

Jutta Mäkipelkola

Managerial mechanisms in forming ordinary and dynamic capabilities in SMEs

A longitudinal critical-realist study



ACTA WASAENSIA 555



University of Vaasa
VAASAN YLIOPISTO

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ISBN 978-952-395-190-7 (print)
978-952-395-191-4 (online)

ISSN 0355-2667 (Acta Wasaensia 555, print)
2323-9123 (Acta Wasaensia 555, online)

URN <https://urn.fi/URN:ISBN:978-952-395-191-4>

PunaMusta Oy, Joensuu, 2025.



ACADEMIC DISSERTATION

*To be presented, with the permission of the Board of the School of Management of
the University of Vaasa, for public examination on
the 9th of April, 2025, at noon.*

Monograph, School of Management, Strategic Business Development Research Group.

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Tiivistelmä

Tässä tutkimuksessa on tarkoitus tutkia miten pk-yritysten innovointia ja uudistusta edistävät kyvykkyydet kehittyvät mikroperusteisesta näkökulmasta tarkasteltuna. Tutkimus kiinnittyy kriittisen realismin mukaisiin taustaoletuksiin rakenteesta, keskeisistä tapahtumista, toimijuudesta ja kontekstista. Kyseessä on pitkittäis-tutkimus, joka pohjautuu neljän elintarvikealan pk-yrityksen kyvykkyyksien vertailuun.

Tutkimuksessa analysoidaan pk-yrityksen johtajan toimijuutta tavallisten kyvykkyyksien (ordinary capabilities) ja dynaamisten kyvykkyyksien (dynamic capabilities) kehittämisessä laadullisen datan ja analysoinnin keinoin. Tutkimuksessa hyödynnetään pitkittäistutkimuksen antamia mahdollisuuksia seurauksista syiden etsimiseen ajassa sekä syventymällä jokaisen tapausyrityksen tuote- ja palveluiden kehittämiskyvykkyyden ja dynaamisen kyvykkyyden rakenteeseen. Samaan teoriaperheeseen kuuluvan dynaamisten johdon kyvykkyyksien (dynamic managerial capabilities) teoriaa hyödyntämällä perehdytään erityisesti pk-yrityksen johtajan vaikutukseen näissä syissä.

Kriittis-realista lähestymistapaa seuraten tutkimuksen lopputulemana tunnistetaan kolme manageriaalista mekanismia, jotka selittävät kyvykkyyksien ja liiketoiminnan kehittymistä pk-yrityksissä. Tutkimuksen tuloksissa nämä kolme manageriaalista mekanismia avataan osana yrityksen kyvykkyyksien kehittämis- ja hyödyntämisprosessia. Lisäksi tutkimus avaa dynaamisten kyvykkyyksien rakenteen osa-alueet pk-yrityksissä ja keskustelee dynaamisten ja tavallisten kyvykkyyksien eroista pk-kontekstissa. Tutkimuksen johtopäätökset antavat myös suosituksia pk-yritysten johtajille dynaamisten kyvykkyyksien rakentamiseen oman liiketoiminnan kehittämisen tueksi.

Asiasanat: Dynaaminen kyvykkyys, operationaalinen kyvykkyys, dynaaminen johdon kyvykkyys, pk-yritys, kriittinen realismi

Abstract

This study aims to study how SMEs' innovation capabilities develop from a microfoundational perspective. The research is anchored in critical-realist background assumptions about structure, key events, agency, and context. This longitudinal study is based on a comparison of the capabilities of four food SMEs.

The study analyses the agency of the SME manager in developing ordinary and dynamic capabilities using qualitative data and analysis. The study exploits the potential of longitudinal research to find the causes of consequences over time and delve deeper into the new product and service development (NPSD) capability and dynamic capability (DC) structure observable in each case. Drawing on the framework of dynamic managerial capabilities (DMCs), the study explicitly explores the SME manager's influence on these causes.

The study concludes by identifying three managerial mechanisms that explain the development of capabilities and business in SMEs. The results expose three managerial mechanisms that form part of the firm's capability development and exploitation process. In addition, the study opens up aspects of the structure of dynamic capabilities in SMEs and discusses the differences between dynamic and ordinary capabilities in the SME context. The study's conclusions also provide recommendations for SME managers to build dynamic capabilities to support their business development.

Keywords: Dynamic capability, ordinary capability, dynamic managerial capability, SME, critical realism

ACKNOWLEDGEMENT

When I graduated with a master's degree in economics in 2005 from the University of Vaasa, I thought I would like to see working life before doing a possible PhD. I first worked in the food industry, as seen in this PhD, which I started about ten years later. Since then, I have grown fond of higher education and work at Tampere University of Applied Sciences. I have worked on knowledge, development, and leadership throughout my career. These themes are also reflected in this dissertation as a continuum. In practice, I moved from an HR-led approach to competence management to a strategic framework for managing and developing capabilities. This transition was not entirely painless, nor was the transition from practitioner to researcher. The complexity of capabilities, the large amount of data, and the existing theory also challenged my ability to move forward coherently. However, all the companies involved in the project made this journey particularly interesting and rewarding. Many thanks for your hospitality and the time you gave me, and all the best for your future development projects!

I would also like to sincerely thank my supervisors, Professor Annika Laine-Kronberg of Åbo Akademi and Professor Rodrigo Rabetino of the University of Vaasa. Professor Laine-Kronberg, thanks for your encouraging and holistic approach to guidance! Regular discussions with you have helped me to proceed. Professor Rabetino, your involvement in this project was important to its completion. You and Assistant Professor Anni Rajala stepped in at just the right moment. I warmly thank you both!

Warm thanks to my pre-examiners, Professor Ari Jantunen of LUT University and Professor Jaana Tähtinen of the University of Turku. You provided valuable suggestions that helped me further structure the overall work with the reader in mind. Thank you to my opponent Associate Professor Charlotta Siren of the University of St. Gallen. You received the final version of the dissertation.

I also want to thank Professor Marko Kohtamäki of the University of Vaasa for your guidance, mentoring, and D.Sc. (Econ) Jesse Heimonen, for being a member of the same research team and sharing similar research topics during the early stages of the project.

The main funders of this study are The South Ostrobothnia Regional Fund of the Finnish Cultural Foundation and The Foundation for Economic Education. I sincerely thank both organizations. I am also grateful to the Finnish Food and Industry Federation, The University Consortium of Seinäjoki, and The University of Vaasa for the support allocated for travel to conferences in Italy and Poland.

This dissertation found its form in several places. The University Consortium of Seinäjoki was an important partner during this project. Thanks to the former Director of the University Consortium of Seinäjoki Juha Alarinta and all the team members for sharing the coffee room and inspiring and topical conversations. Thanks to Päivi Kujala and Marko Siltamäki for inspiring discussions, sharing practical ideas, and for tips on project funding and worthwhile conferences to attend. Special thanks to Heli Kurikka for sharing a passion for critical realism and challenging my thinking from sociological perspectives. Thanks to the Director of Ruralia-Institute, Sami Kurki, for offering a working space when needed, and all the best of luck to all Ruralia's current and future researchers and team members.

Most importantly, this dissertation was written at home. Thanks to my dearest Tero and our children for showing interest and encouraging during this project. At times, when the sound of life began to be too noisy, I went to the library. In the project's end phase, a small, beautiful former engine shed library with a small study room became important. My warmest thanks also go to my parents and siblings and their families. Thank you for being present during this journey.

I would not be at the end of this project without my friends! Thanks to Maarit, Satu, Minna-Kaisa, Laura, and Anne-Maria for the support and many discussions and walks that have opened new perspectives and put things into perspective.

Contents

TIIVISTELMÄ	V
ABSTRACT	VI
ACKNOWLEDGEMENT	VII
1 INTRODUCTION	1
1.1 The aim and research questions	4
1.2 Structure of the study.....	6
2 DYNAMIC CAPABILITIES.....	7
2.1 Ordinary capabilities.....	12
2.2 Dynamic managerial capabilities	14
2.3 Development of capabilities	17
2.4 Positioning the study	18
3 CRITICAL REALIST APPROACH AND METHODOLOGY	22
3.1 Qualitative approach	27
3.2 Case approach.....	29
3.3 Case selection	31
3.4 Data collection.....	32
3.5 Data analysis	39
3.6 Trustworthiness of the study	51
4 FINDINGS REGARDING ORDINARY CAPABILITIES	59
4.1 Evolving theoretical timeframe.....	59
4.2 Case Alpha.....	64
4.3 Case Beta	74
4.4 Case Gamma.....	85
4.5 Case Delta	97
4.6 Cross-case analysis of the development phases.....	110
4.6.1 Pre-formation phase	112
4.6.2 Formation phase	114
4.6.3 Lock-in phase	120
4.7 Managerial agency in ordinary capability development.....	122
5 FINDINGS REGARDING DYNAMIC CAPABILITIES.....	127
5.1 Managerial agency in dynamic capability development	137
5.2 Clarification of managerial agency in capability development	142
5.3 Clarification of DC features in SMEs	146
5.4 Functioning of managerial mechanism in SMEs.....	151
6 CONCLUSIONS.....	155
6.1 Theoretical contribution	157
6.2 Managerial implications.....	161
6.3 Limitations and suggestions for future research	163
6.4 Reflection	165
REFERENCES	168
APPENDIX 1. INTERVIEW TEMPLATES	181

Figures

Figure 1.	The focus of the study	5
Figure 2.	The structure of the study.....	6
Figure 3.	Positioning of this study.....	18
Figure 4.	The relationship between structure and agency (Stutchbury, 2022: 116)	23
Figure 5.	Perspectives on capability development during data collection	33
Figure 6.	Temporal research process and analytical reasoning approaches following the stratified reality of CR.....	40
Figure 7.	Casing combined with the content of the temporal research process	41
Figure 8.	Timeline of the research process.....	52
Figure 9.	Development phases of NPSD capabilities	61
Figure 10.	The Timeline of Case Alpha.....	65
Figure 11.	The Timeline of Case Beta	76
Figure 12.	The Timeline of Case Gamma.....	87
Figure 13.	The Timeline of Case Delta.....	99
Figure 14.	The formation phase: the main similarities in the rules and practices	117
Figure 15.	The formation phase: manager's influence on the shared rules and practices	120
Figure 16.	The lock-in phase: manager's influence on the shared rules and practices	122
Figure 17.	The focus areas in NPSD capability routines at company- and managerial-level	126
Figure 18.	An example of the BM- and managerial-level analysis ...	127
Figure 19.	Case Alpha: BM- and managerial-level analysis	128
Figure 20.	Case Beta: BM- and managerial-level analysis.....	129
Figure 21.	Case Gamma: BM- and managerial-level analysis	131
Figure 22.	Case Delta: BM- and managerial-level analysis	132
Figure 23.	Managers' main value proposition, creation, and capture practices in the pre-formation phase	134
Figure 24.	Managers' main value proposition, creation, and capture practices in the formation phase	135
Figure 25.	Managers' main value proposition, creation, and capture practices in the lock-in phase	136
Figure 26.	Key knowledge areas of managers	141
Figure 27.	Managerial agency in capability development.....	144
Figure 28.	Critical realism combined with the findings	145
Figure 29.	DCs in SMEs	148
Figure 30.	Microfoundational perspective on capability development.....	152

Tables

Table 1.	Definitions of dynamic capability.....	9
Table 2.	The use of theoretical concepts	19
Table 3.	Structure of the interview process	34
Table 4.	Example of the coding process	49
Table 5.	Case Alpha 2014: The routines and practices of NPSD capabilities	66
Table 6.	Case Alpha 2022: The routines and practices of NPSD capabilities	67
Table 7.	Case Beta 2014: The routines and practices of NPSD Capabilities	77
Table 8.	Case Beta 2022: The routines and practices of NPSD capabilities	78
Table 9.	Case Gamma 2014: The routines and practices of NPSD capabilities	88
Table 10.	Case Gamma 2022: The routines and practices of NPSD capabilities	90
Table 11.	Case Delta 2014: The routines and practices of NPSD capabilities	100
Table 12.	Case Delta 2022: The routines and practices of NPSD capabilities	102
Table 13.	The underpinnings of DMCs in the pre-formation phase	113
Table 14.	Cross-case analysis of the self-reinforcing mechanisms	115
Table 15.	Main TPs in the formation phase.....	119
Table 16.	Main TPs of the lock-in phase	121
Table 17.	Managerial roles in NPSD capability routines and development phases	123
Table 18.	Managerial roles in DC clusters and development phases.....	137
Table 19.	DC measures in the case of SMEs	147

Abbreviations

ACAP	Absorptive capacity
CR	Critical realism
DC	Dynamic capability
DMC	Dynamic managerial capability
NPSD	New product service development
NPSP	New product service portfolio
RBV	Resource-based view
VUCA	Volatility, uncertainty, complexity, ambiguity

1 INTRODUCTION

Dynamic capabilities (DCs) are a topical framework in strategic management that explains how companies can respond to challenges and maintain or increase their competitiveness through renewal. DCs were first introduced by Teece et al. (1997) to express how companies can obtain a competitive advantage by continuously adapting resources in a changing environment. The framework includes DCs, ordinary, and dynamic managerial capabilities (DMCs). These three theoretical views are examined in this study from a microfoundational perspective and in the context of food business SMEs. The present study joins the microfoundational research streams by unveiling how SMEs sense change, seize opportunities, and transform organizations' resource bundles to meet the opportunities and uncertainties of the environment. In practice, this study shows how food businesses have seized the opportunities for ethical, environmental, and responsibility matters (Irz et al., 2017: 106) alongside appealing product features and specific diets.

At first, the DC framework was created to complement and extend the resource-based view (RBV) for companies to achieve and retain competitive advantage by emphasizing firm-specific capabilities (Eisenhardt & Martin, 2000; Helfat et al., 2007; Teece et al., 1997). The literature has mainly been built on three complementary views about DCs (Schilke et al., 2018). *First*, Eisenhardt and Martin (2000) interpret DCs as combinations of simpler capabilities and routines that may fulfill functional purposes (e.g., innovation capability). *Second*, Helfat et al. (2007: 4) presented a widely utilized definition of DCs as "*the capacity of an organization to purposefully create, extend, or modify its resource base.*" *Third*, Teece's (2007) view on general company DCs, sensing opportunities and threats, seizing these into company practices, and reconfiguring company assets accordingly, have also been adapted in microfoundational research on DCs (Kortus & Gutmann, 2023). Some time ago, these views were seen almost as contradictory (Kump et al., 2019). Now, the three views have been successfully combined in microfoundational research. For example, Ellström et al. (2022) researched what kind of routines (features of Eisenhard & Martin's (2000) view) exist beneath the sensing, seizing, and reconfiguring (Teece's (2007) general level dimensions of DCs view) dimensions of DC that enable the digital transformation (features of Helfat's et al. (2007) view: change in resource base) in companies.

The sensing, seizing, and reconfiguring dimensions of DCs (Teece, 2007) support a company's ability to recognize the business value of trends and change the resource base accordingly. The three DC dimensions have been utilized in various strategic

management research topics. Recently, it has been used to understand how sustainability capabilities can be developed through strategic change process (Stoyanova & Stoyanov, 2023), how sustainable products can be created (Kortus & Gutmann, 2023), how digital procurement solutions can be better seized and utilized (Herold et al., 2022) and how companies can conduct digital transformation process successfully (Ellström et al., 2022). These three dimensions are company-level constructs, and microfoundational research has been requested (Schoemaker et al., 2018:16).

The microfoundational perspective moves the focus from organizational-level observations to actions and interactions of individuals, aiming to explain causal mechanisms underneath a firm's reaction to changes. Recently, Bendig et al. (2018: 797) integrated two separate microfoundational levels: individual (managerial) and organizational (knowledge base consisting of human, social, and organizational capital). Similarly, Heubeck (2023) bridges the gap between managerial and organizational levels by explaining the link between dynamic managerial capabilities and digital business model transformation and their mutual effect on firm performance.

DMCs are vital when creating firm-level capabilities (George et al. 2022: 623). The strong DMCs are seen in managers' ability to introduce strategic change, for example, through adapting the company's resource base (Adner & Helfat, 2003; Helfat & Martin, 2015), and they arise from managerial human capital, social capital, and cognition (Helfat & Petaraf, 2015). The microfoundational view on capabilities has expanded recently (e.g., Durán & Aguado, 2022; George et al., 2022), and it is expected to explain the emergence, expression, and transformation of DCs in organizations (Arndt et al., 2022: 424). In entrepreneurial firms, the DMC view can clarify the boundary conditions of DCs (George et al., 2022). Shortly, the microfoundational approach explains how individual-level intentions and behaviors are shown on company-level trajectories. It considers the structure, processes, and individuals involved in developing capabilities (e.g., Felin et al., 2012), and the DMC approach fulfills that view. The presumption is that companies could interpret the changes as threats or opportunities through the perceptual processes of actors (Durán & Aguado, 2022: 452).

It is known that at the organizational level, the creation of DCs benefits from investments in resources, learning and knowledge management practices, and partnerships (Bitencourt et al., 2020: 118). However, this knowledge does not reveal *how* (and with whom) companies succeed in creating these antecedents and combining those with DCs. The focus on managerial and team-level action and interaction covers psychological, social, and behavioral views on DCs (Felin et al.

2012: 1359; Salvato & Vassalo, 2018: 1730) and describes the interaction between manager and team members originating from these viewpoints. As microfoundational studies approach DCs from the perspectives of agency and interaction (e.g., Salvato & Vassalo, 2018; Kurtmollaiev, 2020), they do not predict that organizations are the agents that carry out, i.e., sensing, seizing, and reconfiguring capabilities (Durán & Aguado, 2022: 454). Therefore, managers alone cannot create DCs; they are activating individuals involved in the emergence of DCs (Durán & Aguado, 2022), stimulating the conditions of others in the company (Bendig et al., 2018).

Thus, the DMC view is beneficial when integrating organizational-level DCs and individual-level actions (George et al., 2022: 624). However, recent microfoundational DC studies do not emphasize the managerial view (Kortus & Gumann, 2023; Paez, Pinho & Prange, 2022; Ellström et al., 2022; Herold et al., 2022), and many earlier studies have mainly focused on managerial cognition (Eggers & Kaplan, 2009, 2013; Tripsas & Gavetti, 2000) instead of covering all three DMC elements, including managerial, human and social capital (George et al., 2022: 625). Additionally, the DC research has been criticized due to the lack of acknowledgment of the agency of the principal decision-maker(s) (Zahra et al., 2006; Salvato & Vassalo, 2018).

On an organization-level, dynamic capabilities are often seen as a company's ability to adapt to changing conditions (Teece et al., 1997: 516). Thus, environmental changes are seen as the main driver of the company's DCs. This organizational-level stimulus-response view (Durán & Aguado, 2022: 452) does not leave room for explanations of how companies interpret the environment (opportunities vs threats) (e.g., Bendig et al., 2018). Thus, the organizational-level investigation is considered inadequate to explain the innovative processes through which companies respond to changes (Durán & Aguado, 2022: 452). Additionally, the organizational-level approach cannot unveil the complexity of DCs, whereas the microfoundational approach to capabilities can reveal the antecedents that make each company unique (Felin et al. 2012: 1357; 1352).

Teece (2007) argues that managers' competence to seize new opportunities is linked to their ability to plan and redirect business models. Recently, company managers have been acknowledged as having a role in connecting DCs and business model framing questions (Schoemaker et al., 2018). Managers are responsible for adapting the company business model, the planned system that enables a company to create and capture value (Zott & Amit, 2010). In SMEs, the manager's understanding of the competitive environment is crucial because they lack other resources to support organizational adaptation (Durán & Aguado, 2022: 475). Similarly, Zhou et al. (2021:

2) have acknowledged that the reaching of competitive advantage requires entrepreneurs “*to make strategic [business model] decisions in combination with entrepreneurial environment and previous experience*” (originally, Ehret et al., 2013), thus admitting the role of the underpinnings of DMCs.

1.1 The aim and research questions

This study aims to increase our understanding of ordinary and dynamic capability development through the lenses of DMCs. In doing so, the study seeks to examine the structure of these capabilities in an SME context and recognize managerial mechanisms that influence companies’ routines and processes, contributing to the development of the capabilities.

1. How do DMCs contribute to developing ordinary capabilities?
2. How do DMCs contribute to developing DCs?

Ultimately, this research enables the comparison of ordinary and dynamic capabilities and their relationship, which is recognized as one of the understudied topics of DC research (Arndt et al., 2022: 425).

This study’s critical realist (CR) approach allows research in open systems (Bhaskar, 1998b), acknowledges individual agency in parallel with structure, and aims to serve contextual explanations. Thus, the CR approach is a good starting point for investigating DMCs and dynamic and ordinary capabilities in SMEs (Figure 1). However, it will require a rather intensive, qualitative research approach including individuals in their causal context (Sayer, 1992: 13). To achieve this and to find innovative SMEs, the case selection is first done by using a purposeful, quantitative sampling method, and after that, qualitative methods are applied to cases, as recommended by CR scholars (Wynn & Williams, 2012). The case approach fosters an appreciation of the business environment, companies’ idiosyncrasies, and managerial effects on ordinary and dynamic capabilities in SMEs.

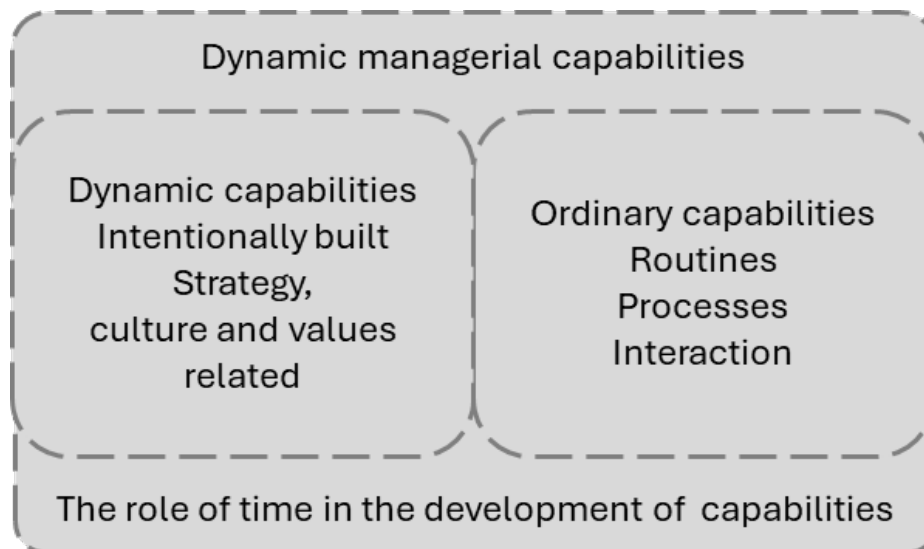


Figure 1. The focus of the study

The role of DMCs in ordinary capability development and DCs is examined in this study. According to studies, DCs are intentional (Helfat et al., 2007), strategy (Bowman & Ambrosini, 2003), and culture- and values-related (Teece, 2016), whereas ordinary capabilities consist of routines, processes, and interactions that secure the company to make a living (Felin et al., 2012). The intentionality, strategy, culture, and values also touch upon the ordinary capabilities; the assumption is that ordinary capabilities are under their influence and, similarly, describe the company's context. From the developmental perspective, the DCs are said to emerge from discovery, learning, and knowledge creation (Teece, 2017) and ordinary capabilities from learning accumulation, codification, and articulation (Zollo & Winter, 2002). However, these definitions do not reveal how these are practiced at the individual (managerial) and team levels and what role context plays in their functioning.

Further, it is known that capabilities develop through history (Teece, 2007; 2014), and due to this, the study finds cause-effect chains by analyzing capability development temporarily. With the help of context-tied longitudinal analysis, this study aims to reveal mechanisms through which managers influence capability development. In the analysis, the managers' role in business model decisions and influence on companies' routines and interactions must be considered. In this study, this is approached with an abductive approach that combines empirical observations with the DMC perspective. Ultimately, the relationship between ordinary and dynamic capabilities is analyzed, and their relationship is evaluated.

1.2 Structure of the study

This study is organized in the following manner.

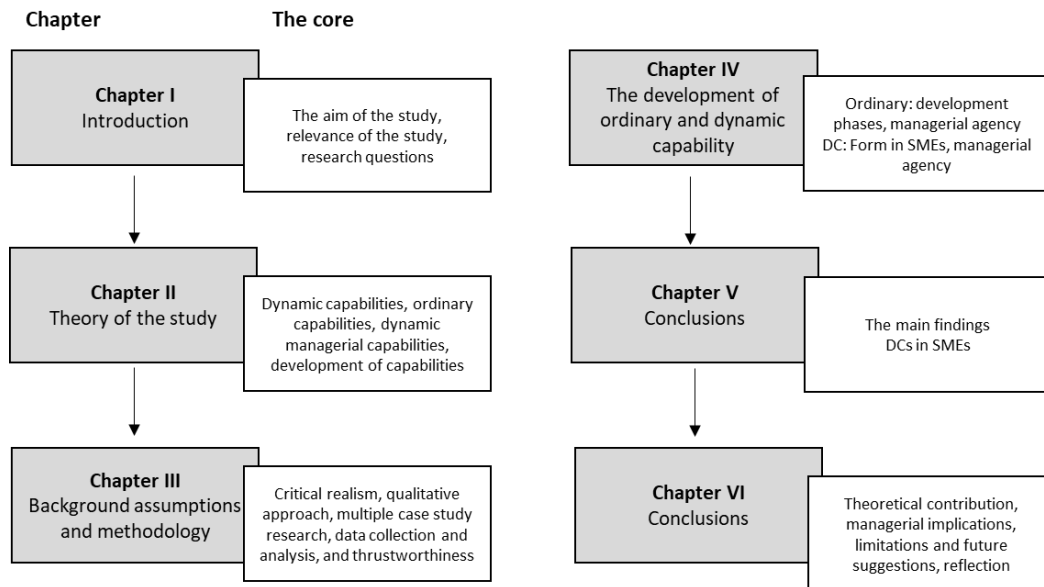


Figure 2. The structure of the study

Introduction (Chapter I) describes the scope of the study, along with its aims and relevance. The theory section (Chapter II) discusses the variety of theoretical viewpoints regarding dynamic capabilities. The main theoretical concepts are presented in this chapter. These are dynamic capabilities, ordinary capabilities, routines, dynamic managerial capabilities, and development of capabilities. After that, the CR, qualitative, and case approaches are presented to the reader with aligned methods and evaluation of the made choices (Chapter III). The longitudinal nature of the study becomes visible in the first analysis phase, in which the development phases of NPSD capabilities are presented (Chapter IV). The abductive approach applied in the CR frame is, instead, present when the nature of DCs in the case of companies is discussed (Chapter V). Finally, in the conclusions chapter (Chapter VI), the theoretical contribution is presented, and reflections about the challenges and successes are provided to the reader. Practical implications are directed mainly at managers of SMEs and future research suggestions to scholars interested in DCs in strategy, management, and organizational fields. These suggestions emphasize the microfoundational approach.

2 DYNAMIC CAPABILITIES

The DC research stream originates from the RBV, where companies' internal resources are recognized as a source of competitive advantage (Barney, 1991). According to RBV, a company's resources should be valuable, rare, imperfectly inimitable, and not substitutable (VRIN) (Barney, 1991). However, researchers realized that companies required the ability to react and change the existing resource base to survive and thrive in changing environments (Teece, 2007; Teece et al., 1997). Accordingly, the RBV view was seen as too static, and companies were encouraged to build capabilities that enabled adapting to changing situations.

Thus, the primary roots of DCs originate from RBV's (90's) and Penrose's (50') thoughts. DCs rose alongside the RBV to explain company survival and success in times of change. The RBV was criticized for being too static, and Ambrosini and Bowman (2009) raised the question: What if the markets change remarkably? The query led to a definition of competitive advantage that considered both difficult-to-replace assets and DCs (Teece, 2007). The DCs extend the RBV by covering environments that are more unstable and owing to their orientation toward the future.

The RBV is aligned with Penrose's (1959: 21-22) thoughts of physical resources (plant, equipment, raw materials, semi-finished goods, stocks, etc.) and human resources (skilled and unskilled labor, financial, legal, technical, and managerial staff, etc.). Further, in RBV, organizational capital is discussed as a resource, for example, the firm's reporting systems, controlling, coordination, and networks (besides those mentioned above, physical and human capital) (Barney, 1991).

Penrose (1959) already took steps toward DCs through her interest in absorbing firms' knowledge. She approached knowledge from an individual perspective and recognized that when managers' experience grew, they became more valuable to the firm through the 'services' they could render to the company and accumulate with co-workers. Penrose even touched on the relatively recent and popular topic of managerial opportunity capture when she recognized that through gaining experience, firms got scope (slack) to innovate internally, which contributed to "*the uniqueness of the opportunity of each individual firm*" (p. 48).

There has been a debate among dynamic capability literature on whether DCs are distinctive to each firm. Following Penrose's (1959) and Zollo's and Winter's (2002) thoughts that learning is influenced through experience accumulation, this research set up presumes that DCs have differences between companies. For example, all firms sense opportunities (similarity at the abstract level), but how the sensing is done in

practice (differences at the practical level) (Ambrosini & Bowman, 2009, originally; Feldman & Pentland, 2003).

Initially, Barney (1991) reflected that capabilities are simple resources. The current and common view today is that capabilities are processes, whereas dynamic capability is a process that influences a company's resources. Penrose (1959), instead, talked about services (originating from both material and human resources) that yield a new outcome through the increase in knowledge. Penrose (1959) recognized that a firm is "*a collection of productive resources the disposal of which between different uses and over time is determined by administrative decision*" (p.24), thus acknowledging the role of managers in resource allocation decisions.

DCs are linked to expected survival, growth, profits, value creation, and competitive and sustainable advantage (Helfat et al., 2007). However, according to Eisenhardt & Martin (2000: 1110), DCs do not secure sustainable advantage because they can be substitutable and may differ in many details. They still support the idea of competitive advantage through novel resource combinations. Other recognized DC-originating benefits are the creation and development of new businesses (Newbert, 2005), business strategies (Bowman & Ambrosini, 2003), innovation outputs (Rothaermel & Hess, 2007), and performance (Zhou et al., 2019).

The DC construct, as such, has been criticized because it has been developed based on two distinctive views: Eisenhardt's and Martin's (2000) and Teece et al. (1997). The glaring differences are related to questions about competitive advantage and sustainable competitive advantage, where Teece et al. advocate, and Eisenhardt and Martin limit and even deny DCs as a source of sustainable competitive advantage (Peteraf, Stefano, & Gianmario, 2013: 1394). Further, Peteraf et al. (2013) point out the boundary conditions of the framework: Teece advocates environments of rapid technological change, whereas Eisenhardt and Martin claim that the framework meets boundary conditions in the markets of rapid change. Interestingly, Helfat (2022: 734) writes that the effects of DCs on companies' resource base have reached more researchers' attention than the effects DCs have on the environment. Accordingly, she presents (p. 736) external-facing DCs that may cause change to the company's internal resource base and the external environment, leading to market shaping. More precisely, Helfat (2022: 740) recognizes that external-facing DC can function as a mechanism that, through market shaping, may influence how the company makes a living.

When companies meet, operate, survive, and thrive in volatility, uncertainty, complexity, and ambiguity (VUCA), they are expected to capture DCs (e.g., Schoemaker et al., 2018). Dynamic capabilities can be seen as a combination of simpler capabilities and routines (Eisenhardt & Martin, 2000) or higher-order

capabilities that influence the development of operational capabilities (Winter, 2003). For example, Zahra et al. (2006) define DC as an ability to change a substantive (or operative) capability. They use the research and development process as a concrete example: an ability to make a product in a new way is a substantive capability, and an ability to change a product development routine is a DC. The main definitions of DCs are presented in Table 1.

Table 1. Definitions of dynamic capability

Author	Definition
Teece et al. (1997: 516)	<i>"The firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments."</i>
Eisenhardt & Martin (2000: 1107)	<i>"The firm's processes that use resources—specifically the processes to integrate, reconfigure, gain and release resources—to match and even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die."</i>
Zahra et al. (2006: 918)	<i>"The abilities to reconfigure a firm's resources and routines in the manner envisioned and deemed appropriate by its principal decision-maker(s)."</i>
Helfat et al. (2007: 4)	<i>"The capacity of an organization to purposefully create, extend, or modify its resource base,"</i> where "resource base" covers organizational assets and capabilities.
Helfat & Winter, 2011: 1245	A dynamic capability is an organization's capacity to create, extend, or modify how the organization makes a living.
Teece, 2007: 1319; 2014: 18	Sensing, seizing and transforming and reconfiguring/transformation capabilities
Zollo & Winter, 2002: 340	<i>"Learned and stable pattern of collective activity through which the organization systematically"</i> modifies its routines.
Cohen & Levinthal, 1990: 128	<i>"Ability to recognize the value of new information, assimilate it, and apply it to commercial ends."</i>
Teece & Pisano, 1994: 553	<i>"Rooted in high-performance routines operating inside the firm, embedded in the firm's processes, and conditioned by its history."</i>

A current established definition for DC is: *"the capacity of an organization to purposefully create, extend and modify their resource base"* (Helfat et al. 2007: 4). There has been some debate whether the term capacity should be replaced by ability and the term purposefully with intentionality (Helfat & Peteraf, 2009). The intentionality aspect of DC building and use might have originated from Winter's (2003) thoughts outlining that ad-hoc problem-solving does not resemble DC. However, creating a resource base refers to acquiring new resources, acquisitions, alliances, innovations, and entrepreneurial activities, extending the resource base to enlarging the current resources, e.g., through organic growth and modifying, selling, closing, or discarding of resources (Helfat et al. 2007: 4-6).

Additionally, Teece (2007) created a framework of the DCs, sensing, seizing, and reconfiguring (later called also transformation) (Teece, 2014: 16). Teece (2016) sees that DCs are built based on the ability to react to change, where the ability to respond consists of the management team and the company's values, culture, and collective ability. That sensing, seizing, and reconfiguring framework enabled Teece (2007) to present the most critical capabilities the management must secure to meet evolutionary and entrepreneurial fitness. The evolutionary fitness of DC means the company's ability to change its routines and practices to keep pace with market changes (to be profitable). In contrast, technical fitness, often discussed in parallel, is utilized in measuring how well a capability meets the requirements set to its performance (doing things right) (Helfat et al. 2007: 8). Teece (2007) mentions evolutionary and entrepreneurial fitness (2007: 1321) referring to a company's attempts to change and not just adapt to the environment. Because they can shape the environment, DCs are entrepreneurial in nature. In addition, DCs support evolutionary fitness. Accordingly, Teece (2007) values entrepreneurial and evolutionary fitness. The sensing cluster captures changes in the environment, the seizing cluster focuses on directing and using resources to exploit opportunities, and the reconfiguring cluster captures the continuous renewal of resources and enhancing, combining, protecting, and reconfiguring business assets (Schoemaker et al., 2018; Teece, 2007, 2014). Investments in recognized opportunities are part of the seizing cluster (Helfat & Peteraf, 2009).

George et al. (2022) produced a literature review of articles published in top peer-reviewed management and strategy journals on entrepreneurial firms. The study found that the most cited conceptualizations of DCs can be divided into two groups: the RBV (Barney, 1991; Teece et al., 1997; Teece, 2007) and routines (Eisenhardt & Martin, 2000; Zollo & Winter, 2002) (alternate conceptualizations) and organizational learning (Cohen & Levinthal, 1990). In the first group, the RBV is the more popular paradigm. From the routine perspective, Zollo and Winter (2002: 340) define DCs as a *"learned and stable pattern of collective activity through which the organization systematically modifies its routines."* Further, George et al. (2022: 624) recognized organizational learning as complementary to the RBV and routine conceptualizations. One example of the knowledge-based view is absorptive capacity, a company's ability to assimilate and exploit knowledge expected to provide strategic flexibility, innovation, and performance (Zahra & George, 2002: 192). However, the original definition of an absorptive capacity (ACAP) is an *"ability to recognize the value of new information, assimilate it, and apply it to commercial ends"* (Cohen & Levinthal, 1990: 128). Although Zahra et al. (2002) conceptualized ACAP as a dynamic capability, some researchers criticize ACAP as being interpreted as a DC, which can modify other organizational capabilities (Song et al., 2018). Indeed, ACAP does not originate from the RBV (Song et al., 2018: 2371) but complements the

routines perspective. Progress is not easily delivered without new knowledge. A company's internal capacity to create knowledge is equally important in parallel with ACAP. The features of R&D, employer innovativeness, and managers' commitment are included in knowledge creation (Khraishi et al., 2023).

Dynamic capabilities are defined as processes (Eisenhardt & Martin, 2000) or an ability or a capacity (Teece et al., 1997; Helfat et al., 2007). All definitions elucidate that the purpose of DCs is to introduce change. Three learning mechanisms, learning accumulation, codification, and articulation, form a basis for DCs defined as learned and stable patterns (Zollo & Winter, 2002). The recognized learning mechanisms bring Zollo's and Winter's (2002) view closer to absorptive capacity (Cohen & Levinthal, 1990) because they acknowledge knowledge's role in renewing practices and routines. Recent research has shown how industry changes and internal factors of companies co-evolve with the help of the sequential utility of exploitative and explorative learning (Peng, Liu, & Qi, 2022: 511).

A recent study shows that building DCs is a continuous process where environmental aspects and stakeholder requirements must be observed (Kortus & Gumann, 2023). To introduce change to the existing resource base, companies must apply sensing, seizing, and reconfiguring capabilities that help recognize opportunities and threats in the environment and act accordingly (Teece, 2007). DCs require managerial services that cannot be outsourced due to the requirement of detailed knowledge about the processes and structures of the company, as well as the ecosystem where the company operates (Teece, 2007). Similarly, when discussing DCs in entrepreneurship, the role of the principal decision-maker/s is recognized (Zahra et al. 2006).

Recently, a longitudinal singular case study set in the banking sector explored how the development of corporate sustainability moved from ordinary capability to dynamic capability. A temporal process model introduced how the operational capability findings intentionality (at the micro level), integration (at the meso level), and institutionality (at the macro level) develop into dynamic capability. At the micro-level, the role of top managers is emphasized, as in this study. (Stoyanova & Stoyanov, 2023). Another study investigated the effect of DC dimensions sensing, seizing, and reconfiguring marketing and technology capabilities in SMEs. This multi-method study combined the findings with company lifecycles by showing which DC dimensions matter in the birth, growth, maturity, and revival stages. This study did not take a managerial perspective, but the researchers suggested applying a longitudinal approach in future studies. (Páez, Pinho, & Prange, 2022). Some other studies have lately focused on DC dimensions lately. A qualitative case study on digitalization conducted in two firms in the energy and consultancy sectors

recognized six routines. It connected them to the sensing (cross-industrial digital sensing, inside-out digital infrastructure sensing), seizing (digital strategy development, determining enterprise boundaries), and reconfiguring (decomposing digital transformation into specific projects, creating unified digital infrastructure) dimensions during a digital transformation (Ellström et al., 2022). The study guides managers in conducting a digital transformation but does not apply the DMC perspective. Similarly, nine microfoundations were found based on a systematic literature review explicating digital procurement transformation underneath sensing (digital scouting, scenario planning, and mindset crafting), seizing (balancing digital options in different levels with automatization, automation, and augmentation), and reconfiguring (improving digital maturity, redesigning internal structures, navigating innovation ecosystems) DC dimensions (Herold et al. 2022: 432). The study offers valuable advice to managers but does not mirror the DMC view. The researchers call for future research emphasizing the manager's role in successful digital procurement transformation beneath the DC dimensions.

2.1 Ordinary capabilities

In addition to DCs, companies access ordinary (or operational) capabilities involving administrative, operational, and governance-related aspects of capabilities (Teece, 2014). The relationship between these two capabilities has been widely discussed (Slaouti, 2021; Helfat & Winter, 2011). One distinction is that DCs drive organizational strategic change (Helfat et al., 2007), whereas ordinary capabilities maintain the status quo (Winter, 2003). In contrast, ordinary capabilities can be endogenous (Schriber & Löwsted, 2020; Teece, 2020) and complementary to DCs (Karna et al., 2016), but DCs are higher-order capabilities that affect the rate of change in ordinary capabilities (Winter 2003: 148; Teece, 2007: 1344) and the way ordinary capabilities should be combined, added, or retrenched through reconfiguring (Teece, 2018). Further, DCs can help companies recognize competences and assets, combine them, and benefit from them with an innovative and agile organization (Schoemaker et al., 2018). This means that Schoemaker et al. treat DCs separately from ordinary capabilities (e.g., manufacturing, marketing, partnerships, and operational leadership), from the organization itself, and while close to strategy, separately from it. However, they admit that ordinary capabilities often require intangible proprietary assets to succeed.

Ordinary capabilities are *“repeatable patterns of action in the use of assets to create, produce, and/or offer products to a market”* (Laamanen & Wallin, 2009: 953; originally, Sanchez, Heene, and Thomas, 1996). Moreover, later on, Winter (2003: 991) widened the routine-based concept also to encompass the role of management:

“a high level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization’s management a set of decision options for producing significant outputs of a particular type.” Thus, Winter (2003) emphasizes that capability gives alternatives to managers. In this study, this is also seen in another way: managers may give implementing input flows to the set of routines that compose the capability, later referred to as DMCs.

Researchers have explicated differences between ordinary capabilities (Teece, 2014) (or operational capabilities (Helfat & Winter, 2011) or zero-level capabilities (Winter, 2003) and DCs. Ordinary capabilities enable companies to *“make a living”* (Winter, 2003), and they cover basic operations (including administration) that support the production of planned offerings with known technologies (e.g., Teece, 2014). Further, ordinary capabilities are described as buyable from the outside, whereas dynamic capabilities originate from discovery, learning, and knowledge generation (Teece, 2017). Ordinary capabilities parallel best practices with skilled employees and advanced equipment (Teece, 2014).

