013; Falkum, et al., 2014; Alimov, 2015). Our findings suggest that firms' post-acquisition performance could change based on country and industry characteristics. For example, an acquisition between two companies within the European Union can cause less supply chain disruptions compared to an acquisition of a company in Asia or America. Therefore, different operational risks (such as logistic and culture risks) in post-acquisition have a direct relationship with their specific country and industry characteristics.

7.2.5. Managing Supply-Side (Upstream) Risk Factors in Post-Acquisition

The findings showed that there are several reasons that the ownership change in post-acquisition might disrupt the target company's suppliers as corporate acquisitions are always linked with numerous complexities and uncertainties in their processes (McGrath, 2011). An acquisition can influence the target company’s terms and relationships with their suppliers in post-acquisition (Kato & Schoenberg, 2014). An acquisition may raise many questions and uncertainties for the suppliers about the payment of their invoices and future businesses with the target company. Therefore, one of the key supply issues in post-acquisition can be to convince suppliers that it would be business “as normal” and that there wouldn't be disruption to the supply chain, which means a lot of extra work for the target company in giving the required assurance to suppliers that there would be no risk and discontinuity.

The findings also provided further insights to risks and advantages associated with switching suppliers in post-acquisition, when the acquiring companies and target companies have their own suppliers that they have worked with for a long time and have a good understanding of each other supply chains. So, the acquirer will want to change some of those suppliers because strategically, it is inappropriate to continue with some of them. If there is any commonality or overlap in suppliers, on the one hand, this will be a big opportunity for synergies in the supply area. On the other hand, this change or consolidation of suppliers can represent some disruption in terms of the supply lead time quality and quantity especially during the first months; however, it may save some costs in the long-term. To ddress the overall effectiveness of a supply chain requires assessing the trade-off between investments in supply chain capabilities and the costs associated with disruptions (Nooraie & Parast, 2016). Also, in post-acquisition, there is always an adjustment period, and there is a lot of internal work. This may take some of the focus away from the external, supplier base that results in a certain amount of inefficiency in operation.

The findings suggest that communication is a key strategy to manage multiple supply chains in post-acquisition. Communication can be considered as a key tool reducing the negative impacts of acquisition on all supply chain aspects. It plays a key role to reduce suppliers' uncertainties during the post-acquisition period. Therefore, it is important for the target company to maintain ongoing and effective communication with all its external suppliers and to make sure that they know exactly what is going on when and how. Also, the findings supported that one of the key strategies to reduce supply-side risks is commercial due diligence. "Operational" and "commercial" due diligence enhance M&A decision making (Lau, et al., 2012), as well as companies' cross-functional micro-foundations factors such as structures and processes (Haapanen, et al., 2019).

7.2.6. Managing Internal Production Process Risk Factors in Post-Acquisition

This exploratory study provided further evidence indicating that the main risks associated with the target company's supply chain operation are internal and related to the flow between processes. This has been supported strongly by content analysis, evidence-based reasoning. As discussed in the previous chapter, the findings of the present study also suggested six main areas of SCRM associated with the internal production process in post-acquisition.

7.2.6.1. Managing Change Risks

Change management risks will occur during the massive changes and complexities in post-acquisition and potentially disrupt the supply chain. As highlighted in the last chapter, these risks can be found in disruption in communication, lack of a proper change management plan, a push in minimising costs across the business, resistance to change, lack of clear vision and understanding of the rationale for the integration, and lack of enough discovery of existing systems and processes before starting to manage the change process. The findings revealed that target companies could apply a wide range of strategies for managing change risks. The first step is to define a clear vision and strategic objectives in post-acquisition. Understanding the strategic objectives of the acquirer is very important for managers in the target companies. It significantly reduces post-acquisition uncertainty and encourages people to participate. Also, different risk aspects in post-acquisition can be effectively addressed by pre-acquisition due diligence. Findings indicated that managing supply chain disruption risk starts before the acquisition when the acquiring team study different dimensions of the target company's operations. Pre-acquisition due diligence provides necessary information which prevents decision-makers from enacting inappropriate and hasty decisions in post-acquisition.

The findings clearly point out that managing change requires a careful analysis of the target company and effective planning. Planning can be key for the execution of effective management of changes and disruption in post-acquisition. The acquisition is not an everyday process, it is complex and associated with multiple risks, and lack of planning can increasingly boost the chance of disruptions in post-acquisition. One of the key strategies to reduce the disruptions related to changes is to study and understand the target company's business environment and plan necessary changes that need to be done. Planning will give the target company a sense of direction and purpose. Therefore, it can be a key strategy to mitigate the overall integration risks in post-acquisition and change management risks. The present study also showed that having a transition team or a dedicated M&A team in post-acquisition can help to handle and manage changes smoothly and minimise the post-acquisition integration impact taking place. A transition team with more resources, experience, and knowledge to facilitate, deliver and sustain change, a team that is either a part of the organisation or is contracted in, can be effective. Finding also suggested that change management requires placing the right people at the centre of the strategy. One of the key strategies to reduce change management risks is to align leadership in the post-acquisition integration period. As highlighted by Lauser (2010), in the post-acquisition situation a number of different stages of the change process occur at the same time, and one of the challenging tasks for managers is to combine leadership behaviours to deal with planned and emergent change.

7.2.6.2. Managing Operation and Process Risks

Operation and process risks are common in all post-acquisition processes and potentially disrupt the supply chain (Haapanen, et al., 2019). These risks can be found in differences in logistics and operations among the two firms. For example, any supply chain has a language which a company has developed over time and describes what they do. As the supply chain doesn't have a standard set of terms, the terms are determined within the organisation. Lack of understanding of this language may cause some disruptions. Also, acquisition parties may use different systems and processes that can be a source of disruption during the first year of the operation. These risks can be managed by critically integrating three strategic functions, including process uncertainty, labour uncertainty, and information system failures and jointly planning for them in a coordinated manner (Bandaly, et al., 2013). Also, findings from this study suggest that one of the strategies to reduce operation and process risks is process mapping. It is a comparison of the processes and the environment between the two businesses at a very detailed operational workforce level, so managers can understand their qualities and what the differences are. They can then begin to identify which particular organisation has got a better process and in which areas they can learn from each other and improve.

7.2.6.3. Managing People Risks

Human-related risks in post-acquisition may kill the target company's performance, morale, and motivation (Ferraz & Hamaguchi, 2002; DePamphilis, 2012). The finding revealed that people are often the most important disruption risks in post-acquisition. These risks can be found in uncertainties, concerns, and questions for the employees after the ownership change (Marks, et al., 2017). In the process of post-integration, employees may choose not to stay with the business going forward because they don't like change, the new management, the new ownership structure, and the new rules and regulations (DePamphilis, 2012). The findings showed many people could be fired or opt to leave the target company after the ownership change. The uncertainty associated with acquisition may encourage people to look for new job opportunities outside the company.

Also, compulsory changes of the top management team during this period can diminish the value of the acquired firm, and higher retention of the key management team members of the target company leads to higher performance in post-acquisition (Kiessling, et al., 2008; 2012). The acquisition may also increase employees' responsibilities, change their roles, and increase their paperwork, which can be inconvenient and difficult for them to deal with, making them less productive and their jobs a lot busier. The findings also underline the importance of trust as a strategic weapon to improve cooperation and performance in post-acquisition (Bijlsma-Frankema, 2001; Schweizer, 2005). In post-acquisition, honest and effective communication can encourage trust between people and increase post-acquisition performance. Building trust between all people involved in a post-acquisition integration process can increase the chance of success. Trust has a key role in knowledge transfer and the alignment of objectives. The findings also highlighted the role of education and training in post-acquisition performance. Many companies have used this strategy for both people in the acquiring company and people in the acquired company for achieving the acquisition's objectives. Education and training positively affect organisations' recovery capabilities and SCRM capabilities (Weber & Tarba, 2010; 2011; Weber, et al., 2011; Jain & Ramesh, 2015; Riley, et al., 2016).

The present study showed that people risks could be managed by applying effective communication with all those involved in the acquisition process. According to Kansal and

Chandani (2014), confusion, frustration, and the lack of communication are attributes of the resistance to change within the organisation. Senior managers need to maintain ongoing and effective communication with all people within the target company to reduce overall uncertainty and keep them involved by giving them the right information at the right point in time. Finally, the findings highlighted that having strong executive leadership is one of the most effective strategies to reduce potential human-related risks in post-acquisition and increase acquisition performance. For example, this has a key role in retaining talents during M&A (Zhang, et al., 2015). Our findings showed the post-acquisition environment needs a strong leadership culture. It can help the target company to meet the post-acquisition challenges and motivate people to participate in the integration process actively. It will enable very quick decisions and smooth the process from a corporate point of view. Leadership can define roles and responsibilities for people and guide the implementation of post-acquisition integration.

7.2.6.4. Managing Culture Risks

Culture risks are related to cultural diversity between two companies (or “culture shock”) and changing the culture of an operating model. Cultural issues in post-acquisition impact people interactions and information-exchange transactions resulting in what is often branded as “M&A failure, due to culture conflict” (Dauber, 2012; Frantz, 2015). The findings revealed that people risks are more likely to happen in the case of a cross-border acquisition, as the acquiring company’s management team might have a different attitude, operating model, and communication style that takes time to understand during the first year of operation. Findings also showed that sometimes, the acquiring company would tend to dictate everything to the target company, which may not be compatible with or acceptable in terms of the target company’s cultural values. The present study showed that culture risks could be managed by understanding the target company’s cultural values and the cultural gap before implementing any change or integration. At the same time, the target company’s employees need to know about the new parent company culture and how to deal with it. The findings also showed that transparency is key to unlock cultural values and motivate people. Transparency (operational and financial) and information disclosure during integration means leadership can create trust among managers and employees of the target company (Rani, et al., 2014; Zhang & Stening, 2015).

7.2.6.5. Managing Integration Risks

The integration risks that are relevant to the integration or reorganisation of the target company's supply chain during the post-acquisition integration process can negatively influence acquisition performance (Zhu, et al., 2016b). In order to exploit potential synergies between two firms and create value from an acquisition deal, post-acquisition integration and resource reconfiguration are critical parts of the acquisition transaction cycle (Cording, et al., 2014). The findings revealed that integration risks could be managed by implementing a strong and experienced transition team. Acquisition needs people who know how to deal with acquisitions and supply chain integration. A transition team has the resources, experience, and knowledge to be able to identify where things are not working properly and anticipate difficulties and challenges in making that transition. This team needs continuous support and the participation of top managers of firms (Ma & Nie, 2009).

The findings also underline the importance of due diligence, as plenty of supply chain integration disruptions are avoidable if the acquisition has proper due diligence. The starting point for the integration process is the observation phase, where the two parties of a deal observe each other and the situation (Lohrum, 1992). Parties should have a common working session and combat a market trust, rather than just trying to do everything post-acquisition. “Operational” and “commercial” due diligence enhance M&A decision making (Lau, et al., 2012), as well as companies' cross-functional micro-foundations factors such as structures and processes (Haapanen, et al., 2019). The findings also highlighted that the success of post-acquisition integration is largely dependent on cooperation between companies and people regardless of the type of acquisition (e.g. hostile takeover or friendly takeover). A highly cooperative relationship and spirit or a “can-do” approach among people and companies can make the integration process easier and more effective. It can also significantly accelerate the integration process and positively impact the acquisition performance.

The findings suggest that sometimes altering the target company's supply chain strategy based on the acquiring company's supply chain can increase post-acquisition integration performance. The integration of a complex product range brings more risks and needs a set of skillsets to understand all dimensions of design capability. So, the supply chain integration and adjustment are dependants on the different types of deals. These adjustments can be changes like downsizing and decentralising to reduce costs and increase productivity in post-acquisition (Kansal & Chandani, 2014). However, findings show altering a supply chain to achieve synergy and economy of scale is not always the right strategy. The trade-off between exploration and exploitation is a challenging task in SCM (Turner, et al., 2018; Gualandris, et al., 2018; Ojha, et al., 2018) and there is a limited understanding of how firms manage trade-offs to establish different supply chain designs that offset organisational routines necessary for exploration and exploitation, to allocate variegated resources and attention necessary for exploration and exploitation pursuits in a supply chain, and to develop skills, capabilities, processes, and cultures to enable each dimension (Lavie & Rosenkopf, 2006; Birkinshaw & Gupta, 2013; Jensen & Clausen, 2017).

The present study also validated that the post-integration experience is not just about the integration of systems or productions. It is also an integration of people and cultures. One of the key strategies to manage integration risks is using an appropriate integration speed (Angwin, 2004; Homburg & Bucerius, 2006; Lu, 2014). The findings suggested that the speed of integration is important for synergy delivery and has a direct relation to post-acquisition uncertainties. However, fast or slow integrations are associated with different benefits and risks for the target companies' supply chain operations. For example, on the one hand, fast integration is an effective strategy to reduce complexity and operational disruption risks. Fast integration can realise cost synergy quickly, and that provides faster shareholder return. On the other hand, fast integration is associated with some risks, and it does not necessarily improve post-acquisition performance. If companies go for fast or aggressive integration, they may not plan correctly, be lacking in information and make poor decisions as a consequence. In addition, knowledge sharing appears to be characteristic of successful integration efforts. Smooth handling of knowledge management risks in the supply chain helps to control the corporate business environment (Ma & Nie, 2009). Knowledge sharing can increase post-acquisition integration efficiency and reduce disruptions. It is a common mistake of acquiring companies not to gather enough knowledge about the acquired companies' capabilities and strategic positions, and simply to try to replicate a previous, successful acquisition experience.

