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LICENTIATE THESIS

MATTIAS JOHANSSON Value creation and the challenge of joining forces: Evidence from open innovation and mergers and acquisitions 2022

# Value creation and the challenge of joining forces: Evidence from open innovation and mergers and acquisitions

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**DEPARTMENT OF TECHNOLOGY MANAGEMENT AND ECONOMICS**
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THESIS FOR THE DEGREE OF LICENTIATE

# Value creation and the challenge of joining forces: Evidence from open innovation and mergers and acquisitions

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Value creation and the challenge of joining forces:

Evidence from open innovation and mergers and acquisitions

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Abstract

Value creation is pivotal for organizational survival, growth, and competitiveness. The topic has attracted a growing interest from scholars looking for new ways to analyze how firms create value for themselves and their stakeholders. The means of value creation involve a wide array of strategies, tools, and forms of interaction. Focusing on the challenges of joining forces, this thesis explores two commonly used practices in collaboration with others to create value: mergers and acquisitions (M&A) and open innovation (OI). Both practices are highly complex. Despite the common use, they often fail to deliver the intended outcome, for example, in terms of synergies, complementarities, and increased efficiency.

This thesis consists of two empirical papers and an introductory chapter. The themes discussed in each of the enclosed papers investigates value creation and the challenges of joining forces with other organizations. Paper 1 introduces a novel business model lens to study post-merger integration in M&As. This study combines firm-level case study research (in the European material handling industry) on business models and M&A to explore how differences in business models affect value creation and synergy realization during post-merger integration. The case evidence suggests that *business model congruence* – the fit between merging business models, achieved through the careful stitching of business model components into a value-creating system – is a critical factor impacting post-merger integration. Paper 2 focuses on OI and explores the challenges to successful value creation in partnerships between large and small firms. Based on field studies and interview data, I uncover distinct challenges that large and small firms experience and what tactics can be used to address such challenges.

This thesis contributes to the understanding of what impacts value creation when organizations join forces through M&A and OI. Emphasizing two common collaborative strategies with a novel theoretical approach allowed me to investigate the mechanisms for value creation at a more granular level than previously examined. The combined theme of the thesis adds to M&A, OI and strategic management literature by providing relevant insights on the impact of interorganizational relations and organizational differences on collaborative strategies.

By integrating business models into the M&A literature, I expand the concept of strategic fit, offering an opportunity to rethink how synergies are created. My approach of focusing on OI partnerships between large and small firms contributes to the understanding of how value is created in a collaborative context by identifying how large and small firms engage in collaboration with very different perspectives and capabilities. Factors that, if not mitigated, hamper the relationship and intended value creation, respectively. Having identified these relational challenges, I present remedies that seek to establish mutual trust from the start of the partnership. By contributing to a new understanding of common strategies for creating value in collaboration with others, I derive implications for strategic similarity, synergy realization, and OI.

**Keyword:** Business model, post-merger integration, synergies, value capture, value creation, mergers and acquisitions, collaboration, innovation, large firm, open innovation, small firm

LIST OF PUBLICATIONS

This thesis is based on the following papers:

I. Johansson, M., Björkdahl, J. Wallin, M.W. "Similar yet different: Business model differences in post-merger integration." This paper is currently under review in *Long Range Planning*, and has received a revise and resubmit. The paper was co-authored by Joakim Björkdahl and Martin Wallin. I conceived the idea for the article, which was actually the pitch for me to enter as an industrial Ph.D. student. Data collection and participant observations were provided by me. Analysis and writing were performed jointly by all co-authors.

II. Johansson, M., Wallin, M.W. "Everyone can win: Creating mutual benefit in open innovation partnerships." This paper is currently under review at *Creativity and Innovation Management.* The paper was co-authored with Martin Wallin as part of a research project initiated by Martin Wallin and financed by Vinnova. I provided access to and conducted the selection of cases. Data collection, analysis, and writing were performed jointly by both co-authors.

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Mattias Johansson, Göteborg, January 2022

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# 1 Introduction

Value creation is pivotal for organizational survival, growth, and competitiveness. Given its importance, this topic has attracted a growing interest from scholars looking for new ways to analyze how firms create value for themselves and their stakeholders (Björkdahl, 2009; Casadesus-Masanell and Ricart, 2010; Massa et al., 2017; Osterwalder et al., 2005; Zott and Amit, 2008). The means of value creation include a wide array of strategies and tools, with many requiring different forms of interaction ranging from collaborative processes to integrations through mergers. Focusing on the challenges of joining forces, this thesis explores two commonly used practices to create value in collaboration with others: *mergers and acquisitions* (M&A) and *open innovation* (OI) (see Figure 1). Both practices are highly complex. Despite commonly used, they often fail to deliver the intended value, for example, in terms of synergies, complementarities, and increased efficiency (Bauer and Matzler, 2014; Capasso and Meglio, 2005; Datta and Grant, 1990; Graebner et al., 2017; Vossen, 1998; West and Bogers, 2014).

For a long time, M&As have provided a strategic tool for companies to expand, enter new areas, and obtain access to new organizational capabilities (Alberts and Varaiya, 1989; Datta et al., 1992), and research has shown evidence of varying success where many transactions prove not to live up to expectations (Alberts and Varaiya, 1989; Datta et al., 1992; Datta and Grant, 1990; Haleblian et al., 2009; Nguyen and Kleiner, 2003; Porter, 1989; Straub, 2007; Tichy, 2001; Trautwein, 2013). Historical explanations of the varying results have been sought in financial and organizational factors, such as economies of scale or scope and market power (Chatterjee, 1986; Damodaran, 2005; Datta et al., 1992; Kode et al., 2003; Larsson et al., 2004; Lubatkin, 1983), aspects related to the integration process, organizational fit, management styles, socio-culture, or human relations (Bauer et al., 2015; Bauer and Matzler, 2014; Buono and Bowditch, 2003; Datta and Grant, 1990; Larsson et al., 2004). Despite the contributions of this research, an approach that incorporates "how business is done" is largely absent (Amit and Zott, 2012; Chesbrough and Rosenbloom, 2002; Sieg et al., 2010). Hence, I applied a business model lens (Hacklin et al., 2018; Osterwalder et al., 2005) as the analytical framework for our study, offering us a complementary toolbox to understand value creation in M&A.

As innovation provides the means for organizations to rejuvenate it is important to understand what drives effective OI. This importance has further increased as product and innovation life cycles become shorter and investments in research and development are growing (Chesbrough and Bogers, 2014; Doz, 1996). In this strive for value creation through innovation, large and small organizations have different advantages and face different challenges. Small organizations face the challenge of securing continued existence, growth, and competitiveness, despite limited access to capital, established formal structures and incomplete internal capabilities, whereas large organizations need to secure continuous improvement, reinvention, and renewal. This situation pushes organizations to seek collaboration (Katz and Gartner, 1988; Lewin and Massini, 2004; Rothwell, 1994).

Research has historically had its main attention on larger firms (West & Bogers, 2014) and only recently expanded to include aspects of smaller firms (Lee et al., 2010; Van de Vrande et al., 2009). However, the characterization of symbiotic collaborations combining both types of firms, utilizing the agility of small organizations and stability, process knowledge, and resources of large organizations, is largely an unchartered area. This provided an entry point for the research approach in Paper 2, where I believe that new insights can be gleaned by focusing on the intersection between large and small organizations. From this perspective, the study was designed to explore the characteristics and challenges of innovation collaboration between large and small firms.

## 1.1 Aim of the thesis

As the title of the thesis indicates, the theme is to approach value creation from the challenges that arise when firms join forces. I focus on M&A and OI strategies, all of which require different forms of collaboration. Figure 1 illustrates how I see the link from the respective strategies to the high-level goal of value creation.

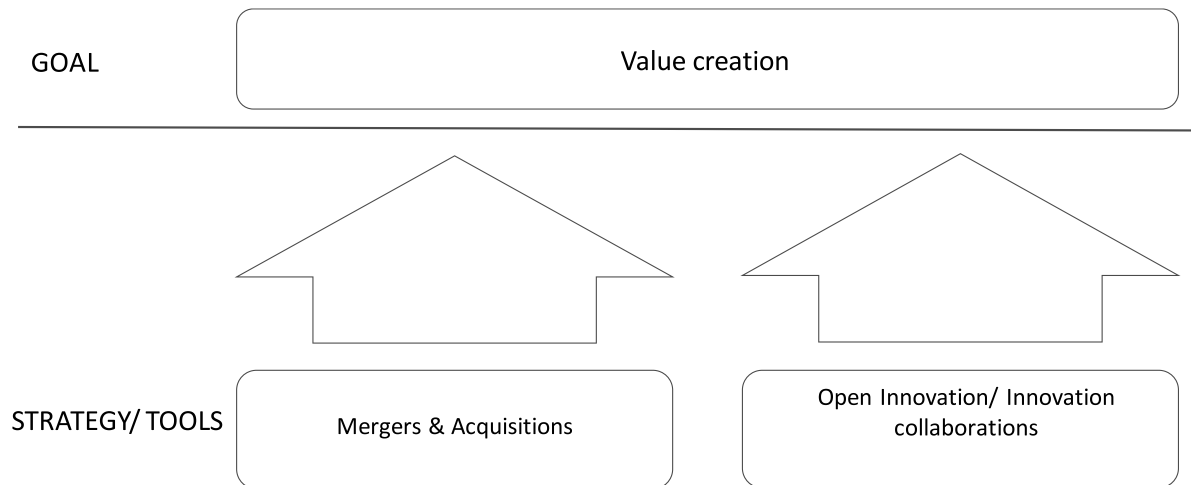


*Figure 1. The depiction gives a presentation on how the central themes of the thesis, M&A and OI collaboration, are interlinked and ultimately coupled to the goal of value creation.*

By exploring these research areas and strategies through new analytical lenses, the purpose has been to generate new knowledge in the areas of M&A, OI, and business model research. Founded on two papers, which draw on unique and recent data, the high-level aim of this thesis is *to generate new insights on how the value creation of an organization is impacted when organizations join forces through M&A and open innovation collaboration*.

In relation to M&A, the study in Paper 1 introduces the business model lens as a novel analytical framework on M&A, when analyzing its impact on post-merger integration processes . The business model embodies the vehicle for value creation, making the purpose to provide *an understanding of how the business model structures of the merging entities impact the realization of value from M&A and post-merger integration processes.* With regard to innovation processes and the theme for Paper 2, the aim has been to add to OI literature *by identifying the characteristics of collaboration between large and small*

*organizations and, from that, present tactics on how to establish symbiotic settings where they jointly benefit from each other's advantages*.

An additional aim is to generate insights that provide assistance to practitioners and help create tangible value in companies. I believe that by pointing towards the challenges, both in terms of business model-related challenges in post-merger integration and OI collaboration, our findings have enabled us to present steadfast advice to practitioners.

Collectively, I believe the studies entailed in this thesis provide valuable new insights and empirical support on how the commonly used strategies, as depicted in Figure 1, impacts the value creation of an organization.

## 1.2 Structure of the thesis

This thesis is structured as a compilation thesis consisting of a cover paper and two appended papers. The first chapter presents the theoretical framework and relevant concepts related to the studied phenomenon. The introduction of the theory provides a scientific lens through which the research in this thesis should be read. The theoretical framework draws on theories and literature from research areas related to value creation, business models, post-merger integration, open innovation, partnership, alliances, and entrepreneurship. The theoretical framework chapter is followed by a methodology chapter, where research design, data collection, and the methodological considerations for the appended papers are discussed. The fourth chapter provides a brief summary of the appended papers, followed by a summarizing discussion in Chapter 5. Chapter 5 discusses the findings of the studies in context and their implications for theory, practice and recommendations for future research.

# 2 Theoretical framework

To approach the theme of this thesis, that is, to investigate the impact on value creation from M&A, post-merger integration, and open innovation collaboration, I have founded my theoretical framework on literature from the areas of M&A, post-merger integration, business models, and OI research. M&A and the post-merger integration literature frame the topic for Paper 1, whereas the business model perspective adds an analytical lens that enables us to study the value-creating aspects of these processes. When discussing strategies for addressing the consequences of differences in value creation, I draw on literature from areas of business model related research. For Paper 2, which ties to value creation from OI collaboration, the theoretical framework is built on a combination of literature on OI, partnership, alliances, and entrepreneurship. I introduce these main theoretical frameworks with the aim of showing the prevailing trends and how we have applied and contributed to them through our research.

## 2.1 M&A and post-merger integration common but challenging strategies for value creation

In the pursuit of value creation, M&A, defined as the strategic process of creating value through the consolidation of companies or assets executed through mergers, acquisitions, consolidations, tender offers, purchase of assets, and management acquisitions, has been a huge phenomenon within the global economy for decades. Given the large financial and organizational implications of these strategies, they have attracted significant interest from scholars. In broad terms, M&A research can be categorized into two main categories: a research orientation with financial focus and a second specialization emphasizing the strategic management aspects of M&A. The emphasis on financial orientation has been to study financial returns and wealth creation from different types of mergers. Pivotal studies have examined the overall success of value creation from M&As by analyzing stock returns, while other studies have considered a stakeholder perspective by looking at differences in value capture and M&A transactions between different actors (Datta et al., 1992; Trautwein, 2013). Despite the wide use and large acceptance of M&A as a strategic tool for value creation, the empirical results have proved to be quite disappointing, and the results show that a large share (more than half) of all mergers do not live deliver the expected value or end in plain failure. (Datta and Grant, 1990; Porter, 1989; Straub, 2007; Tichy, 2001). Reasons behind the meager results can be sought in the complex nature of M&A, where differing motives and factors impact the process. This creates the basis for strategic management research, where a leading research area has been to study the underlying merger motives, such as economies of scale or scope, transfer of skills, or synergistic efficiencies that produce market power (Ansoff, 1965; Harrison et al., 1991; Lubatkin, 2013, 1983; Trautwein, 2013). Another area for attention in this orientation has been to study different merger types, such as horizontal or vertical, related or unrelated, to identify patterns and factors for success (Chatterjee, 1986; Harrison et al., 1991; Porter, 1989).

A fundamental misjudgment is that value creation from mergers arises automatically once the transaction is completed. Instead, the majority of merger strategies require different forms of

integration activities to generate the intended merger synergies. In light of this, the effectiveness of the integration process is pivotal for creating the intended value (Nguyen and Kleiner, 2003; Shrivastava, 1986). Research has shown that failure to deliver the intended value is often linked to challenges with post-merger integration, where as much as one-third of all merger failures are related to faulty integration (Alberts and Varaiya, 1989; Shrivastava, 1986). Given this bearing, understanding the factors impacting post-acquisition performance has attracted scholarly interest, as such post-merger integration research can be seen as a logical extension to the strategic management orientation of M&A research. The design and level of difficulty of the post-merger integration process are largely dependent on the merger rationale, such as *economies of scale or scope* (cost or income advantages, e.g., in production, supply, or sales, obtained through scale/size or broadening or diversification of the product and service offer), *synergies* (e.g., activity or cooperation leading to cost or market advantage), *market power* (e.g., increased size and market share), *financial factors* (e.g., achieving better financial strength and/or flexibility and access to capital), and *relatedness* (level of similarities, e.g., product portfolio and/or geographical coverage) (Datta and Grant, 1990; Datta and Puia, 1995; Harrison et al., 1991; Homburg and Bucerius, 2006; Rumelt, 1974). Merger rationale is not the sole area for challenges, extant literature has identified factors such as diverse merger motives, unclear communication of strategy, complex integration of technologies and systems, cultural factors, and non-rational managerial motives as causes for challenges (Bauer and Matzler, 2014; Datta, 1991; Datta and Grant, 1990; Harrison et al., 1991; Larsson et al., 2004; Larsson and Finkelstein, 1999; Shrivastava, 1986). When investigating aspects affecting post-acquisition performance and strategies in our study, we were supported by related studies on management styles, organizational culture, and structure (Datta et al., 1992; Datta and Grant, 1990).

Studying the integration between organizations with different business models and understanding different levels of integration is important. Shrivastava (1986) presents three theoretical definitions of integration processes, based on the rationale and character of the entities involved in a merger: *procedural integration* (e.g., systems and processes), *integration of physical assets* (e.g., product lines), and *managerial and sociocultural integration.* The optimal level of integration becomes a function merger motive, where, for example, market power motives often require less integration than cost-synergy-driven mergers. Organizational size is another factor in which larger organizations generally possess a greater number of elements that require integration.

For us, it is important to gain an understanding of the integration execution a process that theoretically can be described as a process divided into several sequential phases. These phases range from premerger planning, resolving communication issues, defining and setting new organizations, developing staff plans, integrating functions and departments, and establishing a new corporate culture. Integration execution literature highlights the importance of establishing integration plans including organizational elements, such as post-merger integration management, integration teams (Datta and Grant, 1990; Datta and Puia, 1995; DePamphilis, 2009), claims that were well supported in our study. Throughout the integration process, firms utilize integration mechanisms, such as standardization, centralization,

integrator roles, relationship building, and team structures (Galbraith, 1973; Lakshman, 2011; Lawrence and Lorsch, 1967; Turkulainen et al., 2017). What mechanisms and how many to apply is given by the combination of the environment in which firms operate and the complexity of the integration (Lawrence and Lorsch, 1967; Turkulainen et al., 2017).

To have a wide toolbox to interpret our case, we have also glanced at post-merger integration research inspired by concepts from the realm of organization and human-resource theory (e.g., King et al., 2004). This field has grown from the need to find alternative explanations when factors such as financials, level of diversification, or relatedness have been insufficient to provide holistic explanations of merger outcomes. For this research orientation, a focus has been to investigate the level of autonomy to provide to the management of the acquired firm. The aim has been to understand what autonomy levels maximize synergies and, at the same time, avoids "the Conquering army syndrome," where the latter results in reduced commitment, motivation , anger, resentment, and hostility (Buono and Bowditch, 2003; Datta and Grant, 1990). Dundas and Richardson (1982) claim that for unrelated acquisition, the preferred strategy is to leave the management of the acquired firm with a high level of autonomy, whereas in general synergy, realization in related acquisition can be improved through a lower level of autonomy.