However, Karna et al. (2016) found that ordinary capabilities and DCs are close to each other and that DCs complement ordinary capabilities. They recognized several examples of ordinary capabilities: operations/processes, resources/assets, organization/structure, etc. Earlier, Winter (2000: 983; 2003: 991) illustrated that an organizational capability is *“a high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization’s management a set of decision options for producing significant outputs of a particular type.”* Routines thus play a role in executing ordinary capabilities and are discussed with the agency view, DMCs, in Section 2.2.

Other examples of ordinary capabilities are the production process and the R&D process in the case of a firm specializing in R&D (Winter, 2003). However, R&D or innovation capability can be interpreted as DCs (e.g., Eisenhardt & Martin, 2000). For example, Karna et al. (2016) identified R&D/innovation/technology, strategic decision-making/market research, cooperation/alliance/external relations, and knowledge management as DCs. Zahra et al. (2006) defined a new routine for an existing capability, for example, R&D, as a new ordinary capability (or a new substantive capability, as they call it). Additionally, they saw DCs’ ability to change these existing routines/capabilities.

According to Zahra et al. 2006 ordinary capabilities precede dynamic capabilities, and over time, the relationships between these *“... becomes complex and intricately interwoven”* (p. 927). Others have also pointed out the difficulty in separating these two forms of capabilities; for example, Helfat and Winter (2011) have described the relationship as *“blurry”* (p. 1243). Both operational and dynamic capabilities build on

routines (Teece, 2014: 21), where routines are repetitive and independent activities performed by multiple actors (Feldman & Pentland, 2003). The basic separation that DCs create dynamism to ordinary capabilities has been challenged by arguing that task-level capabilities can induce change to other capabilities (e.g., Dangol & Kos, 2014: 337). Dangol and Kos (2014: 351) have suggested that instead of focusing on the change in capabilities, researchers should focus on outcomes (changes in performance) and, based on that, infer whether the capability producing the outcome expresses ordinary or dynamic capability. For example, they suggest that investments in a new production process function as a proxy for DCs.

In contrast, investments in maintaining existing production processes are a proxy for operational capabilities. Finally, the perspective of the external environment is often considered when defining capabilities: DCs enable companies to change their capabilities in changing environments, whereas ordinary capabilities secure efficient use of current resources and capabilities (Uhl-Bien & Arena, 2018). Teece (2007: 1319; 2018: 44) expected DCs to lead superior long-term performance in VUCA conditions. Recently, Irwin et al. (2022) came to a similar conclusion in a study about mergers and acquisitions. They found that acquiring ordinary capabilities improves short-term performance, whereas DCs capture the potential to do it in the long term, with uncertainty factors moderating these relationships.

The microfoundational view of routines has been interpreted as undynamic or too static. Wenzel et al. (2021:398) have raised a question: “...if organizational routines are presumed to be performed in a quasi-automatic, stable, and reliable way and, thus, nonreceptive of human agency, how can individuals, teams, and other entities on lower levels of analysis ever make aggregated contributions to routine-based organizational change through dynamic capabilities?” Feldman and Pentland (2003: 99) initially suggested that routines are practices with internal dynamics. Thus, they have challenged the view of seeing routines as things; instead, they argue that routines are temporal processes reproduced through participants’ actions. Earlier studies also report that founding managers have an important role in forming routines: earlier experiences have been found to form the basis for new routines (Lin et al., 2017, originally Miner et al., 2008) and that founding managers transfer critical knowledge, although the process as such is not direct or complete (Basu et al., 2015). This leads us to take a closer look at DMCs.

2.2 Dynamic managerial capabilities

The DMC literature has been divided into three interrelated viewpoints: extension (Helfat & Martin, 2015), antecedent (Kor & Mesko, 2013), or microfoundation (Helfat

& Peteraf, 2015) based on their relationship to the DC concept (George et al., 2022). The three categories are close to each other; however, the microfoundational view is recognized as best in admitting that the two concepts are related and still distinct (George et al., 2022).

The microfoundational approach of DMCs has been recognized to better fit with entrepreneurial research (e.g., George et al. 2022: 605). George et al. (2022: 623) reason that the DMCs of managers aid the formation of opportunities, which, in turn, through the new knowledge and experience, shape DMCs and following DCs. In addition, they point out that in entrepreneurial firms, the DMCs are seen to play a role in the creation of firm-level capabilities, for example, through endogenous formation of opportunities. The role of individuals, including the agency of others than managers, has been one of the challenges that the definitions of DC have faced (e.g., Kurtmollaiev, 2020: 3). The most widely used definition of DMCs is as manifestations of managers' ability to "*build, integrate, and reconfigure organizational resources and competences*" (Adner & Helfat, 2003: 1012). This widely used definition (see Ambrosini et al., 2009; Eggers & Kaplan, 2009; Helfat & Martin, 2015; Sirmon & Hitt, 2009) follows a classic definition of dynamic capabilities: "... *the firm's ability to integrate build, and reconfigure internal and external competences to address rapidly changing environments*" (Teece et al., 1997: 516). However, there are natural reasons behind these conceptual similarities. For example, Teece (2007) explains how opportunity recognition can be rooted both in individual capabilities (e.g., creativity) and/or in organizational processes (e.g., R&D). Although Teece (2007) mainly concentrates on firm-level capabilities, such as sensing, seizing, and reconfiguring, and their direct, operational microfoundations (e.g., processes and structures), he recognizes the role of management in creating dynamic capabilities. In the literature, DMCs support similar functions, such as asset orchestration, sensing, seizing, and reconfiguring.

Managerial sensing refers to the capacity to scan and recognize opportunities in an unsteady environment, managerial seizing to an ability to develop new products, processes, or services to absorb the opportunities, and managerial reconfiguration refers to the capacity to orchestrate assets, involving selection, configuration, alignment, and modification of assets for strategic purposes (Kor & Mesko, 2013; Sirmon & Hitt, 2009; Helfat & Peteraf, 2015.) Schoemaker et al. (2018) theoretically link managerial anticipation and challenge to sensing dimensions, interpreting and deciding to seize dimensions, and aligning and learning to transform dimensions.

In the literature, DMCs focus on the role of managers and founders (Helfat & Martin, 2015; Teece, 2012). The main underpinnings supporting the functions of managerial sensing, seizing, and reconfiguring are human capital, social capital, and managerial

cognition (e.g., Helfat & Martin, 2015). First, human capital captures individuals' knowledge, skills, abilities, or other characteristics (KSAO) (Ployhart & Moliterno, 2011). In research, education and work experience are part of the measures of human capital (e.g., Dahiya & Raghuvanshi, 2022: 2238). Second, social capital is "... *the ability of actors to secure benefits by virtue of membership in social networks or other social structures*" (Portes, 1998: 6) and contains, for example, networks that managers possess (Adner & Helfat, 2003). When starting a business, a manager's social and human capital affect the steps taken (Davidsson & Honig, 2003). Finally, managerial cognition consists of beliefs, mental processes (e.g., Walsh, 1995), and emotions (Hodgkinson & Healey, 2011) that influence managers' decision-making. Earlier research has recognized that cognition and human capital influence the decisions in required investments when adapting to market and technology development changes (Kaplan, 2008: 688-689). Thus, the three underpinnings of DMCs, human capital, social capital, and cognition, are intertwined.

Recently, Durán and Aguado (2022) pointed out that due to the limited resources of SMEs, the CEO must understand the environment; they recommend training and other ways to update one's mental models (cognition) to improve sensing and, through it, the subsequent organizational adaptation. Similarly, Adner & Helfat (2003) propose that DMCs may explain why companies facing similar environmental change end up with different solutions. Although researchers sometimes want to make a juxtaposition between experience and managerial cognition (Bingham et al., 2007: 29), they can also be seen as a continuum of the same phenomenon: managers' thinking and actions are shaped by managers' earlier experiences and knowledge obtained through networks (Adner & Helfat, 2003). For example, Tripsas and Gavetti (2000) found that managers' experience-based belief in old technology-based business models prevents them from consolidating with the rising trend of digital imaging. Eggers and Kaplan (2009) determined that managerial cognition impacts companies' attitudes to emerging technologies (accelerating vs hindering) and depends on the CEO's attention to emerging technology, current technology, and the industry. Eggers and Kaplan also stated that managerial cognition is context-specific and suggested that companies with similar orientations may drive in different directions because the CEOs are focused on different situation elements. Instead, Tripsas and Gavetti (2000) noticed that managers' beliefs influenced which capabilities were further developed in the company. Similarly, Laamanen and Wallin (2009) found, in a longitudinal study in the software industry, that managerial cognition has an impact on how a certain capability is developed and that managers' attention tends to shift between capabilities. The famous study by Tripsas and Gavetti (2000) has its roots in an in-depth case study; similarly, Laamanen and Wallin (2009) applied qualitative methods to a study about managements' attention and sense-making in capability development.

How, then, do we investigate DMCs concerning capabilities? Helfat and Winter (2011: 2144) have defined a capability as “... *capacity to perform a particular activity in a reliable and at least minimally satisfactory manner.*” Researchers have pointed out the meaning of intention and the outcome in capability research (Helfat et al. 2007: 1). Capabilities are said to fill the gap between intention and outcome (Dosi et al., 2000: 2). For example, a food business may intend to generate an idea for healthy bread, and their idea generation capability (bundle of routines) produces an initial idea, for instance, in the form of insect bread. Moreover, Dosi et al. (2000: 2) point out that the intention-output link may be best seen in capability development. For example, creating insect bread may require learning and routine changes. The DMC view is applied in this study to reveal what role managers play in these changes.

2.3 Development of capabilities

As this study applies a longitudinal approach to capability development, a description of a path dependency framework is shortly presented in this section. For example, Ambrosini and Bowman (2009: 40) see that the company’s history matters regarding the emergence and development of dynamic capabilities. A process view, the path dependency theory (Schreyögg & Sydow, 2011; Sydow et al., 2009) describes how past decisions affect current and future decision-making and thus give room for agency-related investigations. First, in the pre-formation of the process, the decision-maker (e.g., manager) cannot predict what his/her decision will cause. It means that the process does not have a history in the pre-formation phase, but the agent making the decision has a personal history (Sydow et al., 2009: 705), influencing the choice. Second, in the formation phase, a dominant action pattern starts to outline the possible ways of acting (supported by self-reinforcing mechanisms), and third, in the lock-in phase, the decision pattern is fixed and can even lead the process to an unwanted lock-in situation where renewal becomes limited.

In the formation phase, the emphasis is predicted to turn more toward structural features, whereas in the pre-formation phase, agency may get more room. Sydow et al. (2009) have described four self-reinforcing mechanisms that may lead to a lock-in situation when gearing toward structured features. The self-reinforcing mechanisms are coordination effects (members of an organization follow a specific rule to ease communication and to support the anticipated reactions from others), complementary effects (occurs when routines are interconnected due to the synergies they offer), learning effects (culture and incentive may support exploitation at the cost of explorative learning), and adaptive expectation effects (referring to organizational members’ wish to belong as insiders and thus, to prefer generally accepted best practices). The authors do not directly address context as a self-

reinforcing mechanism; instead, they emphasize that contextual factors, for example, ambiguity or complexity, should be discerned from it (p.701).

According to Zahra et al. (2006: 944), path dependency is time-bound. It develops when the structure, automatic processes, and understanding of operational capabilities are combined with the overall business plan and execution of the plan (Zahra et al., 2006: 926). Thus, the company's past shapes the company, but according to Teece (2007: 1327), management can make decisions (e.g., investment-related) that can redirect the company's future steps.

2.4 Positioning the study

This section ends the review of the current theoretical views on DCs and capability development. At first, the study is positioned regarding DC research focus areas (Figure 3), and after that, the utility of the main concepts is presented (Table 2).

Large firms		Entrepreneurial firms
Organizational level studies	Microfoundational view (DMC)	
Environmental focus		Company (inside) focus
Cross-sectional view on capabilities		Longitudinal and temporal view on capabilities
Ability-based approach		Routine-based approach (incl. knowledge view)

Figure 3. Positioning of this study

First, DC research has been criticized for concentrating too much on large firms (Arndt, 2019; Zahra et al., 2006). George et al. (2022: 605) point out that although Teece (2007) has called companies with DCs entrepreneurial, this view has not broken room as wished. Second, quantitative organizational-level investigations are relevant in understanding what DCs are like and what they contribute to (performance, competitive advantage, growth), whereas microfoundational studies can produce knowledge concerning how these capabilities are created and further developed. Organizational-level studies have exceeded the microfoundational approach in DC research, which has been recognized as one of the reasons why entrepreneurial firms have not been involved enough in DC research: the agency view

in processes has been missing (Salvato & Vassolo, 2018). For example, years ago, Zahra et al. (2006: 947-948) called for more research on how decision-makers and their choices influence DC and subsequent capability-related research. Third, although DCs support companies in changing environments (e.g., Teece et al., 1997), a volatile environment is unnecessary for DCs (Zahra et al., 2006: 945). For example, studies have found that DCs are also relevant in industries that do not undergo much change (Helfat, 2022: 5; originally, Schilke, 2014). DC research has mainly focused on how environmental dynamism drives changes in a firm's resource base and not that much on how DCs may affect the external environment (and, through it, the resource base) (Helfat, 2022). Fourth, researchers have called for longitudinal studies to investigate the relationship between DCs and DMCs (George et al., 2022: 625) and DMCs and business models (Heubeck, 2023: 13). Temporal process studies serve an explanatory focus with questions such as "*how and why things emerge, develop, grow, or terminate over time*" (Langley et al., 2013: 1). Fifth, the line between ability-based approach and routine-based approach may be too distinctive. As such, it leaves out the third critical view, the knowledge approach to capabilities. In this study, these three views are seen as complementary.

The next table clarifies how the concepts presented in the theory section are applied in this study.

Table 2. The use of theoretical concepts

Concept/approach	Definition	Use in this study
Dynamic capability (DC)	"The capacity of an organization to purposefully create, extend, or modify its resource base" (Helfat et al. 2007: 4). The "capacity of an organization to create, extend, or modify how the organization makes a living" (Helfat, 2022: 735; adapted from Helfat & Winter, 2011)	Sensing, seizing, and reconfiguring/transformation (Teece, 2007; 2014) are utilized as more precise constructs that support the integration of DC theory into the data collection of this study.
Ordinary capability	It enables companies to "make a living" (Winter, 2003). Consists of routines and knowledge flow.	New product and service development (NPSD) capability consists of routines such as idea generation, screening, testing, and market launch. Knowledge flows between these routines.
Dynamic managerial capabilities (DMC)	Managers' ability to "build, integrate, and reconfigure organizational resources and competences" (Adner & Helfat, 2003: 1012), manager's sensing, seizing, and reconfiguring capabilities (Helfat & Peteraf, 2015). DMCs are underpinned by	Managerial sensing, seizing, and reconfiguring are utilized as more precise DMCs to ease the integration of theory and data in this study. Underpinnings: Manager's education, work experience (human capital), in-house and out-house networks

Concept/approach	Definition	Use in this study
	human capital, social capital, and managerial cognition (Helfat & Peteraf, 2015; Adner & Helfat, 2003).	(social capital), managerial attention and perception, and decision-making/choice (cognition).
Longitudinal process study	How past decisions affect current and future decision-making. Developmental view on capabilities.	Acceptance of both the manager's and the company's history.

DC literature captures views from various perspectives: business models, capabilities, routines, DMCs, and knowledge and learning. Therefore, this study began with realism, in which reaching reality requires a holistic understanding of structures and processes influencing the phenomenon under investigation (Peltonen, 2010). In this study, DCs are seen as *"the capacity of an organization to purposefully create, extend and modify their resource base"* (Helfat et al., 2007: 4) and as *"... capacity of an organization to create, extend, or modify how the organization makes a living"* (Helfat & Winter, 2011: 1245). At this point, both definitions are valued for two reasons. First, to evaluate whether companies possess DCs, intentionality is one criterion the researcher can use when assessing the relationship between DCs and ordinary capabilities. Second, the ordinary capability of this study, NPSD capability, is tightly involved with companies' capacities to make a living. Teece's (2007) tripod framework of sensing, seizing, and reconfiguring is utilized in analyzing both managerial and company-level capabilities.

In this study, idea generation, screening, testing, and market launch are routines. In this routine-based capability view, the capability consists of individuals, processes, and structures (Felin et al., 2012) that fit with the CR premises of this study. Routines are recognized as *"repetitive, recognizable patterns of interdependent actions, carried out by multiple actors"* (Feldman & Pentland, 2003: 95). Routines are said to lie more in the interaction of individuals than with the agents as such. They include rules for actions (cognitive regularities) and behavioral regularities between individuals (Becker, 2004). Although Feldman and Pentland (2003) acknowledge this general definition, they want to emphasize agency, including power and subjectivity, in the explanation. Routines are, however, intertwined with how new knowledge is acquired and exploited in companies. The ACAP view emphasizes the role of external knowledge-learning, practices that support the knowledge diffusion inside the firm and with appreciation to the current knowledge base (Song et al., 2018).

Based on the research context (SMEs) and the initial entrepreneurial tone in DC definitions, the microfoundational view of DMCs is a core theme in this research set up. The longitudinal approach allows the researcher to engage with the choices (concerning strategy, business model, and NPSD capability) the companies have

made and examine the managerial role in these decisions. The critical realist, Sayer (2000: 20), sets questions such as “*What made things happen?*” and “*What kind of universe of meaning existed in particular situations?*”. As noted above, process studies have an explanatory focus on discovering how and why things’ trajectories exist (Langley et al., 2013). Sayer’s (2000) questions fit with the process view and contextualized explanation, where the aim is to move beyond the patterns and correlations. Despite the expected path dependencies in the capability development of case companies, the DMC approach allows the agency perspective to be evaluated in the capability development.

The contextual factors may affect managers’ cognitive processes (Ocasio, 1997; Eggers & Kaplan, 2009; Plambeck, 2012), aligning with the CR view of structure and agency. Interestingly, in the DMC framework, researchers have extended territory to the field of psychology by giving room for human, social, and cognitive explanations in the sensing, seizing, and reconfiguring expressions of managers. Moreover, managerial attention includes managers’ human and social capital, for example, earlier experiences and knowledge obtained through networks (Adner & Helfat, 2003).

This study approaches DCs from several perspectives: outcome, knowledge, routines, manager’s role, and development, and the CR premises allow a holistic approach to the research subject. However, not all these DC views can be approached in an equally balanced way with the selected research methods. Outcome-oriented research has focused on resolving the indirect versus direct effect of DCs on company performance with a positivistic approach (Eriksson, 2014). This study utilized the outcome measure to recognize relatively homogenous cases. Knowledge views on capabilities (Zollo & Winter, 2002; Cohen & Levinthal, 1990) are close to routines perspectives. To some extent, DC research has focused more on large firms (e.g., Arndt, 2019), and the entrepreneurial emphasis has received less attention. In this study context, SMEs, a view where a manager’s power position is acknowledged, originates from DC and DMC views (e.g., Teece, 2007).

3 CRITICAL REALIST APPROACH AND METHODOLOGY

This study follows a CR philosophy and approach that accounts for historical, structural, and discursive analysis in social sciences (Reed, 2005). This study's interest is understanding how capability development emerges in SMEs, ultimately leading to selecting this specific philosophy (instead of, e.g., positivism or social constructionism). Accordingly, instead of arguing that explanations can be found from organizational features that produce events regularly (positivistic view) or that produced explanations can be reduced to discursive practices (social constructionism), the ontology of CR guides the search of explanations deeper from structures, mechanisms, and their interaction. It means that although CR epistemology acknowledges the socially constructed nature of scientific theory, the fundamental idea of the stratified ontology prevents the reduction of the explanations on interpretative schemes (e.g., Reed, 2005). The CR approach fits with the microfoundational approach to capabilities where structure (organization, processes, and routines) is observed together with the individual agency (emphasis on managerial agency in this study). Accordingly, these viewpoints can be interpreted as the two essential components of CR philosophy: structure and agency and their continuous interaction in forming the intended event through specific mechanisms.

In science, ontology answers the question, "*What is the nature of social reality?*". In contrast, epistemology sets criteria for justified knowledge (e.g., Johnson & Duberley, 2000). In CR, ontology is based on realism, and epistemology accepts subjective interpretations and objective measurements of reality. Thus, quantitative and qualitative methods can be applied under the realist research paradigm. However, CR differs from the positivistic view, where quantitative-based generalizations and correlations between variables remain descriptive and cannot reveal causal mechanisms that make the observed events emerge (Zachariadis et al., 2013: 862-863). CR, instead, emphasizes explanations where causality is grounded in knowing and understanding mechanisms that arise from the deep ontology of structures (Sayer, 2000: 21). Moreover, the qualitative and intensive methods are considered "*epistemologically valid*" in CR-oriented research (Tsoukas, 1989: 556).

According to Bhaskar (Bhaskar, 1998b), reality is not dependent on our observations, and scientific theories help us to describe this independent reality. Nevertheless, our interpretation of social phenomena is concept-laden: we interpret a phenomenon based on the knowledge we already possess. In CR, reaching knowledge of a social phenomenon requires a holistic understanding of entities, subjective experiences, and events to reveal the mechanisms underneath the phenomenon (Wynn & Williams, 2012).

Critical realism acknowledges structure and agency and tries to treat them ontologically and analytically separately (Reed, 2005). According to (Bhaskar, 2000), society and individuals are separated from their appearances, although they affect each other. Figure 4 follows Bhaskar's (1998a) description of the relationship between structure and agency; however, Stutchbury (2022) captured the ideas of Bhaskar and conveyed them in a simplified form.

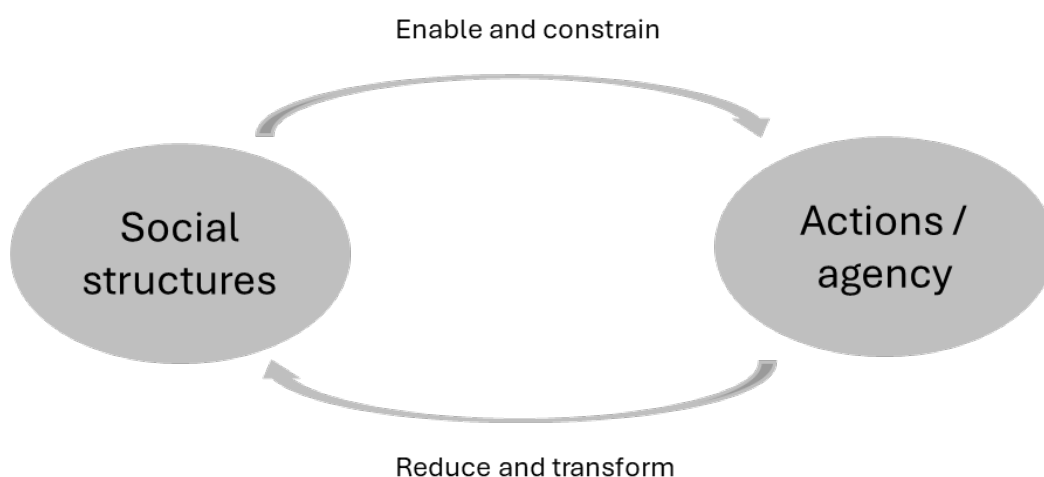


Figure 4. The relationship between structure and agency (Stutchbury, 2022: 116)

Bhaskar sees society as a prerequisite condition for human action and humans as possessing a *“capacity for intentional agency and for reflexive awareness and organization of such agency and by a thoroughly social existence”* (Bhaskar, 1998a: 411). For example, when a child starts at school, s/he encounters the school as an existing entity (structure) created to support student learning. Accordingly, these two entities (student and school) are separate but interactional. The school pre-existed before the student's involvement in it, and he, most likely, reproduces the existing ways of acting at school. The student commits to the daily structure of school days, utilizes learning tools given by a class teacher, and does homework as instructed. Nevertheless, one day, the student may suggest some new way of doing group work that his teacher is willing to try. Thus, through the student's interpretation of the situation (available material, the presence of the specific teacher, etc.), group work (structure with tendency) gets reproduced.

According to Bhaskar's (2000) transformational model, it makes sense to recognize historical events that constitute changes in social forms. This supports the idea of conducting longitudinal research in this research project. The phenomenon of capability development can be approached through abstraction to reveal its structure and generative mechanisms. A structure reveals what the phenomenon looks like but

does not reveal why it looks like it does. Accordingly, critical realists want to commit to causal analysis and search for the causes behind the effects.

When recognizing causal mechanisms (inherited in objects that can be physical, human, or social), the spatiotemporal contexts matter. According to Sayer (2000), it depends on the contextual conditions of how causal powers develop and how the same causal power may cause different effects in different contexts. The same is applicable in reverse: The same result can be achieved with various mechanisms. Accordingly, the study needs to be contextualized to discover the important events. All explanations served through CR-originated research are temporally and spatially located (Reed, 2005), thus emphasizing the role of context. Therefore, to explain social phenomena from a critical-realist perspective, researchers need to consider the context where the phenomenon occurs and discuss the actors' reasons and position in the social structure (Welch et al. 2011).

To understand what mechanisms mean, researchers need to be aware of the three layers of the critical-realist reality: empirical, actual, and real. Reed (2005: 1630) has articulated that *"critical realists are committed to a stratified ontology in which deeper structures or mechanisms shape events at a surface level."* Originally, Bhaskar (1978) introduced the three layers mentioned above. The real domain covers generative mechanisms that can produce events to the actual domain that, instead, is the layer of observed events (including events that exist but cannot necessarily be perceived). The empirical domain consists of events experienced and observed. Thus, these ontological assumptions predict that for an event to be perceived at a surface level, it needs to contain some generative mechanisms below the surface in the real domain (Tsoukas, 1989). In the end, causal mechanisms cause, or more precisely may cause, the social phenomenon perceived above the surface. In other words, what are the findings from the real and actual layers (causal mechanisms) that can be reached with the help of theories and systematic analysis, and that which the participants do not recognize or are only partly aware of their influence?

Causal or generative mechanisms are contingent (particular objects tend to act in a certain way) (Tsoukas, 1989), context-specific (Welch et al. 2011), and are said to lie in the intrinsic essence of objects, structures, and entities (Bhaskar, 1998b). Danermark et al. (2019) refer to the nature of objects (entities) and explain that the objects have their powers because of their structure. Similarly, mechanisms exist by virtue of this structure. Mechanisms, when activated, produce something for the world. In other words, structures capture tendencies, and when triggered, the generative mechanism may cause an observable event. Due to the context-dependent nature of mechanisms, the auxiliary verb "may" was added to the previous sentence: existing conditions and context affect whether the mechanism will activate or not.

Thus, these mechanisms are intransitive (i.e., they exist whether or not they are detected, e.g., gravity), transfactual (i.e., they are enduring, not transitory), and they govern events (Fleetwood, 2009). Transfactuality means that although mechanisms can do X, they are not currently doing it.

The CR approach aims to find contextualized explanations, thus putting pressure on the definition of context. In this study, the context definition follows the features Zahra et al. (2014) point out regarding entrepreneurship: temporal, industry, spatial, social, organizational, and ownership. First, the longitudinal nature of this study emphasizes time, or temporality, in developing the research subject, that is, the development of NPSD capability and mechanisms underneath it. Second, the industry and market are acknowledged through managers' views: how they position the company regarding competitors, trends, and market changes. Third, spatial context is emphasized by recognizing the geographical areas and locations where the companies operate or where they thrive. Spatial context also captures networks, key stakeholders, and procurement of raw materials (Zahra & al., 2014), all relevant from the perspective of NPSD in the food industry. Fourth, social context is aligned with spatial context, so these two are combined in this study. Networks are recognized as critical determinants in accessing information, resources, and markets (Stuart & Olav, 2007), again affecting NPSD capability development and its outputs. The macro-level examination of network clusters is beyond this research setup. Fifth, Zahra et al. (2014) combined the context's organizational, ownership, and governance dimensions under one headline. All these themes are noted in this study; for example, not all management structures are similar in the case of companies.

Here, the context of the food business can be described based on recent changes in the business environment. First, COVID-19 temporarily closed restaurants and cafeterias, and consumers visited markets less frequently (Eskola, 2020; Toivonen, 2020). Accordingly, many food suppliers were obliged to devise new approaches to reach customers and consumers. Some companies even had to conduct temporary or permanent layoffs (Elintarviketeollisuusliitto [ETL], 2020). During the COVID-19 disruption, companies could apply for outside funding to secure business continuity. Business Finland supported the development of products and services for companies through disruption funding in 2020. Almost all (96 %) of the companies that received financial support were SMEs (Kopola, 2021).

Second, shortly after COVID-19, the Ukrainian war caused an increase in raw materials (including packaging materials), logistics, and energy prices (Elintarviketeollisuusliitto [ETL], 2022). Currently, production volume in the food industry has been decreasing since the autumn of 2021, and the energy crisis has challenged the competitiveness of the food business since 2022. The increase in the

inputs of products from 2021 to 2023 has set price pressures for companies. Consumers have less disposable income and are price-conscious when buying their daily groceries. Food businesses are in a situation where they need to adapt to the economic change, and one suggestion relates to attractive products and appealing prices. (Elintarviketeollisuusliitto [ETL], 2023). At the same time, these two crises have increased consumer awareness about the importance of the self-sufficiency of domestic food production and the security of supply (Hyrylä, 2022: 84).

In more normal circumstances, food businesses follow trends in consumer behavior, diets, and ingredients. Some also build their business based on a broader world view, for example, responsibility (Hyrylä, 2022: 72). During the 2010s, the main unfolding trends were locally produced food and ecological matters. These two intertwining trends were recognized in political statements at the EU and national levels. Gradually, consumer awareness and expectations of food products increased: small food producers also meet high-quality and safe product expectations. Sometimes, this request was met with open communication directly with consumers through social media channels and blogs. (Mäkipeska & Sihvonen, 2010: 75-76). The pioneers of the industry took up digital marketing opportunities consisting of stories, high-quality visuals, and social media influencers supported by Instagram (launched in 2010), YouTube (2005), and Facebook (2003). Large companies turned the law of traceability into a competitive advantage by introducing the product's place of origin to consumer packaging (e.g., a large food producer, Atria, introduced its first farm-specific products to consumers in 2012 (Atria Suomi Oy, 2016). Understanding how food business SMEs alter their resource base, find new market and delivery solutions, create new partnerships, and make decisions to keep the business viable is important. According to DC literature, companies must build capabilities to survive and succeed in changing environments. Food business SMEs do not necessarily have realistic opportunities to shape the market in competition with large corporations; however, they may challenge larger companies with innovative service solutions, faster reactions to trends and customer needs, and more open and closer communication with them.

In this study, the context is perceived from multiple levels: first, each case company is embedded in the social, economic, natural, and institutional environment; second, all informants are part of the social, material, and norms distributed in the organization and third, each agent has a power relation to one another. Often, the last-mentioned view is not emphasized. However, there is room in this study to address the entrepreneurial role of the manager owing to its theoretical starting point (dynamic capability) and the subsequent discussion and context (SMEs). Qualitative research is suitable for investigating unfolding phenomena in their natural environment.

3.1 Qualitative approach

In deductive reasoning, the researcher moves from existing theory to specific observation through hypothesis testing. In contrast, researchers applying inductive reasoning make predictions through observations, which appear to be more exploratory and open-ended, at least at the beginning of the research (Mukumbang et al., 2021). Abductive reasoning, however, originates from an idea of a guiding principle that may range from an intuitive idea to a highly elaborated hypothesis (cf. Peirce, 1958). Accordingly, *“In Peirce’s view, abduction, too, is a mode of inference – of logic in the largest sense – by which one moves from one set of ideas to the conclusions in another set of ideas”* (Collins, 1985: 188). Abductive reasoning often starts with an incomplete set of observations (Mukumbang et al., 2021: 2) and, through interpretation, aims to provide a possible explanation of what is unfolding. As Josephson and Josephson explained (1996: 5), *“Abduction, or inference to the best explanation, is a form of inference that goes from data describing something to a hypothesis that best explains or accounts for the data.”* The aim of the abductive analysis is theory construction (Timmermans & Tavory, 2012). Dubois and Gadde (2002) added that the abductive approach (which they referred to as systemic combining) aims to discover new things, for instance, new variables or relationships, or to create new concepts to extend existing theories or theoretical models. In systematic combining, the continuous interaction between theory and empirical observations parallels the emerging framework, and casing is a natural course of action (Dubois & Gadde, 2002). At first, the casing manifested as the need to contextually determine how DMC and organizational-level capabilities relate and how this conceptual relationship can be examined during the analysis phase. To achieve this, the structure of capabilities needed to be identified before moving to a more detailed analysis of managers’ roles and influence on capability development.

Some researchers argue that abduction and CR methodology are the same (Mingers et al., 2013), while others argue that abduction and retroduction are complementary (Ritz, 2020). Some say that retroduction *“resamples deduction, induction and abduction insofar as it is a thought operation through which we can move from knowledge of one thing to knowledge of something else”* (Danermark et al., 117). In the case of causation, Bhaskar’s (Ritz, 2020; originally, Bhaskar 1975/2008) reasoning holds that a model or a constant pattern of events implies that there can be a causal law behind the pattern explaining its existence. However, the pattern of events is not itself the causal law. Accordingly, recognizing patterns is not enough in CR research; instead, the researcher must consider the stratified ontology and focus on the powers, or tendencies, in the real domain that permits the event to exist. At the same time, one must distinguish coincidences and recurring causalities. Accordingly, causality can be explained as *“x caused y,’ or ‘x is the cause of y,’ ... is to say, ‘x is such that it has*

the power to bring about y, other things being equal (and so will continue to do so in the future)” (Groff, 2008: 2).

Consequently, retroductive theorizing admits the ontological depth (real, actual, and empirical). It requires different modes of inference (Mukumbang et al., 2021). This study applied Eisenhardt’s (1989) methodology, which searches for and recognizes patterns between cases. Additionally, the analysis was deepened through the agency-level theory of DMCs. Managerial effects were sought out during the whole analysis process. It has been said that under retroductive theorizing, researchers apply abductive reasoning when analyzing both inductively and deductively obtained data (Mukumbang, 2023: 102).

Qualitative research approaches are appropriate for research questions involving natural settings, unfolding events, reasons for behavior, and how such behavior unfolds. In addition, qualitative research can be helpful when research requires exploration or explanation or when a broad analysis of a phenomenon is done using a small sample size (Drew et al., 2008). This study surveys managers in their natural environment and strives to explain capability development in their SMEs through understanding management behavior and decision-making. This research is partly characterized by a search for the causes of these factors behind the unfolding events in NPSD capability and business model by considering the team- and external business context. The relationship between DMCs and capabilities remains unclear, and this study seeks to clarify the relationship between those concepts. This aim is aligned with the small sample size of qualitative research approaches, allowing studies that generalize to theory instead of generalization to different research populations (Drew, Hardman, & Hosp, 2008).

Moreover, the DC approaches have received criticism due to the diverse theoretical base, which can lead to confusion and logical inconsistencies (Helfat & Peteraf, 2009). Qualitative research is said to be appropriate when discovering variables that are not yet well-known (Drew, Hardman, & Hosp, 2008). Moreover, the qualitative research strategy facilitates separating nuances at different levels and building new context-tied constructs and theories.

The qualitative research approach acknowledges flexibility in research design. Intensive research focuses on finding “*how some causal processes work out in a particular case or a limited number of cases*” (Sayer, 1992: 242). Individuals are approached based on their relationship with each other; that can be structural or causal relationships. In an intensive study, the initial blueprint of the research design does not need to be ready from the beginning; instead, the process embraces learning by doing (Sayer, 1992). This approach fits well with longitudinal analysis where circumstances, company aims, personnel, and partners may change in due time. It

also allows for adding new theoretical insights between the data collection periods. The longitudinal research process includes recognizing patterns and mechanisms (Pettigrew, 2012) and, thus, requires a commitment to both temporary and cross-sectional analysis. According to CR, the interaction between structures and mechanisms may occur on multiple levels. Consequently, the phenomenon (capability development / DCs) is perceived from various levels (company, team, individual), with the theoretical interest lying in the DMC perspective.

As mentioned above, CR does not search for causalities from regularities (positivistic approach); instead, it appreciates the experiences and narratives in understanding and building causal explanations (e.g., Mcevoy & Richards, 2006). Accordingly, in CR, qualitative and intensive methods such as case studies, interviews, historical narratives, and ethnography are considered epistemologically valid (Tsoukas, 1989). Qualitative case study research elucidates the structure in which agents are embedded and, thus, supports recognizing the complex interaction of mechanisms (within structures in open systems) that make the events visible.

3.2 Case approach

Case study research can vary from positivistic to interpretative approaches. Positivistic research aims to generalize findings, whereas interpretative approaches focus on understanding meanings following social constructionism. In the middle, the realism-oriented approach admits both researchers and participants (theory-led) subjectivity and existing objective reality. The CR approach acknowledges that explaining a social phenomenon can be causal and interpretative (Collier, 1994). Additionally, CR *“aims to find the best explanation of reality through engagement with existing (fallible) theories about that reality”* (Fletcher, 2017: 186). Case study research is aligned with this aim through its' intent to connect theory with practice (Piekkari & Welch, 2020).

The aim of CR research, in general, is to deliver plausible explanations that can be achieved through intensive case studies (Sayer, 1992; 2000). To do so, researchers must *“engage in an in-depth understanding and analysis of the historical contexts, structural conditions, and interpretive schemes [of individuals]”* (Reed, 2009: 438). The historical context of each case firm is considered in this study by building timelines that expose the main events, covering structural conditions by observing each company's business model and organization and directing the focus onto the managerial effects on the temporal development of the business and capabilities. Indeed, the CR research process, retroduction, moves backward, recognizing tendencies and mechanisms that have caused the events to unfold (Easton, 2010).

Context becomes part of the explanation, so the results of this study are expected to be contingent and limited (Welch et al., 2011).

In comparative case study research, it is essential to “*choose cases that are assumed to manifest the structure to be described*” (Danermark, Ekström & Karlsson, 2019: 126). In this study, the SMEs with successful NPSPs are expected to share enough similarities in structures to build plausible explanations about the premises (in the form of mechanisms) of capability development and DCs in SMEs. In SMEs, the decision-making structures are simpler than in large companies, making it easier to trace back and follow managers’ influence on research topics. Similarly, managers of the case firms possess power through their ownership and role as founders; thus, their decisions and guidance carry weight in the eyes of stakeholders (e.g., employees, partners, and boards). A relatively broad theoretical base is required in this study to understand the structures of capabilities and the relationships between different concepts. According to CR, explanations cannot be reduced to purely human intentionality (Welch et al. 2011), meaning that other factors (industry, partners, personnel) involved with capabilities in SMEs need to be studied as well. Overall, SMEs provide a suitable context for an in-depth analysis of how capabilities emerge, evolve, (and vanish) over time and to clarify the manager’s role in these trajectories. For example, the DC clusters sensing, seizing, and reconfiguring fit well with large companies, but what is their relationship with similar DMC factors in SMEs? According to Sayer (1992), theory does not determine data. Instead, it negotiates the conceptualization of data. Thus, earlier theories on DCs and capabilities influence the analysis of this study, but they may become rearranged and further developed with the context-tied understanding reached during the research.

Additionally, the comparative analysis utilized here allows the observation of demi-regularities (Fletcher, 2017). Demi-regularities represent potential regularity in structures and events generated by causal mechanisms (Wynn & Williams, 2012). Demi-regularities can be searched for in organizations with similar characteristics whose structural, contextual, and environmental factors are expected to produce similar mechanisms. That may be true, although the events and outcomes would differ between companies (Wynn & Williams, 2012). In this study, the selected SMEs may possess similar kinds of demi-regularities in structures that enable them to create novel products and services (despite their (minor) differences in organization, management, and culture). Multiple case studies with similar settings can lead us to mechanisms through demi-regularities that enable capability development and DCs in SMEs.

3.3 Case selection

The initial idea was to include case companies that would be homogenous to facilitate recognizing structural similarities that would unveil explanatory mechanisms. In general, homogenous grouping makes it possible to explore the characteristics of the cases more deeply while allowing the differences to become more apparent (Saunders et al., 2019). In this study, the selection was made based on performance in quantitative constructs of NPSP advantage.

This study's purposeful sampling strategy is realistic and homogenous (Patton, 2002). The realist approach encompasses theory and purposefulness (Emmel, 2013; originally, Mason, 2002). This study attempts to explain the influence of managers in capability development and DCs. The case firms' output measurement indicated that they could produce novel products and services, and we should be able to research the capabilities underpinning those novel outputs. Purposeful sampling is beneficial when we aim to find information-rich cases from which we can learn the most about the topic (Patton, 2015).

In this study, the chronological follow-up of events and analysis of the structure of capabilities combined with existing theories guided the recognition of managerial mechanisms. The realist approach to casing allows framing to emerge during the research (Emmel, 2013: 4; originally, Mason, 2002). This was, indeed, necessary because the research concepts of DMCs, DCs, and ordinary capabilities converge with each other in the SME context. Although the research focuses on DMCs, it was not approached by asking managers their own opinions; the phenomenon was approached from multiple perspectives (subordinates, partners, capability, and other organizational theories) to achieve more objectivity and a broader picture of the relationship between theoretical concepts and objects (individuals, teams, partners).