7.2.6.6. Managing Financial Risks

Financial risks are related to effective management and control of finances in post-acquisition. The findings suggested that the target company supply chain disruption has a relationship with the company's financial capabilities or working capital. Sometimes, the target company may face a lack of financial capabilities or working capital in the first months after the ownership change, negatively influencing its operation in post-acquisition. Therefore, all key spending and costs should be recognised in advance and enough resources allocated for continued smooth operation in post-acquisition, to reduce the financial risks. An important strategy to reduce disruption risk in post-acquisition is to maintain appropriate working capital during the critical first year of the integration. This means that the target company in post-acquisition can reduce the overall liquidity risk of the firm (Kumar & Bansal, 2008). Also, strengthening financial supervision, optimizing the allocation of resources, and establishing early warning and monitoring systems can prevent financial risk during the post-acquisition integration operation.

7.2.7. Managing Demand-Side (Downstream) Risk Factors in Post-Acquisition

The exploratory evidence of the present study revealed that the post-acquisition period has less impact on the demand side compared to the other two dimensions of the target company's supply chain: supply-side and internal production. The results revealed that an acquisition could affect the target companies' terms and relationships with their customers in post-acquisition (Anderson, et al., 2001). For example, the target company's supply chain nervousness in post-acquisition and many internal changes may reduce the company's attention to its customers or diminish an effective customer relationship. However, the findings also indicated that an acquisition sometimes has a very positive impact on the demand-side even during the first year. For example, an acquisition can bring more financial resources for the target company, and it can immediately and effectively respond to client demand by acquiring more people and equipment. The present study also revealed that an acquisition might bring different concerns related to the security of supply, quality of products, brand changes, etc., for companies that can negatively influence their customer relationships and ultimately, their purchase decisions (Kato & Schoenberg, 2014). For example, a change in the target company's brand may cause paperwork or licencing issues for a pharmaceutical company's customers.

Also, one of the demand-side risks in post-acquisition can be related to customer consolidation. If there is customer consolidation in post-acquisition, the target company can be at risk of losing an effective relationship with its customers. The demand-side (downstream) risk can be managed by effective communication with buyers to reduce their uncertainties and concerns during the post-acquisition period. It is important for the target company to keep its ongoing and effective communication with all its external suppliers and to make sure that they know exactly what is taking place. Also, findings showed that one of the key strategies to reduce demand-side risks is customer due diligence. This helps the company to understand customers and use the best approach to deal with them.

7.2.8. Target Company's Supply Chain Performance in Post-Acquisition

The present study showed that there are mixed results for the performance of target companies in the first year after the ownership change. The exploratory evidence of the present study revealed that there is some evidence that the target company's supply chain performance is decreased during the first year in post-acquisition (Tsagkanos, 2010). Especially, the first six months is very challenging for the target companies. However, findings showed that an acquisition increased the target company's supply chain performance during the first year in post-acquisition. The majority of participants in this research stated that in the year of acquisition, the target company's performance would often be below the forecast that was expected simply because of integration issues and distraction to the business from being acquired. In addition, findings showed that sometimes it is not possible to measure the actual performance during the first year as it depends on different variables such as the sales cycle. Also, there are a number of metrics and KPIs to measure the performance of acquisition. Firms use different formal measures of operational performance during the first year of the transaction, such as financial outcomes (e.g. sales, number of orders, and profit), and non-financial outcomes (e.g. customer reviews, customer feedback, customer quality, and complaints).

7.3. Research Theoretical Framework Revisited

In the process of this research project, the researcher conducted a comprehensive review of relevant academic and industry literature to establish the initial theoretical framework (see Figure 3.3) to investigate supply chain disruption risks which the acquired firms may face in three main supply chain domains during the post-acquisition integration process, and to evaluate how the acquired firm can manage such potential disruption risks effectively and maximise the probability of success in corporate acquisition activities. The initial theoretical framework was designed based on DCT and nine different categories to sense, seize, and reconfigure dynamic capabilities in post-acquisitions. With the aim of expanding the review of relevant academic and industry literature and the findings of this research project represented in chapter 5 and discussed in this chapter, it was imperative to update the literature review and revise the theoretical framework. Analysing the findings of this research helped the researcher to develop the initial theoretical framework further. Therefore, based on the empirical evidence of the present study and critical analysis of the collected primary data, the theoretical framework of this research has been updated, which can be used by both researchers and practitioners to optimise SCM in post-acquisition in terms of capabilities resulting from a corporate acquisition.

The revised theoretical framework (see Figure 6.1), has been designed based on the findings related to nine categories. It emphasises the period of SCRM in an acquisition process and three main locations of disruptions in the target company's supply chain. In addition, the revised theoretical framework shows the level of supply chain disruption risks during an acquisition process and what the main risk factors in the post-acquisition integration period are. Although the focus of the current study is on the post-acquisition period, based on the empirical findings of this research, this version indicates the importance of some operational and commercial due diligence in the pre-acquisition period. It explains how managing some of the supply chain disruption risks and key dynamic capabilities in post-acquisition can be started before ownership changes. Therefore, the revised theoretical framework emphasises the last 60 days of pre-acquisition as a time to discover opportunities and risks for decision-makers in order to manage the post-acquisition integration effectively.

The revised theoretical framework is thoroughly relevant to the research objectives and questions. It considers the SCDRM and creating value in post-acquisition based on dynamic capabilities. The findings revealed that the target company might face a wide range of supply chain disruptions during the first 6-8 months after the ownership change. This important period is mainly related to seizing dynamic capabilities when the target company's supply chain is slow and unstable, and the company is engaged with a wide range of uncertainties. The revised theoretical framework shows this part of SCRM takes the longest period as post-acquisition integration is a complex and time-consuming process. The findings also indicated that disruption starts from a few months before ownership change and will be at its highest level during the 6-8 months afterwards. The revised theoretical framework shows that in order to reconfigure dynamic capabilities resulting from a corporate acquisition, the target company needs a good understanding of associated opportunities and risks in post-acquisition. When the target company has identified these, recognised necessary changes, and already integrated some part of its supply chain, it will be able to further integrate its supply chain with the acquiring company's supply chain and to build and reconfigure internal and external resources to address issues of a rapidly changing business environment in post-acquisition.

7.4. Suggestions for Improving Target Companies' Supply Chain in Post-Acquisition

Large corporate events such as acquisitions may have negative impacts on different aspects of both organisations involved. Managing both the post-acquisition integration process and a new supply chain network is a complex and completely interconnected scenario that needs careful thought to tackle the many uncertainties and risks. This is typically true in global acquisitions that are centred on the global supply chain (Kiessling, et al., 2012). This trend means firms need to consider how to take advantage of corporate acquisition benefits in supply chain networks. Consistent with prior research, this study suggests that understanding and practising SCM and associated risks are essential prerequisites to staying in the competitive global race, to growing profitably, and increase the chance of acquisition success (Kleindorfer & Saad, 2005; Li, et al., 2005; Trkman & McCormack, 2009; Ji & Chen, 2012; Marks, et al., 2017). From the perspective of SCRM in post-acquisition, the key to successful SCM is achieving effective integration of the business functions and chain members so that all operations and processes are well aligned to achieve the objectives of the overall system (Sahin & Robinson, 2002; 2005). Therefore, SCRM must be of high importance for corporate acquisition. The findings of the present study identified several suggestions for improving the target companies' supply chain in post-acquisition.

Consistent with prior research, this study suggested that the effectiveness of SCRM in post-acquisition is dependent on variables such as industry characteristics, companies' supply chain characteristics, level of integration, and change management quality and leadership. The study evidenced differences in firms' products, experience, supply chain size, and supply chain structure, which can influence the process of SCDRM in post-acquisition and its outcome. For example, in post-acquisition, companies with a complex product range and complex production platforms need careful integration planning and a set of skillsets to really understand these complexities first. The findings support that those companies that have gained experience as a result of previous M&A activities are more likely to understand the risks and difficulties associated with integrating supply chains in post-acquisition. The findings of the current study also suggest that an understanding of all the dimensions and capabilities of the target firm's supply chain is not possible only from the immediate pre-acquisition phase. Managers need to have at least a basic understanding of parties' supply chain characteristics and capabilities to formulate change and create value effectively, and this should be given adequate time to achieve.

The findings suggested that the first step to manage an acquisition effectively is to understand the target situation in the post-acquisition period and different supply chain disruption risk factors associated with post-acquisition. The findings of the current study also suggest that acquisition is a broad and complex phenomenon that cannot be managed by only classical SCM models such as lean/agile models or strategies such as push/pull. Companies apply a wide range of strategies such as communication, due diligence, capability analysis, and reward schemes to mitigate these risks in the fast-changing business environment in post-acquisition. Also, the parent company's lack of understanding of relationships with the new suppliers or buyers and the kind of commercial terms that exist between suppliers or buyers and the target company in terms of the cost of goods, credit payment, or their priority as a customer may also bring some disruptions.

The findings suggested that one of the key risks associated with change management and supply chain integration management is a lack of understanding of the rationale for the integration and no clear vision for all key stakeholders. Also, any supply chain has a language which a company has developed over time that describes what they do. As the supply chain doesn't have a standard set of terms, the terms are determined within the organisation and not understanding this language may cause some disruption. In order to fully benefit from a corporate acquisition, a validation of the entire network across both parties will be essential, taking into account different variables such as functions, management team, processes and service levels, facility locations, IT infrastructure, supplier base, transportation costs, and store associate capabilities. This validation will help executives to answer a key question related to the target firm's supply chain - what network strategy will best serve the new firm? They can pursue the most suitable strategy such as the consolidation of the two, expansion, or a fresh start.

Finally, the findings suggested that human-related risks are the most critical and common type of internal risk in post-acquisition. Many supply chain disruptions in post-acquisition have a direct relationship with uncertainties, concerns, and questions the employees have after the ownership change, which may damage the target company's morale, motivation, and performance. Findings strongly indicated that communication is a key strategy to manage multiple disruption risks in post-acquisition. It is important for managers to keep their ongoing and effective communication with all employees within the target company as well as key suppliers and buyers to reduce the overall uncertainty and keep them involved by giving them the right information at the right point in time. Findings also suggested that trust is a strategic weapon to improve cooperation and performance in post-acquisition. In a post-acquisition period associated with different uncertainties and complexities, honest and effective communication can encourage trust between people and increase post-acquisition performance. Building trust between all people involved in the post-acquisition integration process can increase the chance of success. Trust has a key role in knowledge transfer and the alignment of objectives.

7.5. Contributions of the Present Study

This doctoral research provides contributions to the body of both strategic management and supply chain management knowledge as follows.

- This study provides empirical evidence that there is a direct relationship between corporate acquisitions and target companies' supply chain disruptions and performance in post-acquisition (Kumar & Bansal, 2008; Siegel & Simons, 2010; Bebenroth & Hemmert, 2015; Batsakis, et al., 2018).
- This study provides empirical evidence on the role and importance of types of corporate acquisition (Hijzen, et al., 2008; Tsagkanos, 2010; Avinadav, et al., 2017; Rozen-Bakher, 2018), industries' characteristics (Blackhurst, et al., 2005; Kalpic, 2008; Bertrand & Betschinger, 2012; Mudde, et al., 2014), and firms' supply chain characteristics such as M&A experience, size, and products diversity and complexity (Manuj & Sahin, 2011; Merkert & Morrell, 2012; Bertrand & Betschinger, 2012; Leuschner, et al., 2013; Hutzschenreuter, et al., 2014), in both creating and managing supply chain disruption risks in post-acquisition.
- This study has empirically identified that an acquisition can positively or negatively influence the target company's supply and demand chain in post-acquisition (Matopoulos, et al., 2007; Kumar & Nigmatullin, 2011; Saleh & Roslin, 2015; Sawik, 2016a). The study has highlighted that post-acquisition has less impact on the demand side compared to supply-side and internal production.
- This study has empirically demonstrated that internal production process risks are potentially high the year following the ownership change, and reconfirmed that human-related risks are the most critical and common types of internal risks in post-acquisition (Ranft & Lord, 2002; Cartwright & Schoenberg, 2006; Kiessling, et al., 2008; 2012; Schweizer & Patzelt, 2012; Zhang & Stening, 2015; Marks, et al., 2017).
- This study provides empirical evidence on effective models and strategies for managing disruption risks in three main locations of the target company's supply chain including supply-side (upstream), internal production process, and demand-side (downstream) in post-acquisition (Bozarth, et al., 2009; Zhu, et al., 2016b).
- This study has empirically identified mixed results for the performance of the target companies in the first year after the ownership change (Liu, et al., 2007; Kumar & Bansal, 2008; Siegel & Simons, 2010; Bebenroth & Hemmert, 2015; Reddy, et al., 2019). However, this study provides empirical evidence that in many cases, the target companies' performance decreased during the first year in post-acquisition and

especially the first six months of the fast-changing business environment (Kiessling, et al., 2008; Tsagkanos, 2010).