With the aim of realizing anticipated synergies via minimized interorganizational and intercultural friction, others have looked at managerial and sociocultural integration, areas involving complex elements such as management formation, organization, aligning corporate culture, leadership, and motivational factors (Shrivastava, 1986; Stahl and Voigt, 2008). An adjacent area is the social-identity theory, which suggests that members of an organization show bias towards members of their own group. Results show that this type of "us-versus-them" behavior is prone to arise at the emergence of external threats, such as a merger situation (Tajfel, 1981; Turner, 1982). Equally, the staff of the acquiring organization may express signs of superiority towards the members of the target organization, behaviors propelled by xenophobia, and cultural stereotypes (Hambrick and Cannella Jr, 1993; Jemison and Sitkin, 1986; Krug and Nigh, 2001; Olie, 1990). Adjacent to this, acculturation, defined as "changes induced in systems as a result of the diffusion of cultural elements in both directions" is presented as an option to mitigate some of these post-merger integration challenges (Nahavandi and Malekzadeh, 1988; Shrivastava, 1986).

From the account above I can conclude that several research angles have provided support for us in our analysis. However, I note gaps in explaining the impact of the interplay between post-merger integration and the commercial interfaces of merging organizations. The importance of commercial aspects, such as business models, for the value creation of an organization is not disputed. Furthermore, commercial aspects are often closely linked to merger rationale. From these prerequisites, one would expect the business model to be an integral factor to consider in any post-merger integration planning process. However, I realize that the extant literature is silent when it comes to combining business models and M&A research. Hence, a business model perspective was identified as an enabler to analyze and understand how business models impact value creation when organizations join forces. Where

the research angle is addressed how business model differences impact the outcomes of mergers and post-merger integration. Provided the many challenges and large values at stake in these processes, I mean that by incorporating a business model lens as an antecedent to post-merger integration, we have been able to shed new light on the subject of value creation in M&A processes. In the next section, I provide an account of the business model perspective and how I relate to it in my research.

## 2.2 Business models: a new viewpoint on M&A and post-merger integration

With the presentation above, I highlight many research approaches that have been made related to M&A and post-merger integration. Thus, there are challenges that remain unexplored, and additional knowledge is needed to add to the knowledge base of what drives or destroys value in these processes. As mentioned above, I miss an approach that focuses on the impact of differences from commercial mechanisms on value creation. Understanding the factors influencing a company´s commercial performance and competitive advantage has made business model research an area that has attracted an increasing interest in recent years (Winterhalter et al., 2016; Zott and Amit, 2008), not the least through the emergence of many business models stemming from increased digitalization. With the aim of gaining a new understanding of synergy realization from M&A with a focus on the commercial aspects, I identified the business model literature as a valuable analytical tool to structure and recognize the commercial modus operandi of an organization. Hence, I recognized interesting possibilities for studying synergy realization from a new angle by applying a business model perspective as an analytical lens.

From a historical perspective, the development of business model research can trace its first antecedents to the area of business strategy (Chandler, 1990; Chesbrough and Rosenbloom, 2002), where Alfred Chandler presented the first systematic comparison of growth and change within industrial corporations in the 1960s. Igor Ansoff followed suit by applying these ideas to the concept of corporate strategy, and in 1971, Kenneth Andrews presented a theory on how to differentiate between a business strategy and a corporate strategy (Andrews, 1971; Ansoff, 1965). The term business model is commonly used in theory and everyday life, but despite increased focus from both academia and practitioners, one common definition has not yet been established and agreed upon (Zott et al., 2011). Zott (2012) observed that researchers frequently adopt idiosyncratic definitions that fit their purposes, which in turn has made it more difficult to develop a commonly accepted language allowing effective utilization of each other’s work.

In its most rudimentary form, business model can be defined as the method by which a company can sustain itself, which Amit and Zott (2012) described as “a system of interconnected and interdependent activities that determines the way the company “does business” with its customers. Chesbrough and Rosenbloom (2002) tie the concept to the value creating aspect. This means that business model “creates a heuristic logic that connects technical potential with the realization of economic value”, a logic they build around value proposition, identification of market segment, definition of value chain, and profit potential of product offer. Others present the concept as an analytical tool to provide answers to essential

commercial questions such as: “Who is the customer, and what does the customer value?” and fundamentals like “How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost?” (Magretta, 2002). Johnson (2008) frames this in a construct where the business model consists of four elements: customer value proposition, profit formula, key resources, and key processes. Along these lines, Osterwalder (2011, 2005) presented what he termed the business model canvas, which has received a great deal of attention and impact as a management tool. The business model canvas provides a comprehensive and pedagogic breakdown of the business model into nine modules: value proposition, distribution channels, customer segments and relationships, revenue streams, partners, activities, resources, and cost structure. I draw on this framework when breaking down and analyze the components of the business models for our cases. In my research, I focused on five of the modules: value proposition, distribution channels, customer segments and relationships, and revenue streams. Interested in highlighting the differences, these modules offered the possibilities, whereas I omitted the others as the variance was judged too low to provide significance.

Another angle on business models has been to link the definition to adjacent research areas; for example, Casadesus-Masanell and Ricart (2010) state that a business model is a reflection of the firm’s realized strategy. Zott, Markides, and Charitou (2004, 2011) connect the value-creating potential of the business models and value-capturing ability of the strategy. From this perspective, they present the business model as a source of competitive advantage, which in turn promotes the strategic gains from innovating and improving the business model. As such, this perspective ties to the themes of the thesis by linking value creation to business models and innovation. It also provides a clear dividing line between the realms of the business model and corporate strategy, where Chesbrough et al. (2002) see the former focus on organizational value creation and the strategy is set to optimize the value capturing ability of the company.

The abovementioned account highlights the large interest and many approaches that have been taken to the subject. Common denominators can be condensed to the notions related to value creation and the interrelationship between the creation and appropriation of value. Hence, this links the inherited worth of resources with the realization of economic value (Björkdahl, 2011, 2009, 2007; Chesbrough and Rosenbloom, 2002; Osterwalder et al., 2011; Teece, 2010; Zott et al., 2011). Properly applied business model research offers a coherent theoretical construct for the value creation process by providing a framework that translates between technical input and economic output (Chesbrough and Rosenbloom, 2002; Mansfield and Fourie, 2004; Seddon et al., 2004; Zott et al., 2011).

Linked to my research, the business model perspective offered a new holistic analytical approach to address the many commercial aspects, i.e., how firms “do business,” inherited in M&A and post-merger integration. In our case, it provided the missing framework to apply when designing our analysis of the post-merger integration process. Despite the vast values at stake in these processes, I note that a business model perspective has not been an integral part of existing post-merger integration research and literature. Even with the growth seen in business model research, it has been rather silent in regard to the connection between business

models, M&A, and post-merger integration. Sohl and Vroom (2017) touched upon the subject when introducing the term business model relatedness. By integrating literature on business models, diversification, and acquisition strategy, their design presents a conceptual analysis of how business model relatedness may influence post-acquisition performance. They propose that firms should not limit themselves to relatedness along the product and geographical market dimensions but also consider the role of business model relatedness. Through this, they argue that different business models are related to different internal (e.g., shared organizational beliefs) and external identities (e.g., perceptions of outside stakeholders), which consciously or unconsciously impact the post-merger integration process.

The preceding chapter exposed the meager results experienced in many M&A transactions, where further research on the underlying factors is needed. Also, rather little is written about post-merger integration of different and multiple business models. This is where I saw my research fit in, where a novel combinatory approach applying a business model perspective as the analytical lens in the study of synergy realization from post-merger integration. which resulted in the following research question:

RQ 1: How do differences in business models affect value creation and synergy realization in post-merger integration?

## 2.3 Open innovation as a source for future value creation

For an organization, innovation represents the hotbed to sustain business and create future revenue and value. Provided this importance, OI has been a research area which has attracted an increasing amount of scholarly interest in recent years. Open innovation is a paradigm that promotes organizations to utilize external ideas as well as internal ideas in their development and innovation processes (Chesbrough, 2003). Supporting these ideas, the increased complexity of products and services, combined with shorter product and innovation life cycles and high development costs, has made it increasingly demanding for an organization to possess all the necessary competences and capabilities in-house, which forge demand for collaboration. This highlights the importance of OI collaboration when an organization builds its platform for sustained and future value creation, which constructs the second theme of this thesis. Collaborative processes are, for obvious reasons, not uniform and consequently organized and executed in a multitude of ways depending on size, industry, organization, and project. My ambition has been to approach OI from the specific angle of organizational size, explicitly collaboration between large and small companies, because research has shown mutual incentives for both small and large organizations to seek cooperation (Lewin and Massini, 2004). However, literature has also shown that large and small companies are driven and governed by different sets of logic (Katz and Gartner, 1988), which is important when designing the required collaborations. Based on this and the large investments at stake in OI, I recognize the importance of knowing more and identify what characterizes cooperation of this type.

As previous studies have focused either on large (e.g., Chesbrough, 2003; Dodgson et al., 2006) or small organizations (e.g., Brunswicker and Van de Vrande, 2014; Lee et al., 2010;

Van de Vrande et al., 2009) and only to a limited extent on the combination (Remneland Wikhamn, 2021), our focus on joint collaboration called for the careful selection of literature that could provide complementary insights and perspectives. We decided to base our theoretical framework on the three main pillars: open innovation, partnership and alliances, and entrepreneurship. With close bearing on our study, open innovation research builds on the ideas and principles that innovation to a larger extent is carried out in cooperation between several firms and organizations. In this context, OI is defined as a strategy for managing and controlling distributed innovation processes across organizational boundaries using pecuniary and non-pecuniary mechanisms in line with the organization's business model (Chesbrough and Bogers, 2014; Dahlander and Wallin, 2006; Sieg et al., 2010). While most early research on OI centers on large multinational firms (e.g., Chesbrough & Crowther, 2006; Chesbrough, 2003; Dodgson et al., 2006) and how to appropriate external knowledge, such as inbound open innovation (Dahlander and Gann, 2010; Gassmann and Enkel, 2006; West and Bogers, 2014), recent research has begun to document OI from the perspective of small- and medium-sized firms (Brunswicker & Van de Vrande, 2014; Lee et al., 2010; Van de Vrande et al., 2009; Vanhaverbeke, 2017; Vanhaverbeke et al., 2018). The broadened research scope has shown that OI is playing out quite differently in smaller firms than in their often larger multinational partners (Hochleitner et al., 2017; Radziwon & Bogers, 2019; Usman et al., 2018; Vanhaverbeke, 2017). Our study is established in the intersection of these research orientations. From an OI perspective, a smaller firm can often be generalized as an evolving, dynamic, but less mature unity, where culture, purpose, and structure are under development (Katz and Gartner, 1988). Research connects these attributes with certain innovation advantages, which relate to flexibility in adapting to changed conditions and environments (Rothwell, 1994). Furthermore, the organizational limitations of small firms have been shown to create a workforce characterized by generalists working under less formalized conditions and frameworks, which can offer advantages for OI (Davidsson and Honig, 2003; Lazear, 2004). Correspondingly, literature focusing on large firms presents them as more mature organizations with clearly defined purposes, cultures, visions, and bureaucracies. Structure, resources, and accumulated knowledge enable specialization of staff and processes, which is not feasible for smaller organizations (Davidsson and Honig, 2003; Katz and Gartner, 1988; Lazear, 2004). Knowing about these differences makes it understandable why friction can arise when these types of organizations enter into cooperation; consequently, it is important to understand more about it to increase the efficiency and value creating potential from these collaborations. Given the different advantages, we found it interesting and logical to investigate the possible joint synergies by cross-fertilizing between these types of organizations. It can be seen from literature that large organizations seek to access agility and changeability, whereas smaller organizations want to access production know-how, capacity, and gain legitimacy and mitigate factors in which they have a shortage, for example, time and funds (Lewin and Massini, 2004).

To provide insights into how partnerships are established and why they are shaped as they are, research on partnership, alliances, and entrepreneurship has served as a vital pillar for us. Within partnership and alliance research, there are significant, robust, and well-established findings on the establishment and development of alliances over time (Doz, 1996). However,

established research implicitly assumes that partners entering an alliance are based on the same prerequisites, targets, and time horizon (Lumineau and Oliveira, 2018). The idea for the study rests on an assumption that this is not always the case. I mean that when large and small companies seek alliances, their motives and prerequisites might differ substantially, requiring new and complementary knowledge with regard to the specific challenges that arise in these types of alliances. In doing so, we also draw on entrepreneurship literature to support our understanding and analysis of the nature of cooperation in the intersection between established large companies and small organizations. This literature has studied the relationship and interlinkage between newer and more established organizations at the individual and team levels (Brattström et al., 2020; Davidsson and Honig, 2003; Katz and Gartner, 1988; Shepherd et al., 2019). In summary, the purpose of the study was to identify patterns, advantages, and challenges in innovation collaborations between large and small companies and organizations, which led us to the following research questions.

RQ 2: How can large and small firms establish symbiotic collaborations? What characterizes a symbiotic and mutually beneficial innovation partnership where the participants capitalize on each other’s relative advantages?

Through the answers, I seek to present ideas on how to establish symbiotic collaborations that benefit from the differences and capture the strengths of the respective organizations.

## 2.4 Closing remarks on the theoretical framework

The theoretical framework has introduced the main research that has been applied to support this thesis, with theories on business models, M&A, post-merger integration, and innovation collaboration (borne by theories on OI, partnership, alliances, and entrepreneurship). Separately, these research areas have been well researched, having generated a set of different perspectives and theoretical concepts. My research questions were formulated by combining these theories in novel ways, focusing on intersections between the areas. By incorporating business models with the M&A literature in Paper 1, this enables us to expand the concept of strategic fit and offers an opportunity to rethink how synergies are created between merging firms. In Paper 2, our findings and the combination of the theoretical frameworks contribute to OI literature by identifying the characteristics entailed in small-large firm collaborations. Through this, my studies have been able to generate a new understanding of these strategies and their ultimate goal of creating value, as illustrated in Figure 2.

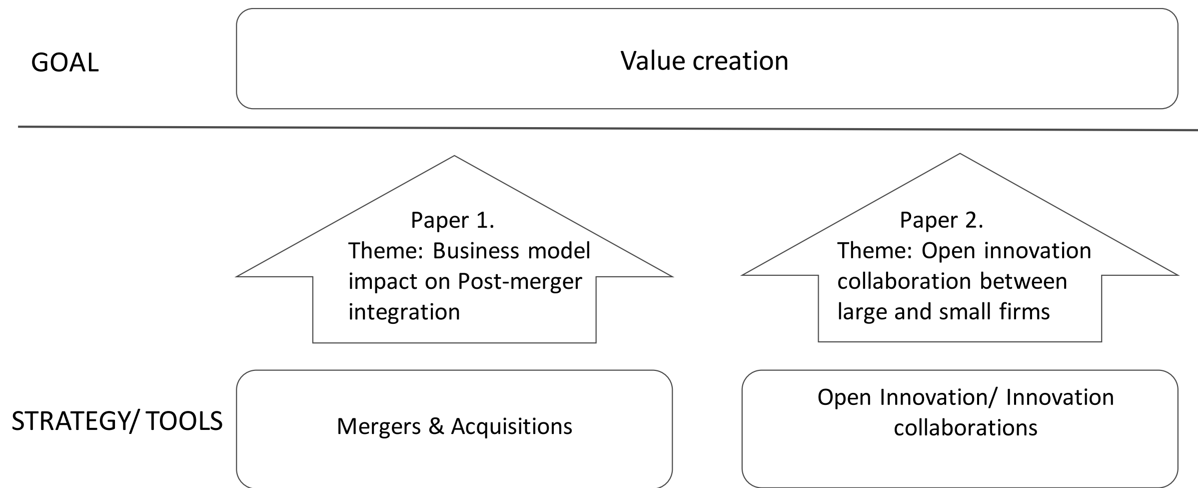


*Figure 2. Positioning of the papers in relation to the main theoretical theme of the thesis.*

# 3 Methodology

The following chapter describes and discusses the methods and writing processes for the appended papers. It provides a description of the cases and methodological considerations made. The focus is on the overall approach to the research methods because the details for the individual projects are thoroughly described in the full papers. Tied to the methods used, this chapter is ended by a reflection on my role as a researcher.

## 3.1 Research design

### 3.1.1 Qualitative research

At the aggregated level, the research in this thesis is qualitative research founded on descriptive empirical data based on spoken or written accounts providing reflections and observations of the studied phenomena. The research questions were designed to apply an explanatory approach to the investigated event, whereby a qualitative research design was found appropriate because it enabled an in-depth examination and understanding of the cases (Ritchie et al., 2013). The realm of qualitative research entails a number of research designs, making it important to select a design that is both suitable for the available data and able generate the necessary answers (Eisenhardt, 1989; Yin, 2009). Both studies in this thesis opted for case studies (Paper 1 single case, and Paper 2 multiple cases, based on field studies of 17 dyadic partnerships), in which the rationale is discussed below. To position my research in the debate on the cause for doing research and whom research should benefit, where some argue that there has been a growing gap between research and practice (Mohrman and Lawler, 2011; Starkey and Madan, 2001; Van de Ven, 2007), my ambition since starting has been to generate research that contribute with both scientific and practical knowledge (Mohrman and Lawler, 2011; Van de Ven, 2007). As such, it has been supported by Van de Ven´s (2007) argument that scientific and practical knowledge are two distinct types that complement our understanding of reality.

### 3.1.2 Case studies

The initial research idea behind Paper 1 stems from my own experience as an employee and director, having been part of an organization going through an M&A- and post-merger integration process with several interesting aspects. Despite the apparent similarities of the merging organizations, I identified unexpected elements and outcomes that I thought were interesting to investigate from a research perspective. This became the starting point for my contact with Chalmers and my journey as a Ph.D. student. What I found interesting was that the two merging entities were characterized by what should be considered high ex-ante relatedness. However, there was one exception that related to the business models which carried substantial differences. This developed into a project that resulted in Paper 1, where the purpose was to explore how differences in business models affect value creation and synergy realization from post-merger integration. Opting for a research design based on a single-case study felt like a natural choice given the available data, where we built the study on data from the material handling company UniCarriers Europe (currently Mitsubishi

Logisnext Europe), which recently has gone through a merger and post-merger integration process where the business model aspects were noticeable and possible to study.

Paper 2 focuses on OI collaboration between large and small organizations, a project initiated by the research team together with the Swedish innovation agency Vinnova, which also provided funding for the project. Our idea with this study was to research the challenges arising in innovation relationships between small and large firms, and from the findings, we attempt to identify the factors that create symbiotic and mutually beneficial partnerships. To foster reliability, opting for a multiple-case study was logical and to create the necessary width of data required a careful selection of relevant cases. In total, we selected 17 dyadic relationships, which represented a large variety of collaborations and operations, stretching from product development, production, automatization, and IT system implementation, to providers of hardware, software, and other services.