The four case companies (Alpha, Beta, Gamma, and Delta) were selected through survey-originated quantitative data set among food businesses (n=107) in Finland in 2014. The case companies were chosen for more in-depth analysis based on cluster analysis, a high level of ACAP, and a high level of NPSP advantage. An NPSP advantage consists of novel, meaningful, and superior offerings. In the literature, novelty (or uniqueness) refers to product features that similar offerings lack (Zhou & Nakamoto, 2007). Companies that prefer monitoring competitors' actions rather than concentrating on customers' demands tend to produce novel products (Im & Workman, 2004). Meaningfulness is the appropriateness and usefulness of products and services to the targeted customer (Rijsdijk et al., 2011). When companies interact with customers, they gain valuable knowledge about product features that benefit customers (Im & al., 2004: 127). Superiority concerns the features that distinguish a

product from competing, similar offerings (Zhou & Nakamoto, 2007). As Rijdsdijk et al. (2011: 34) have clarified: “... *superiority refers to the extent to which a new product outperforms competing offerings.*” The measure of NPSP advantage constitutes these three attributes, which are viewed in separate products and services and product and service combinations. Short descriptions of each case company, including their NPS offerings, are presented in Chapter 4.

Further, the absorptive capacities (ACAPs) of knowledge acquisition, assimilation, transformation, and exploitation (Zahra & George, 2002) were interpreted in a more practical frame: idea generation, screening and testing, and market launch (Cooper, 1994). This definition of NPSP capability is in line with the original definition of an ACAP: “*an ability to recognize the value of new information, assimilate it, and apply it to commercial ends*” (Cohen & Levinthal, 1990: 128) and fits the empirical context of this study well. The absorptive capacity view combined with NPSP capability was followed during the active research period 2014–2022. To achieve a more comprehensive understanding of DCs, the ACAP largely emphasized the knowledge view of DCs and left aside, for example, the routine perspective of DCs. However, the context and the CR standing on research supported more holistic approaches to capabilities, and a broader definition of DC was chosen as an umbrella term for the research setup.

This research uses case-company managers as its primary informants. The choice suits the SME context and the theoretical interest in DMCs. Moreover, Sayer (1992) encourages researchers to choose the participants based on their ability in explaining the events/phenomenon. Accordingly, specialists participating in the NPSP of case companies were invited to contribute to the research interviews. The interest was not in the managers’ views about DCs but in capturing an accurate view of how things unfold in case companies. The routines and practices of NPSP capabilities must be understood to evaluate the development and its roots.

3.4 Data collection

The qualitative interview method was selected because the study aims to explain rather than predict or measure (Leavy, 1994) the capability development and DCs in SMEs. Furthermore, CR-informed research acknowledges the contingent nature of social structures and that through qualitative methods, there are better possibilities for understanding how and why events have emerged the way they have. From a theoretical perspective, the current knowledge of DCs and the concepts (e.g., sensing, seizing, and reconfiguring) offer an abstract depiction of the phenomenon. Nevertheless, they do not cover the contingent nature of DCs, which requires concrete

knowledge about actual cases (Sayer, 1992). Qualitative research methods, historical narratives, archival research, and theme interviews provide a sound basis for building informative narratives, and it is the researcher's responsibility to separate the conditions from the internal aspects of structures (Zachariadis et al., 2013). Moreover, in the CR approach, context matters, and in this research, the contextualizing is based on the four food SMEs and interviews conducted. The structuration and organization of these companies are revealed around NPSD capabilities based on the interviews, not the formal hierarchy or organization structure presented by the members of the companies. This choice guides the study closer to the causal analysis and the "why" question. Why is the NPSD capability the way it is, how has it developed to the current situation, and what does the future look like?

Interviews are suitable for researching abstract phenomena, and the researcher must present specific questions aligned with theoretical views. However, the informants are unaware of the theoretical background (Puusa, 2020). In this study, the research theme was introduced to informants, but interviews with them were kept as ordinary as possible, without complex concepts or definitions.

Moreover, the aim of the theme interviews, the primary data collection method in this study, is to produce material that a researcher can interpret in light of theories (Puusa, 2020). The selected sampling strategy made it easier to enter the field. If the cases had been randomly selected, the possibility to approach theoretical concepts such as DCs would have diminished. For example, without preliminary knowledge about case companies' ability to produce successful offerings, the variation between cases could have increased and problematized theorizing.

It soon became apparent that capability development should be approached from multiple angles when following the development of an ordinary capability. These perspectives are presented in Figure 5.

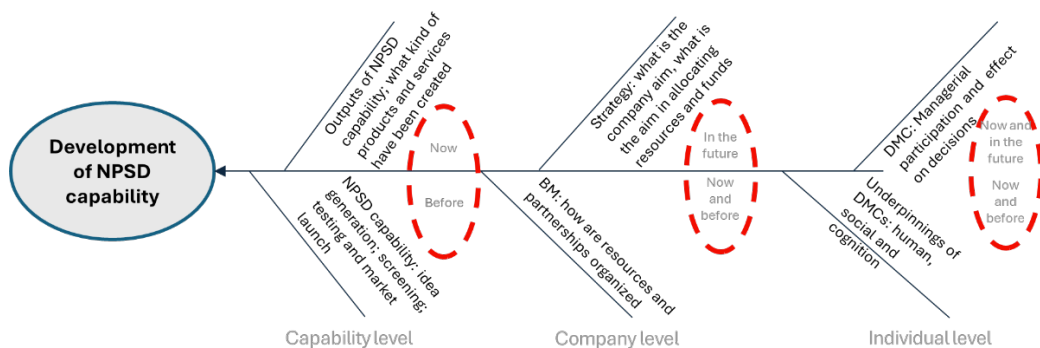


Figure 5. Perspectives on capability development during data collection

The NPSD capability itself, consisting of routines and NPSD capability outputs, was a permanent theme in the interviews from the beginning of the data collection period in 2014. The strategy view was added to the themes in 2017 to understand better the choices the case companies have made regarding the NPSD. Finally, in 2019, the business model view was added because it became evident that the BM decisions often impacted capability development. All these capabilities and company-level themes intersected with the DMC lens to recognize managerial effects on capability development. Accordingly, Figure 5 above can also be read from right to left, and the reader can understand how this multiple-level phenomenon is approached. Without adequate knowledge about the business strategy and BM, explaining NPSD capability development from a microfoundational perspective is challenging.

Additionally, temporality was present in the interviews. Although the NPSD capability and its outputs were followed in the interviews, the past was considered (e.g., novel products, services, customers, acquisitions, investments, partners, i.e., earlier BM decisions) and future strategy in these areas. At the individual level, managers' involvement in NPSD, strategy, and BM decisions was evaluated based on the interviews and by asking other company members to describe managers' roles in NPSD capability activities.

This study's primary data collection method was theme interviews with managers and specialists. Other data collection methods employed included visual interview techniques and workshops. Additionally, research-diary entries were written for each site visit and the three Microsoft Teams interviews. Marketing material, Social Media (SoMe), blogs, and some process descriptions were utilized when building companies' timelines. The data comprises 36 individual semi-structured interviews and four workshops (9 interviews/case; 1 workshop/case) (Table 3).

Table 3. Structure of the interview process

Content	2014	2017	2018	2019 (spring)	2019 (autumn)	2022
Type of interview	Semi-structured interview	Theme interview – stimulated interview method	Theme interview	Theme interview	Group interview / workshop	Theme interview
Topic	Information exploitation and sharing in NPSD capability	Competitive environment and business strategy (stimulated interview method) NPSD capability	NPSD capability, NPSD	Business model (manager) NPSD capability (direct reports)	Current themes in NPSD	Current world trends and their effect on business model decisions (manager)

Content	2014	2017	2018	2019 (spring)	2019 (autumn)	2022
						Current themes in NPSD
Case Alpha						
Participants	Manager (CEO) Unit Manager	Manager (CEO)	Finance and Marketing Responsible Baker / Product Developer	Manager (CEO) R&D and Quality Manager	Manager (CEO), Unit Manager I, Marketing Responsible, IT & Logistics Responsible, Administrator	Manager (CEO) (in Teams) Unit Manager II
Number of interviewees	2	1	2	2	6	2
Case Beta						
Participants	Manager (CEO) Baker I	Manager (CEO)	Baker II Confectioner	Manager (CEO) Second owner	Manager (CEO) Second owner	Manager (CEO) Second owner
Number of interviewees	2	1	2	2	2	2
Case Gamma						
Participants	Manager (CEO) Communication Assistant	Manager (CEO)	Sales Manager, new customers Production Manager	Manager (CEO) Content Provider	Manager (CEO), Production Manager (incl. new products), Content Provider, Barista	Manager (in Teams) Sales Manager, office customers (in Teams)
Number of interviewees	2	1	2	2	4	2
Case Delta						
	Manager (CEO) Production Manager	Manager (CEO)	Marketing Manager Procurement and R&D Manager	Manager (CEO) CEO in a partner company (R&D)	Manager (CEO), Sales Manager	Manager (CEO) Procurement and R&D Manager
Number of interviewees	2	1	2	2	2	2
Total interviews: 36 individual interviews + one workshop in each of the four companies						
Other available material: Process description, marketing material, available information online: SoMe and blogs						

In addition to the theme interviews, semi-structured interviews (2014), visual techniques (2017), and workshops/group interviews (2019) were used in each SME. The qualitative data gathering 2014–2022 is presented in Table 3. All interviews were recorded and transcribed; they ranged from 35 minutes to one hour 55 minutes.

The average duration of the managers' interviews was 65 minutes; for subordinates, it was 53 minutes (years 2017, 2018, 2019, and 2022). The 2014 interviews produced between 17 and 113 pages of text (single line spacing between each question and answer, with font size 12 Arial). The average number of pages produced during the managers' interviews was 48 sheets, and in specialists' interviews, 20 sheets. Two of the workshops were video recorded, and two voice recorded. The average time for workshops was two hours and 39 minutes. The tapes were listened to or watched afterward and utilized in the analysis as background information, either strengthening or weakening the understanding of the working culture and managers' role in communications. All interview data was moved to Nvivo to structure the empirical material.

The longitudinal nature of research is also seen in the data collection process. As the researcher's understanding developed, the themes discussed evolved. Next, each data collection period is briefly described in a yearly order.

2014 Managers and subordinates

This study is an offshoot of a larger research project that began in 2014, which the author of this research joined subsequently (Kohtamäki & Heimonen, 2014). During the first interview round, the informants were asked to describe how their company acquired new ideas for NPSD capability (acquisition), how these ideas are internalized (assimilation) and further intertwined with existing knowledge to develop routines (transformation), and how this knowledge is utilized in operations (exploitation) ultimately leading to, among other things, new goods in the portfolio (Zahra & George, 2002). Some interview data (from two of the four cases) were utilized to discover practices that explain firm profit originating from the interplay between entrepreneurial orientation and absorptive capacity (see Kohtamäki et al., 2020). The interview material from 2014 provided the researcher with insights into NPSD capabilities and the knowledge view of capabilities utilized in subsequent data-gathering steps. The knowledge view of capabilities was included in subsequent data collection periods.

2017 Managers

When entering the field in 2017, the researcher aimed to build trust with managers and understand the business's larger structure and the manager's role in NPSD capability. Thus, the interview had two parts. First, managers were asked to describe their main competitors from the perspective of NPSP. Here, a visual interview technique was used. In the interviews, managers were asked to place cards on the main competitors around a card depicting their company logo. They were asked, "Why is company X *one of your main competitors? What could you learn from them?*"

At this phase, the purpose was to apply the cognitive mapping method in the analysis (which was later abandoned). Although the outcomes of visuals were not entirely utilized in this study, the technique functioned well as an ice breaker between the researcher and the informants, and accurate knowledge about the company's strengths, weaknesses, and strategy emerged from questions on the differences between the case companies and their competitors. Visual stimuli often motivate informants (Comi et al., 2014) and are a method to spark conversation (Valtonen & Viitanen, 2020). Accordingly, the approach offered a natural setting to discuss the business. At the same time, it elicited how managers perceived the broader context of their business operations (also relevant in DC, a theory and CR approach). *Managers were asked about the NPSD and their role in the second part of the interview.* These themes included the manager's role in NPSD, decision-making, investments, team leadership, annual scheduling, and partnerships in NPSD.

2018 Subordinates

From the subordinates' perspective, the 2018 interviews aimed to understand how decisions are made regarding NPSD capabilities and the following portfolio. Subordinates are important informants when NPSD capability is observed from routines and knowledge flow perspectives. In the interviews, informants were asked about the current novel products and services in NPSP and how these are invented and produced. The themes followed idea generation, screening, testing, and market launch via questions like *"How do you find new ideas for the new products/services? Can you share some examples? How do you develop new ideas further? What kind of practices do you have for idea development? What do you consider important in order to get the novel products on store shelves / to customers? What do you consider to be the company's advantage in succeeding in the product and service market? What is the role of the manager in NPSD capability? How has the role changed in due time?"*. Appendix 1. presents examples of managers' and subordinates' interview questions. The Appendix includes the main interview questions; clarifying questions were asked when necessary.

2019 Managers, subordinates, and workshops

In 2019 (spring), the researcher introduced a timeline of events (BM and NPSD capability) to managers based on the earlier interviews and data available on the Internet. These consisted of the main events of each case company. Events on the timelines included new offerings, new partners, new goals, internationalization events, and other relevant changes that had impacted the development of the business and NPSD capability. Managers had an opportunity to comment on their timelines. At these interviews, discussion flowed between critical historical events and topical issues. The interviews were important because the chronological

diagrams naturally allowed the researcher to ask clarifying questions such as “*How did you seize this opportunity?*” and “*How did you figure out to start this kind of project / participate in this kind of event?*”? Interviews varied between business-level decisions and more operational practices in NPSD. After the interview, the timelines were portrayed with company- and capability-level events. The company-level events were recognized based on Osterwalder et al.’s (2010) view of BMs (key partners, key activities, key resources, value propositions, customer relationships, channels, and customers) to avoid random distinction between the two levels.

In the interviews of *subordinates* in 2019, the focus was more on the NPSD capabilities and the following outputs. The interviews served as an opportunity to collect information from multiple actors and, thus, from various perspectives. Discussions were fruitful because the researcher received information on past and ongoing projects, such as production and marketing. Interviewees were also asked to describe the manager’s involvement in the different phases of NPSD capabilities (idea generation, screening, testing, and market launch).

Workshops

Later, in 2019, workshops gave an insight into the interaction between the manager and other team members. The workshop topics discussed the NPSD capability and supported the company strategy. In addition to the topic, the working culture of the companies was observed: How well did the atmosphere and interaction correspond with depictions that interviewees had given and will give in the interviews? The focus on atmosphere and interaction originates from the routine-based view of capabilities.

Workshops were occasions where managers and team members interacted around a current topic that concerned all present. As the companies differed from each other, the topics of the workshops were tailored. In Case Alpha and Delta, the workshop comprised themes emphasizing marketing and sales strategies, including knowledge transfer in Case Alpha. In Case Beta, the discussion covered the vision and goals of the NPSD development for the next five years. Case Gamma’s theme originated from the business strategy, concentrating on operations responsibility and NPSD outputs. All workshops were future-oriented, and the manager nominated participants to address the topic.

When applying the *observation method*, it is important to decide beforehand what is observed, how it is done, and which issues to pay attention to (Paalumäki & Vähämäki, 2020). At this phase of the study, a preliminary account of the working and management culture of the companies was portrayed based on the earlier interviews. However, one disadvantage of interviews is that the informants give answers they think are socially acceptable (Puusa, 2020). Accordingly, it felt reasonable to get an

opportunity to see managers and team members working together. The interest of observations lies in the manager's interaction with others. Do they give room for others' ideas and suggestions? Moreover, if the atmosphere was described as permissive to ideas and experiments in the interviews, was that also apparent in the workshops? Ultimately, the workshops clarified managers' working modes: some gave room to others, and others talked the most. One manager was even confused by subordinates' suggestions during the workshop.

Nevertheless, the aim was not to find the best management/leadership style but to find evidence of managerial influence on capability development and DCs. However, these two viewpoints are intertwined because some managerial effects are direct (e.g., investment decisions) and others indirect (e.g., getting the team on board). Additionally, the material produced during the workshops was utilized in the analysis. The future-oriented approach added understanding about the intertwining nature of goals versus issues it was desirable to keep.

The observation was also practiced on every site visit, and research-diary entries were made. The entries helped the researcher memorize the visits and evaluate informants' opinions through *seeing and feeling*. Some interviewees were direct and open, whereas others weighed their words more carefully. That sometimes seemed to relate to personality and sometimes to employees avoiding causing harm to the company or the manager.

2022 Managers and subordinates

The preliminary idea was that the workshops would have been the final data collection occasion during the research process. However, the time flew, and COVID-19 hit the world. Researchers realized that the external shock would add value to the conceptual discussion of DCs. All case companies agreed with additional data gathering rounds with themes such as the effects of COVID-19, the war in Europe, and the following inflation. The aim was to discover companies' coping mechanisms and their relation to DCs. Overall, DCs support companies' surveillance in rapidly changing environments.

3.5 Data analysis

The steps of retroductive (or abductive) theorizing are presented (adapted and developed from Thapa & Omland (2018)) in Figure 6. It clarifies how the steps taken are intertwined with the ontology of the CR (Mukumbang et al., 2023: 95). After the figure, the analytical reasoning approaches and analysis of the data are presented.

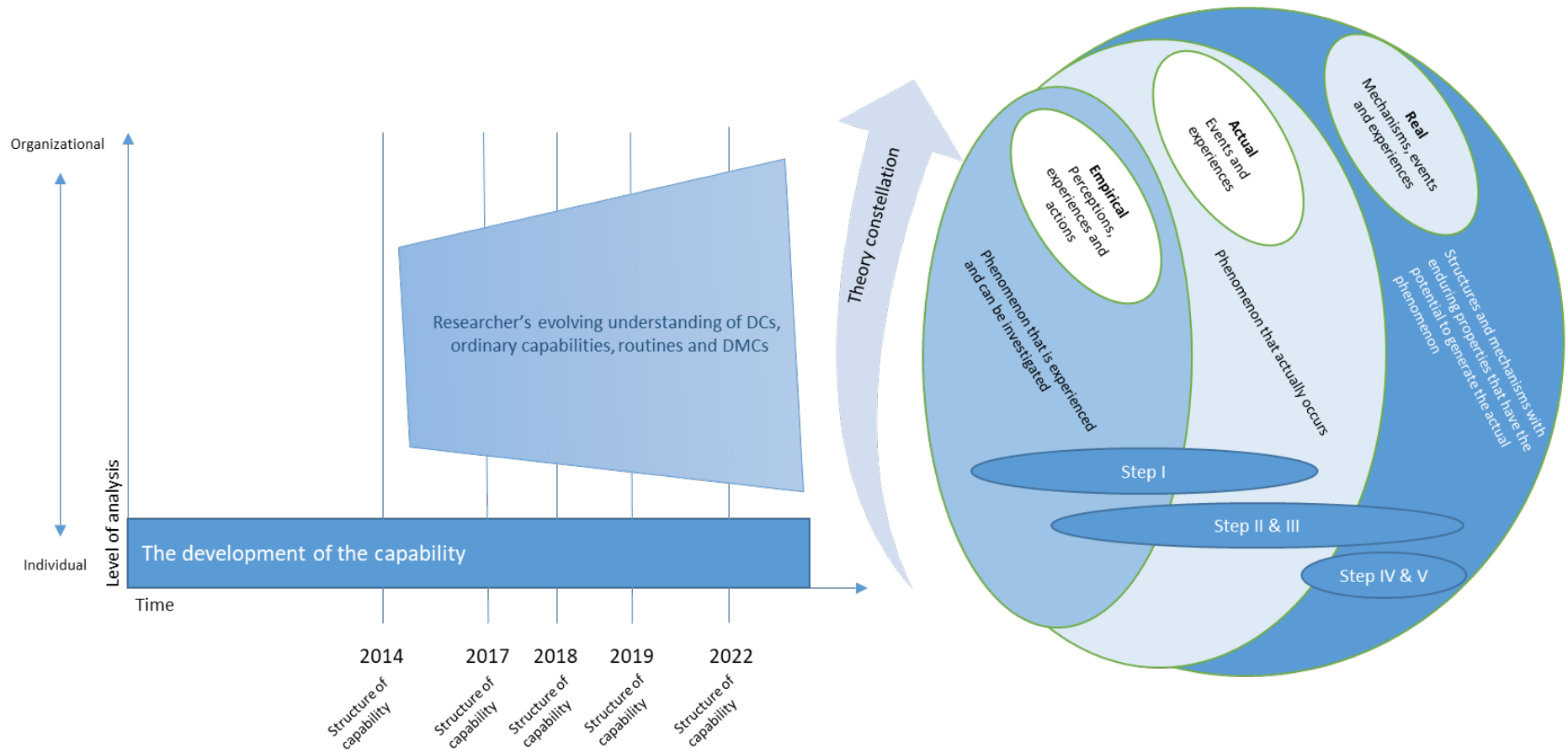


Figure 6. Temporal research process and analytical reasoning approaches following the stratified reality of CR

Figure 7 combines the steps of the research process with casing.

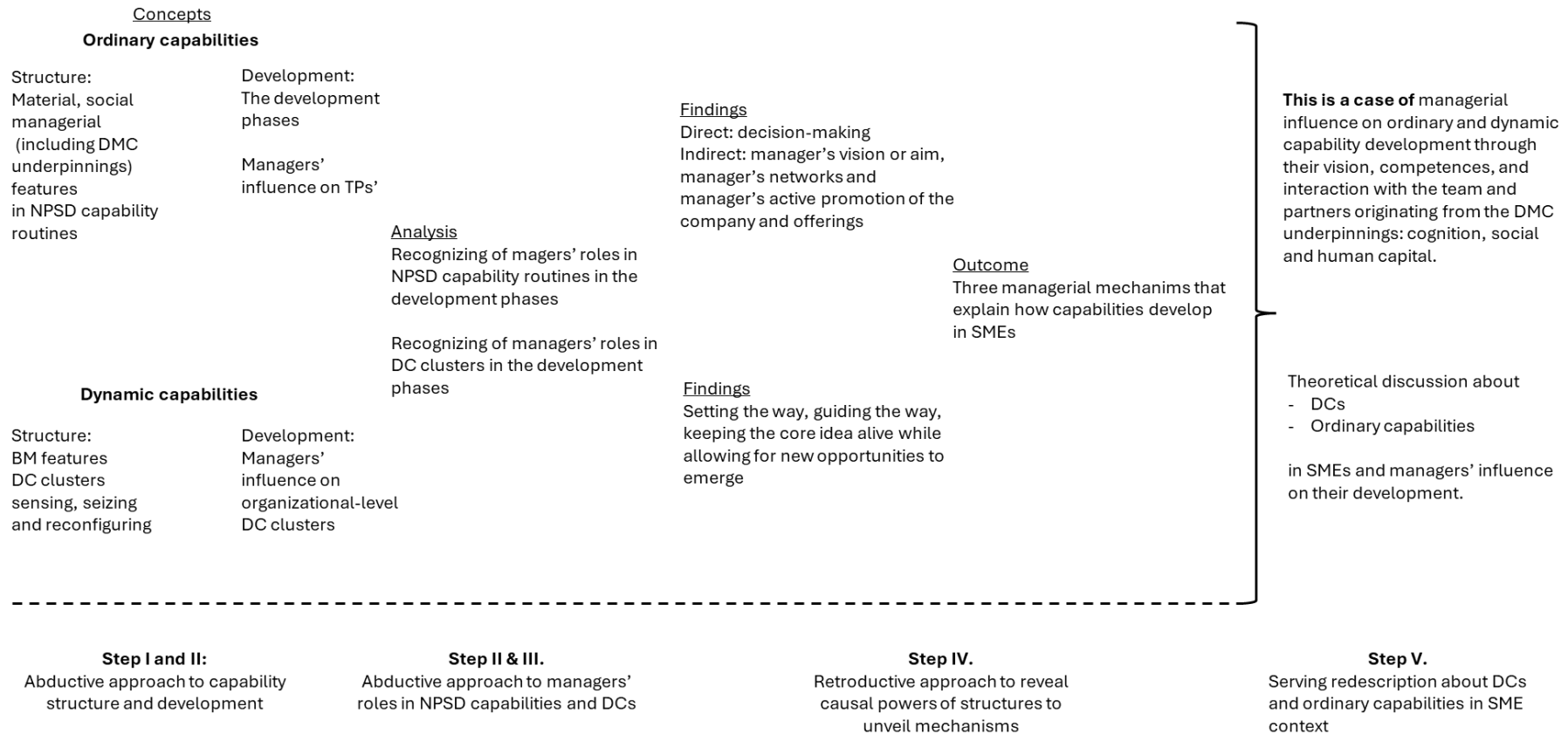


Figure 7. Casing combined with the content of the temporal research process

According to Sayer (1992: 107), retroduction is a “*mode of inference in which events are explained by postulating (and identifying) mechanisms which are capable of producing them.*” Although this study incorporates time in explaining capability development, the structure of capabilities is also under scrutiny. Regarding time, the earlier/current occasions and decisions are acknowledged as possible explanations of current/future decisions. According to CR, structures are said to capture tendencies in the real layer, so the capability structure needs to be open in the analysis. The analysis moves between material, social, and managerial structures of NPSD capability routines. Accordingly, the observable events recognized in the case companies’ trajectory are instrumental in analyzing the structure and subsequent (managerial) mechanisms.

The steps of retroductive theorizing (Figure 6) are given next, explaining the analysis/year.

Step 1. Abductive approach to capability development

The first step describes the primary BM and NPSD capability events that illustrate the CR layers’ empirical and actual levels.

Year 2014 - First glance at NPSD capabilities

The first task was to understand the NPSD capabilities of case companies. The analysis followed CR and DC literature: material and social practices in idea generation, screening, testing, and market launch (routines of NPSD capability) were searched, and the managers’ roles and tasks in these routines were defined. This line of analysis was repeated after each data collection period per case firm (2017, 2018, 2019, 2022) to follow what kind of changes occurred in the routines and what type of outputs NPSD capabilities produced. This longitudinal analysis formed a basis for building the timelines of each of the case companies.

Year 2017 - Raising the level of analysis with the features of the business model

The capability development seemed to be influenced by numerous strategic decisions, so managers were interviewed to get their current views about the business, market situation, and strategic answers to competition. That led to timelines where NPSD capability and the BM were placed separately. The timelines consist of the main chronological events of each case, the company’s BM, and NPSD capability, and the timelines were filled in after each data collection section. All managers had an opportunity to comment on the timeline in the personal interview in 2019, and after all the interviews in 2022, the timelines were completed to the current form.

Year 2018 - Digging deep into the routines of NPSD capabilities

From a theoretical perspective, there is an ongoing discussion about the role and nature of the routines in the formation of DCs. Accordingly, more direct reports were included in the data research process, and additional information about companies' ways of acting in NPSD capability routines was collected. The managers' role in NPSD capability routines was continuously followed in the interviews. At this point, understanding the working culture (including leadership) and ways to act took shape in the researcher's NVivo codes and written notes. After each visit, a research diary was filled with notes about the facilities, atmosphere, and documents shown to the researcher.

Year 2019 - The development trajectories are recognized

The interviews in 2019 unveiled the phases of capability development: pre-formation, formation, and lock-in. Explanations on capability development were searched to recognize turning points that guided capability development in some direction. The managers' role was evaluated in each capability development phase. This knowledge was later utilized to analyze DMCs and mechanisms in capability development.

The workshops in 2019 aimed to elicit the firms' working culture and *modus operandi*. The events were the main chance to observe the interaction between the manager and their direct reports. The topics of the workshops were current, and thus, they gave features on how teams discuss and approach challenges and what kind of role managers take in this kind of situation. All workshop materials produced afterward were used in the analysis, including current strengths, future aims, and the tension between these in the guidance of NPSD capabilities. The workshops also had a role in diminishing the bias of other data collection methods.

Year 2022 - External shock and companies' survival

The effects of COVID-19 and the war in Ukraine meant the world changed quickly. Research establishes that DCs operate in an open environment, and recent occasions have changed the working environment of companies in Europe and worldwide. Accordingly, it was decided to extend the collection of empirical evidence from 2019 to 2022. The interviews revealed the main influential events, and timelines were prolonged. The companies' actions at the time of these challenges were evaluated based on their earlier ways of operating. In other words, the question of whether and how these challenging global events changed companies' routines, acting methods, and working cultures concerning NPSD capability and BM was addressed.

The composed timelines made it possible to interpret the formation of NPSD capabilities in the case companies. According to CR, events can be recognized based on experiences. This tracing was done during the research process: what had happened and what issues/decisions had led to the situation. Timelines were important because they led to three developmental phases: the founding, the process of settling, and the current praxis. This three-phased framework is similar to the existing framework of pre-formation, formation, and lock-in phases (Sydow et al. 2009). As abduction allows continuous movement between theory and data (Timmermans & Tavory, 2012), the researcher chose to utilize the already existing framework of pre-formation, formation, and lock-in phases—the recognized phases made conducting comparative analysis between cases easier despite companies' different ages and situations. Self-reinforcing mechanisms are typically discussed with the development phases. However, they are more entitled to preserving features of routines than the initial aim of recognizing the antecedents of capability development. Due to this, turning points were presented within the framework (similar to the critical incident method). Turning points represent the most influential choices for the company's capability development without restricting the level of that particular choice (BM or NPSD capability routine).

During the first step, the development phases of capabilities are recognized: pre-formation, formation, and lock-in (Section 4.1).

Step 2. Abductive approach to capability structures

The second step consists of identifying structures of capabilities behind the BM and NPSD capability events and collecting data about the NPSD capability routines: idea generation, screening, testing, and market launch. This step represents an abductive approach to capabilities, intertwining theoretical perspectives from ordinary capabilities, routines, and DMCs. From the CR perspective, the empirical, actual, and real layers are reached during the analysis, given that, for events to be perceived, generative mechanisms must exist in the real.

Eisenhard's (1989) methodology is incorporated in this study phase through within-case and cross-case analysis. The analysis covers data from interviews and secondary material between 2014 and 2022. Eisenhard's methodology (1989) has a limitation regarding causation. However, it has many benefits in case study research: it embraces empirical data and context as a source of theory-building (Welch et al., 2011). The study utilizes the methodology as a first step (recognizing regularities between cases) and deepens the analysis later with the help of theories related to findings. Accordingly, "*retroduction is about advancing from one thing (empirical observations of events) and arriving at something different (a conceptualization of structures and transfactual conditions)*" (Danermark et al., 2019: 117). The

requirement of conceptualization of structures will be approached by scrutinizing the empirical evidence from multiple perspectives. When researching individuals (managers in this study) in the context of the action (NPSD capabilities), it is possible to illustrate individuals' abilities to influence processes through decisions they make as well as their ability to learn (Kuusela & Niiranen, 2006). For example, routines of NPSD capabilities are observed from the material, social, and managerial perspectives and by combining multiple theoretical lenses.

The primary managerial roles and responsibilities are recognized in the NPSD capability routines concerning the company's structure (team-level interaction and material practices), forming the structural analysis. In practice, in the case of ordinary capabilities, it was possible to examine the impact of managers on capability more straightforwardly, as it involved decision-making on specific matters such as target audience, main message (differentiation factor), raw materials, and production method, as well as issues related to pricing and the launch of new products. The role-based analysis will also be utilized later for DC clusters. By identifying roles, it is easier to frame the impact of leaders' behavior and decisions on routines (NPSD capability) and clusters (DC).

During the second step, the structure of ordinary (NPSD) capability (material, social, and managerial) (Sections 4.2-4.5) is scrutinized, and managers' influence on ordinary capability development is presented (Section 4.6-4.7).

Step 3. Abductive approach to managers' roles in DC clusters

The reality and theory will be matched first at the ordinary capability level before the observations are transferred to the DC level. The process can be called abstraction, a method accepted by retroduction and Eisenhardt (2021). From a theoretical perspective, the current knowledge of DCs and the concepts (e.g., sensing, seizing, and reconfiguring) offer an abstract depiction of the phenomenon. Nevertheless, they do not cover the contingent nature of DCs, which requires concrete knowledge about actual cases (Sayer, 1992).

Year 2022 - Raising the level of analysis to DCs and DMCs

The analysis was moved from the ordinary capability level to DCs based on all the data. That was done by formulating company- and managerial-level analysis of the sensing, seizing, and reconfiguring tripod framework, following the pre-formation, formation, and lock-in phases. This analysis followed Eisenhardt's (1989) within-case and cross-case analysis while capturing the turning points recognized in the trajectory analysis of capability development. The data were organized into three

tables based on pre-formation, formation, and lock-in phases to build within-case and cross-case figures (Chapter 5).

As the level of abstraction rose and the analysis shifted to DCs, the managers' influence was examined through their roles in DC clusters, sensing, seizing, and reconfiguring. Each case company has its strategy and goals; therefore, finding a level in the analysis that sufficiently allows for mutual comparison is important. The roles are instrumental analysis tools to evaluate the influence of managers' behavior and decision-making. The roles make effects more comparable by setting frames and enabling the placing of roles to specific phases and/or routines or clusters.

The cross-case analysis in Table 18 (Section 5.1.) presents managers' roles, main aims, and tasks in DC clusters in the different developmental phases of capability development. By recognizing the managerial roles at ordinary capability and DC levels, the activities of the managers in the various developmental phases became visible. Their impact was further introduced with the help of direct citations. This analysis also revealed what competences managers of SMEs are required in order to develop and grow their business (Figure 26. Key knowledge areas of managers in Section 5.1).

During the third step, the managers' influence on DC clusters is presented. This is achieved by abstracting the capability development using DC framework sensing, seizing, and reconfiguring. The primary managerial roles and responsibilities are recognized in these DC clusters in the pre-formation, formation, and lock-in phases of capability development.

Step 4. Retroductive approach to reveal causal powers of structures to unveil mechanisms

The fourth step includes hypothesizing the mechanisms and conditions that might have activated the generation of the phenomenon and the capability development in SMEs. This required deepening the analysis from the DMC perspective to introduce managerial mechanisms illustrating the real layer.

Empirical evidence and theoretical perspectives from DCs, ordinary capabilities, and DMCs were utilized to find managerial mechanisms. Thus, abductive reasoning that allows *"inferences [to] proceed across logically distinct domains, from particulars of one kind to particulars of another kind"* (Krippendorff, 2004: 36) was applied to dig deep into the mechanisms of capability development. Although managerial mechanisms are emphasized in this study and the SME context, it does not deny that other mechanisms originate from routine. It is the basic nature of CR thinking and mechanisms: depending on the conditions, they may or may not fire, and their

existence is persistent. The analysis further opens the conditions, for example, the managerial knowledge base and working culture, that support the activation of the mechanisms. Thus, the recognized mechanisms weave together potential tendencies from multiple levels of context. The plausibility of the findings (mechanisms and conditions) was strengthened by adding theoretical views from knowledge, competences, management, and leadership. Following CR, the transitive dimension of knowledge consists of the researcher's observations and usage of earlier theories.

During the fourth step, the analysis of managerial roles and responsibilities in capability development (ordinary and DCs) are deepened to include knowledge from DMC antecedents and the findings of this study to introduce managerial mechanisms (Sections 5.2 and 5.4).

Step 5. Serving redescription about DCs and ordinary capabilities in SME context

Although imparting a great deal about the meaning of managers and their influence on capability development, the mechanisms through which managers achieve impact or cause events to occur were unknown. A choice was made to combine the findings (from the managerial, ordinary, and DC levels) with known theories. Doing so made it possible to present how managers influence SMEs through learning, reflection, and alignment (Figure 27). The same line was continued to the end, where the findings were connected to theories that best fit and explained the empirical world in SMEs during the research. Figure 30 shows how managerial mechanisms function in SMEs.

The fifth step includes an abductive/retroductive approach to theoretical discussion about DCs, ordinary capabilities, and managerial mechanisms in SMEs together with CR-based arguments (Section 5.2-5.4).

What is this study a case of

This study has previously referred to the methodological concept of casing (Figure 7 above). It is appropriate to describe how casing is formed in this study in connection with the methodological approach and the stages of analysis. Ordinary and dynamic capability is difficult to delineate precisely in SMEs. As a result, the researcher accepted at the beginning of the study that the capabilities of SMEs should be approached from both perspectives. To understand the development process of capabilities from the manager's point of view, it is necessary to identify the nature of ordinary (NPSD) and dynamic capabilities (DC clusters) in the case companies, how integrated or separate they are from each other, and how the manager's influence is seen in the development of NPSD capabilities. This study explains how the NPSD capabilities of SMEs evolve using collected data and the concepts of ordinary and dynamic capabilities, revealing the manager's role in this

capability. The data has been examined at three different levels: individuals (managers), teams (NPSD capability), and the company (BM).

General information about the analysis

All collected interview data were coded in NVivo. Important events were coded yearly, NPSD capability routines were coded from every interview, and BM topics were coded to reach additional information on capability development. Secondary materials (e.g., websites, SoMe, blogs, etc.) helped fill possible timeline gaps. These codes were used in timelines (BM and NPSD capability) and capability development analysis tables.

Capability routines relating to NPSD were examined from three perspectives (material, social, and managerial roles) during the research period in the case companies. The years 2014 and 2022 are presented more precisely in Chapter 4. This division originated from the CR approach, and the aim was to open the structure where capabilities and expected mechanisms operate. Material practices mirror practices supported by technological solutions and concrete practices, such as regular meeting habits. Social structures cannot exist independently of people's actions. The focus was recognizing the team members around NPSD capability and their way of working and communicating. The manager's role originated from CR's agency view and DMC theory. The distinction between social structures and agents is that only agents can act. Additionally, agents are driven by motivation, which refers to the reasons behind their intended actions (Burlamaqui & Dong, 2014).

The fact that the development of capabilities was followed in multiple case studies, on the other hand, strengthened the final results but, on the other hand, also challenged the level of analysis during the research. When combining the findings, some details could be missed. However, the distinctive nature of each case has been illustrated through the use of direct quotations. The researcher has also utilized short narratives when introducing the pre-formation phases from a managerial perspective. It was then easier to present those circumstances where the manager had either founded the business or otherwise committed to the development of the business. Table 4 presents an example of the NPSD capability coding.

Table 4. Example of the coding process (Case Gamma in 2014)

NPSD capability 2014	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>
Material practices	<i>Since we started recruiting people here, we have always tried to find people who know how to develop their area and want to develop it. Manager Gamma in 2014</i>	<i>We still don't have a very good system for sharing information internally. We've grown relatively fast, and a few years ago, there were 2 or 3 of us, so it was pretty easy to share information. We now have an internal intra where we share some information and ideas, but sharing information is still quite hazardous. Manager Gamma in 2014</i>	<i>Yes, we have such strict testing projects, at least for coffee. That is to say that they have just made the test roasting, which is always connected with the fact that they make a "cupping"; that is, they taste the coffee. It is also done constantly; we have these kinds of concrete things. Communication Assistant in 2014</i>	<i>Well, at least we should share the information that we have better. We have a lot of information, but sharing it with customers is the next step, and we need to tell them what we do. Manager Gamma in 2014</i>
Social structure	<i>It's probably done through a kind of passion. Now that we are serious about these new projects, we also try to select people interested and enthusiastic about certain topics and for whom it would perhaps be easy to come naturally. Communication assistant in 2014</i> <i>Perhaps a little something that when you are a very fast-growing company, there may not necessarily be clear paths. If I now have a really good idea, to whom should I take it and tell so that things would start to move forward? Here, the responsibilities have been</i>	<i>For example, a package could be something like this. "Well, it can't work, but would this work", for example. "This would just require little changes". This is the kind of information we have quite a lot, of practical things and how coffee, for example, is preserved in the packaging and problems of this kind are usually solved internally before we even get the feedback that we have sent out the wrong kind of package, for example, where the coffee does not preserve very well, and then it would come back. These kinds of practical issues are not something we screw up much,</i>	<i>Of course, the sales department always worries about having enough coffee for different customers. And the roasters are more passionate about coffee. They always love to roast new and interesting coffees and look for them. And then the sales department is perhaps a little more interested in our permanent selection and its quality. And, of course, the roasters do that, too. Communication Assistant in 2014</i>	<i>We do have training, which is then free for our coffee customers. We want to do a little more extensive cooperation in this regard because our coffee is a little different; it requires a little bit that we go there and give a few more instructions, tell more, adjust the equipment, and also guide the staff on how to get a good coffee. Semmonen service can be found. People are proactive. Communication assistant in 2014</i>

NPSD capability 2014	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>
	<p><i>traditionally divided, so it is just who takes the case and starts.</i> Communication Assistant in 2014</p>	<p><i>so to speak. Then, in a way, when we meet the problem or customer request or something like that, where these new things usually originate, we internally make a solution that we see as functional. And usually, those kinds of problem areas pretty much emerge at that stage when we think about it. Then, we think of solutions to them internally. We may also have a partner, an advertising agency, or someone who can help us with this implementation.</i> Communication assistant in 2014</p>		
Manager's role	<p><i>Well, our manager is himself quite a visionary. It is his favorite thing to do, innovate, and create new ideas. He likes it quite a lot.</i> Communication Assistant in 2014</p>	<p><i>Well, of course, it costs a lot. If it can't be profitable, then it may not be done unless it's a really important service that the customers have demanded.</i> Manager Gamma in 2014</p>		<p><i>Then, if a typical customer calls and says it doesn't taste good, it doesn't tell us anything. But then these customers can tell us that this roast is too acidic. They give really valuable feedback.</i> Manager Gamma in 2014</p>

3.6 Trustworthiness of the study

This section reviews the trustworthiness of this study. Figure 8 below presents a chronological timeline of when the interviews and workshops took place and how the research process evolved. Additionally, the timeline gives a preliminary introduction to the data analysis and describes the researcher's learning process to explain the involvement of the study.

The timeline presents how the researcher's learning process is intertwined with the data collection (what questions are asked) and the subsequent analysis. The timeline shows that the first interviews were conducted before the researcher's Ph.D. studies, so some data were already available at the beginning of the study. At first, the theoretical interest was in the DMCs and cognition part of the framework. The interviews in 2017 were approached with the idea of conducting cognitive mapping of the collected data (cognitive mapping technique is used in research to create a visual representation of a person's mental model for a particular process or concept).