- Finally, this research contributes to management decision-making quality in the post-acquisition process. The findings indicate that sensing, seizing, and reconfiguring DCs play critical roles throughout the post-acquisition integration process and, collectively, help the acquired firm to manage supply chain disruption risks in post-acquisition successfully (Teece, et al., 1997; Teece, 2007; Ambrosini & Bowman, 2009; Vogel & Güttel, 2013; Sardana, et al., 2016; Barqawi, et al., 2016; McAdam, et al., 2017; Cirjevskis, 2019; Haapanen, et al., 2019). The findings reveal that the use of DCs in post-acquisition requires careful attention and shed light on the importance of the SCRM in managing both disruption risks and DCs resulting from an acquisition.

7.6. Strengths and Limitations of the Present Study

The present doctoral research project is associated with different strengths and weaknesses that are reported below.

7.6.1. Strengths of the Present Study

This is a strategic study related to the importance of SCRM in post-acquisition, which can significantly reduce the odds of acquisition failure and increase the chances of success. This study is one of the first attempts to critically evaluate the disruption risks facing target companies' supply chain operations in post-acquisition and how to manage them effectively. Therefore, this piece of research provides a substantially richer understanding of the risks associated with acquired firms' supply chain disruptions after closing a corporate acquisition deal, a relatively unexplored domain in the M&A literature. This research provides a classification of various significant supply chain disruption risk factors during the first year after closing an acquisition and highlights how they can vary based on firms' supply chains characteristics, the type of acquisitions (vertical/horizontal/conglomerate), performance and the environment of the industry in which acquired firms operate.

This research showed that the risk management context in post-acquisition is a relatively unexplored area in either strategic management or supply chain research. This research looks at the company's operations in post-acquisition through the lens of SCM as it provides the optimal overview of the interface of all operations and process flows and is concerned with the strategic approach of dealing with operation and logistic planning. The empirical results of this study shed new light on the existing research in supply chain aspects of corporate acquisition strategies by revealing the importance of supply chain disruption management in the short-term performance of acquisitions. Therefore, this research presents a new theoretical insight into existing supply chain disruption management literature by focusing on a new domain, corporate acquisition, which has not been fully analysed in prior studies.

To the researcher's knowledge, this research is the first study to apply DCT to SCDRM in post-acquisition. From a theoretical perspective, this study has sought to further the understanding of DCT in the M&A context and add new knowledge to the field of supply chain risk management in post-acquisition. Finally, the conceptualisation of managing target companies' supply chain disruptions in post-acquisition based on the findings from this research, in particular, the findings related to managing supply-side risks, six internal production process risk factors, and demand-side risks, should help target companies to create and capture value resulting from dynamic capabilities associated with acquisitions by managing complexities and these strategic risks effectively, building competencies, and unlocking acquisition potential. This study also provides insights and recommendations for managerial decision-making about supply chain disruption management during massive changes in the ownership and control of resources in the post-acquisition phase, when disruption is more likely.

7.6.2. Limitations of the Present Study

As with any study, this piece of research had some limitations, which provides an opportunity for M&A and SCM scholars to undertake further research and improvement in future. There are a number of factors that might affect the corporate acquisition process and its outcomes. Using non-financial data brings quite limited information for M&A scholars that covers only certain issues. When M&A scholars use non-financial data, the limited aspects should be addressed due to the fact that researchers are not able to measure all dimensions of disruption risk factors affecting the supply chain performance, evaluate target company performance based on numerical simulations/experiments, and assess corporate acquisition outcome based on qualitative data.

All findings of this research project may not be generalisable because the sample population used and the nature of an interpretive study. In the process of this research, a relatively small number of in-depth interviews has been conducted, including 18 senior managers in acquired companies (SMAC) and 12 M&A Consultants (M&AC). In addition, this study involved only 12 target company, limiting representation to a small number of acquisitions, types of acquisitions, and industries of operation. Therefore, there are limits to some generalisation that can reasonably be made from the research findings of the present study. The limitations of academic literature on SCM of the M&A integration process also need to be acknowledged in this research. The researcher found very few academic articles focusing on the SCM dimension of a corporate acquisition.

7.7. Difficulties Encountered in Undertaking the Present Study

The researcher encountered several difficulties while spending five years undertaking this research project from January 2015 to December 2019. These difficulties include the following.

7.7.1. Difficulties in Integrating Supply Chain Management Literature with M&A Literature

As mentioned, the researcher found very few academic articles focusing on the SCM dimension of a corporate acquisition. Therefore, all academic articles related to SCM and M&A have been separately reviewed and critically linked to achieving the objectives of this research project. This meant extra effort and time was taken to examine the literature of these two fields of management and integrate their applications into the theoretical frameworks of this research.

7.7.2. Difficulties in Collecting Primary Data from Very Limited Acquisition Deals

The first difficulty faced in the data collection by the researcher was related to the limited number of acquisition deals within industries. As the focus of this research was on the acquisition deals made within the last five years and within specific geographical areas, the research sample population was relatively small. Also, the data collection process was further limited as the focus was on medium and large-sized organisations.

7.7.3. Difficulties in Accessing Key Manager Data in Target Companies

Due to the nature of activities of many firms involved in acquisitions and personal privacy legislation, it was very difficult to find information about key managers in target companies or to access their contact details for sending official letters and arranging an interview.

7.7.4. Difficulties in Managing Interviews with Research Participants

One of the most challenging parts of this research project was related to primary data collection and specifically to managing interviews with research participants. Certain factors made this process very challenging and difficult for the researcher, which caused 14 months of the research time to be expended on the data collection process. As the participants had key positions such as executives and senior managers in target companies, they were often too busy to accept a request for an interview. The researcher sent more than 250 official invitation letters and 150 emails, and the rate of response was less than 1%, with most of those comprising rejections.

7.7.5. Difficulties in Finishing the Interview within a Limited Time

Due to the nature of this research project and the exploration of different dimensions of supply chain operations, the interviews needed to be more than 30 minutes. In many cases, the interview ran over the amount of time allocated by the interviewee, and it was not always possible to convince the participant to allocate more time so that more questions related to the research topic could be asked.

7.7.6. Difficulties Related to Participants' Organisations Policies

Due to the nature of the activities of many firms involved in acquisitions and their policies related to data protection and disclosure, it was very difficult to convince managers to participate in this academic research. Many of them rejected the interview request because of their company's policies on data protection. For example, all M&A consultancy firms declined to contribute to this research project in order to protect their customers' data.

7.8. Recommendations for the Future Research

Avenues for further research into SCRM in the post-acquisition context can be derived from the findings and limitations of this study. As mentioned, the research shows that the risk management context in post-acquisition is a relatively unexplored area in either strategic management or supply chain management research. Therefore, there still remain unexplored areas and numerous unresolved issues in these fields for further studies which could improve the understanding and implementation of SCRM in a corporate acquisition. Exploratory research would normally lead to recommending more in-depth research focusing on the specific areas of interest and confirming the results. Five recommendations for future research include the following.

I. As previously indicated, a comprehensive exploration of the link between types of corporate acquisitions and supply chain disruption risks was beyond the scope of the current study. Further research can be conducted to explore the relationship of types of corporate acquisitions with the supply chain performance in post-acquisition.

II. As previously indicated, a comprehensive examination of the target companies' supply chain disruption risks within a wide range of industries was beyond the scope of the current study. Further research can be conducted to look at the types of industries and how they affect supply chain performance in post-acquisition.

III. There are a number of factors that might affect the corporate acquisition process and its outcomes. Using non-financial data brings quite limited information for M&A scholars that covers only certain issues. When M&A scholars use non-financial data, limited aspects can be addressed due to the fact that researchers are not able to measure all dimensions of disruption risk factors affecting the supply chain performance. Further research exploring the relation of organisational post-acquisition performance, including both financial and non-financial performance measures, and the fit between SCRM practices and contextual factors, could provide a valuable contribution to the existing literature.

IV. SCRM in the M&A context is intertwined with multiple other integration and change functions in post-M&A. Further research could shed new light on the existing research by exploring in more detail the relation of SCRM in M&A to multiple other integrations and change functions in post-M&A. Furthermore, more detailed studies of the adoption of SCRM in different post-acquisition activities such as supply chain integration and managing change at various organisational levels should be valuable additions to the body of existing knowledge; further research of target company case studies would be especially helpful in exploring these matters.

V. The review of existing literature also revealed that there is less attention to the subject of managing change in post-acquisition. The findings of this research revealed the important role of a proper change management plan in the post-acquisition integration process. Further research building on the findings from the current study related to change management risks and managing this post-acquisition could validate the related categories of the theoretical framework by applying it to a larger sample of companies from different industries.

7.9. Summary

The present study provided empirical evidence on SCRM contributions to the performance of target companies in the post-acquisition integration process. The findings of this research revealed the role and importance of SCDRM in a fast-changing business environment in post-acquisition. With increasing competition, innovation, and the economy heading towards globalisation, it is expected that acquisitions will occur in the future on a much larger scale than at any time in the past and to be key for firms in achieving a competitive edge in the global market (Kumar & Bansal, 2008). A recent report by J.P. Morgan (2019) shows that the global M&A market has been strong over the last few years and different factors such as innovation and the need for growth contributed to acquisition activity, driving change across organisations, industries, and geographies. All things considered, the study of corporate acquisition strategy desperately needs new perspectives and frameworks for analysis in order to increase the chance of success. Also, the acquisition's dismal track record in real-life examples and the high failure rate of acquisition deals in the global context (Homburg & Bucerius, 2006; Weber & Tarba, 2011; Lu, 2014; Rozen-Bakher, 2018; Razi & Garrick, 2019) proves the importance of SCDRM in the post-acquisition context.

The ownership changes resulting from acquisitions can influence several strategic and operational aspects of the acquired organisation. Therefore, firms should pay more attention to the changes in the supply chain during the post-acquisition integration process as they are at the risk of disruption. Looking into the future and the trend towards globalisation, supply chains appear to be increasingly important to firms' M&As decisions and competition. The present study has confirmed that the main risks associated with the target company's supply chain operation are internal and related to the flow between processes. The findings indicate that sensing, seizing, and reconfiguring DCs play critical roles throughout the post-acquisition integration process and, collectively, help the acquired firm to manage supply chain disruption risks in post-acquisition successfully. The findings reveal that the use of DCs in post-acquisition requires careful attention and sheds light on the importance of the SCRM in managing both disruption risks and DCs resulting from an acquisition. The findings of the present study also revealed six main domains of risk including change management risks, operation and process risks, people risks, culture risks, integration risks, and financial risks associated with the internal production process in post-acquisition, which need to be managed by applying a wide range of strategies such as communication, due diligence, capability analysis, and reward schemes to achieve success in a fast-changing business environment in post-acquisition.

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Appendices

Appendix 2A: Five Distinct M&A strategies

M&A Strategies	Example	Strategic Objectives	Major Concerns
The Overcapacity M&A	Chemical Bank buys Manufacturers Hanover and Chase; Daimler-Benz acquires Chrysler.	The acquiring company (part of an industry with excess capacity) will eliminate capacity, gain market share, and create a more efficient operation.	You can't run a merged company until you've rationalized it, so decide what to eliminate quickly. If the acquired company is as large as the acquiring one and its processes and values differ greatly, expect trouble. Nothing will be easy. If it is a so-called merger of equals, expect both companies' management groups to fight for control. These tend to be onetime events, so they're especially hard to pull off.
The Geographic Roll-up M&A	Bane One buys scores of local banks in the 1980s.	A successful company expands geographically; operating units remain local.	Members of the acquired group may welcome your streamlined processes. If they don't, you can afford to ease them in slowly. If a strong culture is in place, introduce new values with extreme care. Use carrots, not sticks. These are win-win scenarios, and they often go smoothly.
The Product or Market Extension M&A	Quaker Oats buys Snapple	Acquisitions extend a company's product line or its international coverage.	Know what you're buying: the farther you get from home, the harder it is to be sure. Expect cultural and governmental differences to interfere with integration. The bigger you are relative to your target company, the better your chances for success. The more practice you have, the better your chances for success.
The M&A as R&D	Cisco acquires 62 companies	Acquisitions are used in lieu of in-house R&D to build a market position quickly.	Build industrial-strength evaluation processes so that you buy first-class businesses. This category allows no time for slow assimilation, so cultural due diligence is a must. Put first-rate, well-connected executives in charge of integration. Make it a high-visibility assignment. Above all else, hold on to the talent if you can.
The Industry Convergence M&A	Viacom buys Paramount and Blockbuster; AT&T buys NCR, McCaw, and TCI.	A company bets that a new industry is emerging and tries to establish a position by culling resources from existing industries whose boundaries are eroding.	Give the acquired company a wide berth. Integration should be driven by specific opportunities to create value, not by a perceived need to create a symmetrical organization. As a top manager, be prepared to make the call about what to integrate and what to leave alone; also, be ready to change that decision.