Key primary data for both papers were gathered through semi-structured interviews with key stakeholders. To create the necessary depth, data has been complemented with participant observations and archival data. The selected cases allowed good assessment of primary data because key stakeholders involved in the processes studied have been accessible for interviews and open to answer questions. In line with Yin (2009) the research questions in combination with rich access to "real life"-primary data served as motivators for the selection of a qualitative research strategy based on case study research design. From a theoretical perspective, the selected research designs fit Yin's (2009) argument that case studies, from an epistemological standpoint, are appropriate to use when research questions focus on the reasons behind a phenomenon, behavioral events are not controlled, and the emphasis of the study is on contemporary events. Furthermore, the choice of research design satisfies some of the criteria presented by Stuart et al. (2002), where they suggest applying case studies, if current theory does not exist or is unlikely to apply and/or where theory is available, but the context studied is different or in contexts when cause and effect are in doubt or involve time lags. Case-study research has been debated within academia with regard to what type of theory provides the optimal basis for these studies, a theory specified a priori or generated through grounded theory. Whyte (1984) claims that research should be driven by ideas (theories) about how to study and analyze data, whereas Glaser and Strauss (2017) suggested that theory should evolve from the data rather than being restricted by the imposition of an a priori theory. Van Maanen et al. (1982) argue along the same line when they claim that researchers are to avoid committing any theory prior to the study. From a research strategy perspective, the studies entailed in this thesis are more abductive than pure inductive. As such, they lean more towards the standpoints of Glaser, Strauss, and Van Maanen, where the use of theory functions as a supporting framework that evolves during the research process. For us, the use has served to frame the topic, both with regard to the theoretical framework, but also as an outline of the narrative of the study. Case studies, similar to other research designs, are more suitable in certain settings than others. Single-case studies have been established and accepted as a particularly suitable method for the inductive theory generation, especially in the early development phase of a research field (Teagarden et al., 1995). Respectively, multiple-case studies have shown an appropriate method when conducting comparative

studies or where the study of general trends are in focus (Bell et al., 2018). These methodological properties fit us well to the design phase as well as the execution phases. The flexibility of the design opened up the possibility of analysis on several levels, a characteristic common to case studies (Eisenhardt, 1989). For both of the studies, this enabled us to apply different perspectives of analysis: within an organization, within a function, and between organizations.

### 3.1.3 Interviews as method

Interviews, which serve as primary data for both papers in this study, are a common method to use when gathering data for qualitative studies. The palette is wide and there are several types of interviews to utilize depending on the type and character of data the researcher is pursuing. The main types of interviews are unstructured interviews, structured interviews, and semi-structured interviews, all of which have their own techniques and contributions to the research. From a methodological perspective, the purpose of an interview is to gain a deeper understanding of the phenomena studied. This is achieved through careful analysis of nuances and insights generated from the interaction with the interviewee. To be successful, the interviewee is catalyzed by the interviewer to share his or her view. This process can be facilitated through an interview guide, which serves as a support structure providing guidance on what to talk about (Flick, 2018). Constituting key primary data for many studies, it is important to prepare interview guides and structure the interview in a way that facilitate coding and proper analysis. Upon consent from the interviewee, it is recommended to record and transcribe interviews to document everything said and capture nuances on how things were expressed (ibid).

### 3.1.4 Case background

In Paper 1, where we investigate the impact of business model differences on the realization of synergies in post-merger integration processes, our analysis is based on a recent case situated in the European material handling industry, the merger between UniCarriers Europe (currently Mitsubishi Logisnext Europe) and its sister organization Mitsubishi Caterpillar Forklift Europe (MCFE). UniCarriers Europe was the European operation of the Japan-based UniCarriers Corporation, a major global company in the material handling industry. In 2015, as part of a horizontal merger, the global business of the UniCarriers Corporation was acquired by the Material Handling Division of the Japanese Industrial Conglomerate Mitsubishi Heavy Industries, forming the third-largest material handling company in the world. After the merger was formally closed in 2016, UniCarriers Europe initiated a post-merger integration process with MCFE to establish a single European operation. The post-merger integration process was organized around a set of post-merger integration teams representing key functions, such as R&D, production, spare parts, sales, marketing, and administration.

For Paper 2, we searched for a representative selection of cases involving collaboration between large and small organizations. Where we opted to use Mitsubishi Logisnext Europe (MLE) for the study. With an annual turnover of approximately €630 million and about 2,000

employees involved in several sophisticated research and development projects, this organization has served as a proxy for large organizations. After screening and selection, we had the opportunity to study 17 dyadic OI relationships between MLE and their smaller innovation partners. The size of the partner firms ranged between four and 30 employees, engaged as specialists or consultants within product development, production, automatization, and IT system implementation or as providers of hardware, software, and other services.

## 3.2 Data sources, collection and analysis

Table 1 provides a summary of the research design and data collection process used in the appended paper followed by a review and reflection on the methods selected.

*Table 1 Summary of the research design and data sources for the appended papers.*

| | Research design | Data source | Amount |
|---|---|---|---|
| Paper 1 | Single-case study | Primary source data: | |
| | | Semi structured interviews | 26 |
| | | Informal follow-up discussions | 43 |
| | | Archival data: | |
| | | Emails | 54 |
| | | Internal presentations | 8 |
| | | Press releases | 6 |
| | | Participant observations: | |
| | | Due-diligence meetings | 5 |
| | | Presentations and workshops during the merger | 8 |
| | | Meetings and workshops after the merger | 38 |
| Paper 2 | Multiple-case study | Primary source data: | |
| | | Field studies from dyadic OI relationships between small-large firm OI relationships based on semi-structured interviews, | 17 |
| | | Informal follow-up discussions | 33 |
| | | Archival data: | |
| | | Emails | 62 |
| | | Internal presentations | 5 |

### 3.2.1 Semi-structured interviews

As mentioned above, semi-structured interviews were selected as the primary interview method for my studies. A semi-structured interview is planned and conducted using a prepared interview guide, while at the same time allowing the interviewer to adapt the order of questions or probe with additional follow-up questions during the interview (Bell et al., 2018). These attributes have made semi-structured interviews a common method to use in case studies, where it is deemed to be particularly suitable when there is a pre-established idea of how the data will be analyzed (Yin, 2009). In line with the established method, both studies

applied interview guides that covered the topics and questions we wanted to cover (see Appendix 1 and 2). The interview guide used was primarily constructed from open-ended questions, which helped not steer the interviewee too much and facilitated the interviewee to provide her or his personal views and perspectives (Kvale and Brinkmann, 2009). The interview guide was not used as a strict agenda; rather, it served as a guideline from which the interviewer could move between questions and topics depending on the interviewee. Despite this flexibility and the fact that an interview guide can be amended and adjusted during the data collection process, we tried to follow the main principle that all interviews were conducted using a similar interview guide and questions were asked to the interviewee in the same way. This is to achieve as coherent material as possible. To secure as rich data as possible, we have extensively utilized probes (Bell et al., 2018; Flick, 2018) during the interviews, where the probes served as enablers to help the interviewer obtain clarifications or more specific or in-depth information.

### 3.2.2 Informal unstructured interviews

Throughout the research process, we had continuous conversations and follow-up discussions with interview candidates to gain clarification and nuances on the data. Information gathering was carried out in the form of informal unstructured interviews. These types of discussions are well-established practices to increase the depth of data from observations (Flick, 2018). In our case, we conducted a total of 43 informal unstructured interviews for Paper 1 and 33 for Paper 2, where additional data supported the verification of our results particularly when it came to understanding organizational politics.

### 3.2.3 Participant observations

Combining a senior position in one of the case companies with my role as a Ph.D. student has helped and been an advantage for the studies in this thesis. It has enabled us to obtain privileged access to stakeholders, correspondence, and data, and where appropriate, also a unique insider perspective of central events, for example, due-diligence and execution of the integration. Through my network and hands-on involvement in some of the events studied, I have been provided access and closeness to the actual processes that would have been difficult to achieve otherwise. Access to an insider has further facilitated our ability to understand nuances and jargon in the data, which would have been difficult for an outsider to interpret. To limit the risk of bias from using an insider, the research that involved participant observations was performed after-the-fact and not in-the-flow. Having outsiders on the research team further minimized this risk.

### 3.2.4 Sample selection

Qualitative studies are intended to create an overall picture of a phenomenon, from listening to different voices sharing their view, rather than to find a definitive truth (Flick, 2018; Ritchie et al., 2013). With this in mind, focus for the researcher is to interpret the interview data in a way that makes it contribute to the research. To achieve this and establish an appropriate set of data, a well-designed selection process is important. To obtain a relevant and representative sample of interviewees for the studies, the strategy has been to have a tight

link between selection and research aim. With limited resources, it is important to select appropriately, where purposive sampling (Kelly et al., 2010) is a method used to select respondents that are most likely to yield appropriate and useful information. The correct application of a purposively selected sample in a qualitative study can generate results with depth, despite the relatively small sample (Palinkas et al., 2015).

For Paper 1, interview candidates were selected based on several selection criteria, such as level of seniority, involvement in the post-merger integration- teams, and/or the relevance of the position the candidate held in relation to the process. Another aim was to achieve a holistic perspective by having a wide spectrum of organizational functions, such as sales, marketing, production, R&D, finance, and HR.

In total, 26 semi-structured interviews, ranging approximately one hour, were conducted using the interview guide enclosed in Appendix 1. The interviews were transcribed verbatim, coded, and analyzed using NVivo text analysis software. A full account of the interview and coding process is described in Paper 1.

For Paper 2, the selection process can be divided into two processes: case selection and interviewee selection. With regard to the selection of cases, we searched for cases involving sophisticated collaboration, termed OI collaboration, with the special characteristic that it should involve the inter-relation between small and large organizations. The types of collaborations represented a large variety of projects, such as product development, system implementation, and supplier/consultant. Through the case selection, we were able to compare, contrast, and reference from a wide range of collaborations. In total, we studied 17 dyadic OI relationships between large and small companies. The selection of interview candidates was based on the following criteria: e.g., ownership or involvement in the project/process, seniority, and representatives from both the large and small organizations. All interviewees selected held key roles within the respective projects, for example, project managers, specialists, consultants, and CEO and/or owners of the organizations involved. The interviews were conducted by the two main authors in tandem, on-site or online. All the interviews were recorded (voice and video). Where needed, formal interview data were enhanced with informal follow-up conversations. Full description of the analysis process is described in Paper 2.

For both studies, I can conclude that privileged access to organizations has provided valuable contributions to the richness of the data and possibilities for fast feedback and interaction.

### 3.2.5 Secondary data collection

Secondary data collection through the literature review was used to gain an understanding of the theories and their relation to the themes of the thesis. Another aim of the literature review was to confirm research gaps in which our studies would fit in and bridge. As mentioned above, main literature has been related to research on M&A, post-merger integration, business models, and OI.

A systematic, multi-step search was conducted to map and gather the literature. For Paper 1, a first screening was performed using Google Scholar and Scopus, where the search was made on journal articles containing relevant keywords and/or combinations (e.g., business model, post-merger integration, and mergers and acquisitions) of the title, abstract, or full text. This selection generated a large number of hits, which were sorted based on the number of citations. Then, the gross list of articles was screened by reading the abstracts, from which relevant articles were selected. When reading the material in conjunction with the analysis, further references were added to the reference list based on relevance for the understanding. At the end, it generated a selection of 81 articles in the reference list that were stored and sorted into different categories using the reference management software Zotero. The pre-reading showed us the large amount of research that has been generated associated with M&A and growing number of publications related to business model research. However, when a business model perspective provides tools to understand the logic behind how firms create value, we were surprised that business model theories had not been applied to analyze the outcomes of M&A and post-merger integration. By infusing a business model perspective on post-merger integration literature, we saw the opportunity to better understand the mismatch between synergy potential and synergy realization.

For Paper 2, which is a Vinnova sponsored project, it is important to apply a theoretical foundation suitable for the project and the sponsor's intention. For secondary data collection, we applied a process similar to that used in Paper 1. Literature from three main pillars, open innovation, partnership and alliances, and entrepreneurship served as the foundation, where the post screening and analysis phase resulted in a reference list based on 43 articles.

## 3.3 Research quality

When discussing the quality of research, common and established parameters to discuss are *reliability, replication*, and *validity* (Bell et al., 2018). As perspectives traditionally developed for quantitative research methods, there is an ongoing debate on how to achieve objectivity and apply these aspects to qualitative methods. This is logical because it is inevitable that these are important and complex factors that need to be carefully considered in qualitative studies. In doing so, Lincoln and Guba (1985) presented a view founded on trustworthiness, with a terminology built around *credibility, transferability, dependability*, and c*onfirmability*. Where *credibility* is a factor developed through experience in the field, which Lincoln and Guba (1985) term prolonged engagement. Furthermore, it seeks to confirm whether the research is trustworthy. Personally, I have tried to establish *credibility* in my research by making notes, reflecting, and questioning my assumptions, selections, and methods. When discussing *credibility*, the impact of receiving input and reviews from colleagues, peers, and supervisors is of importance. From a research team perspective, I have had the privilege to work with very experienced researchers, which have published several articles related to these research areas. Their experience and guidance have served as an assurance of scientific stringency. Furthermore, being part of the organization that has being studied has provided "field" access and opportunity for participants' observations and frequent and privileged access to the organization, which I believe has been a profound contributor to the credibility of our study.

*Transferability* evaluates whether or to what extent research can be generalized and transferred to other contexts (Bell et al., 2018). Since this thesis is founded on two case studies, I would not claim that my research is directly transferable to every possible context. However, in line with what Beach and Pedersen (2016) say in relation to case studies, our aim has been to craft a sufficient explanation of a puzzling outcome in a specific historical case using a case-centric rather than theory-oriented approach. As such, the studies represent a bottom-up analysis, employing empirical material as the foundation for building plausible explanations of causal mechanisms leading to the observed outcome. As the contributions we present in the studies are based on resemblances that have been seen in these cases, I firmly believe that the findings provide new input and recommendations, which offer possibilities to continue exploring these topics in other settings.

*Dependability* relates to research design and methodology, focusing on whether the research is reliable (Lincoln and Guba, 1985). To establish reliability, I strived to be transparent and detailed when describing research roles, design, and methods used. Contributing to dependability, we as a research team have applied established research designs and methods for these types of studies. How to combine my role as a researcher, industrial Ph.D., student, and insider in one of the studies is discussed further in the next chapter.

Finally, *confirmability* is a characteristic that Lincoln and Guba (1985) are associated with related to the objectivity of the research. As mentioned above, it is very difficult for any researcher to establish full objectivity, and every human being inevitably carries his or her own biases. Hence, for a researcher, it is of utmost importance to be aware of how biases might influence research. A factor that becomes even more important having been a participant and insider in one of the studies. To mitigate this fact and avoid any idiosyncratic biases, I have discussed aspects of the research, such as interpretations of interview data, with my co-writers and supervisors. In their role, they have provided fruitful input to the process while at the same time scrutinizing where needed. Bringing perspectives from a larger team of researchers support confirmability because the data are checked by more than one eye, limiting biased influence on the research. For this to work, it is vital to have an open and honest communication, which I think we have been able to establish well within these projects.

## 3.4 Reflections on method and my role as a researcher

The idea of pursuing the endeavor as an industrial Ph.D. student sprung from curiosity in combining experiences and knowledge gained throughout my professional career with a research approach. As mentioned above, employment as Finance Director at UniCarriers provided me with the case and the research question for Paper 1, which became the starting point for my contact with Chalmers and journey as a Ph.D. student.

When conducting social science studies of the types described in this thesis, it is important for me as a researcher to reflect on the relationship between the researcher and object (case) of research. For me as being an insider with a contractual relationship to the organization investigated, this is even more important. A recent method of studying organizations from the

inside is insider action research (Brannick and Coghlan, 2007), where the researcher, as a deliberate part of the research, affects the organization through his or her actions. In relation to the studies in this thesis, my opinion is that they do not fit the definition of insider action research. This is based on the fact that my purpose as a researcher has not been to purposely impact the organization in its processes but rather to analyze identified events where the research was conducted after the fact and not in the flow. Still, as an insider and through my role as Finance Director, I have had extensive knowledge of the case. Thus, my role as a researcher could be labeled insider research and/or participant observations based on the specific insider knowledge that I am able to add to when analyzing and interpreting the results (Ibid). Being an insider, there are factors in the research process that one must be aware of and address for them not to become issues impacting the research negatively. An insider is likely to have easier access to informants and data than a researcher approaching the organization from the outside, although one needs to be careful in the selection of the informants so that the selection is representative and does not consist of people similar to or with inappropriate links and dependencies to the researcher. If this is not handled correctly, there is a risk that vital information and perspectives are lost, which harms the validity and objectivity of the study. An advantage on the side of the insider is the benefit of knowing the internal nomenklatura and jargon and the ability to make associations from the researchers' own experience. Furthermore, an insider is more likely to follow up on answers, enabling the construction of a richer set of data. Simultaneously, an insider needs to be careful not to base too much on its own assumptions and avoid the risk of skipping opportunities to ask for clarification (Brannick and Coghlan, 2007). In our case, we mitigated insider risks through the composition of the research team, mixing insiders, and outsiders.

# 4 Summary of Appended Papers

This chapter summarizes the two papers that constitute the foundation of this thesis by introducing; title, abstract, and main contributions. For complete details, these are found in the enclosed full versions of the papers. The appended papers are linked to the process of value creation in different ways (see Figure 2), where Paper 1 with a business model lens looks at value creation in the context of synergy realization through M&A and post-merger integration. In turn, Paper 2 tackles value creation from the perspective of open innovation, where we study OI relationships with a specific focus on how collaboration between small and large firms can establish symbiotic and mutually beneficial partnerships.

## 4.1 Paper 1

An important motive for M&A is the potential for value creation and synergy realization. However, prior studies on post-merger integration have been silent on how business model differences impact the success of such integration efforts. This study combines firm-level studies on business models and post-merger integration to explore how differences in business models affect value creation and synergy realization in post-merger integration. Our case is situated in the European material handling industry, and we analyze post-merger integration between two parties pursuing diametrically opposing business models. We collected data before and after a merger decision through expert interviews with senior executives and managers, participant observations, and corporate documents. Our data reveal how business model differences affect merger integration efforts and outcomes, specifically how differences in the value proposition, distribution, and revenue schemes lead to substantial and unforeseen post-merger integration challenges. Our results suggest that business model congruence – the fit between merging business models achieved through carefully stitching business model components into a value-creating system, is a critical factor impacting post-merger integration. The importance of business model congruence is underscored by the observation that similarities in the value-creating system (e.g., production and R&D) were associated with smoother integration and superior synergy realization. This study contributes to literature on business models and post-merger integration by explaining how the business model can function as an important analytical lens to assess integration challenges before and during mergers.