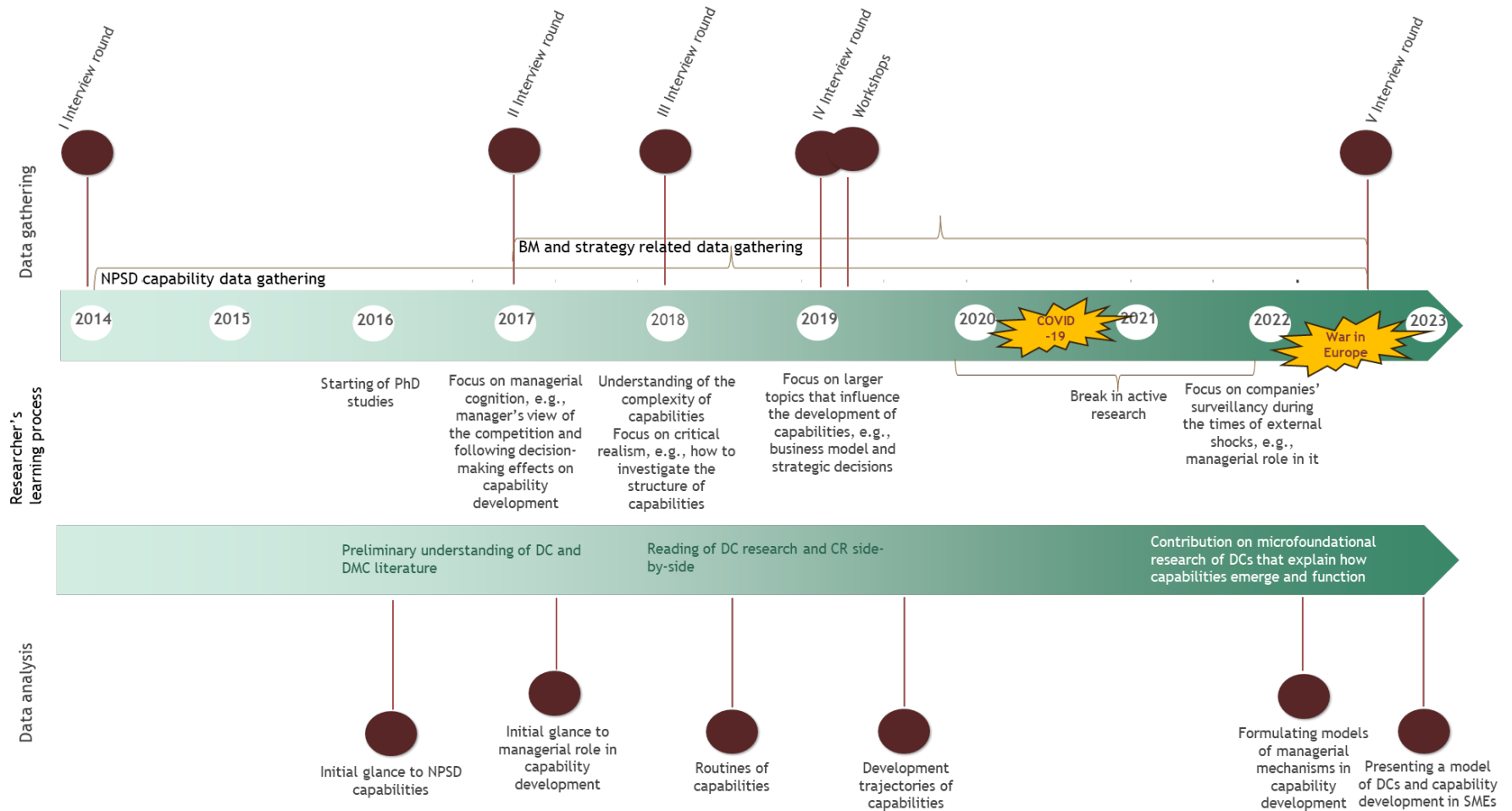


Figure 8. Timeline of the research process

However, after familiarizing myself with the interview data and gaining a more in-depth understanding of the capabilities, focusing solely on managerial cognition felt insufficient, as if it would not do justice to the phenomenon of capability development. The realization led to more precise thinking about how investigating capabilities with a solid background is possible. After this trial-and-error learning circle, CR premises were more tightly combined with data gathering and analysis. More interviewees were included in the study, and cause and effect chains were traced from multiple perspectives (e.g., business model, strategy decisions), which were recognized as underlying factors of events that influenced the development of NPSD capabilities. The interviews of specialists illustrated the routine perspective of capabilities: what is NPSD and how it is practiced in each company. Thus, the manager's role was evaluated regarding routines or company habits during the research process. However, it often requires that something changes when it comes to development. Accordingly, turning points were introduced to the analysis. These events/occasions showed why capability development had occurred in a particular direction. The roots of the turning points could lie not directly in the NPSD capability level behavior or decisions but in the business model and strategic decisions that the company had taken. It seemed that in the context of SMEs, managers had an essential role in capability development, and due to this, managerial actions were under scrutiny during the whole research process. In the findings, the manager's influence is presented as mechanisms that support the capabilities of SMEs. Ultimately, the unfortunate events affecting the world, COVID-19 and the war in Ukraine, allowed for a theoretical discussion addressing ordinary capabilities and DCs. Especially when DCs are seen as a company's ability to react and change (ordinary) capabilities in changing environmental circumstances (e.g., Uhl-Bien & Arena, 2018).

The learning process of the researcher is presented in the research process timeline in part to support the transparency and trustworthiness of the study.

Realist-based expectations to study

Realist-oriented studies are expected to include concept mining and forming a framework; a search for evidence and its subsequent analysis; abstracting and synthesizing evidence; and finally, developing a narrative including propositions (Rycroft-Malone et al., 2012: 1). In addition to these steps, researchers are encouraged to address how and to what extent abductive and retroductive inferences are utilized in realist studies (Mukumbang et al., 2021). Inspired by this notion, the steps of formulating inferences are presented in Section 3.5, together with an analysis of evidence. Similarly, a theory framework of DC and subsequent literature is presented in the theory section, and later, the selected concepts are perceived together with methodological applicability. Finally, the researcher presents cross-

sectional and temporal summaries of the evidence that support the later theoretical discussion about managerial mechanisms and their involvement in capability development in SMEs.

The four companies that performed well on a metric inspired investigating the demiregularities between companies and extending the findings in line with CR assumptions and the corresponding theory of DMCs to explain the development of capabilities and the emergence of dynamic capabilities in SMEs. The CR approach was considered to support a context-bound, theory-bound (DMC) analysis of the consequences of individual agency. The researcher's interest was not to explore the meanings managers attach to things, although these meanings can be reflected in their choices. It was considered important to involve other people in the company in the study so that the initiatives and actions of managers could be compared with those of others and with prevailing practices. The aim was to conduct a comparative but deep-dive contextual study.

However, the study did not proceed without challenges in drawing the lines between used concepts in the analysis phase. This was manifested, among other things, in the difficulty of distinguishing the dynamic capabilities of managers from those of the company-level capabilities in the SME-sized cases. This, in turn, made the researcher feel safer addressing managers' impact on company-level capabilities through their roles in both operational and dynamic capabilities. This required the ability to accept that, in this context, it is difficult to distinguish between the capabilities of managers and those of the company. Instead of being able to keep concepts like DMC and DC separate during the analysis phase, the aim was to determine the contribution of DMCs within dynamic capability.

Data collection: case selection

The researcher utilized a purposeful sampling strategy to recognize information-rich and relevant cases for the study: "*The logic and power of purposeful sampling lie in selecting information-rich cases for study in-depth* (Patton, 2002: 230). The researcher began the research process with an initial *guiding principle*. That was that managers (founders/owners) might have something to do with their companies' ordinary and dynamic capability development. The DC theory left open the question of how DCs (and ordinary capabilities) function in practice. The researcher aimed to explicate capabilities in parallel to expose mechanisms underlying the capabilities. In addition, the researcher obtained information on the case firms' culture and ways of working when interviewing, visiting, and conducting the workshops.

During the research process, the researcher had good access to all four case companies and opportunities to interview personnel in various positions. That access

was reflected in triangulation, where the phenomenon (NPSD capability combined with knowledge flow) was perceived several times from multiple perspectives.

Data collection: cooperation with interviewees

Process researchers appreciate interactional expertise (original from Collins, 2004) that enables researchers to discuss issues with research subjects, but they cannot practice the relevant professions themselves (Langley et al., 2013). The researcher's background in a large food business meant she had conducted several human-relations projects involving personnel of various levels from different functions. That experience meant she felt confident in conducting open-ended themed discussions with managers and specialists from the case firms. When necessary, the researcher raised the level of questions, not just focusing on the direct responsibilities of the interviewee. Consequently, the interviewees also described the context in which they worked. For example, the researcher could ask: *"What is required from others to ensure your job gets done well?"* or ask clarifying questions about who decides on what.

Every interview was planned carefully based on the knowledge acquired in earlier interviews. The visual technique applied in 2017 was tested in a similar kind of food business SME to the cases of this study. The test interview was successful, and the analysis proved the researcher's presumption right: the data about the company's business became multifaceted. After hearing the attributes managers used when comparing their actions to others, it was easy to ask further questions. The accuracy of the timelines was reviewed with the managers in the spring of 2019.

Data collection: research diary and observations

A research diary entry was written after each interview. The diary and, for example, figures (Paalumäki & Vähämäki, 2020) that were taken during the interviews helped the researcher to memorize meetings afterward. The figures taken during the visits included packages, the R&D process of one company, the value chain of one company, etc. Here are a few notes, as examples, from the diaries.

I only met one interviewee today. The interview lasted about 45 minutes. The interviewee had worked in several positions in the company: production and marketing. She had a good delivery. The most important occasions of the year came out: new products and business buyouts. I am waiting to meet the manager in February 2019 to discuss the business model. And to read more theory from that perspective and write about it. Research diary after an interview with a subordinate in Case Alpha in 2018

I learned how the company started its SoMe activities in 2010/2011. This would not have come out if I had not done the timeline description for the interview.
Research diary after an interview with Manager Delta in 2019

I noticed that the interviewee spoke rather like the manager, maybe even with similar terms. This can challenge the distinction between the interviewee's views and the manager's thoughts. However, the "facts" the interviewee told, a new service and a new partnership, were recognizable and possible to add to the analysis. Research diary after an interview with a subordinate in Case Gamma in 2018

Both interviewees were talkative and discussed matters in high-level terms, even philosophically. Also, the thinking of the company's manager is high-level. This also challenges the interviews: how to get concrete knowledge about the products and services. However, I noticed that the knowledge about the basic issues of the company helps ask clarifying questions about the contents of the themes, as well as pay attention to the role/responsibilities of the interviewee.
Research diary after an interview with a subordinate in Case Gamma in 2018

The observations and research diaries helped establish an understanding of the companies' cultures. The meaning of cultures in this study is mainly seen in the recommendations after analyzing what kind of culture and management/leadership support the development of capabilities in SMEs (Section 6.2). As noted earlier, the workshops were the main observation events during the research. On these occasions, the researcher's role was a participative observer as she operated as a facilitator during the workshops (Paalumäki & Vähämäki, 2020). The researcher had a preliminary discussion about the topic and the participants with managers. As a facilitator, the researcher supported the talks with different tools depending on the subject. For example, Case Beta and Case Delta workshops used the blue ocean strategy tool, stakeholder analysis from a strategic perspective in Case Gamma, and critical competences to succeed in Case Alpha. The researcher had a co-facilitator in three of the four workshops, thus securing more observation time.

Analysis

The analysis was carefully grounded by identifying and verifying capability and BM-level events. This work was partly detective work, as also referred to by Sayer (2000). The researcher had to form an understanding of the main events and find links between things, such as how business-level decisions have influenced the development of the NPSD capability, and to identify where decisions originated and how they may have been put into practice. Once the 'facts' were in place on the timeline, it was time to delve deeper into the similarities between companies in the

stages of capability development and the similar characteristics at these stages. However, the data and quotes have sought to highlight the specific characteristics of each company and manager.

The overlap between data collection and analysis in a longitudinal study (and the researcher's learning) allows experimentation and searching for new explanatory factors during the study (explorative). This study also experimented with competitive analysis in interviews with managers, although their yield was limited. Rather than monitoring competitors, companies and managers emphasized the core idea as a driving factor. The four cases provided an opportunity to construct a context-bound explanation of the leader's influence on forming capabilities. The mechanisms could not have been traced without using DC and subsequent theories (ordinary, routines, DMC) and related theories in the analysis. An example of the latter is the use of sense-making - sense-giving in the final description of how managerial mechanisms operate in SMEs at individual and team levels and how the contextual process of capability development unfolds in firms (Figure 30 in Section 5.4).

Tracy's (2010) eight key qualitative research criteria are applied to summarize the study's trustworthiness. First, the worthiness of the research topic is recognized in the microfoundational approach to capability development in entrepreneurial firms, where the intent is to explore how the managers introduce change to the firm ordinary and DCs. The study shows rigor through its longitudinal and multiple case study approach. Moreover, quantitative recognition of cases and subsequent qualitative analysis are used. Theoretical concepts are introduced and argued based on the selected CR approach. Third, the sincerity of this study is strengthened by explaining the research process, the structure of interviews (Appendix 1), examples of the researcher's observations during the interviews, and direct quotations in the analysis. At the end of the dissertation, the reflection section presents biases and learnings that are wise to consider in similar research settings. Third, creditability is increased by the commitment to the CR approach, where the mechanisms are acknowledged to lie in the instinct essence of structures. This has challenged the researcher to think and observe things the interviewees have not directly pinpointed. The understanding of the development of capabilities has been built based on the specific BM and NPSD capability level events that have guided more detailed questions to interviewees about the possible reasons behind the development. Fifth, the credibility of the analysis was increased through triangulation among informants by asking the same issues from different company members. Sixth, the study resonates with researchers and practitioners interested in understanding and developing organizational capabilities. The written document requires balancing with the appreciation of retroductive/abductive steps during the research and a clear presentation of the research. Seventh, the research contributes to the SME context's

DC framework and the concepts explaining capability development from the perspective of managerial agency. The three managerial mechanisms found can also be functional in larger companies. Practically, this study inspires the managers of SMEs to develop capabilities and teaches them how to combine DC features with ordinary capabilities. Methodologically, the study can inspire others to apply the CR approach in research projects. Finally, from an ethical perspective, the anonymity of cases and informants was secured by carefully preserving data and analysis. The participants were approached professionally and with clear aims to collect information about the research topics. The emerging timetables were shared with rs while collecting further information, and one seminary article was shared with companies to show how the company- and interview data and company are handled in the written text.

4 FINDINGS REGARDING ORDINARY CAPABILITIES

In this chapter, each case company is presented and analyzed individually. Each section is organized as follows.

First, a case-company description is presented. These summaries are presented based on all qualitative material collected and analyzed during the research process, and here, they illustrate the character of the case companies. Following CR, the case descriptions add contextual understanding of the surroundings where the NPSD capabilities are embedded in case companies. Although all companies in this study are SMEs, they differ in other ways.

Second, to understand the NPSD capability development, events that capture the past, present, and future-oriented ideas of case companies were placed on a timeline. Due to the multilevel nature of capabilities, significant events were placed on the timelines either as NPSD events or as business model (BM) events. At this point, it was clear that NPSD capability development cannot be explained without considering the BM and strategic decisions.

Third, the analysis included inspections of the NPSD capabilities of each case company based on their material, social, and managerial practices. Case-based analysis tables were built from the active research period years (2014–2022). This chapter includes the tables of each case company from the years 2014 and 2022. These two periods illustrate how the structure of capabilities was analyzed cross-sectionally in this study.

The analysis tables (2014–2022) also form the basis for the temporal analyses captured from the perspectives of NPSD capabilities (Sections 4.2–4.5) and DCs. The changes between the beginning and end are presented in the temporal analyses.

Fourth, evolving theoretical timeframes have been created based on the timelines of case companies. This timeframe is presented in the next chapter. The chapter is important because it creates the basis for the upcoming trajectory analysis.

4.1 Evolving theoretical timeframe

This chapter introduces three development phases of NPSD capabilities that have been recognized based on the timelines of each case company. In other words, the pre-formation, formation, and lock-in phases have been formed based on the timelines introduced in 4.2 Case Alpha, 4.3 Case Beta, 4.4 Case Gamma, and 4.5 Case Delta.

Initially, the founding and settling of processes and current praxis phases were inductively elicited from the case companies' timelines. It subsequently became apparent that the phases were somewhat similar to the path dependency framework. As abduction allows the movement between theory and data, the existing path dependency theory was selected to support the analysis, and the phases were named accordingly: the pre-formation, formation, and lock-in phases. The later analysis utilized self-reinforcing mechanisms to recognize and maintain practices and habits in the NPSD capabilities of case companies. Figure 9 below summarizes the development phases of NPSD capabilities in each case company.

Later, a cross-review of the timelines is conducted, and development trajectories are recognized based on the data.

The investigation of the pre-formation phase required a retrospective stance on company and capability development. Managers and other informants willingly shared the company's history during the research process. Managers Alpha and Gamma naturally shared their stories regarding the company foundation. In Case Beta, both active owners participated in the interviews and often referred to issues before and after the relevant generational change. Company Delta had recently entered a category of large businesses when new owners acquired it, while the manager stayed the same. Nevertheless, from the customer perspective, company Delta remained an SME. Due to these different structures, ages, and ownerships, the boundaries of the pre-formation phase were led to unfold naturally from the data.

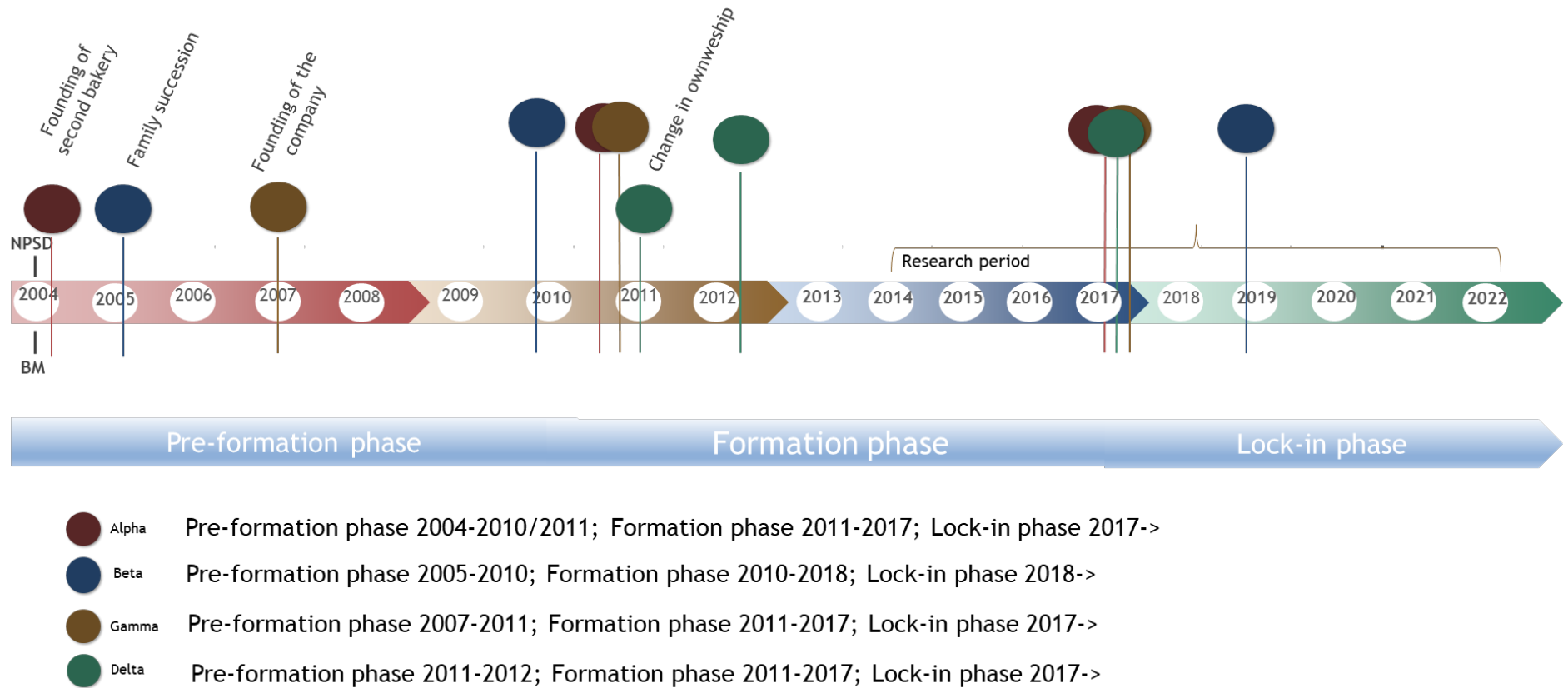


Figure 9. Development phases of NPSD capabilities

In contrast, the analytical period for Companies Beta and Delta starts from the main events involving the current managers: a generational transfer (Case Beta) and a company acquisition (Case Delta). The history of managers is considered in the pre-formation phase, and their influence on capability development is analyzed under the theoretical framework of DMCs. The path dependency framework acknowledges that personal history matters when the process does not have a history. Agents can personally influence the choices when the structures and practices are not settled or in flux. The DMC view points out that differences in managerial human capital, social capital, and managerial cognition may lead to different decisions and outcomes in company development (Adner & Helfat, 2003). Because the manager/owner agency is emphasized in the pre-formation phase of the capability, the DMC underpinnings are also discussed in the cross-sectional analysis (Section 4.6).

When moving on to the formation phase, the process under investigation has a history, whereas in the pre-formation phase, the manager (and other key individuals) had their own experiences that may have affected the choices. In the analysis of the formation phase, the focus moves to the NPSD capability per se. In this analysis, the theoretical framework of the self-reinforcing mechanisms is modified to fit the research purpose better and capture the development of practices. According to path dependency theory, dominant action patterns that start to unfold in the formation phase are recognized with the help of these mechanisms.

Accordingly, the self-reinforcing mechanisms are coordination effects, complementary effects, learning effects, and adaptive expectation effects (Sydow et al. 2009). The analysis applied the framework to make the debate over issues that sustain and guide development in a specific direction visible. This study omitted the complementary impact from the analysis, and learning effects were modified to support recognizing development. Next, the definitions of self-reinforcing mechanisms and how they are applied in this study are introduced.

- *Coordination effects* - Members of an organization follow a specific *rule* to ease communication and to support the anticipated reactions from others. (A focus on the rules that members of the company share).
- *Learning effects* - Organizational culture and incentives may support exploitation at the cost of explorative learning. (A focus on recognizing turning points that have led the NPSD capability in a particular direction over time).
- *Adaptive expectation effects* - Organization members wish to belong as insiders and, thus, prefer generally accepted (best) practices. (A focus on

issues that build cohesion among personnel (a wish to belong to the insider group) and best practices).

- Complementary effects occur when routines are interconnected due to their synergy. (Omitted from the analysis because of the already overlapping nature of routines—idea generation, screening, testing, and market launch followed in this study).

To conclude, learning effects were modified to include turning points that express development in a particular direction, often based on learning. The interest was not in finding if the learning was exploitative or explorative but in whether the learning created something new in NPSD capability development. Using turning points was first motivated by CR, where events are expected to unfold due to mechanisms that are not necessarily seen. Second, they imitate the critical incident method (CTI) (Flanagan, 1954) in the sense that both are interested in collecting facts (e.g., case-by-case formulated timelines in this study) and what has followed after an important event. CIT also appreciates context and agency (Flanagan, 1954; Jaakola et al., 2015), similar to CR antecedents. The CIT was not applied in this study because instead of being interested in developing a particular incident (e.g., what can we learn to make a specific phase of the process work better), the interest in this study lay more in the structures and mechanisms causing the events.

Additionally, the complementary effects that describe the synergy of interconnected routines were left out of the analysis. This choice was mainly made because the idea generation, screening, testing, and market launch are close to each other in food business SMEs. For example, it is common practice in food business SMEs that idea screening, testing, and market launch are somewhat intertwined. Sometimes, novelty is screened and tested with customers simultaneously when launched in a shop or a cafeteria. Moreover, based on the three other self-reinforcing mechanisms, it became apparent what the dominant action patterns (habits/routines) were in NPSD capabilities versus the issues that developed them (turning points).

Finally, **the lock-in phase** is when the capability becomes dysfunctional or ineffective (Schreyögg & Sydow, 2011). The self-reinforcing mechanisms are expected to lead a process to a lock-in situation. Initially, this phase was named *current praxis*, but the name was changed according to the path dependency framework. The framework helped provide viewpoints on the different stages of NPSD capability. However, some challenges occurred in the utility of the framework. The framework emphasizes issues that maintain practices instead of the decisions, choices, and inventions that develop them. Accordingly, turning points were added to the formation and lock-in phases to show the choices case companies had made to avoid fixed decision patterns. That step was possible owing to longitudinal data

gathering. However, before entering these trajectory phases, a case and NPSD capability descriptions are presented, starting from Case Alpha.

4.2 Case Alpha

In 2014, Case Alpha was a 30-year-old family bakery still led by the manager-owner. The bakery has almost 100 employees with a turnover of approximately EUR 10 million. Alpha operates three bakeries, producing products from additive-free dough. The firm's products are mainly standard bread, gluten-free bread, and standard and organic rusks. Those products are available in its stores and numerous grocery outlets through cooperation agreements with national grocery store chains.

Figure 10 below reveals the main NPSD capability events and BM events. The arrows at the bottom describe the development's main features from both views of the development trajectory.

The interwoven nature of capability development from NPSD capability and BM levels is seen in the timeline of Case Alpha. The NPSD capability development initially started with listening to customers and actively partnering with food professionals. Eventually, it developed through the competence of acquired companies (and vice versa). In addition to the selected business strategy, building a chain bakery (first applied organically and later through business buyouts), other business decisions were made, some of which succeeded and others did not. For example, investment in special-diet baking was successful in the long run, whereas internationalization attempts did not turn out as expected.

Based on the microfoundational view of capabilities, the routines of NPSD capability are further analyzed based on material, social, and managerial practices. This is illustrated in Table 5 below, which concerns 2014 and the formation phase.

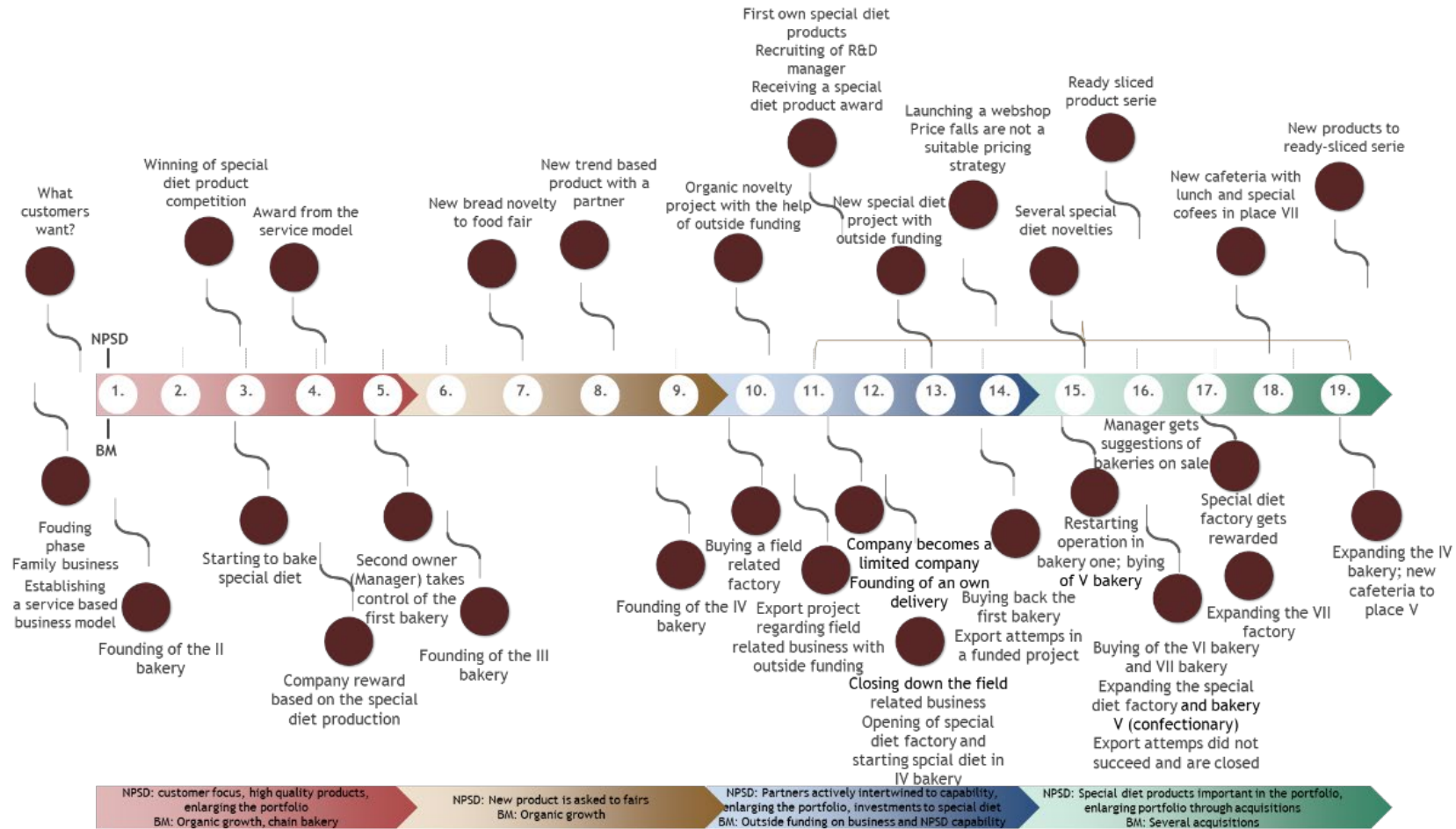


Figure 10. The Timeline of Case Alpha

Table 5. Case Alpha 2014: The routines and practices of NPSD capabilities

NPSD capability 2014	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	NPSP
Material practices	Rather unsystematic gathering and handling of ideas Feedback forms on the websites Participation in outside development groups	The fit of new ideas to the existing production process Handmade, additive-free Regular meetings every two weeks with a memo (unit II)	Tasting and selling in the own store Product size and package	Freshness guarantee secures follow-up sales Own delivery, branded vehicles In-door marketing emphasized	Product example: Sliced loafs
Social structure	Unofficial face-to-face interaction The manager prefers phone calls with unit managers/employees Main channels to get ideas: raw material suppliers, consultants, customers, bakers, restaurants, development groups Outside networks recognize the company's principles (additive-free, unpreserved)	Trying is aloud Tasting and discussions among personnel	Open-minded testing of novel products directly with customers through their store (customers' feedback on the product and price) Testing with some key customers at first If necessary, adjusting raw material, manufacturing process, etc., if the product price blocks buyers	Visibility in the area (sponsoring of sports clubs, in-store marketing in customers' facilities, local newspapers) Product drivers and consultants have an important role in marketing and gathering feedback on novel products	
Manager's influence	Interest in creating healthy products Focus on customers	Investment requirements and decision-making regarding those Preferring unofficial communication with employees	Portfolio management Features behind price management (marketing area, packaging material, raw material, product weight,	Making locality a key marketing driver	

NPSD capability 2014	Idea generation	Idea screening	Idea testing	Market launch	NPSP
	Active participation in the development groups outside the company		package size, baking, what kind of price would sell)		
Context 2014	<p>Temporal: The company has received good publicity through new products, special diet, and service model rewards.</p> <p>Industry and market: National, large competitors have closed local bakeries. A large customer wanted to change the operating method in 2013 (no more freshness guarantee service allowed). The number of in-store bakeries in the markets has increased.</p> <p>Spatial and social: Three bakeries in different locations. The main bakery has wide food networks around it. Own delivery supports the freshness of products.</p> <p>Organizational: A more than 30-year-old family bakery still led by the manager-owner. The amount of personnel is approximately 100.</p>				

The practices in NPSD capability routines continued to develop, and the situation in 2022 is next illustrated in Table 6.

Table 6. Case Alpha 2022: The routines and practices of NPSD capabilities

NPSD capability 2022	Idea generation	Idea screening	Idea testing	Market launch	NPSP
Material practices	<p>Unit managers have regular meetings</p> <p>Customer wishes and special diet are a shared vision</p>	<p>Assessment of the product fit to existing equipment and processes; equipment that enables product modification</p> <p>Unofficial meeting culture, discussions while working</p>	<p>Changing dosage, baking time, and proof one by one to achieve the result</p> <p>Sales in the own store; tastings in other bakeries of the chain</p> <p>A rather unsystematic way of feedback documentation in stores</p> <p>Occasionally test baking in customers' facilities</p>	<p>New cafeterias strengthen the local image of the business</p> <p>SoMe marketing</p>	<p>Product examples: Sunflower seed bread and Mediterranean bread under development</p>

NPSP capability 2022	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	NPSP
Social structure	In addition to already mentioned channels (the year 2014), the role of unit managers has increased	<p>Core people: managers, unit managers, professional developers in special diet products, and bakers</p> <p>Partners may teach new baking methods (e.g., raw material suppliers, development partners)</p> <p>Encouraging climate to do experiments</p>	Building relationships with customers (own stores, drivers visit customers' facilities) to get feedback	Some unit managers visit stores while delivering products	
Manager's influence	Change in role (product developer -> supportive role) due to the expansion and company growth	Investment evaluations and decisions	Price setting (marketing area, packaging material, raw material, product weight, package size, baking waste) Cost-effectiveness in raw material and packaging material procurement	<p>Focus on locality, building awareness in the area</p> <p>Portfolio management Sales follow-up</p>	
Context	<p>Temporal: Millions invested over the last seven years. COVID-19 caused issues, especially in new locations (cafeterias).</p> <p>Industry and market: Inflation reduces consumers' purchasing power. The number of in-store bakeries in the markets has increased. A large competitor is cementing its foothold in the special diet segment.</p> <p>Spatial and social: The company has conducted several acquisitions and built a chain of local bakeries (10 cafeterias and seven bakeries (locations)). The challenge is to recruit competent employees in some areas. Costs around raw materials, delivery, vehicle maintenance, and energy are increasing.</p> <p>Organizational: The manager is the only main owner, and the staff numbers approximately 200.</p>				

The NPSD capability routines in 2014

The 2014 analysis reveals that the material practices are settled in Case Alpha, although the idea generation and screening routines seem relatively unstructured. Instead, the idea testing and market launch are more systematic: the firm regularly uses its own stores for idea testing and market launches, and the freshness guarantee supports the launch and sales follow-up. From the social structure perspective, the company has already found outside development networks that recognize its strengths. Inside the firm, communication is unofficial and rather unsystematic. However, the atmosphere is encouraging when creating, sharing, screening, and testing ideas. In market launch, the communication is built on visibility in the area and active cooperation with customers; for example, drivers engage in marketing activities when visiting retailers. The manager plays an important role in idea generation and related networks. He is also genuinely interested in developing healthy novel products. The manager prefers unofficial communications with team members and is primarily responsible for decision-making, investment, NPSD, and pricing issues.

From a contextual perspective, the manager has decided to build on locality, which also generally attracted interest among food producers and customers in the 2010s (temporal). At the same time, large competitors have closed local bakeries, and the number of in-house bakeries in retail stores has increased (industry and market). Case Alpha has responded to this by building a chain bakery with three locations in 2014. The built service model and its drivers support this decision (spatial and social). The manager-owner leads the company with approximately 100 employees (organizational).

The NPSD capability routines in 2022

Before the year 2022, systematicity increased in Case Alpha's material practices. The unit managers had regular meetings, and knowledge was shared between locations. Novel products are tested between units, and the best products are shared with all locations. The firm's stores and cafeterias are now essential sources of consumer feedback. All units practice a freshness guarantee model, and SoMe marketing has increased. From the social structure perspective, the role of unit managers has increased in sharing knowledge, best practices, and products between units. Each unit may develop its products; thus, the atmosphere still fosters the creation of novel products. Units try to develop deep relationships with customers in the area; for example, unit managers sometimes deliver products themselves. The manager's role has changed in the long run from a product developer to a more supportive role in

NPSD. He is still the primary decision-maker and actively follows sales and other reports.

From the contextual perspective, the manager continued to build the chain bakery and invested in bakeries and cafeterias. COVID-19 challenged the new cafeterias as office people started to eat lunches at home instead of in restaurants. The in-house bakeries continued to expand in large retail stores, and a large competitor has begun to focus on the special diet segment (industry and market). At the same time, Case Alpha has continued to implement its strategy and now consists of 7 bakeries and ten cafeterias (spatial and social). The number of personnel was approximately 200 in 2022.

The timeline and the structural analysis of the NPSD capability of Case Alpha presented above are utilized next. According to the path dependency framework, the pre-formation phase emphasizes managerial agency, and the formation phase emphasizes self-reinforcing mechanisms (and turning points). Finally, the lock-in phase points out those incidents that have prevented excessive inertia from the capability. The analysis logic is followed in all cases.

Pre-formation phase of Case Alpha

As pointed out, Case Alpha's pre-formation phase starts from the company's founding. Manager Alpha visited retailers actively when the bakery was founded over 30 years ago. He delivered the products himself, and at the same time, he both asked and listened carefully to customers' opinions. He was even ready to burn buns if a customer wished. Earlier in his career, while working as a retailer, he appreciated suppliers who removed products that did not sell. He later applied this tactic in his bakery business when establishing a service guarantee model.

When I started, we only had a few clients, then we got our first client and then another and another. So, I knew them, and they were my friends and advisers. Now I don't even know all of them anymore, and I don't know which shops we're delivering to. Manager Alpha in 2017

And then, when I think about how an ideal supplier operates, how the best supplier operates, I thought our card retailers were nice when they delivered cards to us at the store, at Easter, in summer, secondary school graduate cards, and all the seasons. But then they always took away the unsold and delivered new, topical cards. They put them on the shelves and charged only for the ones sold...We know every loaf of bread that we have sold. But we have worked to succeed at that. Manager Alpha in 2017

In the pre-formation phase, managerial agency is seen in the manager's idea to start the service model based on his experience of card sellers who compensated the not sold. When working in the retail sector, he also learned the logic of chain business.

Formation phase of Case Alpha

Based on the temporal analysis of the material and social practices in NPSD capability and the managerial influence on idea generation, screening, testing, and market launch, inferences about the self-reinforcing mechanisms and found turning points (TPs) are next presented together with the manager's agency in the formation phase. The coordination effects and the adaptive expectation effects are presented in the form of a summary of each case.

Coordination effects

The main rules in idea generation are driven by health arguments such as high-fiber and low-carbohydrate. The aim is to be both up-to-date and nutritional. Idea screening is conducted based on existing facilities, knowledge of market prices, and availability of domestic raw materials. There is no pressure to test; novel products will be ready in due course, and customer opinion is trusted. Market launches heavily emphasize local producers' brands while supporting the freshness of products.

Adaptive expectation effects

In idea generation, employees appreciate and have adopted the goals of NPSD capability outputs: healthy, additive-free, and fresh products with fluent selling in their stores (at first). Often, the ideas are screened and developed in one of the units, thus raising the question of whether all the knowledge from the whole company is passed on to the projects. The cooperation is mainly between unit managers; other employees do not have regular meetings. However, the interaction between Manager Alpha and the unit managers seems regular and deepening over time. In idea testing, consumers are appreciated as source feedback, and the feedback is shared in the unit's WhatsApp group. Case Alpha has its drivers, but occasionally, unit managers deliver products themselves. They market, get valuable feedback, and spread the image of being a local bakery. At market launch, the firm's delivery services ensure the freshness of products, which the firm guarantees.

The self-reinforcing mechanisms are interwoven by nature and mainly describe prevailing rules and practices in the NPSD capabilities of case companies. To better answer the research question of this study, the development of NPSD capabilities, and to ease further theorizing, TPs that have pushed the capability phase in a particular direction are recognized. Each TP is illustrated with a direct quotation, each preceded

by a brief explanation. The explanations reveal the context and the trajectory. This practice is applied in the analysis of the TPs for each case. Finally, a summary and cross-case analysis of TPs is presented.

Idea generation

Case Alpha benefits from the location of its main bakery. The area's food business ecosystem supported cooperation with various food specialists in NPSD and marketing actions.

TP: Utilization of development networks to support health features in new offerings.

Once, during a coffee break, one food developer from a partner organization said that her mother's pie was low in carbohydrates. And then I thought, can you make bread out of it? Is it possible to bake it? She said that maybe. And then, the following day, we baked it, and it became a hit. Manager Alpha in 2014

When I spend time with these developers, I emphasize roughage, healthiness, and low salt. Then, when I develop new products, I tend to make them healthy from the beginning. Not inventing sugary doughnuts. I make wholegrains with Omega 3 and others." Manager Alpha in 2014

TP: New offerings through acquisitions.

Case Alpha bought five small bakeries in six years. The best products were kept in the portfolio and spread to other locations when possible.

Idea screening

When Case Alpha grew, managing offerings and personnel became crucial to finding synergy and supporting cost control. This change in management (and leadership) was something that Manager Alpha raised several times in the interviews.

TP: Portfolio management

We have added novel products but cannot add them endlessly; thus, we need to let another product go when we add one novelty. Manager Alpha in 2019

Expanding business through acquisitions required new portfolio management and decision-making from Manager Alpha.

Idea testing

Case Alpha has operated near its customers from the beginning. It serves novel products directly to the customers in its stores. Additionally, the waste guarantee service makes it easier for retailers to test novel products: drivers will collect unsold goods.