Source: Bower (2001) - Not all M&As are Alike and that Matters

Appendix 4A: Comparison of Research Philosophies in Business and Management Research

Ontology (nature of reality or being)	Epistemology (what constitutes acceptable knowledge)	Axiology (role of values)	Typical methods
Positivism			
Real, external, independent One true reality (universalism) Granular (things) Ordered	Scientific method Observable and measurable facts Law-like generalisations Numbers Causal explanation and prediction as contribution	Value-free research Researcher is detached, neutral and independent of what is researched Researcher maintains objective stance	Typically deductive, highly structured, large samples, measurement, typically quantitative methods of analysis, but a range of data can be analysed
Critical realism			
Stratified/layered (the empirical, the actual and the real) External, independent Intransient Objective structures Causal mechanisms	Epistemological relativism Knowledge historically situated and transient Facts are social constructions Historical causal explanation as contribution	Value-laden research Researcher acknowledges bias by world views, cultural experience and upbringing Researcher tries to minimise bias and errors Researcher is as objective as possible	Retroductive, in-depth historically situated analysis of pre-existing structures and emerging agency. Range of methods and data types to fit subject matter
Interpretivism			
Complex, rich Socially constructed through culture and language Multiple meanings, interpretations, realities Flux of processes, experiences, practices	Theories and concepts too simplistic Focus on narratives, stories, perceptions and interpretations New understandings and worldviews as contribution	Value-bound research Researchers are part of what is researched, subjective Researcher interpretations key to contribution Researcher reflexive	Typically inductive. Small samples, in-depth investigations, qualitative methods of analysis, but a range of data can be interpreted
Postmodernism			
Nominal Complex, rich Socially constructed through power relations Some meanings, interpretations, realities are dominated and silenced by others Flux of processes, experiences, practices	What counts as 'truth' and 'knowledge' is decided by dominant ideologies Focus on absences, silences and oppressed/ repressed meanings, interpretations and voices Exposure of power relations and challenge of dominant views as contribution	Value-constituted research Researcher and research embedded in power relations Some research narratives are repressed and silenced at the expense of others Researcher radically reflexive	Typically deconstructive – reading texts and realities against themselves In-depth investigations of anomalies, silences and absences Range of data types, typically qualitative methods of analysis
Pragmatism			
Complex, rich, external 'Reality' is the practical consequences of ideas Flux of processes, experiences and practices	Practical meaning of knowledge in specific contexts 'True' theories and knowledge are those that enable successful action Focus on problems, practices and relevance Problem solving and informed future practice as contribution	Value-driven research Research initiated and sustained by researcher's doubts and beliefs Researcher reflexive	Following research problem and research question Range of methods: mixed, multiple, qualitative, quantitative, action research Emphasis on practical solutions and outcomes

Source: Saunders, et al., (2016)

Appendix 4B: The Initial Sample Population of the Research

The figure below shows the initial sample population of this research study, which changed due to different constraints associated with this research project. As the majority of senior managers in these companies rejected to participate in this research study. This sample population has been changed as final selected managers, and acquired companies are not just located in the United Kingdom and the Republic of Ireland. The companies are both Plc and Ltd companies and the minimum deal value reduced from £10m to £3m. The final case studies (managers involved in the acquisition process) selected from a larger group, including managers in the acquired companies and M&A managers in professional deal advisory organisations. Factors such as time, expense, and accessibility prevented the researcher from gaining information from the whole population and other geographical areas. In addition, due to confidentiality reasons and interviewees' reluctant to attend the interview and share some information, the researcher has chosen acquisitions, not from high-tech industries.

General Features	
Deal Types	Acquisitions
Deals Dates	From 01/01/2010 till 31/08/2017
Deal Size	More than £10 million
Deal Status	Completed
Regions	United Kingdom & Ireland
Types of Companies	Public Companies
Operating sector	Secondary (manufacturing)

Industry / Sector	
Apparel Apparel manufacturing - athletic footwear - footwear and related - intimate apparel - textile apparel	23
Beverages Non-acholic - wine/spirits - brewery - coffee - tea	34
Building Materials	42
Car Auto manufacturers - auto parts and equipment	26
Construction Airport development - building and construction misc - building-heavy construct	85
Cosmetic / Personal care Cosmetics and toiletries	15
Food Fisheries - baking - canned - confectionery - dairy products - flour and grain - meat products - poultry - sugar	72
Home Furnishings Appliances – audio/video products - home furnishings	21
Machinery Construction and mining - electronic utilities - farm - general industry - print trade - pumps - thermal process	59
Textiles Linen supply - tannery - home furnishings - textile products - wool	11
Total	**388**

Appendix 4C: Interview Questions based on Participants' Positions

Interview Questions

(Business and Sales Managers)

- Some of these questions will be asked during the allocated time by the participant

Q1: Accumulated experience on corporate acquisition

- What is your M&A experience?
- Explain your company's situation in the first year after the acquisition and tell me about your role during that period.
- Did you see any specific changes or issues with your activities during that time?
- In your experience, did the acquisition increase/decrease the company's sales/purchases in the short-term (12 months)?

Q2: Post-acquisition integration process

- Do you agree with the statement that the post-acquisition integration process significantly impacts the acquired firm's supply chain and operations?
- If no, how do you see the impact?
- Which of your department's activities changed after the transaction? Why?
- In general, how would you characterise your company's relationship with your parent company? Did integration have a specific impact on areas such as management or operations?

Q3: Supply chain characteristics

- How do you evaluate the role of your organisational characteristics such as size, structure, and integration experience on your productivity during the first year of the acquisition?
- Do you think that if your company were bigger/smaller or had integration experience, it would have performed better in the first year post-acquisition?
- In your opinion, when during the post-acquisition integration process does product diversity and complexity matter? For example, if the nature of your product was different, could you get more benefit from this acquisition?

1

Q4: Supply-side risks

- In your experience, does the ownership change affects the suppliers' approach and relationship with the company?
- If yes: why and how?
- Which outsourcing/supply problems did you experience (quality, hidden cost, contract, cultural, delivery problems) during the first year after the acquisition? What was the key approach for dealing with these problems?

Q5: Internal production process risks

- In general, how would you describe the impact of the acquisition on the activities of your department during the first year post-acquisition? For example, was there any uncertainty during the first months that reduced your staff performance or forced you to reduce/cancel some marketing activities?
- Did you face any disruption in internal production processes such as logistics or IT during that period?

Q6: Demand-side risks

- Does the ownership change affects the customers' approach and relationship with the company?
- If yes: why and how?
- Did you face any disruption demand-side during the post-acquisition period? What was the impact of the disruption? What was the key approach for dealing with the disruption?

Q7: Supply chain strategies

- Would you say that an ineffective strategy by decision makers in the acquiring company has harmed your department's performance?
- Due to the complexity of acquisition, what have been the most difficult tasks in your operations post-acquisition? How did you overcome those difficulties?
- What do you consider to be the most effective strategy/tool to reduce disruption risks during the post-acquisition process?

2

Q8: Supply chain performance

- How would you define success in the supply chain integration post-acquisition? Why?
- To what extent were these success criteria reached by your department? How?
- Did you have any formal measures of the operational performance during the first year of the transaction? If so, what were they (e.g. core competencies, financial outcomes, quality results …)?

Q9: Types of acquisition

- As the acquired firm is (is not) operating and competing in this industry/market, do you think this has influenced your operations after ownership change?
- If yes: how?
- If no, why?

Q10: Industry characteristics

- How do you evaluate the external industry environment factors such as technological intensity or sales intensity on the performance of your department in post-acquisition?
- Would you say that if your company was operating in a different industry such as food or pharmaceuticals it could have integrated better with the acquiring supply chain or performed better in the first year post-acquisition?
- How do you see the role of your industry's size, growth, and resource endowment in your supply chain operations post-acquisition?

3

Brunel University London

Interview Questions

(Supply Chain and Operation Managers)

❖ Some of these questions will be asked during the allocated time by the participant

Q1: Accumulated experience on corporate acquisition

- What is your M&A experience?
- Describe your operations in the first year after acquisition. Did you see any specific changes or issues in your activities during that time?

Q2: Post-acquisition integration process

- How did you evaluate the integration risks after the ownership change in your supply chain operations?
- Do you agree with the statement that the post-acquisition integration process significantly impacts an acquired firm's supply chain and operations?
- If no, how do you see the impact?

Q3: Supply chain characteristics

- Do you think that your supply chain's characteristics such as size, structure, or experience can have an effect on the acquisition performance? For example, if your supply chain was bigger/smaller or had integration experience could it have performed better in the first year post-acquisition?
- What about the characteristics of the acquiring firm's supply chain? For example, have you used their distribution networks?
- When during the post-acquisition integration process does product diversity and complexity matter?

Q4: Supply-side risks

- Did you change any of your strategic partners or key suppliers post-acquisition?
- If yes: what was the reason? For example, were you forced to buy your required products from companies recommended by the parent company?

1

- To what degree do you think acquisition reduced/improved your supplier networks? For example, do you think the ownership change increased your performance in the inbound supply in terms of quality, quantity and time for meeting customer demand?
- Can you provide an example of the acquisition causing a disruption in terms of supply lead time, quality and quantity?

Q5: Internal production process risks

- Some researchers state that the higher the level of integration, the greater the disruption of routines and structure in both organisations. How would you characterise your company's level of integration with your parent company?
- Do you find that your internal processes in areas such as culture, people, or structure has changed post-acquisition because of ownership changes?
- What were the internal challenges or disruptions for your production based on the new supply chain network?

Q6: Demand-side risks

- In your experience, does the ownership change increase/decrease demand uncertainty or demand fluctuation?
- Did your firm experience any variance in the volume and assortment of your product desired by customers in the first year post-acquisition?
- If yes: how did you deal with demand disruption?

Q7: Supply chain strategies

- How can the acquired firm reduce the risk of disruption in its supply chain post-acquisition?
- What do you consider to have the most potential, a lean or agile strategy to reduce the supply chain disruption risks during the post-acquisition process?
- If you applied any strategy in post-acquisition, what strategy was chosen? How was it executed?
- In your experience, is it important for the acquired company to alter its supply chain strategy based on the acquiring company's supply chain post-acquisition?

2

Q8: Supply chain performance

- How would you define success in the supply chain integration post-acquisition? Why?
- To what extent were these success criteria reached? Why?
- Did you have any formal measures of the effects of supply chain integration? If so, what are they (e.g. core competencies, financial outcomes, quality results …)?

Q9: Types of acquisition

- As the acquired firm is (is not) operating and competing in this industry/market, do you think this has influenced your operations after ownership change?
- If yes: how?
- If no, why?

Q10: Industry characteristics

- How do you evaluate external industry environment factors such as technological intensity or sales intensity on the performance of your supply chain in post-acquisition?
- Would you say that if your company was operating in a different industry such as food or pharmaceuticals it could have integrated better with the acquiring supply chain or perform better in the first year post-acquisition?
- How do you see the role of your industry's size, growth, and resource endowment in your supply chain operations post-acquisition?

3

Interview Questions

(Senior and General Managers)

- Some of these questions will be asked during the allocated time by the participant

Q1: Accumulated experience on corporate acquisition

- What is your M&A experience?
- Explain your company's situation in the first year after the acquisition and tell me about your role during that period.

Q2: Post-acquisition integration process

- Do you agree with the statement that the post-acquisition integration process significantly impacts the acquired firm's supply chain operations?
- If yes: which operational problems did you experience?
- If no: how do you see the impacts?
- In general, how would you characterise your company's relationship with your parent company? Did integration have a specific impact in areas such as culture, people, or structure?

Q3: Supply chain characteristics

- How do you evaluate the role of your organisational characteristics such as size, structure, and integration experience on the vulnerability and uncertainty of your supply chain during the first year of the acquisition?
- Do you think that if your supply chain were bigger/smaller or had integration experience, it would have performed better in the first year post-acquisition?
- When during the post-acquisition integration process does product diversity and complexity matter?

1

Q4: Supply-side risks

- Do you think the ownership change increased your performance in the inbound supply in terms of quality, quantity and time for meeting customer demand?
- Which outsourcing/supply problems did you experience (quality, hidden cost, contract, cultural, delivery problems) post-acquisition?

Q5: Internal production process risks

- Usually, ownership changes are associated with changes in the acquired firm's organisational and management structures or operational logic, to what extent did this happen?
- In your opinion, how disruptive was the acquisition for the internal production process of the acquired firm during the first year post-acquisition?
- Did you face any disruption in internal production processes such as logistics or IT during that period?

Q6: Demand-side risks

- How would you evaluate your relationship with your customers in the first year following an acquisition? Have you noticed any volatility of demand during that period?
- Which demand-side problems such as variance in the volume and assortment, or reduction in customer satisfaction or delivery speed, did you experience post-acquisition?

Q7: Supply chain strategies

- Would you say that an ineffective strategy by decision makers in the acquiring company has harmed your supply chain productivity?
- Due to the complexity of acquisition, what have been the most difficult tasks in your operations post-acquisition? How did you overcome those difficulties?
- What do you consider to be the most effective strategy/tool to reduce disruption risks during the post-acquisition process?

2

Q8: Supply chain performance

- How would you define success in the supply chain integration in post-acquisition? Why?
- To what extent were these success criteria reached? How?
- Did you have any formal measures of the operational performance during the first year of the transaction? If so, what were they (e.g. core competencies, financial outcomes, quality results …)?

Q9: Types of acquisition

- As the acquired firm is (is not) operating and competing in this industry/market, do you think this has influenced your operations after ownership change?
- If yes: how?
- If no, why?

Q10: Industry Characteristics

- How do you evaluate the external industry environment factors such as technological intensity or sales intensity on the performance of your supply chain in post-acquisition?
- Would you say that if your company was operating in a different industry such as food or pharmaceuticals, it could have integrated better with the acquiring supply chain or performed better in the first year of post-acquisition period?
- How do you see the role of your industry's size, growth, and resource endowment in your supply chain operations post-acquisition?

Interview Questions

(M&A Managers)

(Some of these questions will be asked during the allocated time by the participant)

Q1: Accumulated experience on corporate acquisition

- What is your M&A experience?
- Explain about your operations/roles following the first year after acquisition. Did you see any specific changes or issues in your activities during that time?