Since August 2021, this paper has been in the review process of *Long Range Planning* and has received a revise and resubmit

## 4.2 Paper 2

Open innovation research has historically focused on larger firms, but recently, the literature has begun to put smaller firms' centerstage. In this study, we seek to identify how both small and large firms can establish symbiotic and mutually beneficial innovation partnerships. Our analysis draws on field studies and interview data from 17 OI partnerships between a large technology firm and its small innovation partners. We find that collaborating firms encounter three distinct challenges—inadequate counterpart insight, lack of goal congruence, and severe

flexibility constraints—and that successful partners mitigate these challenges with dating and negotiation. This study contributes to OI literature by identifying idiosyncrasies in small-large firm collaborations. We conclude with managerial advice geared towards small and large firms.

Since August 2021, this paper has been in the review process of *Creativity and Innovation Management*.

## 4.3 Researcher's role in the papers

In this section, I discuss my role and involvement in the creation of the appended papers. Both papers are co-authored, and below, I present my work in this collaborative process. The research generated through these papers has been made possible by the support provided by UniCarriers Europe AB (currently Mitsubishi Logisnext Europe AB), and for Paper 2, by the financial support from Vinnova.

Paper 1

For this paper, I collected the data and played the lead role in the writing process. Analysis and theory development have been iterative collaborations between research teams. As an industrial Ph.D., student, I contributed to participant observations in the study.

Paper 2

I have identified, provided access to, and participated in the selection of cases. I have been a part of the team collecting data. Compilation and analysis of data was conducted by me, and theory development and writing has been a collaborative effort of the research team.

# 5 Discussion

This thesis addresses value creation from strategies involving collaboration between organizations. Below, I discuss the findings and their impact on theory and practice. With a starting point in the overall theme of value creation, through means of joining forces, I continue to delve down and discuss specific contributions to the areas related to the specific studies, starting with a special focus on value creation and synergy realization from post-merger integration. Following this, I elaborate on value creation from OI through the perspective of symbiotic relationships between large and small organizations. I also share my thoughts on the practical implications of the findings. The end of the chapter is devoted to limitations and areas for further research that has sprung up as a result of this work.

## 5.1 Theoretical contributions

Synthesizing the purpose of this thesis, *to generate new insights on how the value creation of an organization is impacted when organizations join forces through M&A and open innovation collaboration*, my research has provided me with new understanding of the challenges and opportunities that arise when organizations strive to create value by joining forces through different strategic initiatives. In the light of this I see that the combination of the studies in this thesis provides a set of insights with relevance to literature in different research areas. Firstly, I would like to highlight that our granular level research approach, focusing on the challenges with two common strategies for value creation, has sheds light on the many inter-social and cultural relations that need to be in place to establish working interorganizational relations when companies and organizations join forces. From this I deem organizations facing challenges, similar to the ones in my studies, to be helped by establishing, values and culture, structures, processes, and incentives that allow for cooperation, adaptation, and duality. By making these factors visible the thesis contribute to M&A, OI and partnership and alliance literature focusing on socio-cultural and organizational aspects, (e.g., Bauer and Matzler, 2014; Buono and Bowditch, 2003; Doz, 1996; Lumineau and Oliveira, 2018; Radziwon and Bogers, 2019; Stahl et al., 2005). In relation to inter-social relations I would also like to underline the importance of the establishment of trust, e.g. as addressed by Brattström et al., (2019) and Brattström and Bachmann, (2018), in the type of strategic initiatives addressed in this thesis. Trust is a factor I will return to when discussing areas for future research.

Secondly, the thesis highlights the importance of being informed about the characteristics, be it business model or size related differences, of the partner organization in order to understand optimize a joint initiative. By addressing the impact of organizational differences and impact of strategic similarity the thesis has bearing on both M&A (Markides and Charitou, 2004; Markides, 2013) and OI literature (Brunswicker and Van de Vrande, 2014; Chesbrough, 2003; Lee et al., 2010; Van de Vrande et al., 2009), which I will return to when I discuss the key themes of the thesis areas below.

Thirdly, in order to be able to capture value from these processes, my research has convinced me of the need for organizations to hold capabilities and attributes for them to change and

adapt to the rapid changes that the current business environment demands. The thesis adds to the conversation on dynamic capabilities (Teece, 2018) in organization- and strategic management literature by demonstrating that in a fast-moving environment where innovation and diversification will be high on the agenda to possess dynamic capabilities, defined by Teece (1997) as "the firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments," becomes increasingly important.

The discussion below will continue to address the contribution in relation to the specific themes of my studies.

### 5.1.1 Strategic similarity and dynamic capabilities enablers for value creation from M&A

M&A and business models are integral strategies for firms to transform and create value, and being at the center of the value-creating process has also established them as important research areas. In Paper 1, we integrate business models with M&A literature and offer new possibilities to address how business model differences impact value creation from mergers and post-merger integration. Based on business model literature (e.g. Amit and Zott, 2012; Casadesus-Masanell and Tarzijan, 2012; Hacklin et al., 2018; Osterwalder et al., 2011; Winterhalter et al., 2016; Zott et al., 2011; Zott and Amit, 2008), our study demonstrates how differing business model components (e.g. value proposition, distribution models, revenue streams used and customers) led to substantial and, in many cases, unforeseen post-merger integration challenges. We could trace these challenges to insufficient due-diligence, unawareness of business model differences, idiosyncrasies, and distrust, the results showed that processes founded on similar business models experienced less friction and smoother integration with better synergy realization. Based on our findings, we complement the extant literature on post-merger integration and mergers of related entities (e.g., Chatterjee, 1986; Harrison et al., 1991; Porter, 1989; Trautwein, 2013), by suggesting that *business model congruence* – here interpreted as the fit between merging business models achieved through the careful stitching of business model components into a value-creating system – is a critical boundary condition for successful post-merger integration. Furthermore, the results support and add to Sohl and Vroom´s (2017) findings by providing empirical backing to their conceptual analysis of how business model relatedness influences post-acquisition performance. Where previous literature has analyzed strategic fit and value creation through factors such as product markets, resources, and supply chains (Bauer and Matzler, 2014; Kusewitt Jr, 1985; Pehrsson, 2006; Rumelt, 1974), analyzing through a business model lens helped us to show that ostensive high-level relatedness can still contain organizational difference with a substantial impact on merger and integration outcomes.

When scanning for strategic alternatives on integration the emergence of ambidexterity, within business model research, explores challenges, advantages and organization of operating multiple business models (e.g., Aversa et al., 2020; Hacklin et al., 2018; Markides, 2013). As such, it provides alternatives to keeping business models separated through spatial separation (Bower and Christensen, 1995; Burgelman and Sayles, 1988; Christensen and Overdorf, 2000; Christensen and Raynor, 2003; Clark, 2003; Govindarajan et al., 2005; Gulati

and Garino, 2000; Porter, 1996; Tushman & O'Reilly, 1996). In line with the literature, I mean that by exploring these avenues, organizations can limit the risk of strategic failure by losing the ability to exploit synergies between models (Casadesus-Masanell and Tarzijan, 2012; Markides and Oyon, 2010; Markides, 2013). Several concepts to handle organizational duality have been presented, such as *temporal separation* or *contextual ambidexterity*. The former builds on organizational separation at different points in time, and the latter is a concept that proposes creating an organizational context that allows for balance. (Nickerson and Zenger, 2002; Puranam et al., 2006; Siggelkow and Levinthal, 2003). In support of these ideas, in 1967, Lawrence and Lorsch (1967) claimed that successful integration was possible when and if units managed to create both a high degree of integration and differentiation. Bringing renewed emphasis on value creation and synergies in the M&A process by addressing strategic similarities, the thesis adds to extant literature by elucidating how the business model can function as an important analytical lens to assess integration challenges. Furthermore, the study exposes the criticality of dynamic capabilities in creating value and synergies from M&As (see also, Achtenhagen et al., 2013; Teece, 2018, 2010). I demonstrate the difficulties in grasping the logic of a different business model, whereby the right dynamic capabilities (Teece, 2007) are needed to sense, seize, and transform the value creating opportunities a merger may present.

By incorporating business models into the M&A literature, our study expands the concept of strategic fit, offering an opportunity to rethink how synergies are created and how business models and dynamic capabilities can support and not stifle synergies between organizations joining forces. Hence, I argue that it is important to factor in how firms create and capture value when assessing the potential for synergies and devising strategies and dynamic capabilities to realize those synergies in post-merger integration. With this, I hope I have been able to argue that business models are to be considered when addressing the high failure rates associated with M&A.

### 5.1.2 Establishing the mutual benefits in OI partnerships

For almost two decades, OI (Chesbrough, 2003) has been an established concept to frame cooperation for innovation between organizations. Fitting the purpose with its bearing on value creation, the approach of focusing on OI partnerships between large and small firms enabled contribution to several areas of literature, e.g., OI (Brunswicker and Van de Vrande, 2014; Chesbrough and Crowther, 2006; Chesbrough, 2003; Dodgson et al., 2006; Lee et al., 2010; Van de Vrande et al., 2009), entrepreneurship (e.g., Katz and Gartner, 1988; Rothwell, 1994; Vossen, 1998; Chesbrough and Brunswicker, 2013; West and Bogers, 2014), and partnership and alliances (Brattström et al., 2019; Brattström and Bachmann, 2018, p. 2019201; Faems et al., 2008; Schilke and Lumineau, 2018).

First, by identifying how large and small firms engage in collaboration with very different perspectives and capabilities, three types of distinct challenges, divided into categories: counterpart insight, goal congruence, and flexibility constraints, were derived. Factors that, if not mitigated, hamper the relationship and intended value creation. By structuring the challenges, their impact, and influence on small and large firms, it add to the literature by

exposing the logics and incentives behind cooperation and alliances (e.g., Brattström et al., 2020; Katz and Gartner, 1988; Lewin and Massini, 2004). Categorizing the challenges helped to set forth with an aim to support value creation by presenting viable tactics to mitigate these obstacles. Having identified two distinct categories of solutions: labeled, dating, and negotiation. For each of which tactics to use when preparing and starting collaboration where presented. Tools that will be discussed further below in the section practical implications. To summarize, the study contributes to OI literature by addressing common challenges and presenting steadfast ideas for solutions, making it of interest to both academia and practitioners. Through this, I believe that it makes a sound input to the understanding ow value creation is impacted by OI collaboration.

## 5.2 Practical implications

As mentioned in the Introduction, an important aim of my research has been to provide useful advice to practitioners. In my studies, I identify three main groups of beneficiaries: companies involved in post-merger integration and small and large organizations entering OI collaborations. Below, I present the practical implications of my research for these different groups.

### 5.2.1 Implications for companies joining forces through M&A and post-merger integration

For firms planning for M&A, the main advice from this thesis is to understand and not underestimate the impact of differing business models on the outcome of a merger. I emphasize the importance of an early assessment of strategic similarity. Thus, it allows the due diligence process to evaluate business model fit, relatedness, and the dynamic capabilities of the organizations. Having identified the impact of business model congruence combined with the abovementioned trend of larger business model diversity indicates that post-merger integration will be even more challenging in the future. To prevail in this environment, I argue for a careful assessment of dynamic capabilities as we judge them as key attributes for realizing synergies from a portfolio of different business models.

As a template to support organizations planning M&A and post-merger integration, Figure 3 presents a schematic of the process design. Based on what I saw in our study, this outline provides a chronological agenda from the pre-merger through post-merger integration phase and post-merger. Categorized in the groups preparation and knowledge generation, business model strategy selection, post-merger integration organization and process, and post-merger management, it offers advice on important considerations during the different phases. Thereby, limiting the risk of value being destroyed by missing factors related to strategic similarities and business models. To establish a fertile context for execution, I support previous literature in their claims of the benefits of a credible and accepted integrator, joint visions, and a shared management team (Gilbert and Bower, 2002; O’Reilly 3rd and Tushman, 2004). Related to our study, I believe that several of the conflicts could have been mitigated if these aspects were considered prior to the start of the integration.

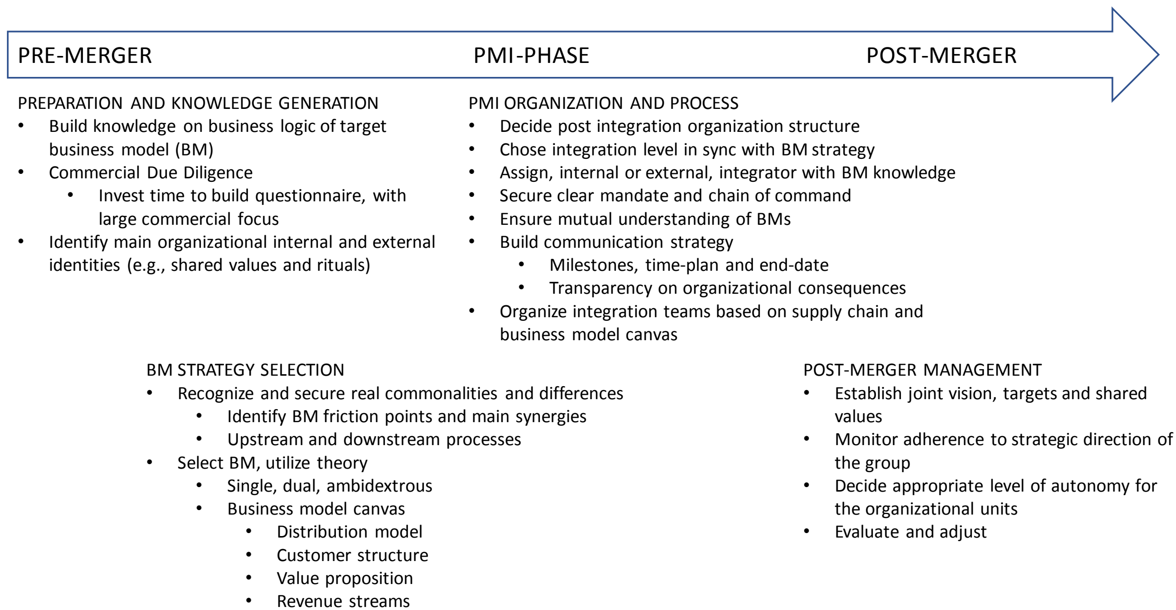


*Figure 3. Chronologic outline of the merger process.*

### 5.2.2 Implications for small and large firms entering OI collaborations

For large and small organizations, considering joint OI key advice is to invest in the preparations needed to ensure a good match between organizations before entering a collaboration. Hence, investments in due diligence are also in this case of vital importance. To synchronize cooperation, we present a set of steadfast tactics and tools to apply when preparing and starting collaboration. We label these tools as dating and negotiation, where dating refers to enablers in terms of structures and processes that entail the organizations to get acquainted already before the start of the collaboration. Negotiation frames tactics that facilitate the parties to establish the necessary trust and mutually agree on a clearly defined joint purpose. For each of these two categories, the study provides examples in which we present plausible tactics and solutions.

## 5.3 Limitations and suggested areas for further research

Even if I have been able to present a set of important findings, the study has also convinced me of the need for continued research into these topics. In relation to Paper 1, more research is needed to understand the role, antecedents, and effects of business model differences in the failure or success of M&As. For example, how to impact the intra- and inter-company processes when M&A involves the integration of different business models needs further investigation. I see large opportunities related to connecting M&As to the emerging orientations within business model research that explores the advantages and disadvantages of running multiple business models (e.g., Aversa et al., 2020; Hacklin et al., 2018; Markides, 2013). As highlighted above, I think that theories on ambidextrous organizations (e.g., Markides and Charitou, 2004; Markides, 2013) provide interesting ideas. Along this avenue, I see ample opportunities for research design applying ambidexterity and the dynamic capabilities theory to investigate options to operationalize two business models (e.g., direct and indirect distribution models) in a post-merger integration context.

When working with Paper 2 the subject spurred further interest, and I want to encourage additional research in several areas adjacent to this topic. In the interviews, efficient project management was often highlighted as an area with a large bearing on relationship building, productivity, and outcomes of OI. By combining the latest concepts in project management with ideas on venture teamwork, for example, as presented by Brattström et al. (2020), I see opportunities for research aimed at mitigating some of the size-related limitations inherited by small firms. An interesting approach could be to identify and categorize generalizable structures for application in bi- or multilateral collaborations. Furthermore, related to overcoming size-related limitations, I suggest looking at the possibilities of utilizing network theories (e.g., Burt, 2000; Law, 1992) with a specific focus on network collaborations designed for small firms. Our empirical data consistently revealed that culture, for example stemming from organizational and geographical factors, had an unexpectedly strong influence on the outcome of collaborations. Respecting the width and complexity of this subject, that is, one can assume that all parties enter a collaboration with a wish and belief that it will work out, but issues are still frequent. From this, it would be interesting to study why and how cultural conflicts arise and how to handle them.

A common denominator for both studies is that they address processes that involve a fair share of relation building, which requires the establishment of trust between the involved parties to be successful. In Paper 1, we argue that a lack of knowledge and understanding of business model differences created a lack of trust between the organizations, which proved hard to overcome. In Paper 2, the relational glitches can be traced to false understanding, expectations, and perceptions of the characteristics of one's partner. Furthermore, Paper 2 clearly reveal that deficiencies in establishing the necessary mutual trust is a factor that hampers relationships and consequently the result of cooperation. As such the thesis clearly show how collaborative processes are negatively impacted if the necessary trust is not in place. In line with this Brattström et al. (2018) showed that trust as a factor has a significant impact on the outcome of organizational change and interorganizational relationships. I think by building on these ideas on organizational change the conditions to generate interesting contributions to both theory and practice are there.

No study is without its limitations and I am aware that there are factors and events, not captured in our analysis, that influence the studied processes. When conducting case studies you are exposed to the limitation inherited in the singularity and the risk of researcher influence, i.e. idiosyncrasies and the generalizability of results (Dubois and Gadde, 2002; Yin, 2009). I have discussed how we have tried to mitigate this. Thus, I cannot claim the findings to be universal for all types of companies and organizations, rather I think that they are mainly applicable for organizations with similarities to the cases entailed in our papers.

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# Appendix

## Appendix 1

### Interview/ narrative guide – post-merger integration from a business model perspective.

#### Purpose

The purpose of this study how organizations work with their business/ business model during a post-merger integration, and by that capture challenges and possible solutions to post merger integration related issues.