TP: The waste guarantee in testing and market launch lightens the burden of success and getting things right the first time

The same is true for location V; they deliver rye loaf, flatbread, and other products to location II, and we have learned about the products through our store. You could not have learned about the products without tasting them. After we have formed our opinion, we deliver those to retailers, and, of course, customers can choose. Manager Alpha in 2019

When collecting the products away from the stores, the drivers received feedback directly from the retailers and heads of departments. Accordingly, the data revealed immediately what products did sell and what did not.

Market launch

The local bakery brand has been strengthened with several actions, for example, owning bakeries and stores, branded delivery cars, cooperation with other regional bakeries, and some charity work. Expanding stores to include lunch cafés has been one of these actions.

TP: Strengthening the local image: service model, cafeterias

Lunch spots with 50 seats will change a bit so that more cash flow will come in through our retailing. The margins of lunches are small, but maybe we will become a more service-oriented bakery. I am holding on to the local area and hope customers will hold on to the local bakery. Then, our industrial production would be in location X, where we could do more products baked in the afterheat of the oven with a longer shelf life. Manager Alpha in 2019

After recognizing the main TPs, it is important to unveil manager's agency in these occasions in the formation phase. As the sole owner, the Case Alpha manager has greatly influenced the development of the business and NPSD capability. He has invented the waste guarantee and supported its expansion. The development of the waste guarantee, special diet, and health effects, in general, have been enabled by the manager's knowledge of baking and professional partners with whom the manager has been the primary contact. Manager Alpha also pursued his vision of a bakery chain through several acquisitions and brand building concentrating on locality. The

effect is evident in the lock-in phase when the firm opened cafeterias alongside the bakeries.

Lock-in phase of Case Alpha

The analysis continued with recognizing TPs also in the lock-in phase. Case Alpha bought products along with local bakeries from different areas. However, not all offerings could be absorbed into the company's selection. Portfolio management became crucial, and Manager Alpha ensured that the best products were served in each location, along with special diet products and local specialties. Manager Alpha also broadened customer segments by unveiling new cafeterias offering lunch and the company's products. Otherwise, the development of novel products continued normally and mainly without outside partners. For example, Case Alpha had to respond to market demand by launching more sliced bread instead of rye cob bread, which had been a mainstay of the company's portfolio.

4.3 Case Beta

Case Beta has almost 90 years of experience in the bakery sector. In 2014, it was a family business for the third generation. The number of employees is about ten, with a turnover of almost EUR 1 million. The company is located in a metropolitan area, serving restaurants, offices, homes, and grocery stores by delivering bakery products straight to the customers seven days a week. The product range consists of bread, coffee bread, and confectionery. Company Beta owns advanced baking technology and bakes in the daytime.

Figure 11 below reveals the main NPSD capability events (on top of the timeline) and BM events (below the timeline). The arrows at the bottom describe the development's main features from both views.

After the generation change, Case Beta focused on narrowing the product portfolio and reducing production, procurement, and delivery costs. Novel products were developed based on customer wishes and ideas with additional value (e.g., healthiness). The manager had (and has) a strong role in NPD, while employees/partners with whom to work have changed over time. There has been variation in sales channels around the generation change; the company gave up two and lost one of its stores. However, the company opened a sales truck three years after the change. New client acquisition (retailers and restaurants) has been continuous. The second owner has extensive responsibility for confectionary, marketing, and selling to smaller customers, whereas the manager is responsible for chain customers. During the COVID-19 pandemic, the company laid off staff

temporarily, invented ways to reach customers, and applied for financial aid to survive the crisis.

Based on the microfoundational view of capabilities, the routines (idea generation, screening, testing, and market launch) of NPSD capabilities are further analyzed based on their material, social, and managerial practices. This is illustrated in Table 7 below, which concerns 2014 and the formation phase.

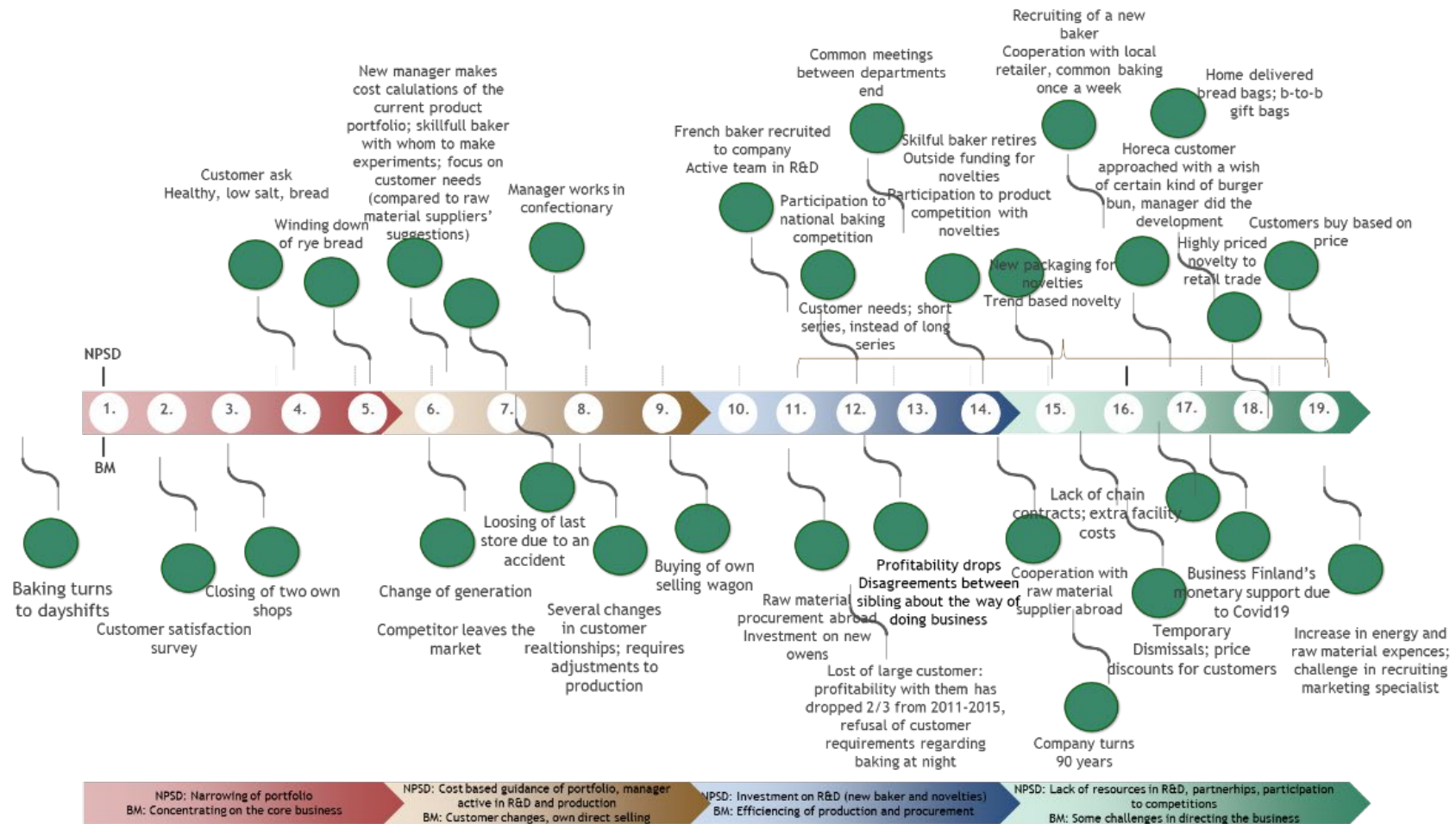


Figure 11. The Timeline of Case Beta

Table 7. Case Beta 2014: The routines and practices of NPSD Capabilities

NPSD capability 2014	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	NPSP
Material practices	No tools for systematic gathering or handling of ideas Occasionally, the manager asks for new products	Fitting of new receipts to the existing equipment Integrating the idea and receipt to raw material features	Testing with a small number of samples with current customers Testing with personnel	Customer bulletin Marketing in SoMe	Example: Artisan products
Social structure	Customers ask for new products (e.g., Horeca) Informal discussions about ideas Main channels to get ideas: customers, raw material suppliers, fairs, baking trends abroad, competitors, publications	Active discussion among four key persons (baker, production manager, and two owners) while working	Testing with relatives and friends (occasional)	Active presentation of novel products to customers	
Manager's influence	Active in mapping raw material and equipment alternatives, checking alternatives from abroad	Appreciation of the professionalism of subordinates Cost management Responsible for investment decisions	Calculating and setting the product price Active in package decisions: checking alternatives from abroad	Thrives to serve products with easy-to-use and addressable packages that differ from those of large competitors	
Context 2014	<p>Temporal: Change of generation a few years ago.</p> <p>Industry and market: Customers are divided into half: Horeca 50 % and retailers 50 %.</p> <p>Spatial and social: Raw material and packaging material networks abroad.</p> <p>Organizational: Manager in the third generation. The number of personnel is approximately ten people. The second owner is responsible for marketing and sales.</p>				

The practices in NPSD capability routines continued to develop, and the situation in 2022 is next illustrated in Table 8.

Table 8. Case Beta 2022: The routines and practices of NPSD capabilities

NPSD capability 2022	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	NPSD
Material practices	No tools for systematic gathering or handling of ideas	Assessment of raw material, baking time, suitable molds, fit to existing equipment Utilization of existing equipment, molding processes, and competence as much as possible	Samples to customers in deliveries Selling from own trolley Occasionally test baking in customers' facilities	Customer bulletin, order books SoMe and websites: active utilization of seasons Tastings and product demonstrations in customers' facilities Webshop (2020 onwards)	Example: Benzo-cakes
Social structure	Unofficial meetings and discussions while working Close cooperation with certain customers (second owner) Consultant in addition to earlier mentioned channels (year 2014)	Core people: manager, second owner, and one or two bakers Occasionally, outside partners are taken in to teach new baking methods (e.g., raw material suppliers)	Employees, family, friends, customers, bread department managers in stores	Personal networks and contacts with customers (second owner) Drivers tell feedback from customers	
Manager's influence	Ambitious in creating novel products	Active participation in product development	Price management Product modifications Focus on appealing appearance (incl. packaging)	Contacts and negotiations with potential large customers	

Context 2022	Temporal: Personnel back at work after COVID-19. Energy and raw material prices are high due to the Ukrainian war. Industry and market: App. 35% of revenues are from Horeca, and 65 % are from retail. Spatial and social: Unfinished negotiations with large retailers. Organizational: The manager still carries the primary responsibility, although the second owner stepped in during COVID-19 by organizing the web store and home deliveries.
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The NPSD capability routines in 2014

The material practices were not highly developed in Case Beta in 2014. Many practices emerge from informal routines where the manager has an important role. Ideas were not gathered systematically; screening and in-house testing were conducted while working. However, samples were regularly developed for customers, and launch activities involved customer bulletins and SoMe marketing. From the social interaction perspective, idea-generation discussions are commonly informal with customers, partners, and employees. Key personnel are involved with idea screening and testing routines; sometimes, friends and family are asked for feedback. The second owner holds product demonstrations in retailers' facilities. As pointed out, the manager is active in NPD regarding raw materials, packaging, equipment, and outside partners. He holds the primary decision-making authority in cost management, investment decisions, and price setting. The manager intends to create appealing and distinguishable products.

From the contextual perspective, the generation change was made a few years earlier (temporal). Customers consist of Horeca (50 %) and retailers (50 %) (industry and market). The company has not expanded geographically. The manager has intentionally built raw material and packaging networks abroad (spatial and social). The company is a family-owned company with approximately ten employees (organizational).

The NPSD capability routines in 2022

The material practices have not significantly changed since 2014. The description is now more detailed, but the basics have not changed much; the ideas are partly screened based on existing equipment and samples, and the trolley is still utilized in testing. Occasionally, test baking can be conducted in customers' facilities, like tastings and product demonstrations. A web shop was launched to counter the effects of the COVID-19 restrictions. Social interaction with key NPSD people is still unofficial. Customers appreciate the personal contact. The manager's commitment to NPSD is seen in creating demanding products with unique techniques and constantly searching for unique packaging options. His role is important in launching activities with large-chain customers.

From a contextual perspective, COVID-19 significantly impacted the business, forcing it to implement temporary layoffs. Inflation, alongside high energy and raw material prices, challenged the business after COVID-19 (temporal). The division between customer segments has changed, so 35 % of revenues come from Horeca customers and 65 % from retail customers (industry and market). Case Beta negotiates with

larger retail customers to enter nationwide distribution (spatial and social). The organization has stayed the same; during COVID-19, the second owner had more responsibilities.

Pre-formation phase of Case Beta

As pointed out earlier, the pre-formation phase of Company Beta starts from the generation transfer. Before that, the company changed the operating model to do all baking during the daytime. That move distinguishes the company from traditional bakeries, which often operate night shifts to ensure fresh products for customers in the morning. However, Case Beta has chosen to emphasize technology in production and has achieved high supply security. Their portfolio consists of frozen products in addition to fresh bread and confectionery. Before the official generation change, an enlightened customer asked for healthy bread while the manager was already working in the company. It seems that this request inspired the development of product innovations and, later, the NPSD capability. When starting officially in the CEO position, Manager Beta thus began to seek opportunities to develop special products that, at the same time, fit the existing production. He participated actively in the development of new offerings with key employees. He also made tight cost calculations of the current portfolio and reduced the number of products. The second owner of the company took family leave, thus leaving room for Manager Beta to make decisions and guide the NPSD capability. Manager Beta has a long history in the family company; he first started in the bread department at age 16.

Managerial agency originated from the manager's competences, education, and working life experience in the phase of generational change. The manager focused on developing processes, technology, cost control, and unique products.

Formation phase of Case Beta

Based on the temporal analysis of the material and social practices in NPSD capability and manager influence on idea generation, screening, testing, and market launch, inferences about the self-reinforcing mechanisms and found TPs are next presented together with the manager's agency in the formation phase. A summary of the effects of coordination and adaptive expectation is presented next.

Coordination effects

The main rules followed in idea generation are customer wishes, an effort to differentiate (in bread), and tracking trends (in confectionary). In idea screening, the main drivers are cost-effectiveness, fitting ideas to existing equipment, and suitability of raw materials to processes. Company employees emphasize product name,

appearance, and price in idea testing. In a market launch, there is no common rule; the second owner carries out the marketing and sales activities (except chain negotiations, where Manager Beta has the primary responsibility).

Adaptive expectation effects

In idea generation, the company management tend to accede to various customer wishes, which sometimes annoys employees. In idea screening, employees may present their suggestions and participate in discussions. The development and testing of novel products are not tightly scheduled or goal-guided. Management and employees rely on the company's long history and slogan in market launches. Both managers participate in daily tasks (e.g., ordering raw materials, baking, and selling).

The adaptive expectation effects of the self-reinforcing mechanism are not running smoothly in Case Beta. The NPSD capability is influenced by a situation where there are two competing approaches: technology-guided premium novel products (including frozen products) and novel products to meet changing customer wishes.

The self-reinforcing mechanisms are interwoven by nature and mainly describe prevailing rules and practices in the NPSD capability. Due to this, TPs that have pushed the capability phase in a particular direction are recognized.

Idea generation

Case Beta managers occasionally have divergent opinions of the company's future direction. Both (Manager Beta and Second Owner) agree that they can meet customer wishes and current trends quite well. However, there are some struggles concerning which products and customer groups to focus on. Despite efforts, there have been some challenges to getting to the selections of larger chain customers (e.g., the berry bread).

TP: Divergent opinion in management, melding of visions

Well, our strength is, of course, based on longevity, and then, oh well, innovativeness, yes, as well, but we probably are a bit lost in that; we are not unanimous in that. Second Owner Beta in 2019

Well, gluten-free and other things like this kind of... like vegan. Those are the kinds of trends that are currently in demand. I think we have been able to respond to those from our confectionary. Second Owner Beta in 2019

Then, I would see this specialization that these berry breads and things like that, and then I've also used a lot of vegetables and roots in those breads; I've made

them for one retailer as samples, but they didn't take anything. Manager Beta in 2017

The management of confectionery differs from the management of the efficient baking factory. For example, more craftsmanship is required from the employees.

Idea screening

After the generation change, Case Beta renewed raw material procurement, production processes, and overall cost management. The manager initiated this change by leveraging his experience, training, and personal competences. He could envision the whole chain from raw material suppliers to production and markets.

TP: Tight portfolio and cost control management when taking over the management of the company

I started to map out where I could find raw materials that Finnish wholesalers do not supply. I found them in Estonia on the other side of the Gulf of Finland. By doing this, I wanted to ensure that it is as difficult for others to find out how the product is made. Manager Beta in 2017

Yes, we decreased the number of products. Then, I started to figure out what was worth producing for us. Then I started to think about the suitable price categories: what are the product prices per kilo? Then, I also drew attention to the price per unit. Manager Beta in 2019

TP: Portfolio management (cost handling, price per kilo) (Case Beta)

I started to think and count what we produce carefully and from which we get money. Before that, I had already worked a lot in accounts payable. I knew where the money went. Then I did this major job, taking all our products and their prices. I placed them in Excel and started to count their prices per kilo. Then, I started to exclude products, and we stopped producing rye bread. Manager Beta in 2019

Manager Beta had good skills in using excel for calculations and making decisions accordingly. This skill was also part of his leadership going forward.

Idea testing

The testing has remained relatively constant over time. The manager is involved in developing and evaluating novel products, and team members, family, and customers are the main sources of feedback.

Of course, first from the children, if the children don't like it, it's not put into production. Then I've been offering them to large companies X, Y, and Z, various purchasing managers, so I've listened to what they like and what they say then, and then what they have said about this, so I've also used it in marketing myself.
 Manager Beta in 2019

Market launch

Case Beta has a long, positive reputation in the baking business in the main market area. They can meet customer requirements (including restaurants) with high-quality, right-on-time delivery services (outsourced).

TP: Relying on the long history and family business reputation in the market area

Based on age, among other things. This is an old company; people recognize us and have learned to know the company over time. The company turned 90 years old recently. It is the reputation, name recognition, and the good availability of products. We have quite well branched out to stores in the metropolitan area. We can also serve schools and others at competitive prices. Baker N Beta in 2018

The brand is quite contradictory. On the one hand, it is based on long and good-quality operations. On the other hand, it is the same and a bit old-time as what everyone else is offering. Manager Beta in 2019

After recognizing the main TPs, unveiling the manager's agency on these occasions is important. In the formation phase of Case Beta, the manager's role as an NPD professional emerged. His attitude toward novel products is holistic, including raw material procurement, cost control, special baking techniques, packaging, and negotiations with chain customers. However, the manager does not deal much with the second product category of the company, confectionary products.

Lock-in phase of Case Beta

The analysis continued with recognizing TPs also in the lock-in phase. Case Beta has struggled to maintain the direction Manager Beta chose after the generational transfer. One reason is that the current three owners have a slightly different view of the company's future. The company searched for competitive advantage through a long series of traditional, well-selling products and with some high-quality and high-price novel products. At the same time, the company reacted promptly to customer wishes (especially in confectionary) and trends that arose. However, when COVID-19 hit, the latter strategy seemed to ease Case Beta's way out of it. The Second Owner

was active in inventing novel products and developing services to keep the business going.

Then I had, I happened to have a bread department contact, with whom our things went well together, and she had the power to make really big decisions, so with her, we did all the great things, for example, nationally noticed, on one large retail chain side, we made the “ultimate doughnut.” People had money; nobody could travel anywhere. The doughnuts cost five euros; they were expensive and had expensive ingredients, but now that they are sold, nobody buys them because it was a product of the moment. Second Owner in 2022

The different kinds of strengths of the two managers became beneficial when the business environment changed due to COVID-19.

4.4 Case Gamma

Case Gamma is a 10-year-old small coffee roaster whose business idea is to produce and sell exclusive coffee products with extensive service, including machines and maintenance. In 2014, it employs 20–25 employees and has a turnover of almost EUR 2.5 million. The current manager is one of the three founders of the company. Gamma’s main customers are Horeca and its offices, but the company also sells products straight to consumers in its cafeteria and through the webshop.

Figure 12 below reveals the main NPSD capability events and BM events. The arrows at the bottom describe the development’s main features from both views.

The timeline of Case Gamma reveals how enthusiasts started to hunt for a perfect cup of coffee, first having an idea of a cafeteria, which then turned into a roastery. High standards in coffee and a service-oriented mindset have been present from the early stages of the company’s existence. Investments in facilities, growth from different customer segments, and an increasing focus on responsibility matters have boosted the business until today. The development of novel products has expanded to include close relationships with farmers abroad to secure the excellence of beans. Current and potential customers have been well informed of the value chain partnerships and actions taken to promote responsibility matters in different business sections. During COVID-19, the company had to implement temporary layoffs and redundancies and apply for funding. The company’s cooperation-based development of products and services helped it survive the COVID-19 crisis. The company plans, acts, and follows strategy regularly.

Based on the microfoundational view of capabilities, the routines (idea generation, screening, testing, and market launch) of NPSD capabilities are further analyzed based on their material, social, and managerial practices. This is illustrated in Table 9 below, which concerns 2014 and the formation phase.

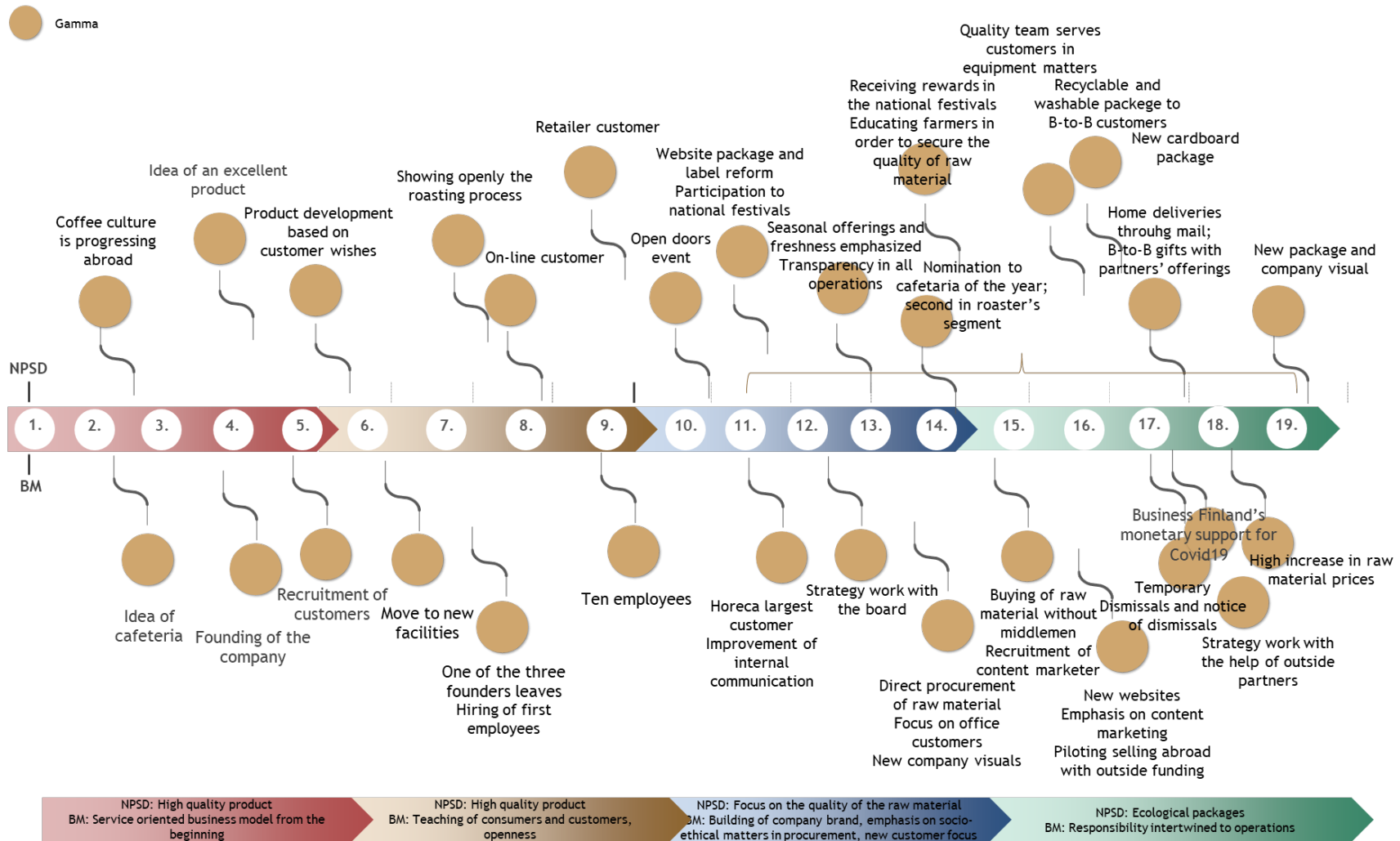


Figure 12. The Timeline of Case Gamma

Table 9. Case Gamma 2014: The routines and practices of NPSD capabilities

NPSD capability	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	NPSP
2014					
Material practices	Roasters have broad networks abroad Some initial digital tools for idea-sharing	Test roastings and tastings There is no clear procedure for how ideas are shared (some meeting practices)	Test roastings and tastings Own cafeteria	Direct contact with customers: salespeople have an important role Some customers are active and pick up novel products from SoMe Free training offered to customers Monthly sales letters to customers, blog writings, and SoMe	Seasonal novel products and tastes
Social structure	Listening of customers Follow-up on coffee trends abroad (networks) All personnel are interested in coffee	Free atmosphere and allowance to test new roastings and methods Discussions and common commitment to problem-solving Tasks and projects are (partly) shared based on peoples' motivations	There are slight differences between teams: roasters prefer novel products, salespeople permanent offerings	Free instructions to customers about coffee and equipment Always taking care of customers' equipment when asked	
Manager's influence	The manager is described as a visionary Appreciates customers' wishes	Focuses on high-quality coffee Carries the decision-making authority (e.g., is the suggestion profitable) but first listens and discusses with others	Carries the decision-making authority to secure the quality and direction of the portfolio (and company)	Appreciates feedback from customers who can give professional suggestions Builds openness to customers	

NPSD capability 2014	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	<i>NPSD</i>
Context 2014	<p>Temporal: The company has grown and made investments in facilities and employees. The Horeca sector is the main customer group.</p> <p>Industry and market: Roastings are conducted based on orders (causes fluctuations in production). The administrative processes of potential large customers do not necessarily fit with the life cycles of products; for example, seasonal products may stay in the selection for only two months.</p> <p>Spatial and social: Networks abroad are valuable. Partners in equipment and maintenance. Customers are approached with a service-oriented mindset, showing and teaching how to make good coffee.</p> <p>Organizational: The manager is one of the founder-owners of the company and the chairman of the company board. The amount of personnel is approximately 20-25 employees.</p>				

The practices in NPSD capability routines continued to develop, and the situation in 2022 is next illustrated in Table 10.

Table 10. Case Gamma 2022: The routines and practices of NPSD capabilities

NPSD capability 2022	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	NPSD
Material practices	<p>Transparency and ethical aspects emphasized in the procurement of raw materials</p> <p>Market research information utilized</p>	<p>Experiments, commitment to problem-solving</p> <p>New ideas are shared with labeled teams who decide if the idea is worth developing</p>	<p>Test roastings and tastings</p> <p>Tastings and product demonstrations in customers' facilities and events</p>	<p>Transparency and responsibility principles in communication</p> <p>The new strategy emphasizes launch activities</p> <p>Trainings to all customer groups: business, Horeca, and consumers</p> <p>Maintenance of equipment (service)</p> <p>SoMe, blog writing, interaction with customers</p> <p>Campaigns; participation in events</p>	<p>Trainings and events to companies; New digital solution for B-to-B customers; seasonal product novel products</p>
Social structure	<p>Direct contact with farmers, visiting them, and building long-term relationships</p> <p>Responsibility matters emphasized during these visits</p> <p>Roasters abroad and raw material suppliers are important channels for getting ideas</p>	<p>All employees are active in idea development</p> <p>In co-development projects, partners are involved</p>	<p>Testing of services directly with partners/customers</p>	<p>Direct contacts to customers: salespeople ask directly for both feedback and suggestions</p> <p>Marketing cooperation with customers and partners (e.g., in events)</p>	
Manager's influence	<p>Focuses on high-quality products and changing coffee culture</p>	<p>Left room for employees to try out new things</p>	<p>Portfolio and price management</p>	<p>Emphasizes transparency and responsibility principles in communication</p>	

NPSD capability 2022	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	NPSP
		Appreciates customers' wishes and partners' suggestions	Participation in tastings and service testing Guidance of quality	Decision-making in expensive marketing campaigns Close relationship with cooperation partners and customers	
Context 2022	<p>Temporal: Decrease in personnel due to COVID-19. Some office customers ordered products home to their employees during COVID-19. Focus on retail customers.</p> <p>Industry and market: Customers are more aware of responsibility matters and certifications. The company responsibility report will be published in 2023. New digital solutions to B-to-B customers.</p> <p>Spatial and social: Direct procurement from farmers abroad.</p> <p>Organizational: The manager is one of the founder-owners. The company board has an outside chairman. The amount of personnel is approximately 20 employees.</p>				

The NPSD capability routines in 2014

The material practices in 2014 reveal that Case Gamma has recognized the value of personal contacts with roasters and suppliers abroad relatively early. Their input on the quality of coffee is appreciated. The company acknowledges that it lacks the tools to share ideas and that sometimes people are too hurried to discuss issues promptly. However, the test roastings and tastings have clear procedures. Own cafeteria guarantees feedback directly from consumers. In marketing, SoMe has been an important tool since the beginning of the company. Customers are engaged with the company and its products through services such as training. *The social interaction* emerges from the shared interest in coffee and self-motivated follow-up of changes in the coffee sector abroad. The atmosphere encourages new ideas and their development. Slight disagreements may exist between teams; for instance, the pace of the introduction of novel products may sometimes irritate salespeople. Customers are valued and offered instructions about coffee, equipment, and maintenance services. *The manager* appreciates customers, focuses on high-quality coffee, and has the primary decision-making authority to direct the NPSP. He wants to build on openness and enjoys close relationships with skilled partners and customers.

From a contextual perspective, Case Gamma has grown and invested in people and facilities. Initially, customers are approached with a service-oriented mindset (temporal). The short cycle of products sometimes causes challenges in meeting customers' needs. Roasting is conducted based on orders (industry and market). Customers are trained in making good coffee. Roasting networks are valuable in the exchange of knowledge regarding product development. Customers are served by partner networks, including equipment and maintenance (spatial and social). The manager is one of the founder-owners and the company board's chairman. The amount of personnel is approximately 20-25 employees (organizational).

The NPSD capability routines in 2022

The material practices in 2022 include setting criteria for partners abroad. For instance, the company has trained farmers and evaluated their payments. Idea generation, screening, experiments, and commitment to problem-solving are in the company's DNA. Team structures and responsibilities have become more visible and more systematic. Testing and tasting are also practiced occasionally in customers' facilities. The content of marketing activities emerges increasingly from ethical and responsible views. Social interaction includes deepened relationships with farmers; roasters are important in these cooperations. The cooperation has also increased in the customer interface; marketing and service development are practiced together with close partners. The manager wants to serve customers with high-quality coffee

and participates actively in tastings. He leaves room for others to innovate and simultaneously tries to ensure high-quality standards. He carries the main decision-making authority (portfolio, prices, campaigns, etc.) and cooperates closely with partners and customers.

From a contextual perspective, COVID-19 caused a decrease in the amount of personnel. Shortly before COVID-19, Case Gamma had done recruitments in sales and marketing (temporal). The company competes in responsibility matters and with new service solutions (industry and market). Now, Case Gamma has direct contact with farmers and has built a cooperation model with them (spatial and social). There are approximately 20 employees, and the manager is no longer the board's chairman (organizational).

Pre-formation phase of Case Gamma

Manager Gamma was heading to the wine sector when he and two fellow students began to wonder why coffee culture was developing abroad but not in their homeland. Their initial idea was to establish a cafeteria, but because of the poor coffee that was available, they ultimately formed a roastery. After burning coffee beans in a garage and learning from it, the friends approached sommeliers of fine restaurants and introduced coffees similar to wines. This active learning period paid off, and after three years, the company ultimately invested in new facilities. Due to different strategic views, the second active owner left the company, whereas the third continued in the background.

Managerial agency is seen in the manager's approach to fine restaurants and introducing high-quality, unique coffee in a way similar to fine wine.

Formation phase of Case Gamma

Based on the temporal analysis of the material and social practices in NPSD capability and manager influence on idea generation, screening, testing, and market launch, inferences about the self-reinforcing mechanisms and the turning points found are next presented with the manager's agency in the formation phase. A summary of the effects of coordination and adaptive expectation is presented next.

Coordination effects

Idea generation is based on ideas developed abroad and from coffee bean producers. Ideas are screened for a match with the company vision, and testing is conducted with high standards in mind (high-quality raw material, process, and end-product). Market launch is built on the freshness of the product and based on the story of the

whole supply chain. Cooperation-based marketing actions are implemented whenever possible, for example, with equipment suppliers and other SMEs.

Adaptive expectation effects

The personnel describe themselves as “*coffee people*”; all employees are enthusiastic about coffee. Ideas are appreciated, shared, and promoted quickly. Case Gamma has several examples of how cooperation-based new ideas have been produced to end products or services (e.g., new coffee with a distillery or a recyclable barrel tested with a cafeteria). Similarly, once a salesperson made a wooden shelf to display products appealingly. Afterwards, the self was placed in a retailer’s facilities. However, Manager Gamma and personnel recognized a challenge between creativity and (yet) underdeveloped communication and planning of company projects. Actions to better manage idea screening, testing and regular tastings, and market launch were taken all the time (including named responsibilities and knowledge flow management). High-quality coffee and transparency guide the NPSD outputs, and in the market launch, customers are willingly taught how to make good coffee, and the story behind the coffee is shared openly.

The self-reinforcing mechanisms are interwoven by nature and mainly describe prevailing rules and practices in the NPSD capability. Due to this, TPs that have pushed the capability phase in a particular direction are recognized. In Case Gamma, when one of the founding members left the company, the manager realized the need for growth and investment, including in production facilities.

Idea generation

The investments in facilities created pressure to develop the NPSP and make it more appealing to customers.

TP: Pressure to make investments (Change in ownership)

Case Gamma wished to excel compared to other (larger) roasteries and started to build close relationships with farmers worldwide. They wanted the partnership to be reciprocal: Case Gamma would pay a fair price, whereas farmers would develop their techniques in bean processing.

TP: Focus on raw material and transparency, starting the NPD from the farms

Indeed, it affects how they treat (beans) there, what kind of washing station, what kind of processes they have, and whether they are trained on doing it; everything has an effect. Marketing Responsible in 2019

Idea screening

The personnel's enthusiastic attitude to new ideas, and coffee in general, sometimes causes an oversupply of development ideas. Project management and leadership, with decent communication tools, became important. The balance between actively seizing opportunities and a lack of systematic ways to spread knowledge sometimes challenged the progress of ongoing projects.

TP: Continuous challenge: Open and allowing way to operate vs. documented sharing of data

Well, if you look at our history, brand, and all our doings, it is a sum of people. Although I, or anyone else, did not guide our brand much in what it should look like. In terms of products, in the beginning, we reacted much more. If we notice someone producing or asking, we always react [click on fingers] like this: Our culture has been built on reacting and listening to customers and the competitive field. We noticed that we are 20 employees, and suddenly, everyone has a slightly different view of our direction. And maybe that is why my role has strengthened in communications and in guiding the operations and continues to do so. Manager Gamma in 2017

When we are hiring more people, you get growth so that you can hire more people; you need more people, and at the same time, it makes everything more professional and more focused. The idea is that we do not lose any of our passion and ideas because of that. It is always hard because the more people you hire, the more you do not water down the idea, but you must ensure that all those new people get the same level, and that's sometimes hard to fulfill. Production Responsible Gamma in 2018

Cooperation with farms advanced the development of new coffee tastes and quality. This required visits and deeper partnerships with the farmers, which would not have been possible without the company's growth.

TP: Cooperation with the farms

But let us say that we buy more on taste, and it requires that we find farmers who truly dare to take some risks and are truly interested in developing processing and farming techniques. Manager Gamma in 2017

Idea testing

There are no changes in the regular testing projects or tastings.

Market launch

Case Gamma's personnel cannot explicitly relate how responsibility issues became crucial to the company. It is a strategic plan to differentiate; in part, it is personnel's shared values that are not necessarily put into words.

TP: Transparency included in the brand

It has just become because of employees' values. People think this is the right way to operate; it has a clear competitive edge, and the Finnish coffee culture can be changed through it. If you think about how we are making the change, we want appreciation to rise. This is a way to get appreciation by showing how the coffee is produced. It may be connected to that vision, but it has insidiously become an important part, so it has not been defined in any way. Manager Gamma in 2019

Case Gamma has three main customer groups, which priority has changed over time. First, Case Gamma focused on Horeca customers and taught restaurants and cafeterias to make good coffee and care for the equipment. However, there is a lot competition in the sector, and pricing is tight. Second, the company concentrated on office customers by setting up in-house break/coffee rooms with a nice appearance and good service (coffee, equipment, and maintenance). Third, during and after COVID-19, the focus is on retail customers. They were not a new customer group but became important when cafeterias were closed, and people worked remotely.

TP: Change in customer focus

"Horeca is the most important." Manager Gamma in 2014

→ *for example, training for Horeca customers*

Building concept for office customers

The main focus area is offices now. It requires that everything works. It includes machinery and maintenance and others. Manager Gamma in 2017

Searching for new price position in the retail sector

One-quarter of the sales dropped when people were working remotely. In the beginning, the Horeca sector fell from the whole. Then, we were only dependent on retail trade. Slowly, the Horeca sector recovered, but offices probably will not recover to the same kind of sales as before COVID-19. People still drink coffee, but the distribution is different, and this change did not affect us very well. But

sure, if we had not been any focus on the retail sector, I do not know if we would even exist. Manager Gamma in 2022

Then, we emphasized retailing quite a lot. Manager Gamma in 2022

The customer focus changed from the Horeca sector to business and finally to retailers due to COVID-19.

After recognizing the main TPs, unveiling the manager's agency on these occasions is important. Case Gamma manager had many roles during the formation phase of the NPSD capability. He facilitated others following the selected route to develop high-quality coffee and instigated a broader approach to producing ethical coffee. The company's plans to grow also required him to make investment decisions.

Lock-in phase of Case Gamma

The analysis continued with recognizing TPs also in the lock-in phase. Case Gamma gradually modified its vision from excellent coffee to responsible coffee. This development meant closer relationships with farmers (educating and offering fair prices) and searching for sustainable solutions in partnerships and products. Ecological matters became increasingly intertwined with operations (e.g., packaging and deliveries). The employees shared similar values in responsibility issues.

Well, maybe it is kind of self-evident at the moment. It is not written down in any way; it is not even a value, but... perhaps it should be a value because it is really important; it determines quite a large part. Manager Gamma in 2019

The matter of responsibility was valued and shared by the company's employees.

4.5 Case Delta

Case Delta has been, from the beginning, a pet food business specializing in raw food. The company offers high-quality bone and raw food to the domestic and export markets. The products are additive and preservative-free and do not contain cereals. The company was founded over ten years ago, but after seven years of independence as an SME, it became a subsidiary of a larger food company through an acquisition. The current manager has led the company through the change.

Figure 13 below reveals the main NPSD capability events and BM events. The arrows at the bottom describe the development's main features from both views.

After the change in ownership, investments were made in facilities, internationalization, and branding. Social media marketing grew over time. Professional domestic and international networks were built to raise awareness of the diet among pet owners. In terms of NPD, the firm identified and launched new health features with the help of outside partners. Over time, ecological matters also assumed weight in packaging decisions in addition to already used domestic raw material suppliers. The company plans, acts, and follows strategy regularly.

Based on the microfoundational view of capabilities, the routines (idea generation, screening, testing, and market launch) of NPSD capabilities are further analyzed based on their material, social, and managerial practices. This is illustrated in Table 11 below, which concerns 2014 and the formation phase.