Q2: Post-acquisition integration process

- How do you evaluate the risk of acquisition or the ownership change on the target firm's operations?
- Do you agree with the statement that the post-acquisition integration process significantly impacts the acquired firm's supply chain and operations?
- If yes, which operation problems did you experience?
- If no, how do you see the impacts?
- Did you have any formal measures of the effects of supply chain integration? If so, what are they (e.g. core competencies, financial outcomes, quality results …)?

Q3: Supply chain characteristics

- Do you think that both acquiring and acquired companies' supply chain characteristics such as size, structure, or experience can have an effect on the acquisition performance? For example, if companies' supply chain was bigger/smaller or had integration experience could perform better in the first year of the post-acquisition period.
- When during the post-acquisition integration process, does product diversity and complexity matter?

Q4: Supply-side risks

- In your experience, does the ownership change affects the suppliers' approach and relationship with the target company?
- If yes: why and how?
- In general, can you provide an example that acquisition caused an interrupt supply disruption in terms of supply lead time, quality and quantity?

Q5: Internal production process risks

- Some researchers stressed that the higher the level of integration, the greater the disruption of routines and structure in both organisations. Do you agree with this statement?

- In your opinion, how disruptive is the acquisition for the internal production process of the acquired firm during the first year of the post-acquisition period?
- What are the internal challenges or disruptions for the target firm's production based on the new supply chain network?

Q6: Demand-side risks

- In your experience, does the ownership change increase/decrease demand uncertainty or demand fluctuation?
- In your opinion, which demand-side problems such as variance in the volume and assortment or reduction in customer satisfaction or delivery speed do the target company experience in post-acquisition?

Q7: Supply chain strategies

- How can the acquired firm reduce the risk of disruption in its supply chain/operation in post-acquisition?
- What do you consider to be the most potential strategy to reduce the supply chain disruption risks during the post-acquisition process?
- If you applied any strategy in post-acquisition, what strategy was chosen? How was it executed?
- In your experience, is it important for the acquired company to alter its supply chain strategy based on the acquiring company's supply chain in post-acquisition?

Q8: Types of acquisition

- As the acquired firm is (is not) operating and competing in this industry/market, do you think this has influenced your operations after ownership change?
- If yes: how?
- If no, why?

Q9: Industry characteristics

- How do you evaluate the external industry environment factors such as technological intensity or sales intensity on the performance of the target company supply chain in post-acquisition?
- How do you see the role of the industry's size, growth, and resource endowment in the target company's supply chain operations in post-acquisition?

Appendix 4D: Brunel University Ethical Research Approval

College of Business, Arts and Social Sciences Research Ethics Committee
Brunel University London
Kingston Lane
Uxbridge
UB8 3PH
United Kingdom

www.brunel.ac.uk

9 February 2018

LETTER OF APPROVAL

Applicant: MR Hossein Shokri

Project Title: Exploring Supply Chain Disruption Risk Management in Post-Acquisitions

Reference: 8862-LR-Feb/2018- 11407-1

Dear MR Hossein Shokri

The Research Ethics Committee has considered the above application recently submitted by you.

The Chair, acting under delegated authority has agreed that there is no objection on ethical grounds to the proposed study. Approval is given on the understanding that the conditions of approval set out below are followed:

- The agreed protocol must be followed. Any changes to the protocol will require prior approval from the Committee by way of an application for an amendment.

Please note that:

- Research Participant Information Sheets and (where relevant) flyers, posters, and consent forms should include a clear statement that research ethics approval has been obtained from the relevant Research Ethics Committee.
- The Research Participant Information Sheets should include a clear statement that queries should be directed, in the first instance, to the Supervisor (where relevant), or the researcher. Complaints, on the other hand, should be directed, in the first instance, to the Chair of the relevant Research Ethics Committee.
- Approval to proceed with the study is granted subject to receipt by the Committee of satisfactory responses to any conditions that may appear above, in addition to any subsequent changes to the protocol.
- The Research Ethics Committee reserves the right to sample and review documentation, including raw data, relevant to the study.
- You may not undertake any research activity if you are not a registered student of Brunel University or if you cease to become registered, including abeyance or temporary withdrawal. As a deregistered student you would not be insured to undertake research activity. Research activity includes the recruitment of participants, undertaking consent procedures and collection of data. Breach of this requirement constitutes research misconduct and is a disciplinary offence.

Professor David Gallear

Chair

College of Business, Arts and Social Sciences Research Ethics Committee
Brunel University London

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Appendix 4E: Two Samples of Interview Transcripts

Interview Cluster One

Case Study Number:

15

Interview Category:

Main Interview

Case Study Code:

SMAC-15

Target Company Country:

Croatia

Target Company Industry Sector:

Tobacco - Manufacturing

Acquirer Company Country:

United Kingdom

Acquirer Company Industry Sector:

Tobacco - Manufacturing

Deal Attributes:

Cross Border - Company Takeover

Type of Acquisition:

Vertical

Completion/Termination Date:

01.06.2015

Announced Total Value (mil.):

505.0 Euro

Interviewee Position:

Supply Planning Manager: Croatia, Hungary & Serbia Factories

Interviewee Experience in Target Company:

14 years

Q1. My first question is about your merger and acquisition experience?

Let me start with a very small background. First of all, thank you for this interview, second, I've been working for world's biggest, geographically, world's biggest tobacco manufacturer British American Tobacco for the past fourteen years. My experience with merger acquisition was when BAT acquired a company called TDR DDO, a Croatian company, basically a group of company involving multiple business and multiple product portfolio, but BAT bought the tobacco branch of the Group and acquired the company and the manufacturing facility in Croatia and also did the brand ownership of all the products. So that company was producing for all the Baltic regions.

Q2.1. Explain about your company situation, what happened after, I mean the acquired company, after the acquisition? Tell me about your role during that, you know, period, and what you exactly did.

So, I was part of the company, I was working for…my employer was the one acquiring the other factories, or the other company. My job was to basically integrate the supply planning process for the newly acquired factory in Croatia. I had a team reporting to me based in Southampton – that's where we have the supply chain service centre for the whole ENA region, Europe, North Africa, and previously we had Middle East and the rest of the region. So, the idea then was to integrate the whole planning process, move the whole planning process from the local office in the factory in Croatia, move it and bring the whole process to above Market Planning in Southampton service centre. I was involved from the beginning in terms of how, just doing the assessment of the current existing, or as is, processes that they were doing, how they are planning, what sort of mechanism they're using, what method they're using, how do they monitor their KPIs, what's the reporting structure, how many people are there, what is organisational structure, and based on all the organisational structure and the processes that we have, or there is, how to integrate into our existing process, in a sense of, okay, how many people do we need to basically perform the job in Southampton, how we're going to communicate with the team down in the factory in Croatia to get the production, planning and the scheduling, production scheduling, synchronised and how we are going to communicate. So that was my job for about 18 months.

Q2.2. What exactly happened?

In what sense?

Q2.3. I mean the year of acquisition.

The year of acquisition I had multiple visit to the factory, just to see and observe the situation, basically be acquainted with the team on the ground, how they are operating and come back…feedback that to the team and the management in Southampton and then see how we can…how quickly we can integrate. Obviously, there were lots of activities, parallel activities, going on and we were working with the team who were actually facilitating the change management on the site in the factory in Croatia. We were working with HR team and more strategic teams in the…at a global level, a team based in London office to see how the structure should look like in terms of integration and actual production, what is the nominal capacity of the factory, what we talking about, how much volume we think we can shift there and what is the timescale that we're looking for. At the time we acquired this factory, or this business, they were only, roughly, using about 45 – 50% of the nominal capacity that the factory could produce, so they had a lot of spare capacity, obviously very laid back environment in the sense of what they were producing, they were losing volume, that was probably the predominant reason that the Group, the TDR Group, decided to sell the tobacco side of the business, because they were losing volume, they were losing shares, and it was no longer profitable for them, so that basically triggered the whole transaction for selling the tobacco branch of the business to BAT. For us it was obviously…because the company was located in Central Europe, compared to many other factories that we had, or still have, in Western Europe, this could have been, and was, a cheaper source of supply and you could argue that the product cost would have been significantly lower than some of the other factories in Western Europe, i.e. the one we have in Germany. So this was an opportunity for business to capitalise on it, and besides, they had a very well developed, complex network of retail units which were suggested to the company, so we could obviously use that to basically to push our portfolio, use their existing…basically acquire their existing portfolio and the market share in those markets and in Balkan, i.e. Croatia, Serbia, Montenegro, Slovenia, Slovakia etc and also for us to have a better presence for BAT brand in those market and increase our market share. So, all in all, put this together, the idea here was that, okay, we're going to utilise the capacity in the factory, shift some of the volumes from more expensive source of supply - and we're talking about internal supply in BAT factories - shift them to this factory in Croatia, obviously benefit from the lower production cost, increase the visibility and the market share in the region; so it was all winning, at least on paper, for BAT, and that was the reason we went for the acquisition.

In terms of, obviously, how we operated, it was a slightly bumpy ride at the beginning, because obviously you're talking about a completely different culture, one giant multinational organisation, say, FTSE top ten, organisation, acquiring a local factory in Central Europe, these are completely different operating model, different culture, for sure, different ambitions for business. So, it was obviously a cultural shock to both sides but yes, we had to manage it.

Q2.4. It is exactly…my next question: do you agree – this is general question – do you agree with the statement that the post-acquisition integration process significantly impacts the acquired firm's supply chain operation?

I can only speak about my experience, this specific situation, so I can't potentially generalise that answer, but yes, it does. In this experience I could see the impact first-hand, I could see that people, you know, they were potentially mostly nervous about this acquisition, obviously, there are always, you know, when this sort of things happened there is always the truth and there is always what's going on in the organisation in terms of rumours and people talking to each other. So the truth was, okay, the acquiring company, in this case BAT, had no intention to immediately change the organisational structure and, you know, lay off people and fire people and things like that, because we needed them to get the job done. We actually thought that we needed more people because we're talking about utilising about 90% of the capacity of the factory and as I said they were only operating about 45% to 50%, so we needed more people to run the factory at least 24/5, 5 days a week. So that was what we had, or what BAT had in mind, but obviously in the country there is always this lack of trust in any merger acquisition, any…in this experience at least, so people will…people I met, people I interviewed, people I sat with to do assessment about the processes and the system, and the mechanism of working, they were always indicating that they are, or their teams, are slightly nervous that they might lose their job, BAT might replace them with BAT people because, simply they do not know, or they did not…they had no idea how BAT is going to operate. From their perspective, our way of working was more fast paced, required long hours of working, extra pressure and stressful and lots of complexity in the whole process, in the way we run our supply chain, whereas the way they were running their supply chain, so this…I think some people, at least in this case, they saw themselves like they might not have the right skills, or probably they're not competent, in their view, to be able to perform at the level that BAT wanted them to do, so they were feeling a bit nervy that they might lose their job. That was very obvious right from the beginning.

Q3. My next question is about the supply chain characteristics; do you think that the company supply chain characteristics such as size, structure, experience can have an impact on the acquisition performance? If yes, why?

Again, I can only refer to this example, and the answer is: without a doubt; it will have an impact and a significant impact. Why is that? I mean, we were acquiring a factory that was producing only handful number of products for local markets and they were not necessarily using system. They had a simple version of SAP, that they were using it mostly just to have a track record for audit, for financial reporting and things like that. Their supply planning processes were on spreadsheet, Excels, the process was…there were procedures in place but most of the time people were not really following the procedures, it was mostly based on relationship and based on the customer bargaining power. So they had some customers which were significantly more powerful than the others, or at least they were…where they were selling to the commercial side of their business and not to an external customer, the commercial side, or the marketing people, always had the final say in things because they were losing volume, so it was important for them to make sure that at least they slow down the market losses, slow down the losing of market share and the volume. For that reason, their whole supply chain process was, kind of, evolved around certain customers, and I mean which customer have bigger power, bigger volume, which one was more expensive, which one have a strategic importance to them. You may say this is completely normal in any supply chain, or any business, but the thing was…obviously the element of relationship with the customers, the personal relationship with the customers – I'll give you an example: people from the marketing team in Bosnia just picking up the phone, calling the factory manager and saying: "Oh I want this product to be produced tomorrow or day after or any day, tomorrow", obviously there is a short transit time so you can produce and deliver within couple of days, but this means that the factory had to reschedule the whole production, break the production wheel, completely forget about the smaller customers for the time being because somebody, you know, Bosnia called and they said: "I want this product tomorrow". Of course, with the merger and the way we operate in BAT at Above Market level, the politics, or the relationship, is immediately out of the window because the cost model, the business model, is designed on, okay, what is the strategic importance of each customer to the Group and not only to certain markets. When you look at it at the global level, which are the markets that predominantly contribute to your P&L, to your profitability, to the volume growth etc, etc? So, if I have a personal good relationship with a customer in certain market or a certain distributor, that doesn't mean that they can just pick up the phone and tomorrow as a manager I can decide and change the process because I need to satisfy them. It will go through a very robust, rigorous process of who gets the priority when…on what merit. So this was a shock for them because those guys…when we completed the acquisition and we moved the production planning to the supply chain service centre in Southampton, those people in the marketing they still going the old fashioned way, so they were calling their colleagues, their friends in the factory and say: "Can you please do me a favour and produce product X, Y and Z for me?", and it was a very unpleasant experience, they were in it for a very unpleasant experience because the answer was: "No, you need to now speak to the guys in Southampton and they will decide what is going to be produced or it's not going to be produced" and for us it was…in most of the case it was a very unbiased decision because we couldn't be potentially biased, this goes based on the process and the systems and the set up and everything else, and the algorithms that is in place, the processes that are in place decides who gets what product and when. So this wasn't very, obviously, pleasant for them, this was a shock completely to their system and obviously those people in the marketing and sales they are normally under pressure to deliver volumes, to deliver numbers, so they were obviously very resistant to this change, for them it was a kind of threat, not to just them losing volumes or their sales target but also this could put their jobs at jeopardy if they're losing more volume as a result of X, Y and Z, that could have significantly impact their career prospect with a new employer, in this case, with BAT.