#### Respondent

Could you please give us an introduction to yourself and your background and role in the company, e.g. name, position, area of responsibility, years with the company.

#### Storyline/ topics for narrative

Introduction

- What was your role and initial thoughts and reaction when the merger was announced?
- In your opinion what do you think was the idea behind the merger from the new owners? What did they want to achieve (e.g., scope, scale, synergies)?

Value proposition

- Please elaborate on how or if the merger changed how UniCarriers does business.
- How would you describe UniCarriers' *value proposition* to customers*?*
- Has the *value proposition* changed as a result of the merger? If so, exemplify how. Why has this change come about*?
- Does UniCarriers' value proposition differ from its sister company? If so how?
- How did UniCarriers go about changing the *value proposition*? Who did what? What was your role?

Distribution channels

Please tell me about how UniCarriers' *distribution channels* are operated pre-merger?

- Have the *distribution channels* changed in any way following the merger? If so, exemplify how. Why has this change come about*?
- Does UniCarriers' *distribution channels* differ from its sister company? If so how?
- How did UniCarriers go about changing its distribution channels? Who did what? What was your role?

Customer segment

- Please tell me about your view on UniCarriers' approach to *customer segmentation*?
- Have the *customer segments* changed in any way following the merger? If so, exemplify how. Why has this change come about*?
- Does UniCarriers' *customer segments* differ from its sister company? If so how?
- How did UniCarriers go about changing its *customer segments*? Who did what? What was your role?

Revenue streams

- Please describe UniCarriers' *revenue streams*?
- Have the *revenue streams* changed in any way following the merger? If so, exemplify how. Why has this change come about*?
- Does UniCarriers' *revenue streams* differ from its sister company? If so how?
- How did UniCarriers go about changing its *revenue streams*? Who did what? What was your role?

### Summary/ closing questions

- How was your own job been affected (tasks, responsibilities, interface with new functions and colleagues) by the merger and its implication on the business model?
- What were the key challenges for you in this transition, please exemplify?
- What were key challenges for the organization at large in this transition, please exemplify?
- Would you say that the goals of the merger has been achieved?

### Synergy creation

When the merger was announced where did you expect to synergies, for the merged company or for your function?

Where do you see synergies, for the merged company or for your function, in the way the new organization can conduct its business?

### Integration

Can you describe what you would consider a preferred integration and organization structure for the two merging organizations?

### Probing post-merger integration

View of potential synergies?
Knowledge about each other's organizations
political,
nationalistic,
individualistic aspects,
us and them
xenophobia

## Probing organization

spatial and/or temporal separation

## Explanation of Business model construct

| Pillar | Business model building block | Description |
|---|---|---|
| Product | Value Proposition | Gives an overall view of a company's bundle of products and services. |
| Customer Interface | Target Customer | Describes the segments of customers a company wants to offer value to. |
| | Distribution Channel | Describes the various means of the company to get in touch with its customers. |
| | Relationship | Explains the kind of links a company establishes between itself and its different customer segments. |
| Infrastructure Management | Value Configuration | Describes the arrangement of activities and resources. |
| | Core Competency | Outlines the competencies necessary to execute the company's business model. |
| | Partner Network | Portrays the network of cooperative agreements with other companies necessary to efficiently offer and commercialize value. |
| Financial Aspects | Cost Structure | Sums up the monetary consequences of the means employed in the business model. |
| | Revenue Model | Describes the way a company makes money through a variety of revenue flows. |

# Appendix 2

**UniCarriers intervjumall**

1. **Introduktion och bakgrund till projektet**
    a. Syftet med projektet är att skapa forskningsbaserad kunskap kring hur öppna innovationsprocesser kan ledas och genomföras genom samarbete mellan stora etablerade företag och mindre, entreprenöriella start-ups – vilket i detta sammanhang benämns öppet entreprenörskap.

    *b.* Med projektet förväntar vi oss uppnå en ömsesidig kompetenshöjning och ett kunskapsutbyte mellan akademi och praktik. Som konkreta leveranser från projektet kommer vi att arbeta fram:
        *i. kriterier och modeller för när/var/hur innovationspartnerskap mellan små och stora bolag är lämpliga; och metoder och verktyg för att leda, styra och organisera det öppna entreprenörskapet.*

    c. Vi planerar i första hand en kvalitativ forskningsansats i två parallella arbetsströmmar. *Vi inleder studien med att identifiera intressanta ”fall” (case)* i de deltagande organisationerna, där UniCarriers valts ut som ett referenscase för ett större företag. Genom intervjuer och observationer kommer vi *följa projekt över tid* och utifrån analysarbete arbeta fram lärdomar, kunskap och rekommendationer för såväl forskning som praktik.

2. **Bakgrundsfrågor**
    a. Berätta om dig själv och dina ansvarsområden på UniCarriers
    b. Namn, utbildningsbakgrund, funktion på företag, tidigare befattningar

3. **Identifiering av innovationssamarbeten**
    a. Vår tanke är att vi skall prata om ett specifikt innovationssamarbete mellan UniCarriers och ett mindre företag. Här har vi i tidigare diskussion med Björn Hell och Dan Ulmestrand valt ut ett antal intressanta samarbetsprojekt av denna karaktär, där du varit med i samarbete med XXX, vilket är det som vi kommer att fokusera diskussionen kring.
    b. Kan du berätta lite om detta företag? Vad gör det, var är det lokaliserat?
    c. Vad ville UniCarriers uppnå med samarbetet? Vad var problemet man ville lösa? För vem/vilka på UniCarriers var detta ett viktigt problem? På vilket sätt var det viktigt?
    d. När i tid startade/slutade samarbetet?
    e. Kan du berätta lite, utifrån ditt perspektiv hur samarbetet startade? Jag gissar tex att det tex fanns en tid innan man började samarbeta? Hur hittade man just den här samarbetspartnern? Fanns en tidigare historia av samarbete?
    f. Hur utvecklade sig samarbetet? Vad gjorde man konkret tillsammans?
    g. Vad blev resultatet av samarbetet? En produkt?
    h. Vad fungerade bra/mindre bra? Utmaningar? Var detta ”rätt” projekt att samarbeta kring? Var detta ”rätt” partner för det ni behövde?

i. Finns det några lärdomar att dra från just detta samarbete? Vad kan man göra bättre?

j. Hur styrde och följde ni upp projektet, speciellt vad gäller hur samarbetet förlöpte?
k. Finns det någon strategi för UniCarriers när och på vilket sätt man skall samarbeta med mindre företag för att utveckla nya produkter och tjänster?
l. Hur ser du personligen på denna typ av innovationssamarbeten? Vad är de primära styrkorna hos det mindre företaget och vise versa.
m. När lämpar det sig speciellt väl med denna typ av samarbeten?
n. Ser du några risker med denna typ av samarbeten, IP, etc.?
o. Vilka lärdomar har ni dragit från denna typ av samarbeten?

# Paper I

# Similar yet different: Business model differences in post-merger integration

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# Similar yet different: Business model differences in post-merger integration


## Abstract

An important motive for mergers and acquisitions is the potential for value creation and synergy realization. However, prior studies on post-merger integration have been silent on how business model differences impact the success of such integration efforts. This study combines firm-level studies on business models and post-merger integration to explore how differences in business models affect value creation and synergy realization in post-merger integration. Our case is situated in the European material handling industry, and we analyze post-merger integration between two parties pursuing diametrically opposing business models. We collected data before and after a merger decision through expert interviews with senior executives and managers, participant observations, and corporate documents. Our data reveal how business model differences affect merger integration efforts and outcomes, specifically how differences in the value proposition, distribution, and revenue schemes lead to substantial and unforeseen post-merger integration challenges. Our results suggest that business model congruence – the fit between merging business models, achieved through carefully stitching business model components into a value-creating system – is a critical factor impacting post-merger integration. The importance of business model congruence is underscored by the observation that similarities in the value-creating system (e.g., production and R&D) were associated with smoother integration and superior synergy realization. This study contributes to the literature on business models and post-merger integration by explaining how the business model can function as an important analytical lens to assess integration challenges before and during mergers.



*Keyword: Business model, mergers and acquisitions, post-merger integration, synergies, value capture, value creation*

## Introduction

Mergers and acquisitions (M&A) are key instruments for corporations to stay ahead in competitive games. However, research on post-merger integration (PMI) exposes a history of varying success (Bauer and Matzler, 2014; Datta et al., 1992; Datta and Grant, 1990; Dyer et al., 2004; Haleblian et al., 2009). Many well-intended M&A transactions do not live up to expectations and fail to deliver synergetic value. Explanations for the varying success have mainly been sought in literature taking either a financial or organizational perspective – exploring, for example, economies of scale and scope and market power (Chatterjee, 1986; Damodaran, 2005; Datta et al., 1992; Kode et al., 2003; Larsson et al., 2004; Lubatkin, 1983), or focusing on, for example, the integration process, organizational fit, management styles, socio-culture, or human relations (Bauer et al., 2015; Bauer and Matzler, 2014; Buono and Bowditch, 2003; Datta and Grant, 1990; Larsson et al., 2004). However, many challenges remain yet to be explored, for example, related to the processual, organizational, and commercial aspects (Angwin et al., 2020; Graebner et al., 2017; Stahl et al., 2013).

We believe that new insights can be gleaned by shifting perspectives. In particular, limited attention has been paid to how differences in the commercial modus operandi impact how firms realize synergies from mergers. In other words, a systematic analysis of the similarities and differences of "how business is done" has the potential to invigorate and provide the necessary impetus for the field to advance. We believe such systematic analysis is best done by incorporating a business model perspective, where the business model refers to "the logic of the firm, the way it operates, and how it creates value for its stakeholder" (Casadesus-Masanell and Ricart, 2010: 2). This perspective contrasts sharply with prior studies on strategic fit, where the focus has been on the strategic attributes of merging firms based on resource and knowledge sharing (Ahuja and Katila, 2001; Capron and Pistre, 2002), which has proven unsuccessful in explaining the remaining variance in M&A performance (Cartwright and Schoenberg, 2006).

Only a decade ago, the business model perspective has quickly become a central analytical lens in the field of strategy (Amit and Zott, 2012; Björkdahl, 2009; Hacklin et al., 2018; Winterhalter et al., 2016; Zott et al., 2011; Zott and Amit, 2008). Business model analysis connects and cuts through formal business functions and structures and provides a conceptual representation of how businesses operate, specifically how they create and capture value (see, e.g., Massa et al., 2017)—as such, applying a business model perspective on post-merger integration can shed

new light on synergy realization in M&A by considering "how business is done" in the merging companies.

Our analysis draws on a unique and fine-grained dataset from a recent merger between two companies operating diametrically opposing business models. The companies operate in the same product market space – material handling – but they have different downstream assets and business logics. One is following an indirect approach working with distributors, whereas the other follows a direct sales approach, bypassing distributors using their own sales and after-sales organization.

Foreshadowing the results, we identify how key differences in business models between the merging companies prolonged, hampered, and created unnecessary friction in the post-merger integration process. In particular, we find that post-merger integration processes that were not impacted by business model differences experienced less friction, resulting in faster and smoother integration and a higher degree of synergy realization. This study suggests *business model congruence* – the fit achieved when merging business models – as an important antecedent to post-merger integration outcomes. In doing so, this study brings renewed emphasis on value creation and synergies in the M&A process.

## Literature review: Post-merger integration and the role of business models

### *Post-merger integration: antecedents, processes and outcomes*

Post-merger integration can be understood as a "multifaceted, dynamic process through which the acquirer and acquired firm or their components are combined to form a new organization" (Graebner et al., 2017) to realize the values and synergies intended by the merger. However, mergers often fail to deliver on their promises, for example, in economies of scale and scope that motivated the transaction (Alberts and Varaiya, 1989; Angwin et al., 2020; Graebner et al., 2017; Kode et al., 2003; Shrivastava, 1986).

Studies have shown that the integration process – forming a new organization from previously separate organizations and businesses – is key to M&A success (Shrivastava, 1986). Here, integration is the process of combining and rearranging the resources of the merging entities so that the post-merger organization is capable of realizing the expected synergies (Bauer and Matzler, 2014; Datta, 1991; Jemison and Haspeslagh, 1991). The importance of post-merger

integration is underscored by the fact that poor integration management often leads to a decreasing market share (Datta, 1991; Datta and Grant, 1990; Hazelkorn et al., 2004). Indeed, the integration stage has been identified as the most challenging part of the M&A process (Koi-Akrofi, 2016) – as many as half of all M&A integrations fare poorly (Gerdes et al., 2011).

The literature has identified several reasons for post-merger failures, such as unclear and bad strategies, technologies that are challenging to combine, lack of resources, and relevant procedures for integration (Datta, 1991; Harrison et al., 1991; Shrivastava, 1986), cultural and human resource factors (Angwin and Vaara, 2005; Bauer and Matzler, 2014; Larsson et al., 2004; Larsson and Finkelstein, 1999; Weber et al., 2011) and non-rational managerial motives (Datta and Grant, 1990). The design and level of challenge of the post-merger integration process are often portrayed as a function of the underlying rationale behind the merger, such as economies of scale or scope (cost or income advantages, e.g., in production, supply, or sales, obtained through size or broadening of the product and service offer), synergies (e.g., activity or cooperation leading to cost or market advantage), market power (e.g., increased size and market share), financial factors (e.g., achieving better financial strength and flexibility and access to capital), or whether the companies are related or unrelated (level of similarities in, for example, product portfolio and geographical coverage) (Datta and Grant, 1990; Datta and Puia, 1995; Harrison et al., 1991; Homburg and Bucerius, 2006; Rumelt, 1974).

Sociocultural factors have been used to explain post-acquisition performance not captured by financial factors, the level of diversification, or relatedness (King et al., 2004). Several studies have suggested that a well-designed sociocultural integration process focusing on minimizing inter-organizational and intercultural friction is key to realizing anticipated synergies (Monin et al., 2013; Stahl et al., 2013; Stahl and Voigt, 2008; Weber and Fried, 2011). Managerial and sociocultural integration involves complex elements such as formatting management and organization, aligning corporate culture, leadership, and motivating the organization. Sociocultural integration has been shown to limit integration risk, measured by transfers of capabilities, resource sharing, and human integration (Lakshman, 2011; Shrivastava, 1986; Stahl and Voigt, 2008). Areas adjacent to this are the studies into social identity theory, which suggests that members of an organization are positively biased toward members of their group and "us-versus-them" thinking is most likely to arise when there is a perceived external threat, for example, a takeover attempt or acquisition (Tajfel, 1981; Turner, 1982). It has been shown that members of the acquiring organization may show signs of superiority toward the members

of the target organization, a behavior propelled by xenophobia and cultural stereotypes (Hambrick and Cannella Jr, 1993; Jemison and Sitkin, 1986; Krug and Nigh, 2001; Olie, 1990). In such situations, it is argued that acculturation is needed – "changes induced in systems as a result of the diffusion of cultural elements in both directions" (Berry, 1980: 217) – to mitigate many of the socio-cultural problems associated with post-merger integration (Nahavandi and Malekzadeh, 1988; Shrivastava, 1986).

In general, a post-merger integration process contains many sequential phases, such as premerger planning, resolving communication issues, defining the new organization, developing staff plans, integrating functions and departments, and building a new corporate culture (Pautler, 2003). The operational part of several post-merger integrations is typically organized around an integration plan executed by a post-merger integration management team and a dedicated integration work team (DePamphilis, 2009). Depending on the character, rationale, and type of entities involved in a merger, Shrivastava (1986) emphasizes three theoretical categories of integration processes: procedural integration (e.g., systems and processes), integration of physical assets (e.g., product lines), and managerial and socio-cultural integration (e.g., transfer of managers, changes in organizational structure, and development of corporate culture). A sufficient level of integration then becomes a function of the motives behind the merger, where motives, such as pure scale, require less, whereas synergy-motivated mergers often require deeper integration. Another factor is the organization's size, where larger organizations possess a greater number of organizational elements that need to be coordinated and integrated. However, despite these developments towards more effective post-merger integration, many challenges remain, considering the often-meager results from mergers.

*Business models: a novel perspective on post-merger integration*

Thus far, the literature review has demonstrated the importance of synergies for successful post-merger integration. Simultaneously, the literature has repeatedly documented disappointing and failing post-merger integration efforts. High failure rates are poorly understood and remain a puzzle (Angwin et al., 2020; Capasso and Meglio, 2005; Graebner et al., 2017). Surprisingly, prior literature is silent on the extent to which business model similarities and differences play a part in the success or failure of post-merger integration processes. Infusing the post-merger integration literature from a business model perspective may cast fresh light on the mismatch between synergy potential and synergy realization. Specifically, the business model lens directs attention to how firms create and capture value – or more precisely, the logic for the activities

and interactions that allow firms to create value and appropriate from that value creation (Björkdahl, 2009; Casadesus-Masanell and Ricart, 2010; Chesbrough and Rosenbloom, 2002; Hacklin et al., 2018; Massa et al., 2017; Teece, 2010; Zott and Amit, 2008). This perspective offers something different and complementary to most traditional analyses of post-merger integration. Moreover, as post-merger integration is a multifaceted phenomenon, it should benefit from incorporating new perspectives (see, e.g., Angwin and Meadows, 2015; Graebner et al., 2017; Rouzies et al., 2019). Specifically, the business model lens offers a systematic approach to examine the activities to create and capture value in the post-merger integration process, including the design of value propositions, modes of distribution, targeted customer segments, and the architecture of costs and revenue streams. Sohl and Vroom (2017) offered a conceptual analysis of how business model relatedness may influence post-acquisition performance and argued that post-acquisition performance might be harmed when business models are unrelated. We believe that a business model lens is important for understanding the success and failure of post-merger integration processes because various components and activities of business models need to fit together if they should be successful (Helfat and Peteraf, 2015). However, empirical analysis is scant at best, regarding the more commercial aspects of how business is done, one of the core tenets of the business model perspective. Moreover, there is little study explicitly linking business models to post-acquisition performance. The business model lens offers a granular yet systematic way to analyze how the mechanisms of value creation and capture impact the post-merger integration process and, as such, can provide a better understanding of what drives or destroys value in a post-merger integration process. Hence, given the importance of value creation and value capture to realize synergies in post-merger integration, there is great potential in applying a business model lens to better understand the successes, challenges, and failures of post-merger integration.