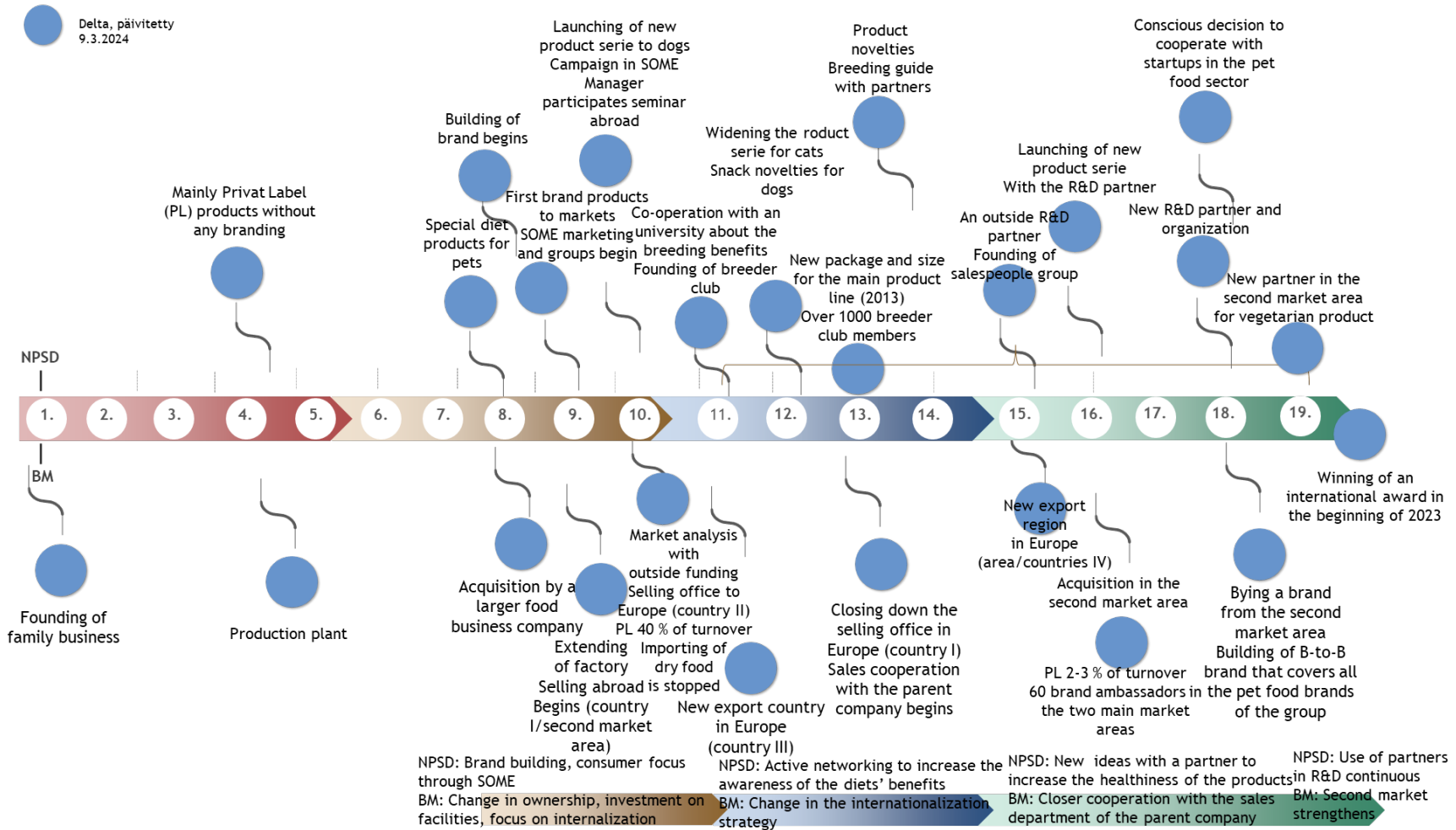


Figure 13. The Timeline of Case Delta

Table 11. Case Delta 2014: The routines and practices of NPSD capabilities

NPSD capability 2014	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	NPSP	
Material practices	<p>Listening to consumers through SoMe</p> <p>Cooperation with a university (benefits of the diet)</p> <p>Consumer service; market analysis; consumer survey</p>	<p>R&D team with a leader; regular meetings and documentation</p> <p>Evaluation criteria: suitability to production, risks, needed tests, and possible investments</p> <p>More detailed reviews are carried out four times/year (management, production, marketing)</p>	<p>Product tests in production</p> <p>Occasionally, feeding tests with a group of pets</p> <p>Retailers are sometimes approached with e-mail and asked about sales estimates of novel products</p>	<p>The management team makes the launching decisions</p> <p>Systematic brand building in SoMe; sharing advice, e.g., week's menu</p> <p>New ordering book every sixth month</p> <p>Retail bulleting of novel products; calls to retailers; in-store marketing and campaigns</p> <p>Clubs where pet owners can join and gain benefits</p>	The main product series launched in 2013	
Social structure	<p>Listening to consumers through SoMe</p> <p>Participation in fairs and shows at home and abroad</p>	<p>Informal discussions: personnel are enthusiastic about the feeding diet and want to solve customers' problems</p>	<p>Unofficial discussions with retailers in SoMe</p> <p>SoMe discussions with pet owners</p>			
Manager's influence	<p>Participates in fairs abroad</p> <p>Observes food business broadly, e.g., processing and equipment</p>	<p>Member of the R&D team; sometimes ideas are presented directly to him (the old way of doing it)</p>	<p>Sees that the focus is not on maximizing profits; what is the value added that the novelty deserves?</p>			

NPSD capability 2014	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	<i>NPSD</i>
	Supports interaction with customers and pet owners in SoMe	Looks after that novel products fit the current strategy and promises given to pet owners			
Context 2014	<p>Temporal: In 2012, the company started a development program (investments in a nutrition specialist, R&D manager, marketing manager, and a new frozen line) to secure growth.</p> <p>Industry and market: Small retailers are Finland's main customers. Approximately 30 % of revenues come from abroad (e.g., Sweden, Germany).</p> <p>Spatial and social: Active participation in international pet fairs. Willingness to operate with domestic and ecological partners. Ninety thousand followers on SoMe.</p> <p>Organizational: The company was founded over ten years ago, but after seven years as an independent SME, it became a subsidiary of a larger food company through an acquisition. The current manager has led the company through the change. The manager is a member of the group management team. The amount of personnel is about 35 employees.</p>				

The practices in NPSD capability routines continued to develop, and the situation in 2022 is next illustrated in Table 12.

Table 12. Case Delta 2022: The routines and practices of NPSD capabilities

NPSD capability 2022	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	NPSP
Material practices	<p>Focus on domestic, healthy, full-nutrition, easy-to-use products</p> <p>Market analysis; consumer survey</p>	<p>Core people: R&D team; outside partners</p> <p>Fit to existing production and equipment</p> <p>Ecological matters meaningful (domestic raw material, packaging materials)</p>	<p>Testing of recipes in production</p> <p>Laboratory tests and analysis (parent company's facilities)</p> <p>Collecting feedback from retailers</p> <p>Testing of package materials (preservability of products)</p>	<p>Breeders club; salespeople club; enlarging the brand ambassadors club</p> <p>Active SoMe marketing, discussions, campaigns; sharing the benefits of the diet</p> <p>Participation in fairs, shows, agility</p> <p>B-to-B brand building under the parent company</p>	Whole food products that contain only one source of protein
Social structure	<p>Active communication with pet owners in SoMe</p> <p>The sales partner has suggested a new novelty</p>	<p>The company hesitates a suggested novelty due to a lack of resources</p> <p>Outside R&D partner is developing new health features for the products</p> <p>Production personnel requires arguments for certain ideas</p>	<p>Occasionally, outside R&D partners test the benefits of novel products (i.e., in 2019)</p>	<p>SoMe influencers want to cooperate with the company</p> <p>Trust in C-to-C marketing and their sharing of experiences in SoMe groups</p>	
Manager's influence	<p>Ideas need to meet the strategy and promises given to pet owners</p> <p>Will to change the pet food sector to a more natural</p>	<p>Negotiate contracts with outside partners; build relationships actively</p> <p>Presents the ideas to the group's management team</p>	<p>Price management and positioning of offerings</p> <p>Portfolio decisions in the management team</p>	<p>Active role in raising awareness of natural feeding benefits</p> <p>Participates in related events abroad</p>	

NPSD capability 2022	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>	NPSD
				The key account manager of large customers	
Context	<p>Temporal: The pet food business and raw food sector have grown recently (also during COVID-19). The group's responsibility strategy also involves the pet food business.</p> <p>Industry and market: The main product brand has increased by 10 % (20 % in 2021). New domestic competitors have emerged.</p> <p>Spatial and social: The company has enlarged in the second market area (new factory in 2029). Other market areas have sales teams or partners. The manager built raw food networks in both main market areas (2017 and 2019).</p> <p>Organizational: The manager is a member of the group management team. The amount of personnel is about 80-90.</p>				

The NPSD capability routines in 2014

Case Delta's material practices became more systematic four years after being acquired by a larger food business. In idea generation, researched knowledge is appreciated, and ideas are screened regularly in meetings where future steps are planned. Laboratory analysis and production tests are included in the practices. Occasionally, feeding tests are carried out. Social media and established groups of ambassadors have an important role during market launches. Pet food stores are contacted regularly. From the social interaction perspective, pet owners' feedback and wishes are valued; similarly, the company's employees are enthusiastic about developing products. Pet owners and retailers are reached through SoMe and at events. The company trusts the goodwill of pet owners in SoMe; networks share their experiences and enlarge the public's knowledge of the diet. The manager believes in the diet and is motivated to spread knowledge about it nationally and internationally. He participates in the R&D team meetings and guides the development projects with pets' well-being in mind. The manager is motivated to change the pet food sector to be more open and natural; he participates in SoMe discussions. Additionally, the manager's role in the group management team is valuable regarding investments and cooperation with the parent company.

From a contextual perspective, Case Delta started a development program in 2012 that included recruitments to secure company growth (temporal). Small pet food retailers are the main customer group. Approximately 30 % of revenues come from abroad (industry and market). The main market areas are Finland, Sweden, and Germany. The company operates with domestic and ecological partners. They have 90,000 followers on SoMe and participate in fairs and other events abroad (spatial and social). The current manager has led the company through the ownership change. He is now a member of the group management team. The personnel numbers are approximately 35 (organizational).

The NPSD capability routines in 2022

The material practices monitored in 2022 had not changed much. The features, or evaluation criteria, have become more precise: ideas are sought to produce domestic, healthy, full-nutrition, and easy-to-use products with an ecological emphasis. More ecological packaging with good preservability is planned. During the market launch, the SoMe and other groups were enlarged to cover new target groups. Cooperation with the parent company has increased in marketing actions. The social interaction with outside professionals has added cooperation projects in NPSD. Partners introduce new health features developed in close collaboration with the manager and R&D personnel. The SoMe practices remain central in marketing and launching

activities; pet owners suggest cooperation with the company, not necessarily the other way around. The manager guides others to meet the promises given to pet owners. He is the main initiator and negotiator in NPSD partnerships and decisions handled by the group management team. The manager guides pricing and portfolio management, contacts large customers, and builds networks abroad. His main driver is to raise awareness of the benefits of natural feeding.

From a contextual perspective, the pet food sector grew even during COVID-19 and continued to do so. The company has committed to the responsibility strategy of the parent company (temporal). New domestic competitors have emerged in markets. Despite this, Case Delta's main product brand has increased by 10 % in 2022 (20 % in 2021) (industry and market). The company has expanded into the second market area (a new factory in 2019), and raw food networks have been built in both main markets. Remote work has continued in administration (spatial and social). The number of personnel is approximately 80–90 employees.

Pre-formation phase of Case Delta

Manager Delta led the business before a larger food company acquired the family firm. At first, offerings were sold with a traditional meat product appearance, but the new owners shifted the focus toward brand building. However, the company had already taken the first steps toward active SoMe marketing when old friends of Manager Beta approached the company with marketing suggestions. Afterward, Manager Beta recognized that active SoMe behavior and related partner groups are the second pillar of the business, in addition to special diet offerings. A couple of years after the acquisition, Manager Beta participated in a seminar abroad that strengthened his belief in the selected marketing strategy (SoMe and groups) and supported him to continue the actions.

The acquisition process included several informal discussions (enabled by the close location of companies) between both party representatives. Subsequently, the manager felt that he had succeeded in sharing his vision of the company with the new owners. In pursuance of the acquisition, the NPSD capability became aligned with the parent company's procedures. Accordingly, it became a more formal, structured, and well-documented process than the earlier "one-man show," as Manager Beta describes the change. Further, the shift in ownership also influenced the company's growth plans. For example, the operations were rather quickly expanded to the main market areas of the parent company. Internalization was one of the key interests of the new owners.

Managerial agency is seen how the existing vision and way to do business (including SoMe groups/ambassadors) were successfully shared with the new owners.

Formation Phase of Case Delta

Based on the temporal analysis of the material and social practices in NPSD capability and manager influence on idea generation, screening, testing, and market launch, inferences about the self-reinforcing mechanisms and found TPs are next presented together with the manager's agency in the formation phase. A summary of the effects of coordination and adaptive expectation is presented next.

Coordination effects

In idea generation, the framing rule is the raw material following the diet, healthiness, and chosen customer segments. In idea screening, the idea is evaluated based on its fit with strategy, production, intended price, usefulness, and overall goal of healthiness. In idea testing, detailed nutrient analysis is conducted (the level depends on the product), and consumer-friendly packaging is carefully considered based on the dosage and, later, also based on ecologic features. Market launch is carried out with trust in novel products through SoMe channels and groups. Moreover, the company wants to show that it cares about pets and their well-being.

Adaptive expectation effects

All employees participating in NPSD are pet owners. In idea generation, personnel participate actively and share their opinions based on their experiences. However, Case Delta strives to support ideas with researched knowledge in the background of idea screening. Despite the shared passion for pet well-being and diet, contradictions between sales and production occasionally emerge practically. For example, production may ignore the suggestions of sales and marketing employees and instead continue to work at their own pace and order. The value of the selected marketing strategy (openness, caring for customers, different influencer groups) is appreciated among personnel. Manager Delta emphasizes it as one of the key capabilities that could not be outsourced along with raw material procurement and production.

The self-reinforcing mechanisms are interwoven by nature and mainly describe prevailing rules and practices in the NPSD capability. Due to this, TPs that have pushed the capability phase in a particular direction are recognized. In Case Delta, the change in owners caused a shift from a production-oriented to a brand-led company. The new owners' wider resource base, food business experience, and industry knowledge supported this shift.

Idea generation

The idea generation became more strategic and focused. The company was more ready to emphasize and value the products' good and healthy qualities and gradually built a product series.

TP: From pet food producer to brand company

Yes. Earlier, the retailer called to say that we would like these products, which were then added to an order form. And the next time somebody asked, we said we had recently added it. We did not have much information; those novel products gradually came along. Production Manager Delta in 2014

First, we were not specific about the brand; we just used white labels with the necessary information and then went to stores. Production Manager Delta in 2014

Case Delta has opportunities to cooperate with the parent company's R&D specialists when necessary. The company has also constantly nurtured external networks with professionals who share the same passion for healthy pet feeding and whose competence may add new value to the current nutritional features of offerings.

TP: Cooperation with outside partners to develop more nutrient products

This is quite funny because no one has done this food yet...Well, of course, someone may have done a similar kind, but there is none now in the market, as far as it is known. And at least it has not been researched. At least at the university, no scientific research investigates this effect. So, in that sense, we are in a unique situation. R&D Partner Delta in 2019

Manager Delta is interested in finding new features to the offerings that add value.

Idea screening

The constant cooperation and discussions with external professionals start to pay off through closer partnerships. The company invites partners to collect and analyze data about the feeding method.

TP: Outside partner in developing the analysis of diet and novel products

[Re. the University of X] Last year we participated in a project where the university examined blood and other samples of dogs that had been fed with our food. Then, we supported this XX analysis that covers a wide range of data that

have been analyzed. Over the last year, we have actively communicated and cooperated with the university. Manager Delta in 2014

Manager Delta wants to find fact-based arguments to share the benefits of products with potential customers.

Idea testing

The company has an annual schedule, which helps them lead, follow, and report ongoing projects.

TP: Structured procedures (Acquisition)

I would say that we have a product development clock, which normally runs on a cycle of about a year, but the process should be able to, I've said sometimes, the clock from idea to launch, when the process works, all aspects, depending on the product, the launch. Whether investment is needed, it can be days to a year. But it must always be the process that we first do an initial review and possibly do tests. It can sometimes be very fast if it's just a small product change or a small one in a series where we already have the equipment and know-how. If it requires research work, test sales, feeding trials, recipe testing, laboratory analyses, and all kinds of things, it is in pet food, so a year is a pretty suitable time to do in-depth analyses. Manager Delta in 2014

The role of outside partners has expanded to include tests with pets. Professional partners conduct tests with pets when new health effects have been added to a product category.

TP: Outside partner in testing and developing novel products

Natural raw materials like root vegetables, meat, fats, and lactic acid bacteria are healthy. Well, now it looks like that, and all the dogs who have participated in the product testing, that is, about 99% now, we have got positive feedback. In other words, the empirical data shows that it is good for dogs, but now we still need to study what it looks like from microbiota analyses of samples. R&D Partner Delta in 2019

The research required deep and long-term analysis to find the benefits.

Market launch

Case Delta builds networks and shares knowledge to increase the awareness of the feeding method internationally. The company intends to advance knowledge, make

more pet owners aware of the diet, and strengthen the field alongside other producers and officials.

TP: Influencing the whole field

It has continued in the same style; informal cooperation occurs at the European level and in Finland among producers. And then, in the second market area, I proposed doing something similar to a colleague from the second market area... we would get together, and so on. In the second market area, we immediately formed a non-profit organization, which was the decision made in the first meeting. Manager Delta in 2019

So, there is a raw food organization. Which has 11, if I remember correctly, 11 companies involved. Some are located in the second market area, but also those who have significant sales in the area. – We try to build on that cooperation there. Manager Delta in 2019

Case Delta has started to rely on openness in SoMe, and the focus group marketing efforts are highly appreciated among personnel. The company relies on its followers and encourages them to spread knowledge about the diet and products on SoMe.

TP: Emphasis on branding

In January 2013, Jim Stolze lectured on future marketing at the Pet Food seminar in Prague. He presented a slide that said that... In the future, you will no longer be able to do marketing through this social media renewal. You can only leave yourself completely naked in front of the consumers, trust that they love you, and pass it on. And every brand will be completely naked in front of the consumer. And we seized that very strongly. I seized it with the commercial manager, and we started working on it... In other words, we try to avoid marketing our products and instead emphasize that we are present to communicate why we are, why we do what we do, and why we exist. And we don't have any marketing KPIs. Other than that, the most important thing is not to win the conversation with the matter but with love. Manager Delta in 2017

We are a dog food factory, but if we want to be. If we think production is important to us, we will not outsource it. We want to keep the raw materials and the production process under control. So is content marketing; it is an equally important process to keep in our own hands. It cannot be outsourced too easily. It has to come from the inside; that is how communication emerges. That is what we are building now. Manager Delta in 2019

After recognizing the main TPs, it is important to unveil the manager's agency in these occasions in the formation phase. The manager of Case Delta continued to enlarge networks inside Europe to broaden awareness of the diet and, in that way, increase the markets. He also selected professional partners to add more nutritional value to products. It seems that Manager Delta also guides others by showing strong confidence in the benefits of the company's offerings.

Lock-in Phase of Case Delta

The analysis continued with recognizing TPs also in the lock-in phase. Case Delta acquired a firm from the second market area in 2019, from which it acquired new competences and NPD capability. The company also continued utilizing professional partners who have oriented themselves with the feeding method and are committed to developing it. Ecological matters gained weight in packaging, as the company already utilized domestic raw materials.

It is almost ten years since the factory was enlarged, and we had the main product series launch, the whole new product range, this thing about being transparent, it's probably important, being open, and then this thing with natural ingredients. R&D responsible in 2022

So, it's probably what's on that poster when you come in, that's what, just because, if it's, it's almost ten years ago, when the factory was enlarged. We had the main product series launch, the whole new product range, this thing about being transparent, it's probably important, to be open, and so this thing about natural raw materials. R&D responsible in 2022

The company continued to rely on professional partners and knowledge sharing to reach a wider audience and potential customers. Ecological matters and health arguments became important messages.

4.6 Cross-case analysis of the development phases

After getting to know each company's history and present and future aims, three development phases were recognized based on the data: the founding phase, the settling of process, and the current praxis. However, these phases came close to path dependency theory, which was applied later in the analysis. According to the path dependency framework, the phases are the pre-formation phase, formation phase, and lock-in phase. The following analysis presents the cross-case analysis inside the temporal framework. First, the pre-formation phase introduces how managers have influenced the formation of current practices from the DMC perspective; second, the

formation phase introduces how prevailing rules and practices develop; and finally, the lock-in phase shows how companies can avoid inertia. Managerial agency is discussed in each of the phases. In the beginning, the contextual features of NPSD capability development are discussed to recognize and show potential explanations that may influence the functioning of mechanisms.

To some degree, *temporal* contextual features in NPSD capability development follow the general trends that have been unfolding in the 2000s in the food business. Those include health effects, nutritional attributes, domestic raw materials, local production, environmental responsibility, and social and economic matters. Case Alpha, Beta, and Delta have all built their product portfolio on nutritional and health values. Case Delta's core idea is to make the pet food sector more natural. Case Alpha intentionally develops its offerings based on nutritional elements (including a wide range of special dietary products). Case Beta's intentions are alike, but they do it more unsystematically. Case Gamma has instead committed the most to responsibility-related themes, such as social values in farmers' salaries and environmental values in recyclable packaging. Responsibility drives others; Case Alpha serves closely produced offerings, and Case Delta selects domestic raw materials and more ecological packaging materials.

Industry and market features in NPSD depend on the subcategory of the business. Large competitors of Case Alpha and Beta have changed their strategy from local bakeries to in-house bakeries. In the Horeca segment, large bakeries are hard to compete with because of their volume and price benefits. The coffee business, instead, is international, with large and well-known companies. However, coffee is trending, and Case Gamma and some other small roasters have started to make roasting coffee more accessible.

Similarly, the pet food sector is international, with large multinational corporations. Case Delta relies on locality and the specific feeding method to advance its competitiveness. New domestic pet firms have recently emerged but are not operating directly in the same niche as Case Delta.

Spatial and social. All the case companies have some experience in international business. Case Delta is the most international company selling products, whereas Case Gamma has a vast network of farmers abroad. Case Alpha has taken some internationalization initiatives, but they have not been long-lasting. Case Beta cooperates with raw material and packaging material producers abroad. The case companies' networks are relevant in accessing information and resources. Case Alpha and Delta have built networks with professional R&D organizations. Case Beta mostly has raw material producers and some innovative partners, and Case Gamma has

farmers, roasters, and SME partners with whom to implement partnerships, such as marketing campaigns.

Organizational. A founder leads Case Alpha and Gamma; Case Beta is led by one of the founding family members; and Case Delta is led by the manager who has led the company before and since its acquisition. The NPSD capability structures are similar in Case Alpha, Beta, and Gamma. In contrast, in Case Delta, the capability is more formalized concerning regular meetings, specified responsibilities in the R&D team, and follow-up reports. Managers Alpha and Beta are the most involved with concrete NPSD activities. Manager Gamma sets standards and guides the way, similar to Manager Delta, who holds a strong vision about the future of the pet food sector.

The time-bound analysis (Sections 4.2-4.5) reveals the development of capabilities and explanations behind the trajectories of each company's NPSD capabilities.

4.6.1 Pre-formation phase

All the case companies want to serve customers well and try to distinguish their offerings from those of competitors (idea generation). Ideas are evaluated based on the existing facilities, equipment, and investment requirements (idea screening). Novel products are tested regularly, mainly among personnel and some customers (idea testing). The companies rely on personal contacts with customers, utilize SoMe to varying degrees, and formulate their message based on their advantages over their competitors: healthy products, special diet products, locality, freshness, etc. (market launch).

In the pre-formation, managers' agency is emphasized. They are eager to address customer wishes. In parallel, managers envision what they want their company to look like and contribute to. The vision seems to dwell upon their thoughts about the company's purpose and future (idea generation). Managers can resolve technical and production issues and are conversant with raw material issues. They ensure that quality and high standards are met and are involved with the primary investment decisions, for example, if novel products require new equipment (idea screening). Managers appreciate feedback from customers (idea testing). All managers have personal contacts with customers; some are active on SoMe and mainstream media. They support marketing actions that align with the company's core message / shared rules (e.g., locality, healthiness, special diet) (market launch).

The DMC view points out that differences in managerial human capital, social capital, and managerial cognition may lead to different decisions and outcomes in company development (Adner & Helfat, 2003). Given that the manager and owner agency are

emphasized in the pre-formation phase of the capability, the phase is analyzed based on these underpinnings.

The time-bound analysis reveals the far-reaching consequences of certain managerial decisions. Initially, Manager Alpha actively contacted new customers and, based on his earlier learning and perceptions, created a freshness guarantee service that facilitates contact with new customers even today. Instead, Manager Beta stepped into the company after a generation change and got relatively free hands to develop the NPSD capability. The knowledge absorbed, for example, through education, improved the efficiency and cost control of the capability. Manager Gamma applied the experience he gained in sommelier training when contacting fine restaurants. Manager Delta contacted friends who got involved in developing content marketing in SoMe relatively early. Later, Case Gamma developed its services; in Case Delta, marketing is recognized as a core competence. The underpinnings of DMCs in the pre-formation phase are illustrated in Table 13.

Table 13. The underpinnings of DMCs in the pre-formation phase

	Pre-formation phase of NPSD capability	Manager Alpha	Manager Beta	Manager Gamma	Manager Delta
The underpinnings of dynamic managerial capabilities	Human capital	Former knowledge (earlier work experience)	Commercial education, long history in the company	Education gave insight into the market approach	Education and work experience in the food business, dog enthusiastic
	Social capital	Personal contacts, customers seen as partners	Lessons learned from parents, co-working with key employees	Customers and raw material suppliers from abroad are seen as partners	Personal contacts, Customers seen as partners
	Cognition	Attention to customer feedback	Attention to cost and production efficiency and special products	Attention to customer feedback	Attention to the benefits of diet and spreading knowledge to customers

It is apparent from the table that managers' behavior is time-bounded: Earlier experience and knowledge affect later-made decisions. Managers reason with the help of their earlier experiences from work and education (human capital) and build relationships based on their earlier contacts or knowledge (social capital / human capital). Attention (cognition) guides the direction managers emphasize, for example, in management and practice. Managers Alpha and Gamma are focused on customers: they want to serve customers efficiently with high-quality products and receive feedback on the offerings. The attention of Manager Beta is more focused on resources and cost control. In contrast, Manager Delta has focused on the benefits of a good diet from the acquisition phase.

4.6.2 Formation phase

The within-case analysis is based on a slightly modified framework of self-reinforcing effects. In the coordination effects, the researcher concentrated on the rules that company personnel shared. Similarly, in the adaptive expectation effects, the researcher focused on issues that build cohesion among personnel (wish to belong to insiders) and (best) practices if those were possible to recognize. Deviating from these two viewpoints, the researcher experimented with learning effects by recognizing TPs that have guided the NPSD capability in a specific direction.

Table 14 presents a cross-case analysis. Coordination and adaptive expectation effects are presented with researcher notes to clarify how the inferences have been made, written after forming an individual table of each case company (similar to Table 14). This analysis of rules and (best) practices reveals the nature of each case company more deeply, and by the researcher's notes, this "personality" is better highlighted. The emphasis is on the commonalities between cases, although some differences are brought to embrace each case's unique features.

Table 14. Cross-case analysis of the self-reinforcing mechanisms

	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>
<i>Coordination effects (shared rules)</i>	Health effects (Alpha, in some products Beta) High-quality products (Gamma) Specific diet (Delta)	Existing equipment and facilities (All) Vision (Gamma) Strategy (Gamma, Delta) Responsibility matters (Gamma (Delta, Alpha)	Customer feedback on further modifications (All) Detailed testing (Gamma, Delta (occasionally)	Freshness (Alpha, Gamma) Image as a local producer (Alpha) Openness in operations and SoMe (Gamma, Delta) Trust in clubs (Delta) Long family business history and well-known slogan* (Beta)
<i>Adaptive expectation (wish to belong to insiders* and (best) practices)</i>	Healthy and tasty products (Alpha) Appreciation of customers (Alpha, Gamma) Reacting to customer wishes (Beta) All employees are "coffee people"* (Gamma) Appreciation and teaching of farmers* (Gamma) Most employees have an opinion and belief about the diet; most are pet owners* (Delta)	Trying is aloud (All) Assessment of the product fit to existing equipment and processes (All) Informal discussions while working (Alpha, Beta, Gamma) Incomplete procedures in information sharing (Gamma) Some challenges in information sharing, changes in the R&D team (Delta) Professional partners (Delta, Alpha occasionally)	Name, price, appearance (All) Own stores and delivery, quick feedback (Alpha) The manager guides the testing (Beta) High-quality standards (Gamma)* Testing procedures (Gamma, Delta)	Freshness guarantee (Alpha) Locality: Unit managers are drivers and are seen as marketers* (Alpha) Ordinary marketing and selling (Beta) Educational support to customers and sharing of story (transparency) * (Gamma) Selected marketing strategy with instructions and clubs is highly appreciated * (Delta)

Similarities and differences in coordination and adaptive expectation effects

Concerning idea generation, companies have a *rule* or idea that they follow. All case firms want to serve high-quality products at a specific price point in the markets. Case Alpha focuses on health effects, which Case Beta strives for in some product

categories. Case Delta relies entirely on a specific, healthy diet, thus operating in a niche segment of the pet food businesses. Case Gamma wishes to serve customers with high-quality and unique coffee tastes.

The abovementioned rules are intertwined with best practices and a desire to belong as insiders. All the case companies have aims, *best practices, or ideals* regarding NPSD capability outputs aligned with the shared rules. Health, taste, and easy-to-use features are some things worth mentioning. In addition, appreciation of customers' wishes is common to all but characteristic of Cases Alpha and Gamma. The difference between Case Beta and Cases Alpha and Gamma is that the last mentioned companies mainly develop products aligned with their strategy or vision of the offerings.

In contrast, Case Beta's approach is more reactive and accepts a broader range of customer suggestions. The approach is quite typical with confectionary products but also, to some extent, visible in bread baking when serving Horeca customers. However, Case Gamma is very responsive when customers suggest services and product appearance. In idea generation, the *wish to belong to insiders* can also be seen as a passionate attitude to the company's offerings. Increased knowledge has also led to greater respect for farmers and provided an understanding of their role in producing high-quality coffee. Case Gamma has recruited "*coffee people*" from the beginning, and key personnel of Case Delta have pets and a strong belief in the diet.

Regarding *idea screening*, the prevailing *rule* (and practice) in all companies is how the novel product fits existing equipment and facilities. In addition, Case Gamma has a strong vision, and Delta has a strategy that guides the direction of offerings and appreciation of researched knowledge. Later, responsibility matters became important when evaluating and implementing new ideas. This situation is most evident in Case Gamma, but awareness has also increased in Cases Delta and Alpha. Regarding *the (best) practices* and *the wish to belong as insiders*, effects were mainly recognized in the idea screening phase. All case companies share a culture of encouraging trying out notions and appreciating ideas. Cases Alpha, Beta, and Gamma prefer informal discussions while working, whereas Case Delta has an established R&D group with meetings and documentation. However, there have been some challenges in absorbing the procedure recommendations of the parent company. Similarly, Case Gamma had trouble finding systematic and lasting data-sharing practices during the research period. Idea screening is usually carried out with personnel, but Cases Delta and Alpha (occasionally) utilize outside professionals.

Regarding *idea testing*, the shared *rules* appreciate customer feedback when introducing novel products. This is true in all case companies. The most profound testing is conducted in Cases Gamma and Delta. Depending on the novelty, Case Delta sometimes takes laboratory and feeding tests. *The wish to belong to insiders* is mainly

seen in Case Gamma's idea testing: personnel's passion for coffee shows high-quality expectations. The culture of Case Gamma allows experimentation, but the standards for coffee are high. Accordingly, Case Gamma systematically implements testing procedures involving tastings.

Similarly, Case Delta has testing procedures. Case Alpha relies on quick feedback from personnel, store customers, and retail customers via drivers. In Case Beta, the manager has the main role in testing. He and other managers of the companies evaluate the name, price point, and appearance (product and packages) before and after handing in the offerings to customers.

In terms of *market launch*, the *rules* that Case Alpha personnel follow are based on freshness and trust in the selected strategy as a local bakery. Case Gamma has also started to value the freshness of beans and coffee and the responsibility and openness of processes to the public. Case Delta has selected a specific informative approach for the public, with networks that benefit (mainly in the form of discounts) from the partnership. Case Beta is a secure, reliable, and recognizable family firm that makes novel products leveraged through active SoMe marketing. Regarding *(best) practices*, Case Beta relies on SoMe and ordinary marketing (e.g., product demonstrations in the customer's facility). The practice of Case Alpha is the service model that also supports *the wish to belong to insiders*: the identity as a local baker with unit managers and drivers as main marketers is widely absorbed. Similarly, the practices and aims toward transparency are not questioned in Case Gamma, nor the selected marketing strategy with networks in Case Delta.

Summary of the self-reinforcing mechanisms

The main similarities between cases' rules and practices are presented in Figure 14.

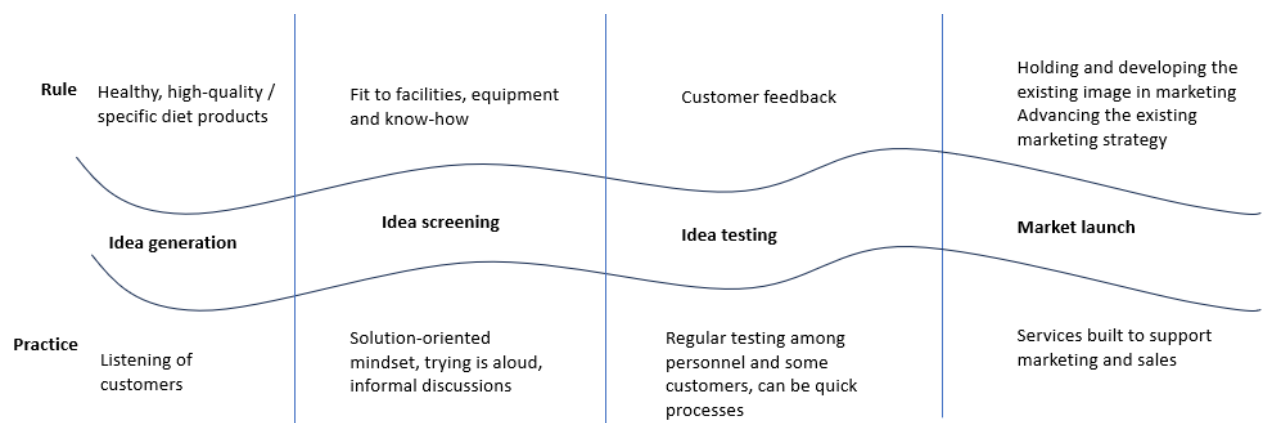


Figure 14. The formation phase: the main similarities in the rules and practices

To sum up, companies have shared rules they follow during NPS creation, such as healthy products, nutritional values, easy-to-use packages, and other recognized ways that differentiate their products and make them recognizable in markets (idea generation). Ideas are evaluated based on the existing facilities, equipment, and investment requirements (idea screening). The systematicity in testing practices varies between companies. However, all companies conduct tests among personnel and with customers (idea testing). All companies rely on personal customer relationships, which they have tried to improve with their services. The key message is crystallized and often requires tangible action (e.g., ecological packages, locality) before sharing stories with the wider public (market launch).

Turning points in the formation phase

The self-reinforcing mechanisms are interwoven and mainly describe prevailing rules and practices in the NPSD capabilities of the case companies. This study addresses its research question and nurtures further theorizing by recognizing the development of NPSD capabilities through TPs that pushed the capability phase in a particular direction (Table 15).

In Case Alpha, the ideation of novel products shifted from reacting to customer wishes to more partnership-driven NPSD (idea generation). The importance of portfolio management increased because of the widening selection of novel products (idea screening). The service model still played a role in the market entry of novel products and was emphasized in the customer relationship (idea testing). Trust in the local image of the business remains valid (market launch). Case Beta continued reacting to customer wishes while trying to innovate value-capturing novel products with better margins (idea generation). Cost efficiency remained the main driver behind decisions (e.g., packages and raw materials) (idea screening and testing). They relied on high delivery rates and a family business reputation in the area (market launch).

Table 15. Main TPs in the formation phase

	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>
<i>Learning effects – turning points</i>	<ul style="list-style-type: none"> - Utilization of development networks (Alpha) - Acquisitions (Alpha) - What customers want (Beta) - Divergent opinion in management, melding of visions (Beta) - Pressure to make investments (Change in ownership) (Gamma) - Focus on raw material and transparency (Gamma) - From pet food producer to brand company (Delta) - Cooperation with outside partners to develop more nutrient-rich products (Delta) 	<ul style="list-style-type: none"> - Portfolio management (Alpha) - Efficiency and cost control (generation transfer) (Beta) - Continuous challenge: Open and permissive way to operate vs. documented sharing of data (Gamma) - Cooperation with the farms (Gamma) - Guide portfolio through more detailed customer segmenting (Gamma) - Outside partner in developing the analysis of feeding diet and novel products (Delta) 	<ul style="list-style-type: none"> - Waste guarantee in testing and market launch (Alpha) - Portfolio management (cost handling, price per kilo) (Beta) - Structured procedures (Acquisition) (Delta) - Outside partner in developing novel products (Delta) 	<ul style="list-style-type: none"> - Strengthening the local image: service model, cafeterias (Alpha) - Long history and family business reputation (Beta) - Transparency included to the brand (Gamma) - Change in customer focus (Gamma) - Influencing the whole field (Delta) - Emphasis on branding (Delta)

Case Gamma had pressure to grow after the change in ownership. Instead of focusing primarily on taste and quality, they added new features such as responsibility matters and cooperation with farmers to improve products and the image of the field (idea generation). Due to the closer collaboration with farms, the development of products started already from the methods of handling beans there. Simultaneously, more detailed customer segmenting helped harvest customer needs (idea screening). The aim of being transparent from farms to customers became part of the marketing, and stories were shared with interest groups (market launch). Case Delta is committed to becoming a brand house with high-quality niche offerings (idea generation). They started to use partners in idea generation, screening, and testing to add more nutritional elements to their products. The same marketing tactics for enlarging the number of interest groups remain (market launch).

Manager's influence during the formation phase

The following inferences can be made when viewing the TPs together with manager's influences (Figure 15).

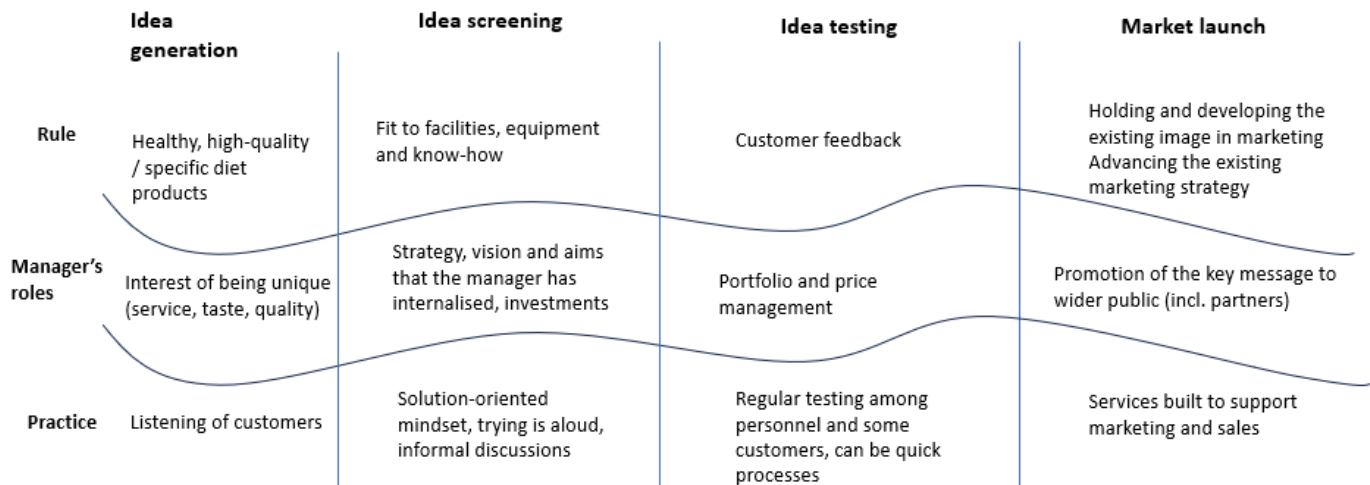


Figure 15. The formation phase: manager's influence on the shared rules and practices

Manager Alpha introduced new products and marketing cooperation with local developers. He also discovered a profitable growth strategy through acquisitions that broadened the product portfolio. Manager Beta strived for innovative products with efficient production; commercialization appears to have been challenging, and partly because of that, a more traditional strategy of meeting customers' wishes through a high delivery rate continued. Manager Gamma focused on high quality and accelerated and accepted the company's aims in responsibility issues. Case Delta consciously built on the selected marketing strategy and cooperated with outside R&D partners to innovate novel, healthier products.

4.6.3 Lock-in phase

All companies appreciate input from outside professionals when searching for new ideas and focus on the key values/shared rules concerning the company and the offerings (idea generation). Ideas are evaluated based on the existing facilities, equipment, and investment requirements (idea screening), and partners can be used for idea screening and testing. The level of systematicity in testing processes varies between the companies (idea testing). The firms' chosen values among the products, services, and operating models are shared with the public in SoMe. The company image and the marketing campaigns for new products are mutually supportive.

Customer relationships are managed actively (market launch). The main TPs of the lock-in phase are presented in Table 16.

Table 16. Main TPs of the lock-in phase

	<i>Idea generation</i>	<i>Idea screening</i>	<i>Idea testing</i>	<i>Market launch</i>
<i>Learning effects – turning points</i>	<ul style="list-style-type: none"> - Acquisitions (Alpha) - Strong reaction to external shock (Beta) - Focus on responsibility matters (Gamma) - Cooperation with a new outside partner to develop nutrient products (Delta) 	<ul style="list-style-type: none"> - Sharing of best products between locations (Alpha) - Adapting products to new ways to operate (Beta) - Guide portfolio through responsibility lenses (Gamma) - Guide portfolio through the strategy (Delta) 	<ul style="list-style-type: none"> - Regular discussions between units (Alpha) - New outside partner in developing novel products (Delta) 	<ul style="list-style-type: none"> - Strengthening the local image continues service model, new cafeterias (Alpha) - Home delivery to consumers, discounts for retailers (Beta) - Responsibility included to the brand (Gamma)

Case Alpha has accelerated the pace of its acquisitions and new cafeteria launches. The new chain bakeries will produce new ideas and products for the portfolio. The most popular products are shared between locations to increase sales. The same service model is adopted in every unit. Case Beta showed the capacity to react to COVID-19 and invent new products and services in challenging situations. The firm built a website and adapted its products to the bread bag concept they had created with the home delivery initiative. Case Gamma has started to guide the NPSP based on responsibility, whereas in Case Delta, strategy guides the portfolio aims. Earlier wins are emphasized, and decisions are made to make them more visible and functioning. Although all companies were hit by COVID-19, Case Beta needed to be the most innovative by creating new products, sales channels, and organizing delivery.