Q5. As a person that has valuable experience, also he got two Masters' and one of the Master was related to the logistic and supply chain management, you're well aware that supply chain is a broad concept, and we can actually divide the supply chain into three main layers: supply side, internal production process as well as demand side. So now I will ask some question related to these layers and it will be highly appreciated if you share your experience. Which outsourcing or supplying problems did you experience such as quality, hidden cost, contract, cultural, delivery problems in post-acquisition? So, this question is, specifically is, related to the target company suppliers, the suppliers that they are working with the target company; any potential risks and disruption in that period?

Sure, I'll break it down into two sections, the first part is the positive side of it. I mean, the strategy that we had at BAT in terms of supplier selection, it's normally done by the procurement team and they do the tendering, strategic alignment and coalition with certain suppliers where there is, like, strategic bottlenecks in terms of what can be produced, what materials are there, what do we need and the availability and scarcity of those materials. When we acquired this factory, they had sister companies that they were doing…they were producing packaging materials i.e. packets for cigarettes and stuff like that. These are relatively complex processes and a lengthy supply process when it comes to printing materials because tobacco industry is highly regulated and there are multiple independent government health organisations that they need to approve that certain activity or the design of the whole pack. So, for us as a company who acquired this business, this was a positive thing because they had the sister companies and the sister companies were physically built literally next to the factory. So the transit time or the delivery time was almost zero, whereas with other factories what we experienced, say, for instance we produce a certain packaging material in Italy and then that product needs to be delivered to the factory in Poland to complete the production, so you have the element of the whole lead time between Italy and Poland, and so on and so forth, whereas here we had some of the key materials, at least, literally within the arm length's reach of the factory, of the tobacco factory manufacturing, because most of them are just next door. So, you just know them, you talk to them, you say: "I need this tomorrow" and they will deliver it, and they have been doing business for a long period of time, obviously, since the beginning, so they're quite familiar with the whole packaging process for tobacco and they're willing to facilitate the request.

So that was the positive one; perhaps the more complex, or let's say the disruption, was coming in where we had to, obviously, use some of our key suppliers for other materials i.e. printing film, i.e. acetate filter or caps filter or things like that where we were using globally sourced suppliers, suppliers that have never, ever previously supplied to this factory so obviously there was always an element of first trial shipment. With some semi-finished goods like filters or tobacco leaf we have to supply them from other BAT factories in the region or outside the region, say, tobacco coming from Brazil or filter going from Germany and things like that. This was relatively complex, and complexity here I will probably break it down to two things: first, the system set up because we're using one global version of SAP and obviously there is a lots of master data requirement, then the creation etc, etc and if the master data set up is not done properly, normally there is a delay and hiccup in the whole process; and the actual physical side of it, getting the suppliers to agree to deliver in certain timeline i.e. in terms of warehouse inbound and outbound, what time they're received at because we have logistics, basically we had some logistics issues at the time in the factory so we could not have…we only had a few bays in the warehouse so the loading, the offloading, the inbound and outbound could not perform at the same time. So this constraint were basically imposing that during the day we can only load the finished goods, make sure that they're dispatched through the custom clearance etc, and during the night we can only do receive the material during the night or at certain time during the day, early morning or late in the evening. These were the type of disruption that we faced but other than that, I did not see a major disruption because…in supply side, yes.

Q6.1. Okay, in your opinion, how disruptive is the acquisition of the internal production process of the acquired firm during the first year of post-acquisition period?

Oh, very disruptive, very, very disruptive. It was a shock to these guys, for us it was…let me say at least to my team…my team members used to come and complain sometimes that they're talking to the team in the factory in Croatia and this team…these guys in the factory seemed to be completely unaware of a very basic process, and normally the conversation was starting that: "Have these guys ever produced cigarette before? Do they know how this process takes? Why they don't understand this and that?", so I had to, obviously, manage the expectation, calm them down and speak to my counterpart in the factory. To give you a simple answer, they were using basic spreadsheets to do their scheduling, and as I said, there was no firm scheduling. So one example in terms of process: the way we were operating 2006, 17 and 18 we had three, basically, three weeks scheduling process in which the first week, the whole scheduling plan for production is owned by the scheduling manager in the factory, so only scheduling manager can make a decision whether or not to change a production, cancel, increase, decrease, whatever; the second two weeks of the scheduling process is normally owned by the planning team in Southampton, but they can only change the scheduling after the validation of material availability and in consultation with the scheduling team in the factory; and then we have, like, about nine weeks of extended scheduling horizon, as we call it internally, and that is to ensure that the plan is stable enough that the material planning team can read the signal and ensure the material availability considering the just in time processes etc, etc. When we took over this process, the factory in Croatia they only had one week scheduling process, and when we were looking for examples of how you are doing material traceability and checking availability we realised that, I mean, <u>there was no consistent processes in place to</u> ensure that material availability. I'm not saying this in a negative connotation that they didn't know what they do or things like that, it was just simply because they…how they were operating. When you have 50% spare capacity and you have some of the key suppliers next door, you can essentially use a more agile process, one-off situation that you can say: "Okay, if we don't have the material or whatever reason we couldn't produce it today, we can ask for overtime over the weekend or an extended shift or few hours on run two more machine which are currently not running and we fulfil the order. So, obviously, this will have an impact on your overall production or manufacturing cost, but this wasn't the primary concern at the time for the business maybe that was one of the reason that they were…the tobacco business wasn't really profitable. The way that us as a company who took over operating, it was very essential that we have this visibility in the whole supply planning process and say: "Okay, we have planned this, we have machine available, we have crew available, we have the materials secured, we know when the materials is arriving, we know when we need to deliver the finished product to the customer", so these were the key elements of the whole planning process for us which did not necessarily sit very well with those guys because this process is relatively complex, it can be relatively stressful, and for them, you know, getting into that mindset that, you know, up to yesterday we just use a phone call and fix things and if not, we just run another machine and then suddenly we're saying: "No, all the machines are busy, every machine is running, where is the material, the customer is shouting", that wasn't something that, you know, they could just get used to it very easily.

Q7. In your opinion, how disruptive is the acquisition for the customers, for the demand side?

I'd probably use the same example that I used with the guys in the end market just, or the customer, just picking up the phone and asking for product, a mentality like, you know, probably this…that they used to use this situation more like a safety net i.e. I got my demand wrong or my forecasting was not correct or suddenly I see a spike in, or surge, in the demand, but it's not a problem because we have, let's say, unlimited, to some extent, capacity available in the factory and I know the factory manager and I'll just pick the phone up and call them and they will solve the problem for me. So, they were used to this situation, for them it was more of a safety net that any sort of issue, any constraint, any problem we face, we can just push the factory and they will deliver. Then suddenly the whole dynamic of the situation changed after the acquisition because we were not only using the factory to only produce for the local customers in Croatia and Serbia and Bosnia and so on, we were suddenly producing for bigger markets with bigger volume, with bigger profit, like Germany or Netherland, Switzerland, etc, etc. So, and, obviously, these customers were…because they were far more profitable for the Group, for the business, for BAT and they were strategically more important, so they were always getting the priority. So suddenly the demand side, I think at least for the cluster of South Central Europe, in Balkan, has changed and obviously it disrupted their demand process because they had to now work on improving their forecast accuracy, they had to make sure that they have enough inventory in the pipeline to account for any demand or supply variability, which previously they didn't, they were, obviously, running very lean, lean in a way that it was more like agile combination, agile supply chain with a lean demand planning process is that I do not want to carry any inventory because it will impact my cashflow but I would also like to have the product delivered to me the moment I place the order or the day after or the week after. Here, the only option we provided with…for these guys, we're, like, "Okay, if you want to have minimum amount inventory in the pipeline and not impacting your cashflow, you either…you have to basically improve your forecast accuracy, your forecast bias, your error, basically, you need to provide us with a long term demand" and previously they were only doing for, like, one month's confirmed order and three month's rolling horizon and now we are asking them to give us 18 month rolling horizon which they never done before. So it was a disruptive process and the only solution that we could provide with them: " Okay, if you do not have the foundation, the process in place to improve your forecast accuracy and manage your demand side, the alternative is that you should be carrying inventory" which wasn't very welcome by those customers because obviously it was impacting their cashflow. I mean, they didn't have a third option so although it was a very hard pill to swallow for them, eventually they had to understand that, you know, this is part of the game after the acquisition and you have to comply by the rules now because you're no longer the centre of the universe from a customer perspective, for this factory, there are bigger customers who actually have more power over the existing customers so, yes, it was disruptive.

Q8. We discussed about the potential risks that we can face in the post-acquisition in the operation of the target company; how can the acquired firm reduce the risk of disruption in its supply chain in post-acquisition? What do you consider to be the most potential strategy or strategies, and if you applied any strategy in post-acquisition, what was that strategy, how was it executed?

So, I suppose by strategy you're referring to supply chain strategy as if the supply is lean or agile or anything in between? Before talking about the strategy, I think it is very important that when a company is acquired, even the company who is acquiring the second company, they need to be aware of the cultural gaps, the cultural differences, because without understanding how two different culture work, and how they can be integrated, or how they can operate at least for a while until the integration process is put in place, it is my experience…it's very, very difficult to just use a strategy or a combination of some strategy to minimise the disruption. Example for that is, like I said, they had this lean supply strategy from a material side with the supplier factory next door, they could deliver product as soon as you just ask them, you just pick the phone, can you produce this, I need this. When the volume increased, when we suddenly went from 40% production to literally using about 90% of the production, obviously the demand increased and then you could see that the suppliers suddenly started not being able to cope with the demand. So, the agile strategy that they had in place was no longer effective, and it wasn't going to be effective, and although we tried to warn them in the first place that now we need to have a more robust supply planning process for their own materials, in this case, packaging materials, their idea was: "No, we know these guys, we work with these guys, they always deliver, they will always deliver". Obviously it was…they were in it for a shock because again, with the volume increase it was no longer physically possible to deliver all those multiple demand, and it was a…in some case it was a case of we need to go and sit and review with the supplier and see, okay, we have given them ten priority to produce X, Y and Z because we need all those materials yesterday, now we need to go and sit with them and say: "Actually, out of that ten priority, which one is the priority now". I mean, I always use the phrase that "There is no priorities, there can only be one priority at any point of time", you cannot have multiple priority at a time, there is only one. That was approach, so, the shock that they were in was, okay, the lean process…sorry, the agile process that they had in place was no longer effective, when it's no longer fit for purpose, so we had to change the process. Obviously it came with a shock for the suppliers because temporarily we had to shift some of the volumes to other BAT suppliers in the region, meaning for these guys, the local suppliers, they were losing volume or they were losing business, but the idea here or the key priority for BAT was, okay, I want the material and I want the material urgently, if you cannot give it to me, regardless of your history and your background and your partnership with TDR, I'm going to source this material from someone else, because I have to, because I need to, otherwise my customers will be out of stock. So, the challenge was, obviously, very, very, very complex, to put that supply plan in process for the material, make sure you have a long planning process, make sure you have visibility, make sure, you know, you supply your material i.e. the roll paper, the print, the ingredients that they use, pigments, whatever they were using, it has to be supplied far more in advance, which previously they did not need to. I think the key…what I'm trying to say here is that it's not one strategy or another, it doesn't work like, okay, one strategy can be better than the other, it depends…I think it depends bit too much on the scale of the operation and the complexity of the acquirer. So, if the acquirer, the one who is acquiring another company has got a complex model, complex supply chain, many to many supplier relationship, with significantly vast customer bases, then that will dictate the whole supply chain strategy that the acquired company need to undertake or need to employ, because the…I don't think it will work any other way.

Q9. My next question is about the supply chain performance: how would you define success in the supply chain integration in post-acquisition during the first year? It was successful or it wasn't successful, the performance increased or decreased, and do you have any formal measures for the effects of supply chain integration?