## Research design

### *Case selection*

We opted for a case study design to investigate the role of business models in realizing synergies in post-merger integration processes. The case study design enabled us to understand complex events and structures in a real-life situation (Ragin, 2004; Yin, 2009). Specifically, it allowed us to uncover business model similarities and differences and analyze the impact on value creation and synergy realization. As described by Eisenhardt (1989), the aim of the study process applied in the case study methodology is to keep the process iterative and firmly linked

to data, where the main objective of this study is to present new perspectives of an existing phenomenon, rather than overthrowing existing theories (Siggelkow, 2007).

The experiences of UniCarriers Europe (UCE) set the boundaries for this case. UCE is the European operation of a major global company in the material handling industry. UCE provides in-house developed products and services, primarily fork-lift trucks targeted at European customers. In 2015, as part of a horizontal merger, the global business of the Japan-based UniCarriers Corporation, the parent company of UCE, was acquired by the Material Handling Division of the Japanese Industrial Conglomerate Mitsubishi Heavy Industries (MHI), forming the third-largest material handling company in the world. After the merger was formally closed in 2016, the UCE initiated the post-merger integration process with Mitsubishi Caterpillar Forklift Europe (MCFE), its European sister organization, to establish a single European operation. The post-merger integration process was organized around a set of post-merger integration teams representing key functions, such as research and development (R&D), production, spare parts, sales, marketing, and administration (representing support functions such as finance, HR, and legal). The post-merger integration teams included representatives of both companies (UCE and MCFE) – as did the new European executive management team chaired by the president of the MCFE.

The merging entities were similar in their strategic fit. For example, both organizations shared important commonalities related to product offers, R&D, size, geography, and organizational competencies (see Table 1). Before the merger, both organizations were owned and managed by Japanese parent companies that established European presence through direct investments some 30 years ago.

**Table 1. Comparison of operations and business models of the merging entities.**

| | UniCarriers Europe (UCE) | Mitsubishi Caterpillar Forklift Europe (MCFE) |
|---|---|---|
| **Value proposition** | | |
| Product offer | The product offer in terms of forklift trucks was very similar. Both companies supplied a full range of warehouse- and counterbalance trucks (the two main categories of forklift trucks on the European market). Both companies held proprietary intellectual properties and had had in-house development and manufacturing of trucks. | |
| Service offer | Large portfolio of after-market services. | Lack of service offer except for sale of spare-parts. |
| **Customer segments** | Large number of heterogeneous end users. Customers were both large and small, found in a variety of sectors. | Small number of homogenous distributors. Customers were third-party distributors and dealers serving the needs of users of material handling equipment. |
| **Revenue streams** | The revenue streams consisted of sales of trucks, spare parts, and after-market services. Revenue in the after-market service area was generated from maintenance, spare parts, hire and leasing agreements, and the sales of used forklift trucks. | The revenue streams consisted of sales of trucks and spare parts. |
| **Distribution channels** | UCE mainly applied a direct distribution model, where they sold and distributed trucks and services direct to end users through wholly-owned distributors. | MCFE applied an indirect distribution model where it sold and distributed trucks and spare parts to third-party distributors. |
| **Size** | The two companies had similar turnover, approx. 300-400 MEUR each. | |
| **Geographical focus** | Europe, Middle East, and Africa. | Europe, Middle East, and Africa. |
| **Owner** | Japanese owner. | Japanese owner. |
| **Production activities** | European production of trucks in two factories (Spain and Sweden). | European production of trucks in one factory (Finland). |
| **R&D activities** | Full scale in-house R&D, approx. 50 full time equivalents | Full scale in-house R&D, approx. 50 full time equivalents. |

However, the two companies differed in one critical dimension: their business models. More specifically, UCE mainly operated a direct model, whereas MCFE relied on an indirect model (see Figure 1). The differences in business models were manifested in, for example, the value proposition, revenue model, and customer interface. The direct model had its commercial focus geared toward doing business directly with end-users. The main difference stems from the direct model's heavy focus on after-sales services, such as short- and long-term leasing agreements and service contracts, in addition to the sales of forklift trucks. To derive sales directly to end-users, value delivery was carried out through a network of wholly-owned subsidiaries. In contrast, the indirect model relied on a lower degree of downstream integration, where the distribution was based on sales through a network of independent third-party distributors and dealers. There were also differences in customer segments. In the direct model, customers consisted of a heterogeneous group of end-users from various industries, whereas customers in the indirect model consisted of a relatively homogenous group of distributors and dealers operating in the same business field, namely, the distribution of material handling equipment.

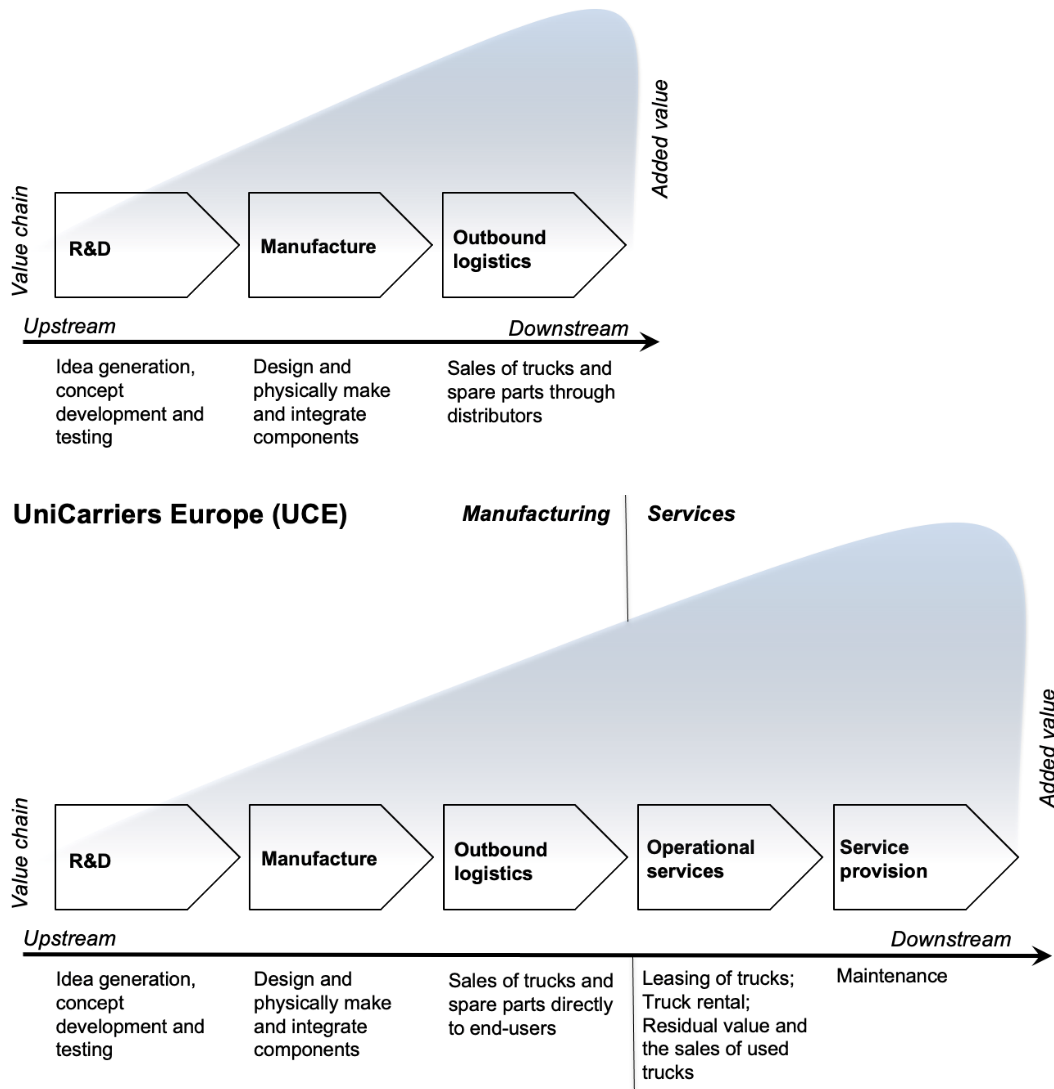


**Figure 1. Comparison of value chain activities in the direct and indirect model.**

*Data collection*

The study draws on several data sources, including participant observations, interviews, and archival data (see Table 2).

*Participant observations*. One of the authors held a senior position in one of the merging entities throughout the merger and integration process. His involvement included leading roles in the due diligence, organization, and execution of the integration of financial and operational processes. He participated in many productive meetings, workshops, and discussions before and during the integration process. His participation and his notes during these meetings and

workshops provided unique accounts of the central events during the merger. This insider perspective helped us understand nuances and jargon in the data, which would have been challenging to interpret otherwise. Although the study partly builds on participant observations, the study was conducted after-the-fact and not in-the-flow (cf., Langley and Tsoukas, 2013). The research team also consisted of two outsiders that helped mitigate potential insider bias.

*Interviews*. We conducted 26 in-depth retrospective interviews. We sought interviewees deeply involved in the post-merger integration process. The interviewees were senior executives and managers who were members of the group management team or managed central functions, such as sales, marketing, production, R&D, finance, or HR. The interviews were semi-structured and contained open-ended questions about similarities and differences in the merging organizations' business models. We wanted to understand the post-merger integration process, the value creation and synergies achieved about ex-ante aspirations and ex-post outcomes, and the role of differences in business models. The interviews were conducted on-site and were recorded and transcribed verbatim. The interviews lasted for approximately 60 minutes. In several cases, the interviews were followed up with informal discussions and email correspondence, obtaining additional information and clarifying ambiguous information.

*Archival data*. We collected archival material in the form of internal presentations, and press releases relating to the merger. We also had access to internal emails sent from and received to the author holding the senior position in one of the merging companies about critical aspects of the merger process. The emails provided an important source to understand the challenges of the merger, and helped us to triangulate the other archival data and interview data (Jick, 1979).

**Table 2. Data sources.**

| **Data source** | **Amount** | **Time period** |
|---|---|---|
| Interviews and follow-up discussions: | | |
| Semi structured interviews | 26 | Jun. 2019 – Oct. 2019 |
| Informal follow-up discussions | 43 | Jun. 2019 – Dec. 2020 |
| Archival data: | | |
| Emails | 54 | Jul. 2015 – Oct. 2020 |
| Internal presentations | 8 | Apr. 2016 – Dec. 2019 |
| Press releases | 6 | Jul. 2015 – Dec. 2019 |
| Participant observations: | | |
| Due-diligence meetings | 5 | Jan. 2015 – Mar. 2015 |
| Presentations and workshops during the merger | 8 | Apr. 2016 – Dec. 2016 |
| Meetings and workshops after the merger | 38 | Apr. 2017 – Sep. 2019 |

### *Data analysis*

We approached our material by first identifying ex-ante expectations on the merger, for example, in potential synergies. We then searched for accounts of the outcome of post-merger integration efforts, for example, how well synergies were realized. The initial pattern was clear: the merging entities were quite similar, and there was potential for synergies, but the outcome was unsatisfactory. We coded our material using key business model components to make sense of the link between merger expectation and outcome (key activities, value proposition, customer segments, revenue streams, and distribution channels). We were primarily looking for how similarities and differences in business models were related to the expectations and outcomes of post-merger integration efforts. We used the NVivo software to code the interview materials. Archival data and participant observations were hand-coded, and NVivo interview codes were updated when triangulation with other sources was prompted. NVivo coding ensures transparency, rigor, and quality by supporting the systematic structuring and restructuring of the data material (Ryan, 2009; Welsh, 2002). Having identified and counted codes in NVivo, we relied on code weaving to transform codes and phrases into a narrative form, as presented in the findings section (Saldaña, 2015).

## Findings

### *Pre-merger synergy expectations*

When the MHI in 2015 announced their acquisition of the UniCarriers Corporation, they stressed the potential for synergies. A statement in the press release read: *"[...] a full lineup of product offerings giving greater response capacity to customers' diverse needs. The move will also enhance the companies' R&D capabilities and boost product competitiveness."* and further that a *"[...] mutually complementary sales networks, the global expansion opportunities will be enhanced, thereby strengthening business foundations and enabling expansion in business scale."* Synergies were believed to be found in, for example, product offer and market scope, and a good fit was expected because of similarities in size, key resources, and ownership structure. These expectations were shared by the European management and key stakeholders of the merging entities. A member of the executive management team recalled the situation, *"I identified obvious synergies, particularly within the back-office functions, but also on the market side by being able to utilize joint resources for the direct and indirect sales channels."*

Overall, expectations were mainly cast in a positive language, focusing on the opportunity for increased sales and market shares that an industrial owner was expected to bring. For example, as a senior sales manager explained, *this [the merger] was great… it created an opportunity to enter Europe more decisive than before, and Europe is the largest forklift-market in the world."* However, three years down the road, the gap between synergy expectation and synergy realization was wide enough to question the initial expectations and the integration process itself. As we shall see, differences in the business model set up between the merging companies – and specifically a lack of what we label "business model congruence," the careful stitching of business model components – contributed to substantial and unforeseen post-merger integration challenges.

*Post-merger integration with low degree of business models congruence*

*Challenges in grasping the logic of opposing business models.* There were key differences between the value proposition, customers, and revenue streams in the merging entities. Each business model has its advantages and disadvantages; for example, the indirect business model creates and captures value through distributor-mediated sales, whereas the direct model bypasses distributors and transacts directly with end-users. However, it was challenging for both merging entities to understand the underlying reasons for the differences in value proposition and revenue streams. These differences in the value proposition, customers, and revenue streams created unforeseen challenges. For example, it proved more challenging than expected to create a shared understanding of how direct and indirect business models practices create customer value and how UCE and MCFE could benefit from their "particular ways" of doing business. These differences were most pronounced when comparing traditional product sales with a value proposition relying on after-market sales and solutions, that is, when more volatile product sales were substituted with more stable cash flow from services and solutions provided during the full life cycle of the product.

Surprisingly, differences in business models were not a major concern in the pre-merger due diligence work. Respondents repeatedly suggested that MHI was mainly occupied with legal, accounting, and manufacturing issues, whereas limited attention was paid to business models and differences in commercial interfaces. A member of the group management team heavily involved in the due diligence work stressed, *"First of all, I thought that the questions [of business model differences] were limited… the questions raised centered mostly around formalities related to tax and legal."*

Post-merger, the companies could agree on little more than pursuing diametrically opposing business models. Dreary as it may be, this was a step forward compared to the pre-merger situation where the opposing business models were not considered an issue. When the degree of business model congruence was low, what effectively hampered synergy realization was a failure to appreciate, inquire, and learn about the opposing business model. These problems were even more severe when analytically penetrating the opposing business model "at depth" rather than staying with a shallow understanding. Several interviewees felt that the new owners had little understanding of the merits of the direct business model. As one business development director said, "*[...] but what we have experienced is that they have had a low understanding about what we saw as the merits of a direct model."* Employees at UCE later tried to mitigate this and find remedies. A director explained, *"It has been a huge educational challenge to explain the rather complex and long-term direct business model that requires a business life-cycle of 10 years of repeated business to reach its full return."* Despite attempts to find common ground to develop joint approaches, the two opposing business models led to the retention of two disconnected organizations with distinct ideologies and sales philosophies. Beliefs in one's "own" business model "superiority" was deeply ingrained in corporate culture, which made it hard to appreciate how different designs of various elements of the business models should fit together, to find complementarities among the activities in the different business models, or how to find alternative ways of creating and capturing value.

*Challenges in exploring synergies between business models.* During the integration period, there were several attempts to find common grounds and seize opportunities from the merger. However, interviewees often described a situation where the main efforts centered around advocating the pros and cons of direct and indirect business models. Both organizations were rigid in their positions, advocating for the strengths of "their" model and spending little effort exploring combinatory possibilities or integrating and transforming the different business models. One side argued in favor of an indirect model. It brought up scalability, offering geographical growth at low cost and low risk by adding new third-party distributors to the network, where a direct model required investments in expansion, either greenfield or through an acquisition. As explained by a sales and marketing executive, *"[it's] faster to scale up an indirect model by adding new distributors"* The well-defined scope and the lower requirement for overhead and infrastructure investment were also brought up by MCFE as advantages of the indirect model, whereas the need for investments in dedicated resources in sales and marketing

for the direct model was seen as risky, and challenging to estimate the likelihood of getting a return on investment. Instead, the other side advocated in favor of the direct business model and stressed access to end-customers and the ability to profit from a larger part of the value chain, such as service and after-market. Consequently, they argued that the direct model had a lower dependency on product sales and generated a stable cash flow over the entire product life cycle through service, after-market, and financing. A director and member of the management team explained: *"A direct model is not as sensitive to the business cycle; if you sold volumes in previous years, you can still generate revenue from after-market services."* Control advantages were also brought up, and a senior executive with lengthy experience in sales and marketing said: *"It is difficult to implement and monitor a sales methodology in an indirect channel."* However, it was strikingly challenging for UCE to convince new owners of the benefits of the direct business model. Instead, the new owners perceived the direct business model as a complex and risky approach with uncertain returns, whereby support and investments from headquarters proved challenging to get approved. The hesitance to the direct model was described by a member of the management team who participated in the initial post-merger integration meetings, *"My view is that the new owner went into this with a view based on their existing business [...] which is indirect sales and it has made it very difficult for them to dare to make the investments that would be needed to develop the direct business."* This approach, in turn, led to challenges in realizing synergies in the new organization, expressed by a discouraged vice president: *"We [the newly merged organization] say that we will be more of a solution provider, but I often see the opposite [...] sometimes you just want to sell hardware"* and by a fellow management team colleague *"It feels like it is very, very deep in their DNA to focus on products more than on services and solutions."*

*Challenges in unlocking locked positions.* Over time, the failure to realize synergies fortified positions and made synergy exploration less likely. Even in the absence of a formal decision from the new owners to select only one business model for the new organization, perceptions, expectations, and actions quickly developed as if such a decision existed. This created a defensive environment with locked positions where the two merging organizations focused on differences and little on commonalities and synergy realization. Many interviewees told us that this "locked situation" prolonged the integration process and hampered the realization of synergies. For example, most respondents believed there was room to keep both business models intact despite friction and polarization. A typical opinion here expressed by a vice president *"I think you should have both, I think they should live two different lives"*

Simultaneously, the assumed push for a single business model over time discouraged merging companies from exploiting the co-existence synergies between the two business models. The outcome was a merger where the two organizations operated two different business models without synergies or complementarities in the downstream assets and activities.