Manager's influence during the lock-in phase

The following inferences can be made when viewing the TPs together with manager's influence (Figure 16).

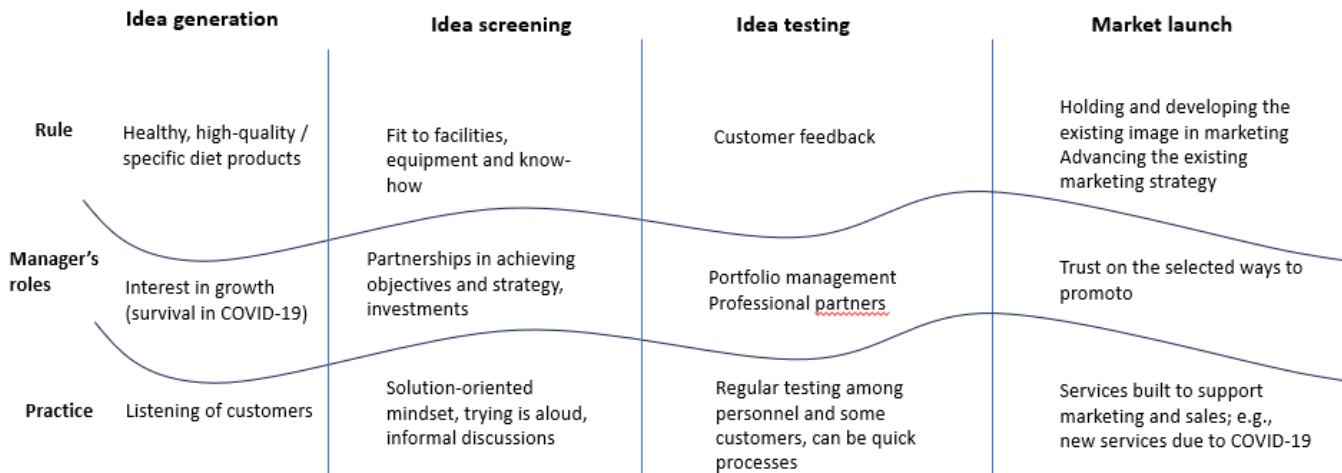


Figure 16. The lock-in phase: manager's influence on the shared rules and practices

Manager Alpha oversaw several acquisitions in 2018–2019 that have guaranteed the company a flow of new offerings. The managerial role in NPSD has diminished. Case Beta is vulnerable in terms of the development of its NPSD capability. Contradictions and disagreements between Manager Beta and the Second Owner decentralized the focus to two. However, this tactic of two approaches was successful during the COVID-19 crisis.

In contrast, Case Gamma is rooted in specific ethical values, with the approval of Manager Gamma. Manager Delta continuously builds relationships with pioneering and professional experts in the field. He has a significant role in cementing partnerships at home and abroad.

4.7 Managerial agency in ordinary capability development

The CR approach facilitates following up on the inputs of the main agent/s to nurture capability development. Manager's influence on each of the temporal phases and routines of NPSD capabilities are clarified in Table 17 below. The analysis supports recognizing mechanisms by introducing roles managers have adopted in the different phases of development.

Table 17. Managerial roles in NPSD capability routines and development phases

Managerial roles	Pre-formation phase	Formation phase	Lock-in phase
Idea generation	Interest in creating healthy products/high quality/unique products (Alpha, Beta, Gamma, Delta) Focus on customers (Alpha, Gamma, Delta) Interest in cost-effectiveness (Beta) Interest in renewing the segment (Delta)	Active participation in development groups (Alpha) and networks (Delta) outside the company Carrier of a vision (Gamma) Encourager interaction with customers on SoMe (Delta)	Connecting all doings to renewed vision (Gamma) Evaluating the fit to current strategy and promises made to customers (Delta)
Idea screening	Active participation in NPSD (Alpha, Beta, Gamma)	Investment requirements and decision-making (all) Cost management (Beta/all) Quality control of improving ideas (Gamma) Fit to current strategy and promises given to customers (Delta)	Investment requirements and decision-making (all). Still active in participation (Beta) Quality control of improving ideas (Gamma) Negotiations with outside development partners (Delta)
Idea testing	Focus on customer feedback (Alpha, Gamma, Delta)	Portfolio management, price management (all), direction of the portfolio and the company (Gamma) Price setting based on the value of the novelty (Delta)	Portfolio management (all) Price management (all), seeking cost-effectiveness in raw material procurement and packaging solutions (Beta) Participation in testing occasionally (all) Positioning of offerings (Delta)
Market launch	Creating a way of operating close to customers (Alpha, Gamma, Delta)	Key message (locality Alpha), addressable packages (Beta), openness with customers (Gamma, Delta), vision (Gamma), benefits of feeding method (Delta)	Awareness building together with other actors in the field (Delta); negotiations with large customers (Beta), decision-making in expensive campaigns, focus on the broader vision of the business (Gamma)

To summarize, during pre-formation, managers focus on practical matters and try to serve customers as well as possible with the current resources. Their input on

product, service, and process development can be remarkable. As this study shows, all managers participated actively in idea generation and screening. In some cases, they were the key innovators (Alpha, Beta) of new products or active builders of networks to deliver service innovations (Gamma). All managers were mindful of customer needs and benefits that their offerings could fulfill. They were eager to keep customers close, utilizing unique services and close communication tactics (Delta).

In the formation phase, the managers' focus covers networks, sharing the vision in-house and externally, and investment, portfolio, and price decisions. From a marketing and sales perspective, managers' interests lie in the primary customers. These were seen in this study as managers showed belief in the selected route (Alpha, Beta, Gamma, Delta), they took risks (Alpha, Gamma, Delta), built key networks (Alpha, Gamma, Delta), guided others along the selected route (Alpha, Gamma, Delta), enabled others to innovate (Gamma) and offered a good example through their substantive knowledge of NPD and production (Alpha, Beta).

In the lock-in phase, a manager's guide and leader role expands. Managers must communicate the vision in-house and externally and track what they want to follow. For our case firm managers, that accorded with their aim of reaching a wider public audience and building partnerships. Managers' ability to lead change becomes important in the lock-in phase. In this phase, managers took risks (Alpha and Delta); they still showed belief in the selected route (Alpha), guided (Alpha), and enabled (Beta and Gamma) others. In addition, networking in the NPSD realm remained significant (Gamma, Delta). From a theoretical perspective, it seems that the avoidance of lock-in situations in NPSD capabilities is more rooted in managers' behavioral and social mechanisms than in the pre-formation phase, where managers' personal knowledge, experience, and cognition have more influence on the trajectory.

Managerial effects on capability development

This section presents the development of NPSD capabilities at the company and managerial levels. The aim is to illustrate managerial effects on capability development through the role analysis carried out earlier.

Figure 17 reveals managerial agency in idea generation, screening, testing, and market launch in the three temporal phases of NPSD capability development. The red color illustrates managers' influence through aim or vision; purple is their influence through networks and partners; and bold black illustrates their role in decision-making.

The figure presents company-level and managerial-level focus areas side-by-side. However, the researcher's interpretation follows a rule: how managers (individual-

level) have influenced the development of these routines and the NPSD capability (company-level).

First, investment decision-making (e.g., projects, equipment, personnel, cooperation, marketing) represents a managerial mechanism that secures the novelty in the NPSD capability routines and may develop the routine. In this study, that is called a direct effect mechanism. These are best seen in the idea screening and market launch routines in all three phases (bold in Figure 17).

Second, there are mechanisms where managers are initiators and which gradually move to shared practices. These are

- The manager's vision or aim develops into a shared rule like the desire to serve customers well, create nutritional products, and the will to develop the branch.
- The manager's networks become part of the company's in-house routines, such as when development partners join the idea generation and further testing of products/services.
- The manager's active promotion of the company and offerings extends the number of potential partners with whom to innovate in the future. This can be seen in the will to add awareness of the benefits of the branch and in the will to spread the word about the sustainable solutions the company has developed.

These three indirect effect mechanisms are presented in italics in the figure and can be found in idea generation, screening, testing, and market launch.

The indirect effect mechanisms require the team members to absorb and approve them. Managers may influence team members' attitudes and approach through change management and other leadership practices.

It seems that managers in SMEs, directly and indirectly, affect ordinary capability development in SMEs. Moreover, it appears that the managers guide the development phases through the vision, standards, and existing procedures that they value, which lies in their view of the company's purpose and aims. This study later elaborates on this thought as the company's core idea. Similarly, both managerial indirect and direct effect mechanisms are combined with an analysis of companies' DC development, which will be discussed in the next chapter.

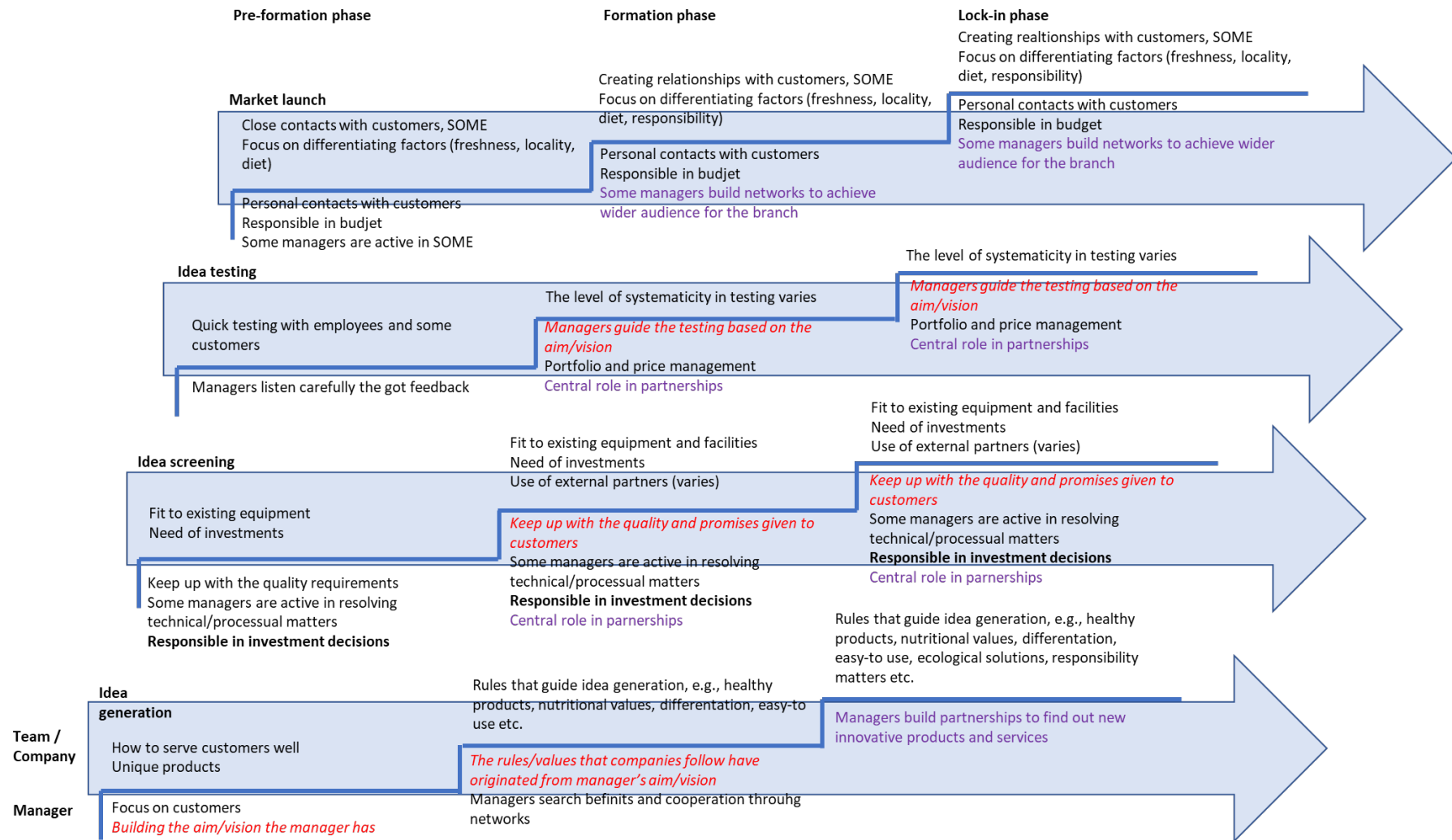


Figure 17. The focus areas in NPSD capability routines at company- and managerial-level

5 FINDINGS REGARDING DYNAMIC CAPABILITIES

This section combines all the data collected during this research with DC framework sensing, seizing, and reconfiguring. The DC framework is applied following the pre-formation, formation, and lock-in phases to keep the development trajectories of case companies involved. The aim is to use all the collected data and timelines, capturing the main events from the timelines and emphasizing the BM-level events. Accordingly, it is possible to understand companies' value propositions, creation, and capture. Again, each case company's unique contexts and events are appreciated in the analysis, and the subsequent figures are presented below. The main managerial triggers are recognized in each development trajectory of the case. With the help of these managerial triggers, managerial agency is tracked throughout the analysis.

The temporal within-case analysis consists of DCs sensing, seizing, and reconfiguring observed from company-level (BM) and agency-level (managerial). BM concentrates on themes that explain the value proposition, creation, and capture of case companies. Figure 18 demonstrates how to read the figures.

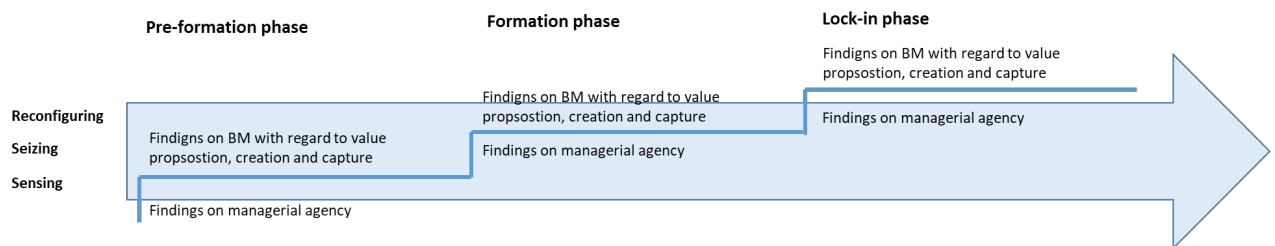


Figure 18. An example of the BM- and managerial-level analysis

Similar arrows are given from each company's sensing, seizing, and reconfiguring, thus forming three arrows/case company.

Case Alpha

Figure 19 illustrates the main BM-level and managerial-level practices in Case Alpha.

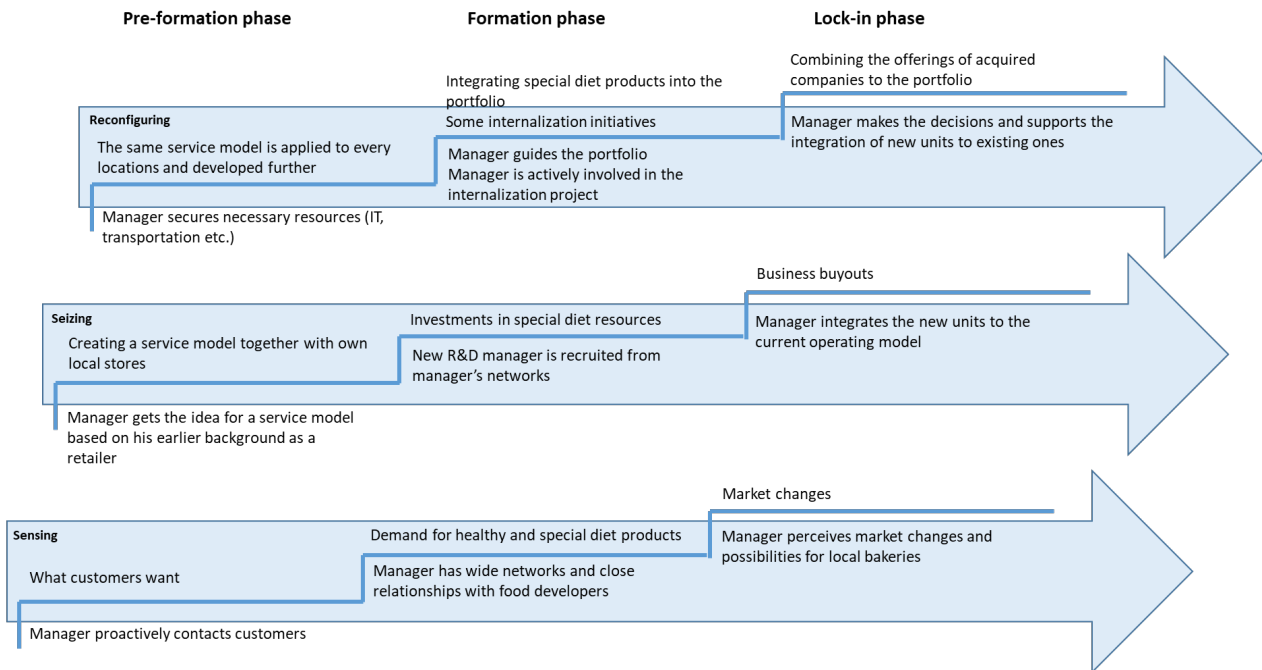


Figure 19. Case Alpha: BM- and managerial-level analysis

The pre-formation phase of Case Alpha consists of sensing what customers want, seizing upon and building the service model, and reconfiguring and applying the service model to each location. The manager is the founder of the company and has a strong influence on the development mentioned above: he proactively contacts customers, created the idea of the service model based on his earlier experience, and invests consistently in the use and development of the model (e.g., IT, transportation). Thus, his retail background seems to be the central managerial trigger in developing the service model.

In the formation phase of Case Alpha, the sensing appeared in the form of healthy and special diet outputs, investment in resources, and adjustment of the product portfolio to include special diet offerings. The manager strongly influenced the firm's development: his cooperation with food professionals initially awakened interest in special diet products; the R&D manager recruited was found via his networks, and the manager was responsible for portfolio management. The primary managerial triggers seem to have been his will to create novel products and network with professionals who subsequently introduced special dietary needs products.

In the lock-in phase of Case Alpha, the manager sensed the markets and notified the changes that large bakeries and food businesses were making, including closing local bakeries and building in-house bakeries in supermarkets. He seized on these market changes by continuing a local strategy with several acquisitions. In reconfiguring, the

operations and offerings of acquired companies are combined with those of the current entity. The manager makes the calculations and decisions and supports the integration of new units (e.g., meetings and cooperation of unit managers). Accordingly, the main managerial triggers are related to a belief in a local strategy, the financial option to conduct buyouts, and recognizing profitable revenue streams by combining the product portfolio between units.

Case Beta

Figure 20 illustrates the main BM-level and managerial-level practices in Case Beta.

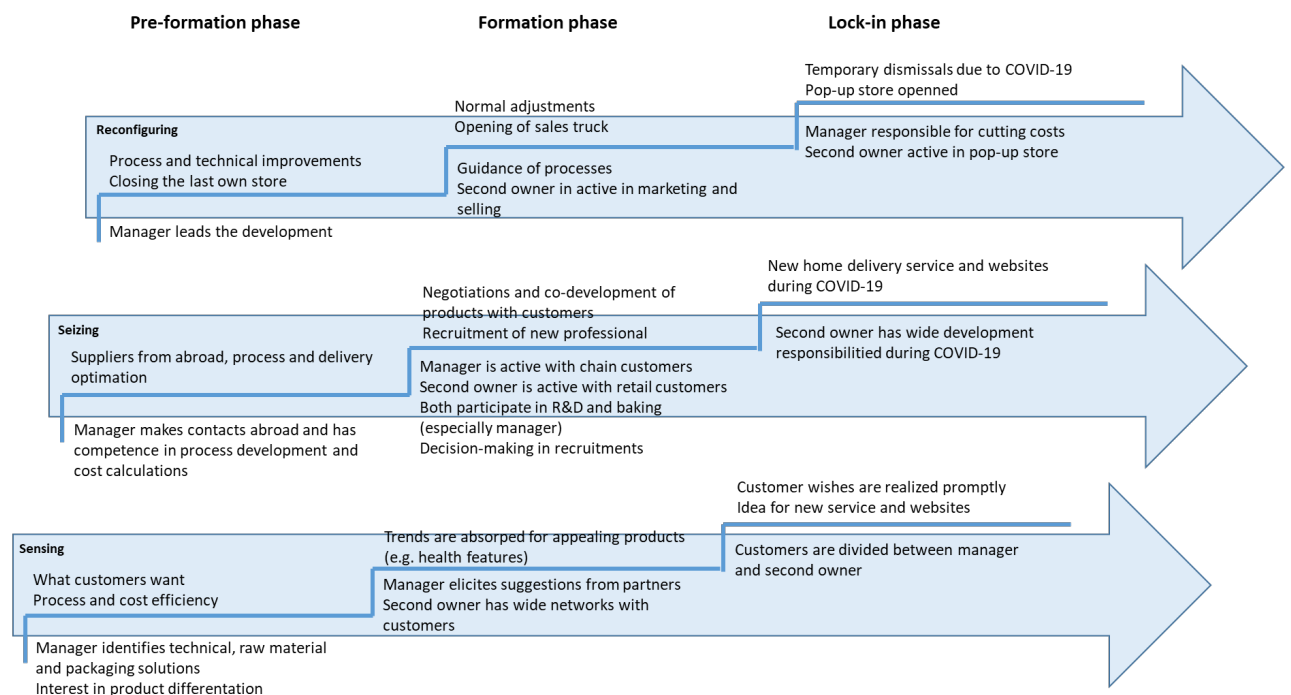


Figure 20. Case Beta: BM- and managerial-level analysis

The pre-formation phase of Case Beta consisted of sensing possibilities to achieve process and cost efficiency in parallel with customer wishes, onboarding partners (e.g., raw material suppliers and delivery firms) abroad to yield the savings and efficiencies and reconfiguring of making the perceived improvements in processes, equipment, and receipts. The manager, nominated after family successions, begins to search for improvements in the company's operations in parallel with an interest in product differentiation. He searches for cost advantages to raw material and packaging solutions. The manager leads the process changes in the bakery based on his competences gained from experience and education. The main managerial trigger seemed to be family succession, based on the manager's competences, such as counting and NPD.

In the formation phase of Case Beta, sensing for appealing and, for example, health products were continuous. Resources strengthened after the second owner's parental leave. The company's owners and new bakers actively seized upon trends and customer wishes. Reconfiguring consists of normal adjustments to processes and offerings and unveiling a new food truck. The manager continuously developed unique products (e.g., berry bread with an outside partner) for chain customers. At the same time, the second owner serves smaller retail customers and is active in the sales and development of confectionery products. The main managerial trigger in seeking profitable unique products is the manager's cooperation with an outside partner supporting the development of berry bread. At the same time, the second owner controlled the cash flow, for example, on the confectionary side of the business.

In the lock-in phase of Case Beta, customer wishes were continuously being sensed, and they were served promptly. COVID-19 challenged the regular seizing of opportunities and required new ways of operating. The second owner introduced the idea of websites and home delivery, which she also runs with the help of her existing networks. The manager is responsible for conducting the temporary dismissals and operates actively in basic operations during the crisis. The second owner drives the products to customers herself. Accordingly, the main managerial trigger behind the webshop and new service model is the second owner's idea and network.

Case Gamma

Figure 21 illustrates the main BM-level and managerial-level practices in Case Gamma.

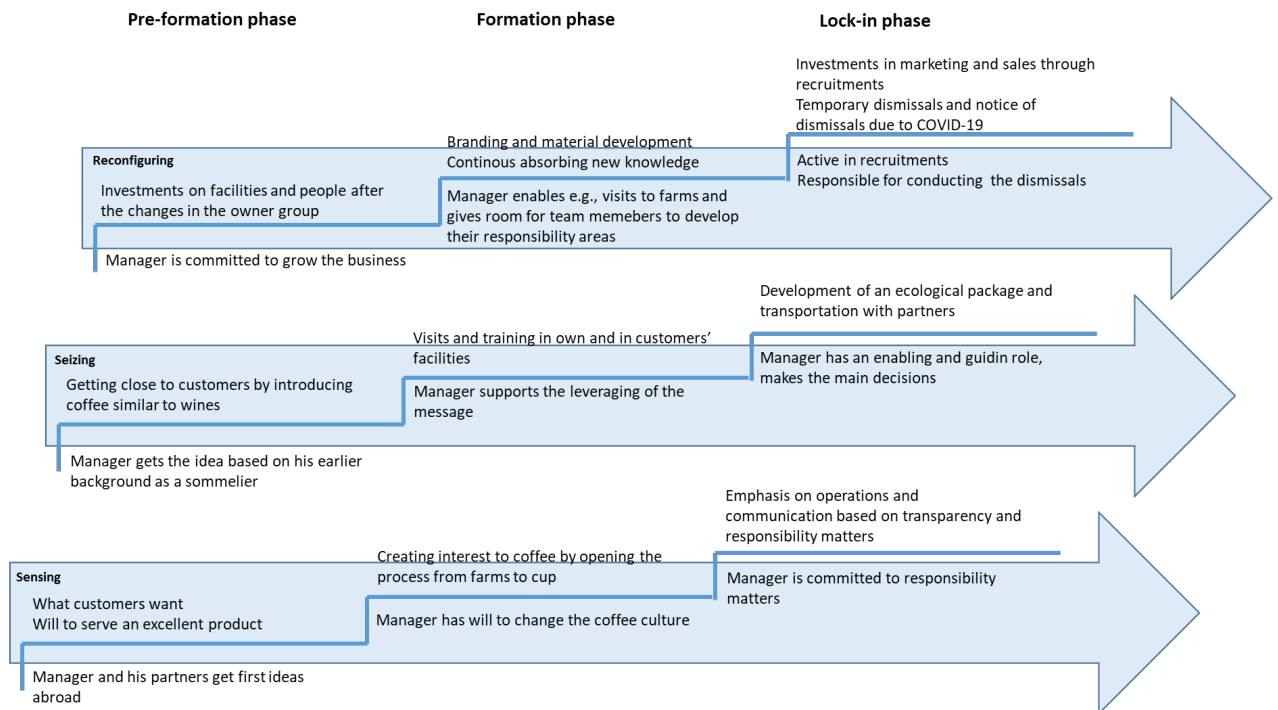


Figure 21. Case Gamma: BM- and managerial-level analysis

The pre-formation phase of Case Gamma consists of sensing customer wishes in parallel with the owners' will to create an excellent product, seizing and forming close relationships with customers through teaching and serving, and reconfiguring and preparing the company to grow through investments in facilities and people. The manager is a founding team member who had trained as a sommelier and could thus support meeting and teaching customers. The manager committed to grow the business after minor changes in the owner group. Therefore, the main managerial trigger for the close-to-customer operative model was the manager's learnings from the wine sector.

In the formation phase of Case Gamma, sensing emerges as an in-house interest in opening the process of coffee beans from farms to cups to the public. Employees capitalized on new knowledge, such as that from farms, and leveraged it to acquire customers. In reconfiguring, transparency is connected to brand and official communication materials. The manager shared the idea of changing coffee culture and building transparency. He participates but leaves room for others to orientate themselves with new knowledge. The manager guides the brand building and progresses other official communication materials. The main managerial trigger is the manager's commitment to transparency and actions related to it, combined with shared belief and will to change the coffee culture.

In the lock-in phase of Case Gamma, sensing manifests in the intertwining of responsibility for operations and communications. The responsibility matters are seized concretely, for example, through openness in farm payments, ecological packages, and transportation. Reconfiguring is seen in adding resources to marketing and sales to communicate better and reach customers. The manager is committed to taking responsibility and feels that the staff are extremely committed to the values that have emerged and developed during the business's existence. The manager focuses on maintaining the guidelines and making the main financial decisions. He carried the responsibility of conducting the dismissals due to COVID-19. The main managerial trigger behind business development decisions seems to be the common commitment to responsibility themes.

Case Delta

Figure 22 illustrates the main BM-level and managerial-level practices in Case Delta.

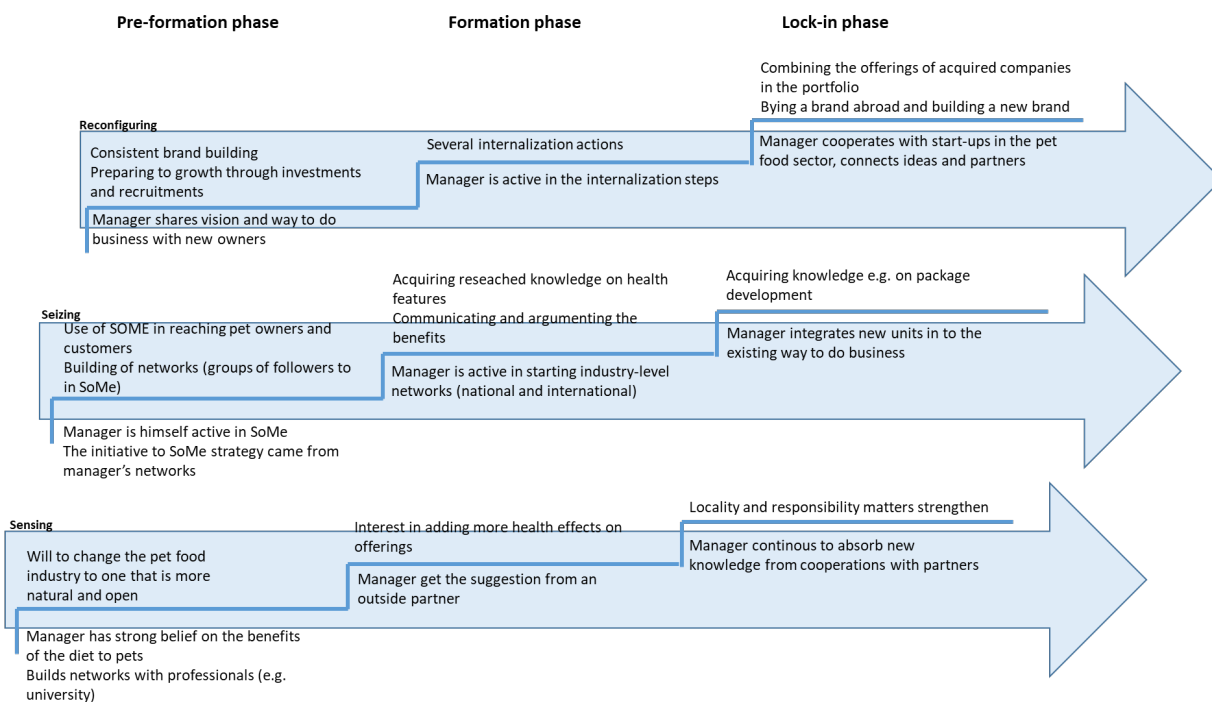


Figure 22. Case Delta: BM- and managerial-level analysis

The pre-formation phase of Case Delta consisted of sensing and building knowledge, establishing the benefits of the diet in parallel with the will to change the industry norms, seizing the opportunities of new knowledge through an active SoMe strategy and related networks, reconfiguring consistent brand-building (after the company was acquired by larger food business company) and preparing to growth through investments (for example, factory) and recruitments. The manager strongly believes in the benefits of a diet for pets, and he builds networks with professionals (e.g., a

research project with a university). Initially, he was active in SoMe and building customer communities. The manager successfully communicated the vision and way of doing business to the new owners (e.g., the unique SoMe strategy). The main managerial triggers are networks: researching the diet's benefits and building the SoMe channel.

In the formation phase of Case Delta, sensing manifested an interest in adding new health aspects to the offerings. These are seized by forming a contract with an outside partner with specialized competence. In parallel, the company continuously communicates the diet's benefits, and managers build national and international industry networks. In reconfiguring, this means better use of in-house competences (e.g., nutritionists), whereas the manager's time is geared to internalization actions planned by the management team of the parent company. The main trigger for actions seems to be the growth strategy followed by the group management team, wherein the main managerial triggers are the belief in the selected marketing strategy and seeking new partners.

In the lock-in phase of Case Delta, sensing is seen in adding responsibility for operations and communication. These are seized, for example, through ecological package development. The company also started a new network that gets discounts from the offerings, similar to SoMe groups. Reconfiguring includes a business buyout from the second market area and its offerings alignment to the product portfolio. The manager continuously sensed new opportunities to develop knowledge, such as when a new specialist from his network was recruited to the company group. Managers constantly cooperate with other businesses in the industry, including start-ups. The main trigger for actions seems to be the growth strategy followed by the group management team, wherein the main managerial triggers are the belief in the selected marketing strategy and the seeking of new partners.

Temporal cross-case analysis

When researching DCs from the perspective of a tripod process framework (Teece, 2007) and combining the analysis with CR antecedents such as events and triggers, the role of managers emerges distinctly. The sensing, seizing, and reconfiguring DCs do not focus only on NPSD but capture the elements of the value proposition, creation, and capturing of the whole business. They also reveal that managers of SMEs have several roles that guide the company.

Pre-formation phase

The analysis of the pre-formation phase (Figure 23) reveals the main company-level actions and the main roles of the manager in sensing, seizing, and reconfiguring clusters.

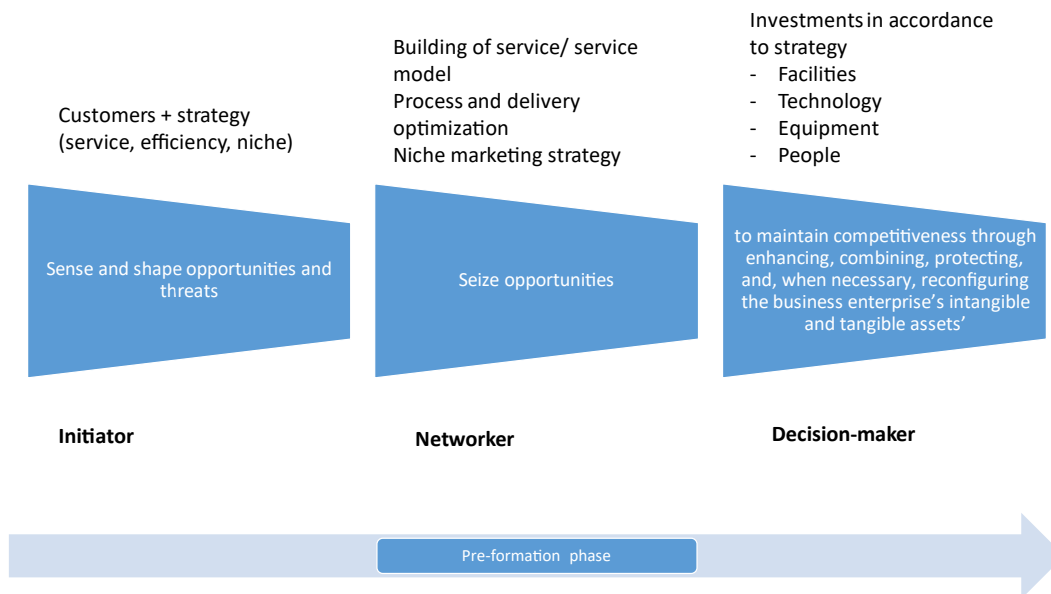


Figure 23. Managers' main value proposition, creation, and capture practices in the pre-formation phase

In the pre-formation phase, companies utilize the sensing capability to recognize customer needs and wishes (value proposition). A seizing capability enables them to take the first steps in business strategy (value creation). Reconfiguring in the pre-formation phase involves the main investment decision following a selected route or strategy. That involves investments in facilities, technology, equipment, and people to support the value creation and capture of the business.

In the pre-formation phase, managers can be seen as initiators (sometimes even innovators), networkers, and decision-makers. Sensing, seizing, and reconfiguring capabilities are intertwined, and these roles are intertwined in action. However, it is important to recognize that networking is central to the business development of all companies.

Formation phase

The analysis of the formation phase (Figure 24) reveals the main company-level actions and the main roles of the manager in sensing, seizing, and reconfiguring clusters.

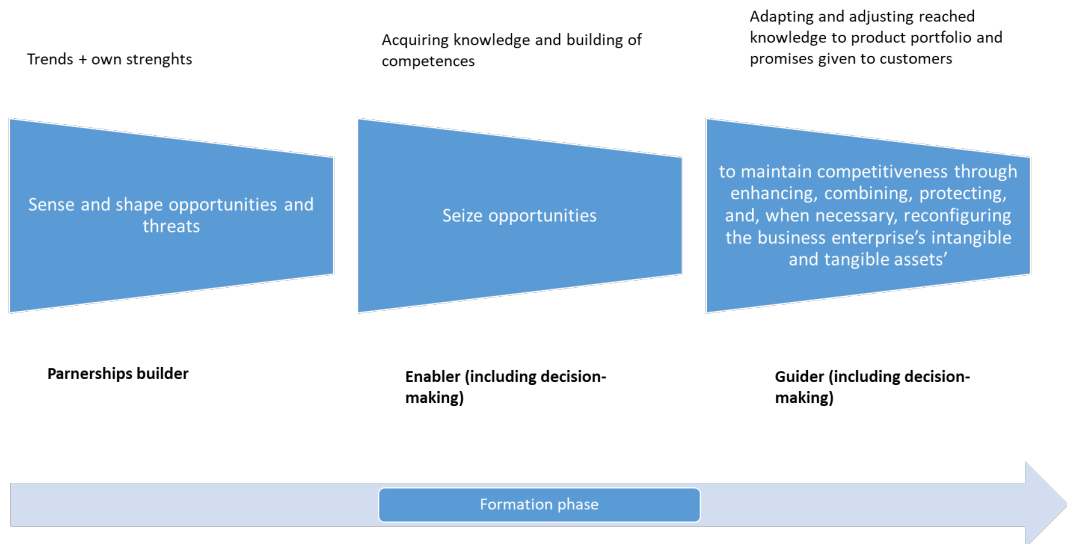


Figure 24. Managers' main value proposition, creation, and capture practices in the formation phase

In the formation phase, the sensing capability is utilized to recognize trends from various channels, and the seizing capability is used to acquire new knowledge and build the company's competences. Thus, these capabilities are involved with value proposition and creation. In the formation phase, reconfiguring is seen in a company's ability to adjust its acquired knowledge to deliver offerings that meet customers' expectations (value capture).

In the formation phase, managers can be seen as partnership builders: trends and new ideas that deepen partnerships are often found through their networks. Managers also enable others' access to knowledge, for example, by introducing people to each other and forming teams. They allow experiments and trial-and-error learning, for instance, in NPSD and marketing; at the same time, when new initiatives are sensed and seized, managers keep the main (strategic) route open so that the business's core ideas are not disturbed.

Lock-in phase

The analysis of the lock-in phase (Figure 25) reveals the main company-level actions and the main roles of the manager in sensing, seizing, and reconfiguring clusters.

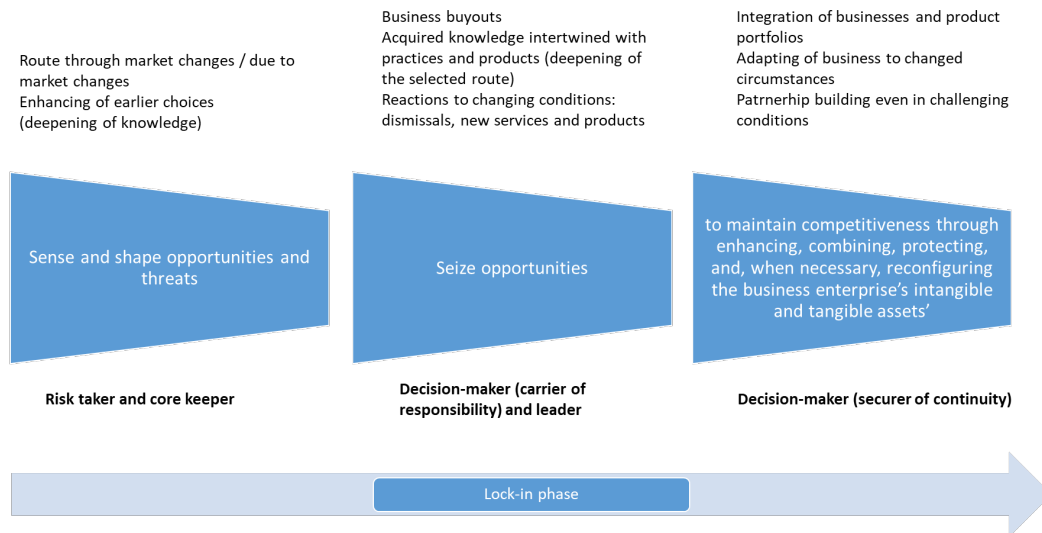


Figure 25. Managers' main value proposition, creation, and capture practices in the lock-in phase

In the lock-in phase, companies' sensing focuses on market changes. New growth opportunities can be found due to competitors' actions (Case Alpha) (value creation), and internalization actions can be a natural step forward (Case Delta) (value creation). However, all companies utilize a sensing capability to enhance earlier choices, that is, the selected path, through absorbing knowledge. New knowledge is seized to complement practices and offerings, which are then, in transformation, aligned with the business and product portfolio (value capture).

Managers become risk-takers and core keepers in the lock-in phase. They carry responsibility in decision-making and secure continuity through leadership.

During the active research period, COVID-19 hit the world. Two case companies needed to react to this environmental change through layoffs (either temporarily or permanently). Although managers' roles changed to encompass more operative tasks due to circumstances, the companies continued cooperating with partners. For example, product and service combinations were also planned and executed during COVID-19. However, none of the companies needed to change their core business fundamentally. The companies reacted to the societal and behavioral changes occasioned by the pandemic by changing or enhancing customer groups, developing new services, and conducting temporary and permanent redundancies to survive

economically. Some customer group changes became permanent due to changes to working life and increased hybrid and remote working levels.