Yes, I probably use the very famous change management curve for just measuring how successful it was. Well, obviously, at the beginning we were at the top, or at the peak of, obviously, resistant by the company acquired, resistant not, probably, consciously resistant, they were very willing to integrate into BAT, it was just a lack of awareness and understanding of the size of the operation, the scale of the operation and the complexity. So, even though there was a good will, from people to yes, let's make it happen, because they did not understand how this is going to work or how we want them to operate at the beginning, there was this shock period that you go through it in the change management process and we, like, okay, so, we thought that we knew what we're doing and suddenly we realise that we don't know what we're doing and you lose the confidence and the performance is dropping, people quit their job, people are unhappy, people are on stress leave etc, etc. The morale is down and then after, obviously, a period of confusion, which requires a hard work commitment and, sort of, strong leadership of course, then it comes to a point that you slowly and gradually you learn that, okay, it is not actually as complex as I'd thought or it's not as bad as I thought and then you start to picking yourself up and, obviously, understand how things works and then slowly and gradually you pick up pace and you're more aligned to the system. <u>Of course, in this whole process you have some casualties i.e. there are people who are not comfortable, there are people who are resistant to this change, individuals, not necessarily everybody, and these will be impacted people, we'll resign people, we'll leave the company people, joined new blood, new fresh faces, all sort of thing.</u>

The key for me was, okay, as long as we know where we're heading, and as long as we know that we have the tools to get there and the support from wider business, we will make it there. Look, it goes back to that famous saying that <u>you can't improve anything if you're not measuring it, and you can't measure something if you're not defining it.</u> So, for us, was, okay, so, coming back to the principles, to the basic examples of, okay, how do you measure your conformance to schedule in the production planning environment, how do you measure your on time, in full for material delivery, how do you measure your conformance to plan, what is your, let's say, variances, the threshold that you have for these, let's say, at least three key KPIs that we have in production planning? We soon discovered the shock that, okay, actually, these things are not being measured for a long period of time. So, to put those in place, to gather data, to basically be…stay firm with people that I need this information and consistently and rigorously go and revisit this information, empower people to come up with the root cause for all these issues, why the material was not delivered, why the machine was broken, why we didn't have the, I don't know, scheduled maintenance plan performed at the time, why we didn't have enough crew to make the production, why we were not aware of X, Y and Z and things like that, why our performance has suddenly has dropped and why it has increased and things like that. So, it was a…yes, we started, obviously, soon after the acquisition but by the time I left that role 18 months later, we have, obviously, made a significant improvement, not only in my team but overall in the whole supply planning process. I think the key thing is there was…at least, the facts are there were no instant wins, so it wasn't like that we went there and there was smooth and everything was fine, <u>we had some shocking results, especially in the first few month, there was a clash of personalities and definitely clash of cultures, that we wanted to operate in certain ways and they did not necessarily comply with it, but after workshop, after more working together, after more collaboration, we come to more like aligned, mutual understanding</u> and we started using those measures, and obviously by the time…I think after one year - to just go back to the point of your research - after one year we improved, we improved in terms of, at least, conformance to schedule, from something that wasn't previously reported properly, to have something between 85 – 90% conformance to schedule, which is still has got room to improvement, obviously, but we need to…what we need to consider is this wasn't even reported previously because of the way that the business was operating. Now suddenly we have managed to reach to a level of maturity, at least, is that, okay, the customers can no longer just pick up the phone and say: "Oh, I want the product", it doesn't work like that, and the suppliers need to commit to the delivery of the materials, the engineering team need to commit to the runnability of the machines, the scheduling team need to make sure that they have a firm plan and they deliver and they stick to plan and if they make changes they will involve the planning team. Obviously, the logistics and the management, everything, we have enough crew to deliver the production and to run the machine etc, etc. So, for us the key…three key metrics in supply planning process: conformance to schedule, conformance to plans and alternate for both material delivery and finished for delivery, have improved significantly in the first year, but I would say comparing to a more mature, established BAT factories, we were still operating below par, we still have the room for improvement.

Q11. My last question, it is about the industry characteristics: how you evaluate the external industry environment factors such as industry growth, size, resource endowment, technological intensity or sales intensity on the performance of the target company supply chain in the post-acquisition?

Very good question. I think that first thing I would say is, at least in our case, most or in tobacco industry, to my knowledge (I've been working tobacco industry for about 16 years), to my knowledge the acquisition or the merger in tobacco industry <u>are dictated by the industry declining rate</u>. So if you…you might know that globally tobacco industry is in decline and there is an average rate of, I don't know, 5-6% decline every year, there is more pressure, there is more awareness about the impact on tobacco on individual health etc, etc. So, obviously, the industry as a whole is declining, so for the major players in the industry the only way that they can maintain profitability, or even dare to think about growth, is by acquiring other player's market shares and volumes. So normally the smaller players are now dissolve in the market and are being acquired by the bigger players and you can use that attribute and you probably find example of, you know, BAT acquiring TDR or BAT acquiring R. J. Reynolds in America and so for Philip Morris etc, etc. So that is the main reason for acquisition in tobacco industry in the first place. How the supply chain is impacted by internal, external factors in the industry? It goes…in our case it's…the supply chain is predominantly impacted because now we're going from a supply model where we have one to many, one factory in Croatia supplying multiple markets, multiple customers in the specific region, we're going to use, literally, many to many. By many to many here is our…we use a template that we have a BOM for one product created in multiple factory so we have internal, or inter-company, flex sourcing, so if one factory suddenly cannot produce for whatever reason, machine breaking down or not having materials or demand surge or whatever, then we have a similar product can be produced in another factory on a short notice. So, this require alignment on many things, and I keep going back to the point that tobacco industry is a highly regulated industry by multiple governing bodies, so the supply chain has to comply with these things. In Europe, specifically in European Union, you have this programme which is in the second or third phase of it, called Tobacco Directive Programme, TPD, and that basically is a legislative process, or governing bodies basically, that are imposing how the packaging of tobacco products should look like in each and every member of the state in the European Union, what are the specification for product, tar, nicotine, size, volume of tobacco etc, etc. So, for a company that has been acquired previously operated only within a region outside EU, yes in Central Europe but most of the markets are not, they are part of EFTA but not part of the EU, this means a more checkpoint, this means we need to conform to certain processes, policies, requirement by governing bodies in terms of, you know, design of your supply chain, in terms of supply selection, in terms of who can you work with and who you cannot work with, in terms of your product specification and so on and so forth. That product specification and the design obviously means that you require different machineries, different technologies, of course they still producing cigarette but, obviously, with different specification. So this brings more complexity and if you're not really geared up to do this you are going to require lot of help from the company who is acquired your company to be able to operate and compete; without these, chances of survival is…are very slim, if none, and the impact on the overall supply chain is massive. So this is…this can be a real, major disruption if the companies are not thinking about this because, again, when you're operating at the global level and now supplying to the other part of the region or other…on the continents, other markets across the globe, yes, it's technically impossible, legally you will be in trouble, so you have to, obviously, think of the elements of how the external factors are going to impact.

Q12. This is the end of our interview, but before then finishing the interview, would you like to add anything to this interview, for example, you would say that: "Hossein, you didn't consider this fact as a potential disruption for the target company in your questions and I would like to add"? Is there anything that you would like add?

I think it's very important that…it's my - obviously I'm not fully aware of the scale of your research and what industries you're covering – I think one element for me is the trading blocs that the companies are operating in i.e. EU, whereas there's outside EU, in this case EU versus EFTA and things like that, they…I think it…this is a…the way that companies are…if tobacco…if tomorrow a company in the UK acquire another company in the UK, obviously, they are probably still operating within the same trading regulations, tariff, customs, etc, etc and even the governing bodies will probably be the same provided that they are in the same business. If a company in the UK tomorrow goes and tries to acquire a company in Australia or China or somewhere else in the world, we're talking about whole different ballgame; it's…it changes a lot of thing, the dynamic of the operating environment from a more, I would say, from macro-economic level and also from a political point of view, which part of the world, which country, which trade bloc etc, etc. This can have a significant impact on the whole process of the acquisition in my opinion, it's something that sometimes I think…well, it's my experience that at least sometimes we overlooked the complexity of these things and the impact, the potential impact, that it could have on the whole process, and we obviously had some cases, or some experiences where we couldn't do anything about it because we obviously thought that, you know, it's just…we've been operating this way, we've done this in Western Europe, how difficult can it be? Obviously, we were shocked and surprised by how difficult it was at the end.

Interview Cluster Two

Case Study Number:

26

Interview Category:

Main Interview

Case Study Code:

M&AC-08

Interviewee Position:

Senior M&A Consultant

Interviewee Experience:

He has been in the M&A field more than 20 years. He has been involved in more than 35 M&A deals such as DHL or IBM over last years. He has experienced different manufacturing post-integration process and advised many firms to deliver strategic and operational value from acquisition deals.

Interviewee Experience in M&A Field:

20 years

Q1.1. Could you please explain your background and your mergers and acquisition experience?

So I've got about 19 years M&A experience, I worked on about 35 transactions in that time, yes, 35 transactions, and I've worked with all the major consulting firms, so that's Ernst & Young, Price Waterhouse Coopers, Accenture, Boston Consulting Group, and of course the current consulting firm I'm with, which is called Beyond the Deal.

Q1.2. What are you doing at the moment? Are you still involved with this process, with these activities?

Yes, I do, I'm usually working on about – not so many these days – so usually about two or three transactions a year. Last year I worked on three transactions, one of them actually did have supply chain issues with it. So, I'm working, sort of like, not full-time, but working as a part-time management consultant.

Q1.3. Have you been personally involved in any acquisition? For example, your company has been acquired or your company acquired another company; or you have been just advisor?

No, I have…that's the reason why I started, because I was working for a company that was acquired, and that's what got me interested in the process. So, I was working for a company…a banking company called Bankers Trust, which was taken over by Deutsche Bank, and that was nearly twenty years ago.

Q2.1. How you evaluate the risk of integration, after the ownership change, in the supply chain of the target company? Do you agree with this statement that the post-acquisition integration process significantly impacts the acquired firm's operation?

With regards to that question, once the ownership changes, I ought to say, that I evaluate integration risks before the ownership change actually occurs, because ownership change – just so we're clear here – is related to the…when an acquisition is completed. So once an acquisition is completed, that's when ownership change occurs. Just…so just so we're clear. The integration risk is something that you do before the ownership change happens. So yes, I do evaluate it. How do I evaluate it? Let's see if I can put this briefly: I think I take it from a number of different perspectives; I think there's a process risk, a technology risk, and a people risk, and an asset-based right. I emphasise on those four groupings: technology, process, people, and assets. So, I take measures of those and then I apply the standard risk management process that you would any type of change to the supply chain operation. I'm doing this risk before the ownership changes.

Q2.2. So generally do you believe that after the acquisition companies face any disruption or not, any decrease of the performance?

You really have to, mate, understand the integration risks before, because, you see, the problem is, is that the risks at ownership change may lead to immediate impact on supply chain operations in any integration. So, there has to be…there's a risk to do with the supply chain that's before ownership changes and then once ownership changes you do the integration then you'd have to do the risk evaluation, okay, process, people, technology and assets.

Q2.3. Basically, I just trying to focus on the immediate impact during the first 12 months, because based on the academic literature, the acquisition is a dynamic and it is a long-term process, it's not something that you can finish in one month, two months, or three years.

Okay, the question is…is that are you integrating supply chain operations in the first year? You might not, you might keep the supply chains of two companies separate. So, it depends on whether you're going to do it in the first year or not. So, you would…you would probably analyse the risks, do the plans, and then you would take it very carefully, the integration of the supply chain. I know what you mean, I don't know that there's much else I could say here. I know you've got a lot of questions so maybe we can move on? Do you agree with the statement that …post integration, significant impact? Absolutely, course it does, yes!

Q3.1. So, do you think that the supply chain characteristics of these companies, such as size, structure, experience, can have an impact on the acquisition performance?

Yes, there's a general principle here and that is the size of the acquirer compared to the target. Usually if the acquirer is bigger, you're going to use that supply chain, so you tend not to take a best of breed approach. That effectively…what you do is you use the one supply chain so, if you've got the large company acquiring a small company, so the small company gets integrated into the large company's supply chain.

Q3.2. When during the post-acquisition integration process does product diversity and complexity matter?

Yes, it does, in actual fact it's a real issue. The problem is, you see with the product diversity is that that's riven through the supply chain, so you may have certain product characteristics that have a downstream impact. In other words, there are things that you need to do in the supply chain in order to satisfy that particular product requirement. So I would say that it has a compound impact, so I would say that product diversity and complexity…I wouldn't say exponentially, that's inappropriate too significant, but it magnifies the complexity of the post-acquisition integration process because what it means is that you're going to have to change some of the supply chain functions, whether it's in terms of people, or technology, or in terms of process, to satisfy that product mix.

Q5.1. So, did you face any disruption in the supply side after the acquisition?

Yes, because when you talk about supply side we're talking about procurement and, broadly speaking, when you do this you will have…the acquiring company will have their suppliers, in other words, their suppliers that they work with, and the target company will have their own suppliers. So, the acquirer will want to change some of those suppliers because strategically it's inappropriate to continue with some of them. So, I have had experience of changing suppliers and switching suppliers in the past.

Q5.2. Can you provide an example that acquisition caused an interruption in the supply side in terms of supply lead time, quality or quantity?

I'm trying to think of a good example. I've done supply chain a few times. Let's see, I worked on a Lenovo, you know Lenovo, the PC company? Well, you know, what PC are you working on right now, what's it called? What are you working on, what's the name of your desktop?

Q5.3. My desktop is an HP, now.

HP, okay. You know Lenovo…

Q5.4. Yes, I know Lenovo…it's a Chinese company, it's a very strong brand.

They bought IBM, a server business…

Q5.5. IBM the American company?