*Challenges in identifying common goals and organizational structures.* Owing to the low appreciation of the differences in the business models, several interviews pointed to a lack of common goals and mandates to recombine and reconfigure downstream assets and organizational structures to realize synergies. As a management team member, present at the initial post-merger integration meeting, phrased it, *"No targets defining [...] what would these integration teams achieve?"* His fellow management colleague added, *"Early on, I said that without a common direction, without a mandate, then it [the integration] was a waste of time."* According to several informants, there were ambiguities regarding final decision-making and the chain of command in the respective integration teams. A manager involved in integrating administrative processes explained, *"It was difficult to see through the decision-making processes, and I felt no real decisions were made."* Another, being a member of the management team, recapitulated the perceived shortage of strategic direction in the post-merger integration process, *"One should define an end state for what things in Europe should look like, i.e., when we are done with all activities around integration, business model, go to market, brands, and so forth*." Our findings point to a situation where the new owners underestimated the differences in business models and that differences in downstream assets and activities resulted in indecisiveness and prolonged the post-merger integration process more than expected. There was also a lack of efforts to recombine and reconfigure downstream assets, activities, and organizational structures to realize opportunities. Consequently, attempts to find synergies from business model differences were not executed. An experienced manager involved in several integration streams takes it a step further, *"They probably did not have sufficient knowledge about what they were buying."*

*Post-merger integration with high degree of business models congruence*

In areas characterized by a high degree of business model congruence (i.e., when merging business model components fit into a value-creating system), the post-merger integration process ran relatively smoothly. For example, in contrast to the challenges in downstream assets and activities discussed earlier, the outcome of the integration process in upstream activities, such as R&D, product management, and manufacturing, worked surprisingly well. These areas

were characterized by a high degree of business model congruence in how "business was done." A senior director in construction and development emphasized, *"We probably have a good consensus in this group about what we need to do, and our work has not required any major interventions neither from the Japanese or European top management teams."*

These similarities enabled the integration teams to jointly manage, prepare, and agree on a common way forward on central topics, such as future product portfolio, product pipeline, and how to divide tasks and responsibilities between the organizations and locations. As the vice president of the production said, *"[...] we have experienced a completely different collaboration [compared to the downstream assets and activities]. In the three factories, we try to harmonize and even interchange products."* Joint planning also enabled a common view of the main elements of future product and production strategies. This opened up synergetic initiatives to improve cost structure. For example, they successfully launched programs to establish best practices in factories, coordinate and integrate supply chain management, and change the product mix. As explained by a management team member, heavily involved in the integration of upstream activities, *"It has had a huge impact [the integration]. We have decreased the number of [truck] models."* Overall, our respondents report that in these cases, characterized by a high degree of business model congruence, the integration processes generated synergies in both the short-term and the long-term.

**Discussion and conclusion**

This study combines firm-level research on business models and post-merger integration to explore how differences in business models affect value creation and synergy realization in post-merger integration. There have been many calls for new perspectives to address the varying success of M&A (see, e.g., Angwin et al., 2020; Cartwright and Schoenberg, 2006; Graebner et al., 2017). Our findings demonstrate the importance of business models in post-merger integration and suggest that differences in business models should be considered when addressing the high failure rates associated with M&A (Bauer and Matzler, 2014; Capasso and Meglio, 2005; Graebner et al., 2017). We contribute to prior research in two ways.

First, we introduce business models to shed new light on the role of strategic similarity and fit in M&A. In the literature on M&A, a core assumption is that strategic similarity and fit foster value creation (e.g., Bauer and Matzler, 2014) and that such similarity is ground for potential

synergies (e.g., Mayer and Altenborg, 2008), often indicated through similarities in product markets, resources, and supply chains (e.g., Pehrsson, 2006). Our findings suggest that business models are central to assessing strategic fit. For example, we recall how we investigated two merging firms that were remarkably similar in product markets and supply chain characteristics. However, they differed in one critical dimension: they pursued diametrically opposing business models. One firm pursued an indirect business model, selling through independent distributors and creating value from superior technologies and products. The other firm pursued a direct business model, selling through wholly-owned distributors and creating value from product sales and through service and leasing contracts. Arguably, a traditional resource analysis would reveal differences regarding some key resources (e.g., sales and after-market services) but not necessarily flag these differences as critical when considering a merger. As expected, business model differences were not considered, yet our analysis demonstrates that the lack of *business model congruence* between merging entities can explain several post-merger integration challenges. The importance of business models is underscored by how much the merging companies struggled to understand each other's way of "doing business." Applying a business model perspective, though, quickly reveals how companies differ in how they operate, specifically in the system and interconnected activities that enable the firm to create and capture value. Our analysis then suggests that synergies in post-merger integration can be effectively hampered by the failure to appreciate, inquire, and learn about the business model of the merging entities. One implication is to consider strategic fit and similarity in terms of business model congruence, in addition to the asset-and resource-focused approaches commonly used (Chen, 1996; Gimeno and Woo, 1996).

Second, we show the criticality of dynamic capabilities in creating value and synergies from M&As (see also Achtenhagen et al., 2013; Teece, 2010, 2018). When firms with very different business models attempt to merge, the differences in business logic, resource base, activities, and cognitive frames put enormous strains on managerial decision-making and strategizing. Our studies demonstrated that grasping the logic of a different business model is challenging in its right, and acting on these differences is even more demanding. Dynamic capabilities are needed to sense, seize, and transform (Teece, 2007) the synergetic opportunities a merger may present. However, an alternative is to look beyond synergies derived from eradicating "unnecessary" differences during post-merger integration and instead focus on potential complementarities (Achtenhagen et al., 2013). The difference in logic is perhaps best captured by Bauer and Matzler (2014: 272), writing that "while similarity is seen as an indicator of

efficiency-based synergies (scale and scope), complementarity provides firms with both efficiency synergies *and* value created from those differences that are mutually supportive" and Kim and Finkelstein (2009: 618) arguing that complementarities offer merging firms a "wider array of business opportunities to develop competencies that either firm could not create alone." Incorporating business models into the literature on M&A goes beyond expanding the concept of strategic fit. Instead, it provides an opportunity to rethink how synergies are created and how business models and dynamic capabilities can support and not stifle synergies between merging firms. There is ample opportunity to connect M&A to an emerging field of business model research that explores the pros and cons of running multiple business models (e.g., Aversa et al., 2020; Hacklin et al., 2018; Markides, 2013).

The importance of dynamic capabilities for creating value from M&A is accentuated by the observation that many firms are currently expanding their business model scope, for example, by going from selling products to offering solutions and services or by bringing in partners to enhance value creation and value capture (e.g., Aversa et al., 2020; Björkdahl, 2009; Sohl et al., 2020). Such business model innovation is an important source of competitive advantage and is high on the agenda of business leaders (Teece, 2010). Hence, one can expect that business model differences between firms will increase as they strive to achieve competitive advantage. We argue that these changes in how firms create and capture value need to be centered when assessing the potential for synergies and when devising strategies and dynamic capabilities to realize those synergies in post-merger integration. This is partly because business model congruence matters for M&A success beyond traditional differences and similarities in assets, business functions, and organizational structures. Moreover, partly because the variety of business models is expanding, both within and between firms, making successful M&As even more challenging. Looking ahead, firms will need strong dynamic capabilities to succeed with M&As that rely on realizing synergies from complementarities and a portfolio of different business models.

Our study has some limitations. A drawback of exploratory case studies is the limited generalizability beyond sectors and specific situations. More studies are needed to understand the role, antecedents, and effects of business model differences in the failure or success of M&As. At the very least, we hope that we have convincingly argued for business models to be taken seriously in the study and practice of mergers and acquisitions.

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# Paper II

# Everyone Can Win:
# Creating mutual benefit in open innovation partnerships

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**ABSTRACT**

Open innovation research historically has been focused on larger firms, but recently the literature has begun to put smaller firms centerstage. In this paper we seek to identify how both small *and* large firms can establish symbiotic and mutually beneficial innovation partnerships. Our analysis draws on field studies and interview data from 17 open innovation partnerships between a large technology firm and its small innovation partners. We find that collaborating firms encounter three distinct challenges—inadequate counterpart insight, lack of goal congruence, and severe flexibility constraints—and that successful partners mitigate these challenges with dating and negotiation. The paper contributes to open innovation literature by identifying idiosyncrasies in small-large firm collaborations. We conclude with managerial advice geared towards small and large firms.

*Keywords: collaboration, innovation, large firm, open innovation, small firm*

## INTRODUCTION

"Open innovation" as a topic has become ubiquitous among innovation scholars and practicing managers. Interest in open innovation has ballooned since Henry Chesbrough published his first book in 2003, and since then scholars have continued to document and theorize about the opportunities, challenges, and practices involved in bringing outside players into innovation. Much previous research has focused on how large companies access external knowledge and technology (see e.g., West & Bogers, 2014), recently, though, researchers have become more interested in what open innovation can mean for the smaller company (see e.g., Lee et al., 2010; Van de Vrande et al., 2009). This paper builds on this recent work and targets the interface between large and small firms as they attempt to benefit from joint open innovation projects.

Our starting point is the relative advantages and disadvantages of small and large firms. Smaller organizations face challenges in terms of survival, growth, and competitiveness, often due to limited access to capital, lack of formal structures, and inadequate internal resources or capabilities (Acs & Audretsch, 1990; Bianchi et al., 2010; Brattström et al., 2020; Katz & Gartner, 1988; Vossen, 1998). Larger organizations, in contrast, face challenges in securing continuous improvements and renewal (often being hampered by past choices), diminishing creativity, and rigid structures (Chesbrough & Brunswicker, 2013; Chesbrough, 2003; West & Bogers, 2014). Thus, here lies the opportunity for cross-fertilization—where the smaller firm can help renew and revitalize the larger firm, and the smaller firm can benefit from the larger firm's resources and experience.

In this paper we seek to identify how both larger *and* smaller firms can establish symbiotic collaborations and benefit from each other's relative advantages. Despite joint value-creating opportunities, there is a lack of research-based evidence on patterns of collaboration between large and small firms, in particular in terms of the challenges and remedies in these collaborations. We ask: *what characterizes a symbiotic and mutually beneficial innovation partnership between small and large firms?* To answer this question, we conduct field studies on 17 small-large open innovation relationships. In summary, we find that *counterpart insight, goal congruence,* and *flexibility constraints* are key factors generating challenges and friction in collaborations between small and large firms. *Dating* and *negotiation*, in turn, can help overcome these challenges.

## LITERATURE REVIEW

When firms pursue open innovation, they follow "a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization's business model" (Chesbrough & Bogers, 2014: 17). In that sense, open innovation is a paradigm and practice for firms to expand their innovation efforts beyond their own boundaries (H. W. Chesbrough, 2003; Dahlander et al., 2021; Dahlander & Gann, 2010; West & Bogers, 2017). The growing prominence of open innovation goes hand-in-hand with the increased complexity of products and services that often make it impossible for a single organization to possess all necessary competence in-house. And as the life cycles of products and innovations become ever shorter and investments into research and development grow in significance, a good grasp of the factors impacting the probability of success when collaborating becomes a vital capability to stand out from among the competition.

While most previous research on open innovation centers on large multinational firms (e.g., Chesbrough & Crowther, 2006; Chesbrough, 2003; Dodgson et al., 2006) recent research has started to document open innovation from the perspective of small- and medium-

sized firms (e.g., Brunswicker & Van de Vrande, 2014; Lee et al., 2010; Van de Vrande et al., 2009; Vanhaverbeke, 2017; Vanhaverbeke et al., 2018). A recurring finding is that open innovation is playing out quite differently in smaller firms compared to their often larger multinational partners (Hochleitner et al., 2017; Radziwon & Bogers, 2019; Usman et al., 2018; Vanhaverbeke, 2017).

But despite these advances in the literature on open innovation, relatively little is known about the interface between large and small firms as they attempt to benefit from joint open innovation projects, considering the distinct differences between small and large firms in the pursuit of innovation (Alvarez & Barney, 2001; Rothwell, 1994; Spithoven et al., 2013). For example, smaller firms are often constrained by access to capital and other key resources, and a lack of legitimacy and track record in the marketplace, while larger firms strive to overcome organizational inertia and diminishing entrepreneurial spirit (Bigliardi & Galati, 2016; H. Chesbrough & Rosenbloom, 2002; Lewin & Massini, 2004; Spithoven et al., 2013). At the same time, smaller firms have distinct advantages, e.g., entrepreneurial creativity, innovativeness, flexibility, and the ability to react quickly (Acs & Audretsch, 1990; Bianchi et al., 2010; Katz & Gartner, 1988; Rothwell, 1994; Vossen, 1998). Larger firms have the advantage of pedigree, established market positions, proven production capabilities, and access to capital (H. Chesbrough & Brunswicker, 2013; H. W. Chesbrough, 2003; Lewin & Massini, 2004; West & Bogers, 2014). By cooperating with larger established firms, smaller firms hope to gain access to these capabilities and mitigate their own shortcomings.

Conversely, large firms seek to benefit from the creativity and flexibility of the smaller firm. In this environment there are reciprocal, but different, incentives for both small and large firms to seek cooperation (Lewin & Massini, 2004). Existing literature has shown that large and small firms are driven and governed by different logics. While the large firm often rests on an established bureaucracy, with a culture, purpose, and vision that is inherited and developed over time, smaller firms are still evolving through a dynamic process where culture and purpose are developing (Katz & Gartner, 1988).

Looking at the characteristics of employees, the larger firm is often made up of specialists following established and defined processes and frameworks. In the smaller firm, though, employees are more often generalists, working under less-formalized conditions and frameworks. When it comes to remuneration there are differences, too—large firms compensate through stable employment contracts and monthly salaries, whereas smaller firms can provide stronger financial incentives in exchange for higher employment risk (Davidsson & Honig, 2003; Lazear, 2004).

The distinct nature and characteristics of small and large firms can lead to friction as they enter into collaborative agreements (Alvarez & Barney, 2001). The literature on alliances has investigated how formal and informal tools can be used to organize cooperation between different organizational entities (Brattström et al., 2019; Brattström and Bachmann, 2018; Faems et al., 2008; Schilke and Lumineau, 2018). For example, Schilke and Lumineau (2018) demonstrated how contractual design and level of conflict between partners can affect alliance performance while Brattström and colleagues (2019) explained how trust divergence can have positive implications and help restore and repair broken relationships. However, less is known about the specific challenges that arise when small entrepreneurial companies and large traditional companies seek to collaborate. Established alliance research is founded on the implicit assumption that the respective parties enter into an alliance with the same prerequisites, targets, and time horizon (Lumineau & Oliveira, 2018). That is a bold assumption and does not necessarily hold when small and large firms embark upon an open innovation journey together. As a result, it is difficult to apply the existing theories to this

specific type of partnership, as the prerequisites when entering open innovation agreements often differ between small and large organizations. Therefore, this study seeks to identify how smaller and larger organizations can establish symbiotic collaborative partnerships, enabling joint benefits based on each other's strengths.

## RESEARCH DESIGN

The study is based on established methods for qualitative research (Eisenhardt, 1989; Van de Ven, 2007; Yin, 2009), where the cases represent dyadic open innovation relationships between one large firm and their smaller innovation partners. The cases range from pure R&D projects to product or process development, and system implementations involving several types of organizational functions and competencies.

### Case selection

We gained access to Mitsubishi Logisnext Europe (MLE), a leading provider of material handling products and services, and 15 of their smaller innovation partners (some small firms had multiple partnerships with MLE, resulting in 17 dyadic relationships). The MLE group operates internationally within a value chain ranging from R&D to production and distribution. The annual turnover is approximately €630 million and the group employs about 2,000 people. The partner firms are smaller organizations ranging between 4 and 30 employees. The smaller partner firms were specialists or consultants within product development, production, automatization, and IT system implementation, or providers of hardware, software, and other services.

### Data collection

Primary data were collected through semi-structured interviews that provided a rich account of informants' experiences and knowledge (Fontana & Frey, 1994; Holstein & Gubrium, 1995); in total 15 interviews were conducted, each lasting about one hour. The interviews were conducted by two researchers in tandem, either on site or online. All interviews were voice recorded or filmed to assist data analysis. Formal interview data were supplemented with informal follow-up conversations (>30) and secondary data such as company documents. The interview guidelines were structured around a set of open-ended questions addressing a specific open innovation partnership. The research design allowed us to collect two-sided data, as for each selected case we interviewed both the small and the large firm.

### Data analysis

Data coding was organized and structured in accordance with established coding methods (Bazeley & Jackson, 2013; Saldaña, 2015), where the coding process moves from the real or particular data (interviews) through coding, sorting, synthesizing, and final theorizing. Throughout this process the aim was to transform the real and particular data to an abstract and generalizable form. The code weaving aimed to integrate the coding into a few summarizing statements synthesizing the interpretation of the combined commonalities of the interview narratives, where the coding serves as the supporting evidence. The first round of coding was performed by one author, after which both authors together validated and refined it. We have kept a central repository of all our data.

## FINDINGS

Based on our analysis of small and large firms and their interactions over open innovation, we identified several challenges to a well-functioning interface—inadequate counterpart insight, lack of goal congruence, and severe flexibility constraints—which we discuss first

below. We then set out two plausible solutions, grounded in our empirical observations, with a potential to mitigate and overcome these challenges.

**Challenges to open innovation partnerships**

Counterpart insight concerns the perceived understanding of characteristics, competencies, and abilities between collaborating parties. This emerges from a combination of expectations, generalized attributes, and facts. Goal congruence is the state where the cooperating parties share essentially the same goal, enabling the execution and accomplishment of a joint strategy. Flexibility constraints are organizational attributes that result in different potential for adaptability, agility, and change. Below we discuss these findings in more detail.

***Inadequate counterpart insight.*** When small and large firms enter into an open innovation project, they can have quite different understandings of their partner's characteristics and competencies. Small firms often assume that large firms are well-structured and highly professionalized with breadth and depth of capabilities and expertise. Large firms, for their part, believe that small firms are flexible and highly specialized. These expectations do not always fit with reality, as a senior development manager explained:

> *"Our strategy is to use experienced partners, with whom we have a dialogue, and normally we end up with a good solution. We need a partner that understands our needs and can transform our requirements into concrete solutions without very detailed specifications. In this case, the partner was not used to this way of working and could not be used in this way, and got uncomfortable and confused when we asked them for ideas on solutions. They expected clear demands and instructions from our side. We on our side did not possess specific knowledge of this area, as we believed we could share the knowledge and expertise of the partner, which turned out not to work. This led to frustration and issues on both sides."*

Large firms often take it for granted that they alone can dictate the terms of collaboration, reducing the small firm to a facilitator for the large firm, with limited agency. In another example, an experienced project manager who recently joined a large firm expressed concerns about how they viewed their collaboration partners:

> *"We treated the partner as a commodity supplier, which I do not think is suitable for a development partner. In development projects and serial production, you need to have ... tight cooperation and not only focus on price. We ought to view [it] as if we are not only buying a product but a service. I believe our strategy led to delays and enabled ... the partner to push much more of the risk involved on us."*

Our study shows that such lack of counterpart insight is associated with several challenges. For example, friction grew when the small firms' expectations were not met as the large firm counterpart failed to deliver the anticipated fast decision-making and professional project management. Based on his long experience of working with large clients a project manager at a small consultancy firm shared his view on the challenges collaborating with large organizations:

> *"Frequently there is a clash of wills, and surprisingly often the knowledge of describing internal processes is lacking, which makes it hard to make clear specifications."*

One small-firm respondent explained:

> *"When working with large clients, I sometimes find the decision-making process unclear. My job would have been easier if there were more managers who dare to and can point out the direction to the organization."*

Lack of counterpart insight often manifests in terms of the expected skills the partner is believed to possess. Often, small firms wrongly assume large firms have an abundance of specialist staff than can work on the collaborative project. A senior development manager at the large firm explained:

*"We did not possess prior knowledge of this device, we wanted to find a partner who could broaden our knowledge and guide us to a solution. As it turned out, we had wrong and exaggerated expectations [of] our smaller partner, as the character of the project differed from what they are normally used to, and they expected more direct guidance from us. Knowing this, we had underestimated the resource need and manning on our side."*

This mismatch led to increased friction between the two companies. In a resigned tone, the owner of the small partner firm concluded: *"Despite us being very clear on the fact that we did not possess all the necessary competence in-house, friction arose."* Similar concerns were expressed by the owner of a small consultancy firm:

*"Surprisingly often I encounter lack of specialist competence [at the large firm], where I instead have to guide the client towards the goal."*

Generally speaking, open innovation projects rarely end well when large firms possess mainly generalist skills and lack the ability to correctly specify and scope the project—and assume that the small firm alone can "fix" their problems. We were surprised by the high level of expectations put on the collaborating partner by the procuring party (usually the larger firm). The owner of a small technical consultancy laconically stated:

*"Well into a project it is not uncommon for the client to ask us to provide them what they need, not what they described."*

The owner of a small development consultancy put a finer point on it:

*"A client can choose between time, quality, and price, but it is not always understood by the client that a project can only have two of these characteristics at the same time."*

To summarize, sufficient counterpart insight is an integral part of any successful collaboration, and it emanates from how well partners can gauge key counterpart characteristics. Unfortunately, not all partners do this well and instead enter collaborations with partner expectations not grounded in reality, leading to misunderstandings and friction.

***Lack of goal congruence***. Small and large firms that collaborate on open innovation need to agree on the ultimate goal of the project. However, our data show that establishing such goal congruence is quite challenging—and sometimes completely neglected. Such lack of goal congruence increases the likelihood of misunderstanding. But most importantly, without goal congruence, over time the partnership often develops in a direction far from the initial purpose of the open innovation project. The owner of a small electronics development and trading firm involved in a complex project linking three cooperating parties explained:

*"Our lesson-learned was that we should have specified and documented things even more than we did. Things were changed and added over the [course] of the project. We have learnt that especially when developing a complete solution between multiple parties, it is of additional importance to be clear about responsibilities."*

The lack of goal congruence can be direct—e.g., relating to explicitly stated goals and deadlines—as well as indirect—e.g., relating to communication and culture. Our data contain several examples of firms underestimating the importance of project specification and scope. Here, friction can often be traced back to discrepancies in the expectations between the

parties, in many cases as a result of unclear specifications of project and scope. Unclear or too rudimentary project specifications frequently led to increased costs and project delays, resulting in dissatisfaction and conflict. In one case, the level of sophistication of the technical specifications were not fully understood by the smaller firm until the project had been running for some time, leading to a change in direction, delay, and the need to add complementary competences to the project. One manager at the large firm explained:

> *"We took this too lightly; we were convinced that companies involved in this type of business manage to work out a solution through dialogue with us."*

Indeed, a striking observation is that "unclear specifications" were brought up in *all* cases where friction arose. A senior development manager made it clear: *"I emphasize the importance of high-quality and clear project specifications for a good collaboration."*

Different views regarding deadlines and time allocations are additional direct manifestations of lack of goal congruence. Time is a factor in any type of collaboration and our data indicate that increased time pressure, tighter deadlines, and an urge to get started may lead to shortcuts where joint understandings of scope, goal, and deadlines are not being prioritized. This behavior can lead to idiosyncratic interpretations and increased relational friction. A typical example was a small firm that took on too many projects, which limited their ability to handle unforeseen events, for example in terms of addressing new bottlenecks that emerged in their collaboration with a large firm. Unsurprisingly, the large firm was not happy about this diversion from the plan (from their perspective). A factory manager at the large firm recalled an important automation project with substantial time constraints:

> *"We made our selection of partner based on a large, prestigious reference customer [that] they [the small partner firm] had as client, which turned out to be to our disadvantage as we ended up in the backwaters when the partner ran out of capacity and prioritized the larger customer. When we call [and the] larger customer calls, who do you think they go to?"*

Lack of goal congruence can also be more indirect, resulting from, for example, miscommunication, interpersonal conflict, or culture. A typical situation is the tendency of both large and small firms to wait too long before taking corrective action, resulting in delays and increased costs. Case in point, a large-firm senior financial systems manager explained that the ability to quickly address delays is one of the most important success factors in open innovation. His concern is echoed in the words of the owner of a small consulting firm that entered into a project plagued with problems:

> *"I cannot understand why they have not flagged the issues earlier; things would have been easier to mitigate and correct then. One option I would have considered would also have been to terminate the relationship."*

Even among specialized teams, different interpretations can create unforeseen friction and challenges. Time and again we ran into cases where despite similar professional backgrounds, international collaboration was hampered by language barriers and differences in key terminology. In one case, language difficulties and cultural differences in what was considered "proper" communication, combined with lack of face-to-face interaction, led to severe misinterpretations in terms of responsibilities. What is clear, though, is that culture is a multidimensional construct. Reflecting on a project that encountered difficulties, a senior development manager at the large firm said:

> *"We were too confident that engineers speak the same language; I have changed my mind. Culture matters, which is a factor we will consider more going forward."*

To summarize, goal congruence is an important factor in any collaboration, but somewhat surprisingly, it is frequently overlooked. There is strong evidence that hard factors, such as the lack of up-front specifications, project plans, and deadlines, cause friction, but equally important are the soft factors related to things like culture, language, and approaches to work.

***Severe flexibility constraints.*** Flexibility is a capability highly valued in innovation, and open innovation in particular, as flexible organizations can adapt to changes internally and adjust for changes taking place at the collaboration partner. Flexibility constraints, then, can effectively limit the scope of open innovation. In line with our priors, flexibility is most often linked to the smaller partner, yet the large firm's (lack of) flexibility is equally important for open innovation to succeed (fail).

The importance of flexibility is revealed in our data as the flexibility and fast decision-making of the small company is viewed as a clear advantage when large companies seek open innovation collaboration partners. However, there is also evidence that flexibility can be overestimated, resulting in disappointment. Several small firms had taken on more projects than their capacity could sustain, resulting in the large-firm partner discovering flexibility constraints not envisioned at the outset. In one case, capacity shortage forced a small firm to put a large partner on the backburner and prioritize an even larger partner, leading to frustration and a deteriorating relationship. One large-firm manager explained:

> *"Despite choosing a small partner where we thought we had the upper hand, we turned out to be too small when the larger customer called for attention and our partner was not large enough to handle both at the same time."*

Flexibility is also hampered by the small firm often being dependent upon a few specialists, frequently resulting in bottlenecks. Consequently, when key individuals are staffed on other projects, or are just slow to react because their email inboxes have exploded, large firms can perceive this as a lack of flexibility. A manager at a large company explained his frustration:

> *"For our smaller partner, the owner of the company was also the project manager, which led to frustration when we could not reach him."*

Flexibility constraints in large firms also hobble the open innovation relationship. Large firms with a pedigree of incremental innovation often create an inward-facing culture. For example, small firms explained that this culture manifested in "not-invented-here-syndrome", which made it harder to gain acceptance for new ways of working and implementing technologies originating in the smaller firm. A project manager at a large development department pondered this and the impact of different development philosophies:

> *"We are reluctant to outsource development work that we have done in-house, historically. Our organization wants to be in control, whereas I would rather like us to ask ourselves about what things in the development ... creates value and mainly focus on them. I would opt for shorter time to market instead of being in full control of all details in the development."*

Flexibility is a valued characteristic, sought after especially when large companies evaluate and search for new partners. However, contrary to the commonly held belief that small firms are agile and flexible, we have demonstrated that that is not always the case. And although these instances may be few and far between, they do not fail to tarnish the image of the small firm in the eyes of the large firm. Similarly, this study provides support for the idea that confinement and narrow-mindedness among large firms can be a source of inertia and flexibility constraints.

## Solutions to overcoming challenges

We found that successful open innovation partnerships between small and large firms were characterized by two activities—dating and negotiation—that mitigated the challenges discussed above. Dating involves structures and processes for small and large firms to get acquainted before the open innovation collaboration begins, whereas negotiation covers tools and tactics to agree on a shared purpose and to identify potential roadblocks.

***Dating.*** To gain counterpart insights, develop goal congruence, and learn about potential flexibility constraints, both small and large firms engage in dating activities. When they do not, the collaborative open innovation project is at greater risk of failure. Our interviewees often talked about dating in terms of conducting "due diligence", but the activity goes beyond legal and fiduciary requirements.

Ideally the due diligence identifies potential gaps between what a firm assumes about a potential partner and what is objectively true. The purpose is to uncover pertinent facts before formally engaging in an open innovation project. This holds for both large and small firms, regardless of who initiates the project, whether contributions are made with cash or competence, etc. Such due diligence can take the form of soliciting reference cases, running pilot projects, conducting interviews, or even organizing beauty contests. When there is a long working history between the large and small firm, it simplifies the due diligence, which in the ideal case could be reduced to a simple phone call, often to check up on individual contributors. For example, a consultant joining a challenging project with a very tight deadline explained:

> *"I would not have [taken] on this project with anyone and without knowing them. In this case we had personal relation and a history of working together."*

In other words, skipping dating and going straight to business may work if a strong bond is already present. An experienced manager was very blunt about this: *"I favor long term relations built on personal relations".*

Each party should also try to inform themselves about the development and project methodology of the other party, as this provides clues to their innovation experience. In many cases formal certifications can offer guidance. Because of regulatory demands, larger process-driven organizations often have formalized, well-documented processes that can be shared. A smaller organization might not possess the same level of documentation, but this does not necessarily mean they lack a process. On the contrary, small firms can operate very sophisticated and agile methods, but large firms may need to engage in dating activities to uncover these skills within a small firm.

Dating entails more than formal due diligence, it is an early-stage activity to make new connections. Industry and user associations have proven to be a useful vehicle for large and small firms to connect and get to know each other prior to a project. For example, for one large firm and their smaller consultant, membership in a software user association allowed them to extend their dating period and seek peer input and advice over a long period of time. Another manufacturing manager highlighted the dating services provided by a regional industry cluster organization. In yet another case, an academic partner was brought in as a validator, adding specialized expertise to the project and acting as a 'pre-marriage counselor' of sorts.

As in life generally, making a good new connection is not (only) about discovering potential flaws but about finding and creating common ground, and building shared understanding and purpose. Essentially, the ideal outcome of a first date is a second date,

unless differences are beyond repair. To avoid entering wrong and costly collaborations, pre-studies and beauty contests were noted by interviewees as dating tools useful for trying out a new partner. When the dating was deemed successful, but the open innovation still failed, some companies reported that they tried to improve future dating through retrospective evaluations and project white books.

***Negotiation***. To establish a joint understanding and handshake on project goals, targets, and scope, many firms employed various negotiation tactics before and while the project was running. Think of negotiation as the formal follow-up to dating before entering a union. Our respondents underscored the importance of spending enough time and effort on documentation and agreement on specifications, roles, and scope of a new open innovation project. An experienced consultant working for a small niche-consulting firm explained:

*"In cases where the client [does] not have specialist competence the specification becomes even more important, you have to 'force' and help the client to bring out and be clear on what they are ordering. This is then transformed [into] a protocol and checklist that can be used throughout the project to identify early warnings."*

However, such agreements, specifications, and protocols do not always come easily. In these cases, a favored solution was to establish "decision forums" where partners could provide updates and negotiate changes and disagreements without unnecessary escalation and risk of project delays. A similar solution is to work closely with a project steering committee, with whom potential problems can be hashed out. A large-firm project manager and business controller explained:

*"If I am to pick one important factor for progress it is to be close to your steering committee to secure a fast decision process and avoid things dragging along. A steering committee should represent key stakeholders, but one should aim at keeping it as tight as possible."*

Surfacing roles and responsibilities are key to successful negotiation, as illustrated by a fellow project manager in the same large firm:

*"Not everyone understands their role as a stakeholder and are bold enough and stand up for decisions, when push comes to shove. I must say that the decisiveness has been so-so in many projects I have been involved in. If you are a member of a steering committee, you have a duty to fulfil, and not just have opinions."*

Another negotiation tactic that both small and large firms can benefit from is bringing an external partner to resolve disagreement and implement necessary changes. A telling example is when an international development project involving three parties had entered a stalemate, with problems related to disagreements on roles and responsibilities among the large customer, a smaller intermediator/consultant, and an Asian partner. To resolve the issue the parties decided to bring in an external expert to serve as a neutral mediator. The mediator assessed the situation and quickly concluded that poor communication was the root cause. The solution was to channel all communication through him to avoid the misunderstandings that had irritated all parties:

*"It turned out very well, but it was not rocket science. What I did was to serve as a liaison. We started by separating the parties and all communication was channeled through me. All communication was now held in writing, and I took on the task to anchor and secure understanding of the tasks and deliverables at the respective sides. Altogether, this created a stability and clarity, and it enabled us to lower the tone in the project."*

Sometimes negotiations are necessary to resolve locked positions resulting from miscommunication, rather than to resolve fundamental differences. Small and large firms often have quite different corporate jargon and large firms are not always mindful of how strong their corporate culture is, resulting in misinterpretation by the smaller firm. This is particularly common when firms enter a new relationship or when the project needs to onboard people with no working history with the partner firm. When clear and explicit contracts and specifications are missing, "soft negotiation" can unfreeze many situations.

Negotiation can be supported by formalized tools such as legally binding contracts. Such tools are important to help avoid ambiguity and regulate and resolve friction that occurs during a collaboration. For example, the owner of a small consultancy firm, with extensive experience in supporting a multitude of far larger clients, was very clear when he stated:

*"There are expectations and when these are not in sync, that leads to problems in a project. That is when you have to be formal. The more you document the better, as it increases the likelihood of being able to agree."*

At the same time, respondents from both small and large firms expressed concerns about the limitations of formalization. A vice president of manufacturing at a large firm believes that a contract is a balance between risk and cost:

*"We aim for a relation where you call each other and discuss and not start by throwing contracts back and forth. We have experience of that from our purchasing department and our experience is that it often leads to locked positions. At the end of the day, when the shit hits the fan contracts are ... hard to follow, where discussions around legal measures instead create friction and stalemate. We are solution-oriented and strive for pragmatism."*

A project manager at a systems development consultancy had a similar view:

*"I cannot recall a project where we have ended up discussing the details and paragraphs of the contract. If it goes that far it is a general failure in the management of the project."*

In summary, negotiation is often necessary to resolve tensions between large- and small-firm partners. Our data suggest idiosyncrasy, and that the best form of negotiation can vary quite a lot.

## DISCUSSION AND IMPLICATIONS FOR MANAGERS

This study contributes to open innovation literature by examining the case of collaboration between large and small firms. Gradually, the literature has moved from mainly being concerned with how large companies access external knowledge and technology (see e.g., West & Bogers, 2014) to incorporating the perspective of smaller firms (see e.g., Lee et al., 2010; Van de Vrande et al., 2009). This paper combines these perspectives and offers insights about open innovation collaborations between small and large firms.

In line with previous literature on open innovation, entrepreneurship, and alliances (Acs & Audretsch, 1990; Bianchi et al., 2010; Brattström et al., 2020; Katz and Gartner, 1988; Vossen, 1998; Chesbrough and Brunswicker, 2013; Chesbrough, 2003; West & Bogers, 2014), our findings suggest that the relative advantages of small and large firms can only be unlocked when critical roadblocks are removed. Specifically, we identified three challenges—inadequate counterpart insight, lack of goal congruence, and severe flexibility constraints—and two mitigations—dating and negotiation. Our findings contribute to the literature by

moving beyond the assumption that partners enter a collaboration with the same prerequisites, targets, and time-horizons (see e.g., Lumineau & Oliveira, 2018). Indeed, small and large firms often have very different perspectives and capabilities when engaging in open innovation.

An important insight is that just as challenges are relational, remedies must be sought as shared endeavors for the collaborating small and large firms. For example, establishing trust in the relationship is a shared endeavor. And in line with Brattström et al. (2018), this has critical impact on inter-organizational relationships—not establishing mutual trust between the parties hampers the relationship. This insight has several implications for managers. For example, managers in large firms should take a quite humble approach toward small firms and not aim for “my way or the highway”. Indeed, relatively modest and cheap concessions from large firms can make a huge difference for small firms. And small firms are advised to learn quickly what their larger partner is not willing to compromise on—spending time and energy fighting core corporate principles, regardless of how strange they may seem, is futile. Our results also connect to Poppo and Zenger’s (1998) idea that collaborations are designed and established to balance the firm’s internal limitations on resources and competences, where large and small firms possess different attributes in terms of specificity, size, and complexity, causing them to reintegrate and seek collaboration.

The key managerial take-away from this paper boils down to firms knowing less then they believe. Both large and small firms have considerable blind spots about their partners’ capabilities. But they also have blind spots about those partners’ partner-beliefs. Engaging with counterpart insight, goal congruence, and flexibility constraints can help bring about a symbiotic and mutually beneficial open innovation partnership between large and small firms—where dating and negotiation are essential preceding tactics. Our results also underscore the operational aspects of open innovation and remind us of the significance of clear decision paths, excellent project management with clear mandates, and responsibilities for project teams and steering committees.

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