Yes, they bought an American company, IBM. So, in that particular example, Lenovo only wanted IBM to source parts from its company…its Chinese company, and this is all part of the integration, and so there was disruption in terms of the supply in the parts for the IBM servers and the building. It was a strategic decision, because Lenovo has a manufacturing capability and it wants to own the manufacturing capability going forward, so in this particular situation it wanted to be the manufacturer of the parts, the server parts. Now this required a lot of lead time, to do, if I remember correctly it was about six months lead time to actually get them ready and to supply. So, was there any issues in disruption lead time quality and quantity? Yes, there was, there was an impact, but it was managed, we managed it very closely so I don't think it was a material disruption, there was disruption but I don't think it was material. So, the example I would use, it was Lenovo acquiring IBM's PC server business and the required…the requirement was that, as part of this transaction Lenovo would be supplying the hardware from its manufacturing facility, not IBM.

Q6.1. In your opinion, how disruptive is the acquisition process for the internal production of the acquired firm during the first year of acquisition?

Right, yes, it's almost catastrophic, the amount of change. Effectively, you're talking about the people, aren't you, yes?

Q6.2. Based on your experience, what are the potential internal production risks?

Okay, the potential internal production risk is, one is language, so, it's the terminology that the two organisations work to actually determine what they call it…when you're dealing with supply chain every company has a particular language they use, and that's one issue, language. Second issue is to do with process; so, there are detailed processes that impact what one supply chain…what one company does versus another. So, the process gets complicated because they talk about it using a different language, so that's a second complication. The third complication is ownership and I think that's a cultural thing and that is that the acquiring company will tend to dictate what is to be done and the sense of ownership from the target company goes down, and so they can feel not part…or don't feel responsible for what's happening and so it means that the performance can drop, and so there will be a drop in operational capability post-acquisition.

Q6.3. You're talking about communication language? Could you explain a bit more?

I'm talking about language in terms of what people use to describe how their supply chain works. I'm not talking about language as in English/French, or Chinese/English, not like that, but that's an extra complexity. It's just that when you deal with an organisation like IBM, for example, they have their own language to describe how they work through their business. Any supply chain company will have a language which they've developed which describes what they do. What you need to do is to describe, or basically, translate when someone calls something "this", they mean "that", because the supply chain doesn't have a standard set of terms, the terms are determined within the organisation which describes what they do, but those terms need to be explained to another company because even though they're both in supply chain, sometimes they don't quite understand what they mean when they refer to something that they do.

Q7. In your experience, does the ownership change increase or decrease demand uncertainty or demand fluctuation?

Yes, because I think this goes back to the earlier point I made, that is, that the target company and the employees will have a reduced sense of ownership, so they…and that impacts their performance, so that impacts their performance, and when it impacts their performance then it impacts the demand side. So, this is a bit of a cultural issue, but it's something called post-merger drift, I don't know if you've heard of such a term? What it is, is that you inevitably experience a drop in ownership and a drop in performance operationally, financially, and in terms of revenue post-acquisition. That is human behaviour, so that happens, and the task obviously is to minimise that impact.

Q8.1. We discussed different risks, different challenges for the target company. How we can, or, how the acquired company can reduce the risk of disruption in their operation or their supply chain in post-acquisition? What is the best strategy or strategies to meet these challenges and risks?

Okay, the…this is a cultural issue, and the strategy is to ensure that the target company and the employees are safe. I would think of it in terms of Maslow's models, do you know Maslow?

Q8.2. Yes, yes, Maslow hierarchy.

So, yes, the Maslow's hierarchy. So, basically, what you've got to do - and it's the cultural issues - is make sure that people's…first of all their roles are safe, they have positions, they're secure in their roles, they have a future, and that their role, what they do, they'll be listened to and they will have an equal voice or a say in terms of what is done and their ownership…their ownership is shared so that there is a sense that, as the target company move along, that they have a shared outcome with the acquiring company and that they do things together. I'll give you an example: I worked in supply chain logistics and what I did was to run meetings, workshops where the two companies worked together in terms of how they actually would integrate the supply chain. *I* didn't do it, *they* did it, the people who had intimate experience of their supply chains, and they jointly came up with solutions, and so there was a shared ownership in terms of the strategy and how that strategy should be executed. It was also reflected in the organisation model, that the organisation model basically reflected joint ownership between the target company and the acquiring company in terms of their mutual responsibility. So, in other words, you try and go in as equals, and you work together as equals.

Q8.3. In your experience, is it important for the acquired company to alter its supply chain strategy based on the acquiring company's supply chain in post-acquisition?

Yes.

Q8.4. So it's necessary, they have to do?

Yes, because there are…there's inevitably a best of breed or…look, I mean, this is kind of an interesting one because we're talking generally here, you're not going to leave the supply chain because for strategic reasons, whether it's for procurement purposes, whether it's for shared technology, there's a lot of advantage in term of operational improvement and operational innovation that you inevitably would want to take on as part of the job, and quite frankly, I think that's all part and parcel of why you do M&A, is that you'd want to be altering the supply chain strategy.

Q8.5. Yes, for the synergy.

Yes, so it's kind of like, well yes, I'd say so. I haven't worked on one acquisition where the supply chain wasn't impacted, every single one I've worked on has been impacted.

Q8.6. Sometimes it's a private equity and they don't change.

That's different, because when you're dealing with private equity, that's a different type of deal. Whenever I'm talking, I'm talking about corporate deals, I mean, private equity – all they do, private equity, they just buy the company, they don't touch anything, they just leave it alone. All you're…everything you're talking about is all about supply chain integration, private equity firms don't go there, they leave the companies alone, they do…they're just purely interested in bolt-on acquisition, okay, they don't integrate.

Q4. Some researchers they argue that fast integration is better than a slow integration. From your point of view, which one is better, and why?

Fast. First of all, one is momentum, so you've got to have dealer momentum. Secondly, you will be…it's an 80/20 rule, you're better fast…going fast and capturing 80% of the benefits in a short amount of space and time rather than trying to capture 100% of the benefits in a long space of time. So, you try, and you go fast, you realise the cost synergy quickly and that provides faster shareholder return.

Q9.1. You mentioned that after the acquisition, the performance of the target company has been decreased. Do you have any formal measures?

Yes, I do. So, there's…Hossein, there's a few here. First of all, there's the operational measure which could be whatever…you know, whatever supply chain it could be the lead time, in other words, it could be the number of days to supply, so, you know, if it's basically a good that's being shipped, there will be the number of days elapsed, so that's lapsed days. That'd be one indicator. Another indicator could be complaints, so customer complaints, so what's the number of customer complaints that you get.

Q9.2. Customer satisfaction; you measure the customer satisfaction.

Customer satisfaction, yes. So, the next one would be…obviously financial outcomes so that'll be the cost of goods, it could be the staff time spent, so, in other words, it's productivity, you know, so, on this occasion productivity would be number of hours spent by staff performing a particular operational function, and that would be another indicator. Then obviously…then it comes down to the profit and loss accounts, but the important thing is, is don't look at the profit and loss accounts to determine where the impact is, you've got to go back to the operation and look at the operational measures and use those as your determining factor rather than the financial outcomes.

Q9.3. So you mean that always financial outcomes cannot be a good benchmark for the success of the acquisition, is that correct?

Yes, because it's the operational drivers that impact the financial outcomes. So in other words, you've got the…it's…you've got to take a few steps back and look at the operational drivers, the business drivers, and focus on those, and they will tell you a far better understanding of what the impacts are, not the financial results.

Q10.1. From your point of view, is there any relationship between the type of acquisitions and acquisition performance?

Yes, I've done thirty-five, I'm just double checking on terminology here. I'm answering, hang on a sec. Vertical acquisitions are easier, horizontal acquisitions are harder.

Q10.2. Why?

Well, the reason being is that they potentially are not competing, so there's an element of complementary…what is happening…so the two firms haven't had…there hasn't been any rivalry as much, or limited rivalry between the two, so effectively it becomes a friendly acquisition. For example, one position that I worked in was in the cattle business, so I had one company that had…one in the cattle business, it was one that actually raised the cattle, and then another business processed the cattle, and then there was another business that's a supply chain, in other words, actually shipping beef to other countries. Now, those three all came together but it was a friendly because they didn't compete, they were complementing each other and the big benefit was that it enormously improved their working capital required so they…because there's always supplier, there's always working capital issues, they managed to resolve a lot of the working capital issues, but also streamlined their value chain but they were complementing what they do. So effectively, it was a much more streamlined exercise. When you're dealing with a horizontal exercise, they're effectively competing, with the share being the same customers, same people, you know, the same industry, and so there's a higher degree of rivalry between what they do. That rivalry needs to be managed before you can move ahead towards a productive integration exercise.

Q11.1. From your point of view, what is the relationship between industry characteristics and success of an acquisition?

Well, let's put it this way, I mean, the industry…let's have a look, I'm just thinking about this, this one's hard. If you're…if the industry you're dealing with deals with hard goods, in other words, like, physical goods, then there's a much greater complexity in the supply chain exercise. If it is digital, like a digital business, then the complexity is much reduced. I would say there are some businesses that actually are supply chain…in other words, the business is supply chain, you know, and then it's very complex. For example, I have worked in…do you know DHL?

Q11.2. Yes, yes, I know!

Okay, yes, so their…that's their business, supply chain. When you're working with companies like DHL then there's a…the complexity is much, much greater because that is what they do, that is their industry, supply chain. Whereas in other companies, supply chain is a means by which they deliver goods to customers, but it's other things that actually define what value is, so the value is elsewhere, and supply chain becomes simply a means by which they deliver those products and services. It's not critical to their success, whereas some companies like DHL it is everything what they do.

Q12. Do you want to add anything at the end of the interview?

Yes, I would say that when it comes to supply chain, we do need to, you know, for example, you stripped down supply side internal and customer side which is good, I would say that supply chain and the complexities is very industry specific. For example, I mentioned DHL, or Federal Express, or those companies, and that's a different type of supply chain challenge to say, a pharmaceutical business or a different supply chain…or to what I talked about agriculture. So, the different supply chain challenges each one, so it's a…it's hard to talk about supply chains in a general sense unless you start talking about a specific industry, and then you can make some particulars out of it. It's just that I think supply chains tend to be quite different when it comes to the way it operates, depending on what industry you're talking about. The, I mean, for example, one of the ways to do supply chain is just to think of it as…in simple terms of order to cash, you know, the order to cash process, which is universal, so you could talk about order to cash and standardising what supply chain looks like if you think about the high level steps that you take in any kind of order to cash exercise, and you could almost put that as kind of a template on all supply chains. You know, for example, you know: order made, filled, customer payment, retrieved goods. In other words, you can actually break it down logically, the supply chain, so that it almost can apply to almost any industry. Now maybe, Hossein, you're doing this already, in your work, but I think that the challenge is…that I think the challenge for me when I answer these questions, and I'm only doing it from my own perspective so there's an element of subjectivity_that I'm applying to this and so, you know, and obviously it's part of your research, you need to, sort of, get a higher level of objectivity. I see there's a benefit of actually breaking down supply chain logically, further than that which you suggested to me – you said supply side, internal, and then customer side, but I think there's an option to break that down further, you know, as I've suggested.

Appendix 4F: NVivo Matrix Coding Query For Qualitative Interview Data

	C1 - Disruptions in Post-Acquisition	C2 - Type of Acquisition	C3 - Supply Chain Characteristics	C4 - External & Industry Factors	C5 - Demand-Side Risks	C6 - Internal Risks	C7 - Supply-Side Risks	C8 - Strategies to Mitigate Risks	C9 - Post-Acquisition Performance
1 : M&AC-01	1	2	0	1	4	4	1	6	3
2 : M&AC-02	2	2	3	2	3	8	1	7	2
3 : M&AC-03	1	1	2	2	1	6	3	8	2
4 : M&AC-04	0	0	2	0	0	8	0	11	1
5 : M&AC-05	2	1	2	1	2	5	2	13	1
6 : M&AC-06	1	1	3	2	1	3	2	5	1
7 : M&AC-07	1	1	5	0	1	3	1	5	2
8 : M&AC-08	3	3	2	3	1	2	2	6	3
9 : M&AC-09	1	1	5	0	1	5	1	5	0
10 : M&AC-10	2	1	3	1	0	8	2	11	0
11 : M&AC-11	1	1	1	1	1	2	3	3	1
12 : M&AC-12	2	1	2	2	1	5	2	7	3
13 : SMAC-01	9	2	2	1	8	1	4	7	1
14 : SMAC-02	2	1	0	0	4	4	3	2	1
15 : SMAC-03	5	2	1	0	0	4	1	2	0
16 : SMAC-04	4	0	0	0	0	10	0	7	1
17 : SMAC-05	2	2	0	1	0	0	0	1	0
18 : SMAC-06	1	4	1	2	1	6	2	5	0
19 : SMAC-07	2	1	0	0	0	2	0	1	0
20 : SMAC-08	4	1	1	1	2	9	1	5	2
21 : SMAC-09	3	2	0	1	1	2	1	1	2
22 : SMAC-10	3	0	2	0	0	5	1	4	2
23 : SMAC-11	7	0	0	1	3	3	3	6	1
24 : SMAC-12	4	0	1	2	1	3	3	2	1
25 : SMAC-13	2	1	1	1	0	5	1	4	0
26 : SMAC-14	3	4	3	1	3	7	1	4	1
27 : SMAC-15	5	0	3	4	2	8	1	2	3
28 : SMAC-16	4	2	0	1	0	3	0	9	3
29 : SMAC-17	5	0	1	1	0	0	1	9	1
30 : SMAC-18	2	2	2	1	1	3	1	6	3
Total	84	39	48	33	42	134	44	164	41
	629								