To conclude, it seems that DC dimensions of sensing and seizing are important in the pre-formation phase of NPSD capability. In contrast, all three dimensions are relevant in the formation phase of capability. However, in the lock-in phase, the seizing dimensions seem to be the most valuable: revival of business based on the already selected path (deepening of knowledge) or choosing (investing) in a new path.

5.1 Managerial agency in dynamic capability development

The previous chapter revealed managerial agency in the cross-case analysis of the sensing, seizing, and reconfiguring tripod framework. The temporal analysis showed that companies took steps in specific directions during the pre-formation, formation, and lock-in phases. In the light of the analysis, managers carried several roles in these phases (Table 18).

Table 18. Managerial roles in DC clusters and development phases

DC cluster	Pre-formation	Formation	Lock-in
Sensing	Initiator	Partnership builder	Risk taker and core keeper
Seizing	Networker	Enabler (including decision-making)	Decision-maker, leader, and carrier of responsibility
Reconfiguring	Decision-maker	Guider/leader, including decision-making	Decision-maker, securing of continuity
Main aims of the business	<i>Value proposition and creation</i>	<i>Value creation and capture</i>	<i>Value creation and capture</i>
Main tasks of managers	<i>Setting the way</i>	<i>Guiding the way</i>	<i>Keeping the core idea alive while allowing new opportunities to emerge</i>

The managerial roles collected under each of the three phases reflect the main tasks of managers: setting the way, guiding the way, and keeping the core idea alive while allowing for new opportunities to emerge. These main tasks of managers are all intertwined with the value proposition, creation, and capture of businesses.

Managers, therefore, influence capability development mainly through value proposition, creation, and capturing guidance and decisions.

Managerial roles were isolated based on managers' intentional behavioral inputs (i.e., they had a purpose) and, at least to some extent, represented typical and recurring behavior of managers. For example, Manager Alpha had the intention to build the service model in the formation phase, Manager Beta searched for raw material producers abroad, Manager Delta intentionally networked with both domestic and international raw food producers to influence the industry, and Manager Gamma both participated and allowed others to cooperate closely with farmers to secure high-quality beans for roasting.

Additionally, other interviews described the managers' roles in NPSD capability and business development. Here is a summary of the roles that emerged in the interviews of team members (and partners of Case Delta). The citations strengthen the view of managerial roles introduced in the table above.

We are a close group. We work together for a common goal. And in principle, this company has a face, and it is the manager. It is so incredibly easy to work (underneath him). Unit Manager IV about Manager Alpha in 2022

The team members described three out of four managers as *visionaries* (Alpha, Gamma, and Delta). Visionary refers to managers' participation in idea generation and value creation processes: products, services, processes, and business development. It was also described as the courage to do business in one's way.

Well, our manager is quite a visionary himself. It is his favorite thing to do, innovate and create new ideas. He likes it quite a lot. Communication Assistant about Manager Gamma in 2014

Maybe our manager is quite visionary and bold, and he does not think about what others do and does not look at others' doings that much. That is a big asset: we are brave enough to do some unique business. Marketing Manager about Manager Delta in 2018

For us, the manager is, of course, a visionary who always invents everything. He carefully follows the markets and what others are doing. Marketing Responsible on Manager Alpha in 2018

All managers were described as *enablers*. The working cultures allowed ideating, unofficial discussions, trial and error learning, and experiments, which supported the sense of belonging. One of the managers was even called a mentor—he is available but does not only provide so-called correct answers.

The manager also enables a lot. He gives the team a lot of freedom and responsibility as well. – He does not say no right away if you have an idea or something, although he might disagree. He appreciates the team's opinion, and if he does not see it as too big a risk and the team sees that it is a good idea to implement, he prefers to support it instead of saying no. In our company, space has been reserved for development and creation. Sales Manager Offices about Manager Gamma in 2022

If you look at my colleague X's and my work tasks, we must circulate only a little through the Manager (Delta). We can work freely. Marketing Manager about Manager Delta in 2018

Maybe some baristas know something now, but most employees have learned here. One could roast, but he just joined us. In principle, everyone has learned everything here. Manager Gamma in 2017

Moreover, all managers were described as decision-makers, for example, in price setting for products, the product portfolio, and the marketing budget. (Only Delta has moved to more structured decision-making processes where management teams now make the main decisions).

Then, of course, I needed to ask for help from the manager regarding cost accounting. I gave him the receipt, and he calculated the right price for the product. Case Alpha Unit Manager in 2022 about Manager Alpha

We just discussed that the product will be quite expensive because it is laborious. But here (in the office), (the manager) has calculated the final price and other. He sets the final price. Baker N on Manager Beta in 2018

The analysis also revealed that all managers were heavily involved with recruitment and partnership decisions. Both areas buttressed the companies' selected routes, although, at the same time, they offered some new insight into practices.

In fact, the outside partner X, who cooperated with us in 2019 regarding the product series X, was a consultant. It diminished a bit then through 2020, and so I think it ended in 2021. The manager knows that, but I think he stopped that in 2021, when outside partner X stopped, and then in August, outside partner Y started. And she has another project that I'm not involved in at all. It's about blood proteins and stuff like that, and it's a bit annoying that I'm not more involved in it, but now she has started to get more involved in this product development work. R&D Manager in 2022

For example, the staff's professionalism and skills are critical. Then we have a French baker working for us. So I've learned a lot of new things from him. And he has made us new products for a 40 percent better price. Manager Beta in 2014

Managers have had important roles in NPSD. They were all recognized as product developers; however, the input level varied. Two managers either participated or could participate in all phases of NPD capabilities (Alpha and Beta), whereas two managers were more involved with testing (Gamma and Delta).

He called yesterday evening; he had had a long working day and needed to bake, pack, and deliver products. Special Diet Manager about Manager Alpha in 2019

Similarly, two managers were recognized as important idea creators in NPD (Alpha and Beta), describing their commitment to creating novel products. All managers left an impression of dedication, hard work, and relatively long working hours. They all were risk-takers with varied levels of personal risk, depending on their ownership in the company.

And, of course, the manager, our owner, guides this firm forward in an unprejudiced and bold manner through upturns and downturns. It is probably one of the most important things. Case Gamma Customer Manager in 2018

When doing the work of baker and packer, I manage. But it would be too much if I also did the confectioner work. In the summertime, when I am alone here, I do everything: confectionary, baking bread, and packing everything. On Sundays, in the summertime. Case Beta Manager in 2019

The roles mentioned above require that managers possess broad knowledge and competences. The better the manager knows the industry, markets, value chain, partners, customers, and NPSD capability routines and resources, the better he can align the business, capability development, and subsequent outputs. The knowledge base of managers can deepen in time (e.g., learning from experience) and is also intertwined with value proposition, creation, and capture (Figure 26).

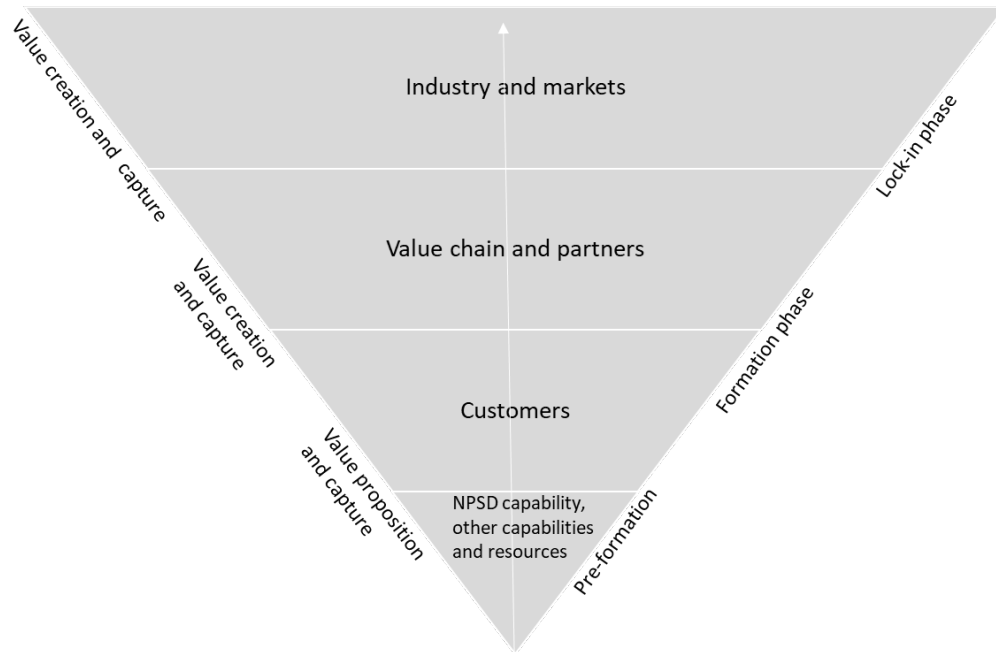


Figure 26. Key knowledge areas of managers

A manager's knowledge base affects how the manager interprets the surroundings and gives suggestions through the cognitive processes of attention and perception.

Managers need competences, knowledge, and skills from various levels: industry, markets, value chain, partners, customers, and NPSD. For example, it was found that managers follow markets closely.

One of my cornerstones in product portfolio and R&D is that we should never produce any bulk products that large firms produce. Being different gives additional value. Bread, for that matter, is a product with low processing value and additional value, and because of that, we need to add something else.
Manager Beta in 2017

More competitors enter the field all the time. Competition is quite harsh. The price is an important factor, especially in Horeca, where volumes are high. Cafeterias, or customers, make quite quick decisions. It can become quite turbulent if you focus solely on Horeca.
Manager Gamma in 2017

We focus more on the office sector in our strategy; it is more stable and has longer customer relationships.
Manager Gamma in 2017

We have brands that sound domestic but are produced in Europe, large multinational corporations, and small domestic producers. Based on marketing

actions, the newcomer wants to position their company like a small domestic company, but it competes more with these large companies because it is dry food, and it is harder to stand out with dry food. Now, they distinguish themselves with domesticity. I will be watching what happens with interest.
 Manager Delta in 2017

The quotes mentioned above show how managers perceive and interpret markets. The knowledge and experience of the competitive field helped managers make strategic decisions; for example, Case Alpha chose a growth strategy based on acquisitions, Case Gamma built its reputation and practices based on openness in responsibility matters, Case Beta found ways to foster efficiency with its partners and raw material suppliers and Case Delta continued to rely on the marketing strategy that is based on recommendations of product users to another pet owners.

The managers' knowledge was accrued through education, work experience, networks (official and unofficial), and general life experience. The deeper and wider-ranging the managers' knowledge, the better they can influence the value proposition, creation, and capturing decisions. In the next section, the recognized knowledge base is combined with the theoretical base of DMCs and mechanisms through which managers affect the business and capability development.

5.2 Clarification of managerial agency in capability development

This section presents three managerial mechanisms that support capability development in SMEs. The arguments capture learnings from NPSD capability and DC analysis. As a reminder, at the ordinary capability level, managers influence the capability level through:

- investment decision-making (direct effect mechanism, dependent on the level of manager's autonomy)
- manager's vision (or aim) develops to shared rule
- manager's networks become part of the company's in-house routines
- manager's active promotion of the company and offerings extends the number of potential partners to innovate with in the future

Next, these temporally recognized effects from the ordinary capability level are discussed and combined with DC-level findings: setting the way, guiding the way, and keeping the core idea alive while allowing new opportunities to emerge. The aim is

to combine these findings with theoretical aspects that may serve even more explanatory power than the findings per se.

The analysis shows that managers must be open to new suggestions from different networks. Their wide knowledge base may positively influence their ability to recognize potential ideas. This ability to seize new information is named *learning capability* in this study to illustrate the DC-level finding setting the way. Without internalizing the new knowledge, managers could not act accordingly and set the way for others. Learning capability refers to a manager's ability to learn from knowledge acquired directly or through networks.

Managers of SMEs may have relatively independent roles in decision-making, and to carry the responsibility in it, they evaluate risks, possibilities, and the fit of new ideas to existing resources and capabilities. Managers also reflect on their role in the different phases of (possible) business growth and how they should align management and leadership practices according to the situation. The ability to evaluate ideas and situations is called reflection capability, which refers to the DC-level finding that keeps the core idea alive while allowing new opportunities to emerge.

However, managers do not work alone, and to get others on board, they need to share their vision and aims with others to succeed. This ability to bring others along is called *alignment capability*. It may also include resource orchestration, and due to it, the alignment capability consists of managerial and leadership skills. The capability takes different forms depending on the development stage of the business, and capability development refers to the DC-level finding guiding the way.

Accordingly, besides renewing aspects of DMCs, this study emphasizes that managerial capability to reflect the company's core idea toward the suggestions, or self-perceived ideas, is central to successfully developing a capability. The core idea captures the heart of the business: the value proposition, creation, and capture. It is the foundation where managers mirror the suggestions and invented ideas. For example, when managers practice direct effect mechanisms in investment decision-making, they must apply reflection capability, including the core idea and perceived risks of the decision. This mechanism is the most dependent on the manager's level of independence.

Figure 27 below presents managerial agency in capability development.

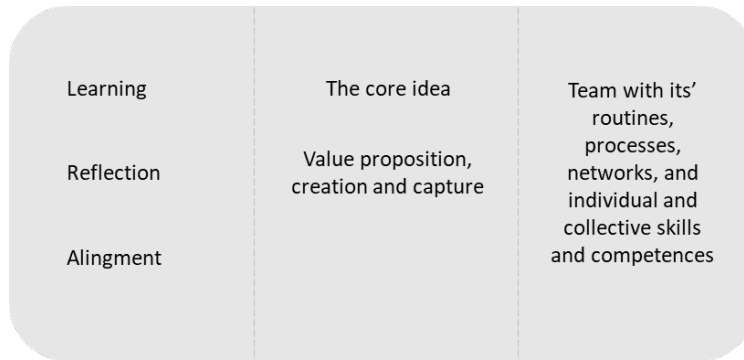


Figure 27. Managerial agency in capability development

The learning capability originates from the manager's human capital, social capital, and cognition (Helfat & Martin, 2015), which are intertwined with the manager's current knowledge base consisting of industry and markets, value chain, partners, customers, capabilities, and resources-related knowledge. The underpinnings influence what issues managers perceive and pay attention to in the business environment. Similarly, the core idea influences the manager's perception and attention because it illustrates the manager's deep understanding of the firm and its' purpose and strategy connected to the value creation and capturing elements. Without a manager's learning capability (including willingness to learn), it is difficult for stakeholders to attract the manager's attention. *Reflection capability* describes a manager's inner debate and discussions with others before deciding. The process includes evaluating risks and opportunities and the fit to existing resources and capabilities. At the team level, reflection capability refers to the manager's ability to interpret the situation and atmosphere to succeed in alignment practices. *Alignment capability*, in contrast, consists of managerial and leadership skills. The alignment capability takes different forms depending on the development stage of the business and capability development. It may include introducing people to each other, advocating the concept, and following up on the proceedings. This study touched upon the leadership perspective, for example, through the comments of employees.

The analysis indicates that companies' cultures consist of elements such as innovativeness, low bureaucracy, allowance to try, and the fact that all managers are approachable. These descriptions of cultures give an initial insight into what kind of leadership is appreciated when companies are eager to acquire, assimilate, and exploit new knowledge to meet market demand and deliver on the company's aims. Moreover, a manager's vision (or aim) develops into a shared rule through alignment. Again, sharing the vision and argumentation with others is important. Managers must also permit others time to reflect on and familiarize themselves with the aim.

The examples mentioned above unveil the managerial mechanisms in the in-house context. However, it was found that managers' active promotion of the company and offerings extends the number of potential partners with whom to innovate. Accordingly, managers may have an important, stand-alone role in expanding a company's resource base through visibility and active network participation.

The recognized managerial capabilities can be present at different levels of the organization, and accordingly, CR-originating mechanisms that are cross-sectional by virtue of being empirical, actual, and real provide durable explanations from a managerial perspective on companies' ability to adjust and shape the environment. Due to this, from now on, the managerial capabilities found in this study are labeled as managerial mechanisms (Figure 28).

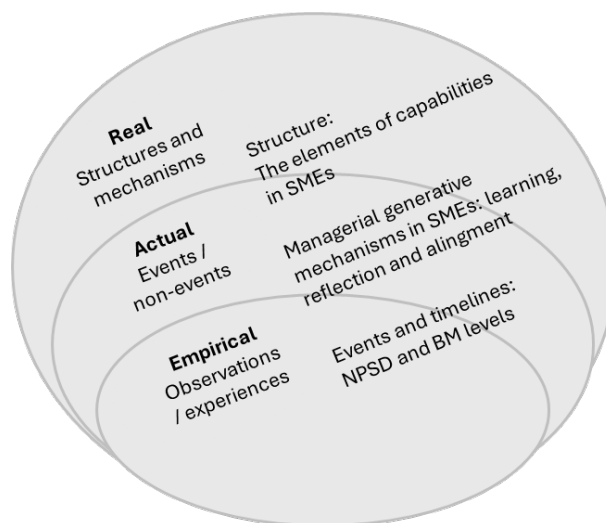


Figure 28. Critical realism combined with the findings

In CR studies, it is important to identify agent-agent and agent-structure relationships when explaining social behavior (Connelly, 2001). Both company and personal histories of managers, together with the appreciation of entities (people interacting in/around the NPSD capability), structure and prevailing ways to operate (self-reinforcing mechanisms), and actions behind the main events (e.g., manager's participation in networks to create a new service) were all present in the recognizing of managerial mechanisms in this study.

In short, mechanisms-based explanations mean that A is an entity or part of an entity that, in a particular circumstance, has a causal power to produce or cause B. This view distinguishes the CR approach from regulation theory, where the interest of causal explanations lies in regularities: When A exists, it regularly precedes B (Zachariadis et al., 2013). This study recognized regularities between the development phases of NPSD capabilities. Demi-regularities recognized between cases were low

bureaucracy, allowance to try, and the fact that all managers are easy to approach. All these demi-regularities describe the communication and inspiring atmosphere of the companies. Managers influence all these demi-regularities through the three mechanisms, especially the alignment.

After combining path dependency theory with CR, the researcher's interpretation follows that self-reinforcing mechanisms are more entitled to structures than agency. The identified managerial mechanisms can create the TPs in the prevailing practices and rules, causing the development. The managerial mechanisms weave together potential tendencies from multiple levels of context: competitive environment, availability of partners, the situation of the team, and if favorable, the causal chain of the change process may begin.

The managerial mechanisms may cause changes in capability development if actualized and not hindered by other mechanisms embedded in the structures. The triggers of the actualizations are often related to the company's vision and external partners that make appealing suggestions to managers. Managerial learning, reflection, and alignment are enduring, although not in action. Managerial mechanisms do not alone compose DC or cause the development of ordinary capabilities, but they impact both of them in SMEs. Managers also affect these capabilities through resource allocation and partnership decisions. The mechanisms were recognized through the interaction of theory and analysis of individuals' behavior and thoughts, structures, and time. In addition, the generative powers of individuals (i.e., managers) interact with the powers of social structures and lead to the reproduction or transformation of the structures in question (Elder-Vass, 2008: 463). In the next section, the structure of DCs in SMEs is presented, together with the managerial mechanisms found.

5.3 Clarification of DC features in SMEs

Analyzing ordinary capabilities and DC clusters gives insight into the discussion about DCs in SMEs. As reported in the theory section, researchers have multiple choices on what kind of inquiry to follow when conducting research under the DC view. The current research adopts the umbrella term of DC and interprets it as *"the capacity of an organization to purposefully create, extend, or modify its resource base."* (Helfat et al., 2007: 4). That perspective from Helfat et al. was selected because it points out the purposefulness of action. In other words, DCs refer to intentional action. Another carefully considered definition was to perceive DC as *"a capacity of an organization to create, extend, or modify how the organization makes a living"* (Helfat, 2022: 735; adapted from Helfat & Winter, 2011). However, this definition

resembles ordinary capabilities because they are often interpreted as how companies “*make a living*” (Winter, 2003). Nevertheless, both definitions focus on companies’ internal resources, capabilities, and abilities instead of emphasizing the environmental focus of DCs.

Companies with DCs are expected to be able to renew their processes (evolutionary fitness), take care of their routinized actions efficiently (technical fitness), and try to influence the company’s business surroundings (entrepreneurial fitness). Table 19 presents evidence for these measures.

Table 19. DC measures in the case of SMEs

Concept	Definition	Evidence
Evolutionary fitness (Helfat et al. 2007: 9–10)	The company’s ability to renew its resources and operation company’s ability to succeed in the markets	Case Alpha achieved evolutionary fitness when the manager sensed the market development and competitors’ actions before the acquisitions
Technical fitness (Helfat et al., 2007: 9–10)	How the planned product and phases to achieve it (divided by their costs) perform their function	Case Beta has emphasized technical fitness (and evolutionary fitness to some extent) by focusing on efficiency and some exclusive product offerings
Entrepreneurial fitness (Teece 2007: 1321)	Encourages companies to shape, not just adapt, to their environment	Cases Gamma and Delta exemplify entrepreneurial fitness in their attempts to change the game’s market rules, which feeds into improved evolutionary fitness

These measures already reveal how DCs can be identified. This study has approached DCs longitudinally in somewhat entrepreneurial firms and emphasized a microfoundational view, thus analytically concentrating on the structure of ordinary and dynamic capabilities. The research indicates that SMEs seldom have intentionally built DCs; instead, manager-led intentions are intertwined with value creation and capture decisions. Accordingly, DCs in SMEs are built on ordinary capabilities, and instead of being a separate capability, they capture a combination of strategy, knowledge, and ordinary capability views. Figure 29 below presents how these views mentioned above are intertwined through interaction and decision-making and how managerial mechanisms support each subarea.

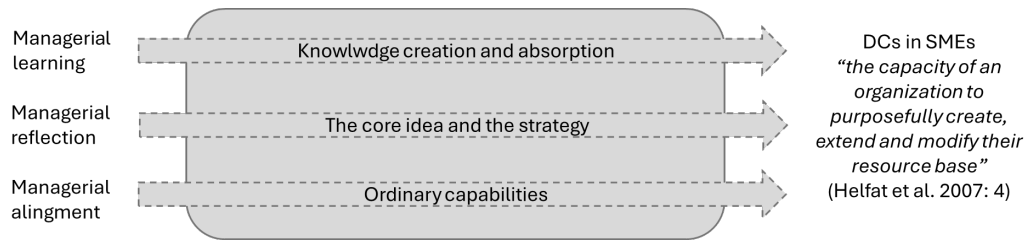


Figure 29. DCs in SMEs

The core idea combines the company's past, present, and future. It is how management and employees see the company: its purpose, existing resources, role, and opportunities in the market. The core idea is intertwined with the company's ordinary capabilities because the existing routines and capabilities, with technology and other resources, set the boundaries that managers constantly reflect against the emerged opportunities (and threats) in the markets. Strategy is a part of this multithreaded union because it includes the future-oriented intentions of how the company tries to create and capture value in the future. In 1962, Chandler defined strategy as *"the long-term purpose of an enterprise and the course of action and the resources necessary to attain the purpose"* (p. 32). The purpose could be interpreted as intentionality in the DC discussion. Intentionality in DCs is combined with changes to the resource base, whereas Chandler's definition of strategy also takes a stance on the allocation of resources. Acquisitions can provide companies with new resources, strengthen the company's vision (e.g., being local), and change the game in the markets. It involves the vision that the manager carries within, especially when he is the company's founder or otherwise committed to the purpose of the company.

Similarly, companies can affect the markets through active awareness and partnership building. Depending on the SME's resources, the strategy can be more planned or based on seizing opportunities as they emerge. Either way, this study suggests that a strategy is a part of or combined with DCs in SMEs.

Additionally, this study suggests that the core idea supports the building of culture and decision-making, whereas when the idea is missing, leadership and management become challenging, and the current resource base becomes the most obvious factor in whether a new idea is exploited. Some companies have the core idea set from the outset, such as changing the industry with specialist and/or high-quality products. Subsequent choices can then be smoothly implemented because reflecting on the opportunity to follow the company's aim or values is simpler.

The core idea is not immune to the surrounding world: competition, technological development, and customer attitudes. Companies often sense and seize attributes that align with their values, e.g., expanding ecological solutions. Thus, the core idea

develops but seldom loses its very heart. The core idea and its development influence ordinary capability development; the themes the company strives for (adding health features to products) affect the need for investments (e.g., technology and partners).

The core idea may influence clusters' sensing, seizing, and reconfiguring. It can (unintentionally) bind the sensing scope, prevent seizing an opportunity if its value is incorrectly assessed, and finally, mean required reconfiguring is omitted if the circumstances indicate maintenance instead of development. Accordingly, the company's management must know their basic assumptions and beliefs about the business value proposition, creation, and capture. Are the attributes that support the core idea still topical? Sometimes, the core idea is closely connected to values, and the track is not entirely replaceable with alternatives. Overall, companies should review whether the core idea they are committed to remains relevant. At best, focusing on the core idea protects companies from being diverted from their path and becoming embroiled in complex decision-making situations.

In contrast, when company actions are based more on current resources and business routines, they are forced to adopt more trends in a shorter period. That choice can lead to greater variations in product portfolios, increase costs, and require more marketing efforts. Given their often-limited resources, SMEs could find good planning to preserve resources. Sometimes, strategic planning might be in place, but the courage to make decisions is lacking. Accordingly, it would be recommended for SMEs to have a board or an outside partner to follow up on the plan's implementation.

The knowledge creation and absorption describe companies' ability to create and utilize knowledge. Recent research has defined internal knowledge creation capability comprising R&D, employee innovativeness, and management commitment (Khraishi et al., 2023). Investigating internal knowledge creation capability in the context of supply chain research, Khraishi et al. (2023) found that when the use of internal knowledge creation capability built on the effectiveness in creating internal knowledge in SMEs, it also supported the absorption of external knowledge, that is, the use of company's absorptive capacity. In some sense, the knowledge creation describes the quality of knowledge in ordinary capabilities and the people involved. In contrast, ACAP adds the how element to knowledge acquisition, assimilation, and transformation. It thus seems reasonable that companies that support experiments and learning also naturally practice the absorption of knowledge from outside. Recently, researchers have found that ideas are adopted better when conversations are longer and span several topics (Deichmann et al., 2020). Thus, longer-term outside partnerships could be beneficial for SMEs. As noted, access to knowledge is an important antecedent of sensing and seizing opportunities and countering threats (Easterby-Smith et al., 2009). This study has revealed many channels through which

SMEs acquire knowledge and embrace managers' roles in these contacts. In the context of NPSD capability, the utility of new knowledge is combined with simple routines and a culture that supports trial-and-error learning. Knowledge creation is placed alongside ACAP because companies need to have the capacity to innovate in addition to ideas absorbed outside.

The three managerial mechanisms support all three primary elements of DCs in SMEs. Managerial reflection capability affects the evaluation of acquired knowledge concerning the core idea and the strategy; managerial learning capability affects how managers understand new knowledge; and managerial alignment capability affects which knowledge is emphasized in organizational development through management and leadership practices. However, investment decision-making can contribute significantly to the capability development process in ordinary capability development and through it to DCs.

The three managerial mechanisms identified in this study also fit SMEs' sensing, seizing, and reconfiguring clusters. The company-level sensing capability consists of scanning, creating, learning, and interpreting, requiring routines to fulfill these activities (Teece, 2007). This study points out that managerial learning capability influences further measures of whether actions will proceed. Accordingly, managers' willingness to learn also impacts their learning capability.

Company-level seizing capability describes how the recognized opportunities should be turned into new processes, products, services, or a mixture (Teece, 2007). Additionally, seizing allows a company to capture the value of the emerging opportunity (Teece 2014). In this study, managerial reflection is recognized as an important antecedent of the seizing activity of SMEs. Managers apply reflection to evaluate the opportunity in light of the core idea and often hold the main decision authority on whether the opportunity is worth seizing. Teece (2007) explains how firms might fail to seize opportunities due to a lack of commitment, risk aversion, and financial reasons. These same reasons are also appropriate to SMEs; however, managerial reflection includes managers' evaluation of the personnel's responsiveness to the idea put in progress.

Company-level reconfiguring is recognized as a key to profitable growth by transforming organizational structures and assets (Teece, 2007). This study highlights managerial alignment capability, which entails management and leadership practices. In the adaptation process, managers must align existing resources with the new aim (strategy) and get team members on board with conducting change actions.

This study introduced the concept of sensing, seizing, and reconfiguring DC constructs in practice in all three developmental phases. Additionally, the managerial mechanisms supporting these clusters were recognized. In another microfoundational study, CEOs (n=307) were asked about their core self-evaluation (CSE), referring to trait premises that CEOs hold about themselves, the firm's marketing, R&D, and production capabilities (intertwined with sensing, seizing, and reconfiguring DCs) and to evaluate the organization's human, social and organizational capital (Bendig et al., 2018). The study's authors do not clarify how they combined the marketing, R&D, and production capabilities with sensing, seizing, and reconfiguring, and due to this, the question remains whether the results reveal more about CEO influence on ordinary capabilities than on DCs. However, they found that human capital and organizational capital mediate the relationship between CEOs' personality traits and DCs and that the CSEs of CEOs were positively related to all three forms of knowledge capital supporting subsequent learning conditions for employees and the building of DCs. The study indicates that CEOs influence the learning conditions of others and, through that, influence firm-level DCs. This result is similar to the findings of the current research. Managers of SMEs influence both the conditions of others and are valuable members of the joint learning process. The effect can be more direct in SMEs. This study indicates that managers of SMEs might participate in R&D, production development, and marketing actions.

5.4 Functioning of managerial mechanism in SMEs

This study showed that SME managers can directly influence ordinary capability development, for example, through investment decisions or their substantive knowledge. However, regarding DCs, the influence of managers was more indirect. The structure of the DCs in SMEs does not reveal how managers affect capability development. Accordingly, figure 30 below has been developed to unveil the managerial mechanisms and context. The figure reveals how new ideas and practices are first evaluated concerning the core idea and then assimilated to become shared practices through interaction at the team level.

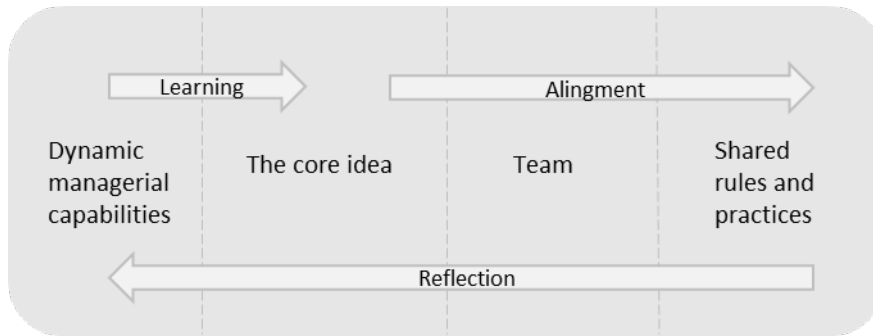


Figure 30. Microfoundational perspective on capability development

This study found that managers influence capability development through an internalized vision, networks, and direct decision-making. In SMEs, managers are often the initiators of development.

First, managers do not benefit from sensing capability (individual or company level) without learning and reflection mechanisms. These mechanisms are used through managerial cognition, experience, and social connections, and the development suggestions received are evaluated against the business's core beliefs: value proposition, creation, and capture. Second, the initiatives will not progress without involving others in the development actions. Again, learning and reflection mechanisms are central as individuals and collectives reach a joint understanding and form a plan through interaction and negotiations. Prior research has investigated managers' roles in strategic change. Managers are important agents in making sense of the competitive environment (sense-making) and conveying the interpretations to others (sense-giving) (Gioia & Chittipeddi, 1991). The same logic was found in this study. Third, the manager influences interaction through an alignment mechanism consisting of leadership and management practices alongside communication with team members. Managers must, for example, cope with tensions that partly originate from the heterogeneity of team members. The leader's task is to create an inspiring and confidential atmosphere where participants can connect. For example, other researchers recommend recognizing drivers behind diverse and possible hidden agendas, ensuring that challenging topics can be discussed, and providing a compelling vision that inspires employees and stakeholders (Shoemaker et al., 2018: 30). Although this study does not represent a traditional leadership study with detailed variables and subsequent measurements, it implicitly brings forth the important aspects of leadership and management practices. Other researchers have introduced an integrative leadership framework for organizational adaptability (Uhl-Bien & Arena, 2018). The framework recognizes three leadership modes: entrepreneurial, enabling, and operational leadership in the emergence of adaptability at the company level. This study revealed similarities between the leadership cultures: innovativeness, unintrusive bureaucracy, and permission to try

things featured in all companies. Accordingly, the recommendation is that managers clear space for ideating, confidential discussions, and trials with the necessary resources provided. Thus, managers are commonly involved in all DC dimensions: sensing, seizing, and reconfiguring, but as stated in the previous section, in SMEs, they manifest in the interaction of strategy, ordinary capabilities, and knowledge flow-related decision-making. Managers must often resolve tensions between individuals and between plans/aims and existing resources and competences, illustrating the importance of leadership and management practices in the alignment mechanisms.

Finally, the vision and networks that create an important part of managers' DMCs widen the SMEs' market possibilities. It seems that the more managers are focused outward, the more companies receive suggestions from potential partners that can be involved in current practices through the same learning-reflection (individual level) - learning-reflection (team level) cycle combined with alignment. Similarly, the analysis indicates that managers' visions develop through their perceptions of the competitive environment.

Path-dependent self-reinforcing mechanisms sustain practices and rules that the work community collectively accepts. The self-reinforcing mechanisms do not reveal why things change but focus on rules and practices that integrate best practices.

Inhibitory and contributing factors of managerial agency

A CR approach requires discussing the inhibitory and contributing factors of the three managerial mechanisms recognized in this study. Indeed, managerial learning, reflection, and alignment are all under the influence of other mechanisms that may prevent them from fulfilling their purpose. First, the managerial knowledge base affects learning, reflection, and alignment. The knowledge base, instead, originates from individual experience acquired through education, working life, and similar situations. Although individuals' cognitive processes (e.g., creativity and problem-solving capacities) are beyond the scope of this research, they influence skills visible to others. Second, all three managerial mechanisms surface with other individuals (friends, family, teammates, mentors, etc.). The personal network with which the manager discusses business situations and conflicts in the work community may have facilitating or constraining effects on the mechanisms, or they can lead to results that are not optimal in the current situation. At the team level, tensions can emerge from various causes. To avoid and resolve those, managers may, in addition to the topical concern, think that the vision, aims, roles, and required competences are clear to all team members in parallel with the functioning meeting, reporting, and knowledge-sharing practices. Third, all three mechanisms may also suffer from time pressure, financial challenges, stress, and other factors impairing the manager's concentration

on topics. These challenges can originate from various areas of life, including general economics and market situations.

The facilitating factors, in contrast, include the knowledge base (substantive knowledge, business, the field, economics, management, and leadership) and manager networks. Managers may intentionally participate in occasions that challenge the conventional ways of thinking and seeing things. In fact, "*challenging*" conventional thinking is one of the strategic leadership skills recommended to managers (Shoemaker et al. 2018). The interest in learning is a feature of the managerial learning mechanism, but at the same time, it is a feature the manager may pay attention to. Managers may ask themselves if they are still interested in acquiring and adapting new knowledge. Another equally important question is whether they allow others to learn, e.g., by trial and error. By raising these questions, the manager reflects on (one of the mechanisms) the learning and alignment capabilities that compose the other two microfoundational mechanisms of capabilities in SMEs.

6 CONCLUSIONS

Organizational-level research has been criticized for being unable to resolve how capabilities emerge and develop (Durán & Aguado, 2022). Therefore, this microfoundational study considers individual agency within organizations and fills the gap by unveiling the influence of DMCs on ordinary and DC development in SMEs. Earlier longitudinal research also recognized that managers affect capability development; for example, when managers pay attention to customer wishes, it affects the competences developed, end-offerings, and branding (Laamanen & Wallin, 2009).

This study addresses two primary research questions to explain how DMCs contribute to ordinary and dynamic capabilities in SMEs: 1. How do DMCs contribute to developing ordinary capabilities? and 2. How do DMCs contribute to developing dynamic capabilities?

In particular, this study shows that managers influence capability development in ordinary and dynamic capabilities. Both capabilities build on routines (Teece, 2014), and earlier studies have argued that founding managers influence the formation of routines (Lin et al., 2017; originally Miner et al., 2008). This study showed that the managers of SMEs have effects on routines. Managers may participate in routines directly through their competences, skills, and decision-making. Additionally, managers' external knowledge-learning influences the companies' capability development.

Regarding the first research question, it was found that managers influenced ordinary capabilities through investments, vision and aim, networks, and the company's active promotion. Investment decisions influence capability development through equipment, recruitment, cooperation, and marketing. Managers make decisions, for example, regarding customer segments, price points, and portfolio content. Indirectly, managers' vision or aim may develop into a shared rule, networks become part of the company's in-house routines, and their active promotion of the company and offerings extend the number of potential partners with whom to cooperate in the future. The core idea was first introduced at this stage of the study. When absorbing new knowledge, managers reflect it based on their internalized vision of the company's purpose, resources, role, and market opportunities. Thus, the tension between the core idea and the strategy is constantly present in the interaction and decision-making of managers in SMEs. Others have stated the same: *"While renewing to adapt for tomorrow requires change, flexibility, and creativity, profits for today require order, control, and stability"* (Cegarra-Navarro and Dewhurst, 2007: 1721). The core idea illustrates how the past and future intertwine in managerial decision-

making through managers' views on companies' purposes and aims concerning current resources and capabilities.

Regarding the second research question, companies need DCs to recognize opportunities and obtain knowledge to strategize in changing conditions. This study found that managers had the following tasks in the pre-formation, formation, and lock-in phases of DC development: managers set directions, guided staff along the way, and kept the core idea alive while allowing new opportunities to emerge. More importantly, it was found that managers aimed to influence the value proposition and creation (pre-formation phase) and value creation and capture (formation and lock-in phases) through these tasks. Thus, managers' attention tends to be inclined to value creation and capturing business themes when guiding the business forward. Earlier studies have shown that after reaching satisfactory capability development, managers may shift their focus to other business areas (Laamanen & Wallin, 2009). Accordingly, shifting interest areas involves opportunities to capture future value.

The analysis from ordinary and dynamic capability perspectives revealed that managers focus on the core idea when making choices and that the managerial learning, reflection, and alignment mechanisms function at both capabilities. The learning mechanism describes how managers absorb ideas (in-house and out-of-house) through experience and accumulated knowledge that direct their attention. The recognized knowledge base of a manager reveals competence requirements for managers: expertise in the markets, value chain, partners, ordinary capability functioning, and resources that support efficient decision-making along the development trajectory of the company. Managers utilize reflection mechanisms when evaluating observations concerning the core idea. They may discuss those observations with others and often want to proceed with development actions aligned with the core idea. The alignment mechanisms include direct decision-making effects of managers and indirect effects of management and leadership practices. However, the observational data is insufficient to describe the interaction-based mechanism in the emergence of shared understanding, but antecedents that smooth this process were recognized. According to this study, SMEs with personnel who share the same passion (regarding a product, belief, or aim) reach an agreement more easily.

At the team level, learning and reflection can be seen as a continuum to managerial-level learning and reflection through alignment. Earlier capability development has been covered with an organization's capacity to learn. For example, Zollo and Winter (2002) recognized three team-level learning mechanisms: experience accumulation, knowledge articulation, and knowledge codification. The first captures organizational routines and their capacity to renew through experience and tacit

knowledge. The second one encourages team members to commit to deliberate discussions to make the implicit knowledge visible. The third refers to actions where knowledge is coded to manuals, procedures, and other knowledge-sharing practices that support cooperation. The learning mechanisms of Zollo and Winter (2002) thus imitate bottom-up learning from routines. In this study, the role of the team and routines were acknowledged through a path dependency framework, although the focus was on the turning points. According to this study, companies' exploitative learning, where already known methods and procedures are utilized in a new context, may originate from managers' knowledge base, perception and attention (part of learning mechanisms), reflection, and alignment. Companies may utilize explorative learning through partners, which, based on this study, seems initiated in SMEs by managers' participation in different networks.

The individual agency of managers, central to SMEs (Durán & Aguado, 2022), is absent from Zollo's and Winter's (2002) approach. In this study, mechanisms were approached from a managerial perspective. Despite this difference in the premises, some elements support each other. The learning mechanism found in this study also captures the experience of individuals, and, in some sense, the tacit knowledge illustrates the core idea directing the company's value-creation activities. Writing manuals and developing systematic ways to share knowledge are not always prioritized in SMEs. Management can initiate these initiatives, but their execution requires a team effort. This study, therefore, mirrors the view on learning that emphasizes the strategic role of external knowledge in capability building and explicates the role of agency in capability and business development. Following the path dependency framework gave valuable directions to observe routines and build an understanding of the companies' cultures and ways of operation. Describing the reinforcing and retaining rules and activities gave helpful knowledge about the company's culture and leadership and management practices. It is useful for managers to support informal discussions, experiments, and low bureaucracy to create an innovation culture in SMEs.

6.1 Theoretical contribution

The theoretical contribution of this study is threefold. First, the study contributes to earlier research on ordinary and dynamic capability development. Second, this study deepens the managerial perspective on capabilities through managerial mechanisms. Third, the structure of DCs in SMEs is unveiled. All three views will be discussed next through the DMC lens. According to the traditional definition, DMCs are seen as capabilities that enable management to build, integrate, and redefine organizational

resources and competences (Adner & Helfat, 2003) with a goal-oriented mindset (Martin, 2011).

This study adds to the understanding of the missed agency view in DC research (Salvato & Vassolo, 2018) by introducing the three managerial mechanisms that may cause a change in capabilities when activated. The three mechanisms meet the deep realist ontology (Bhaskar, 1978), which perceives the social world as an open system comprising entities with embedded causal powers engendering change (e.g., Mingers et al., 2013). The entities consist of different levels: economic, social, organizational, and psychological, and they all capture causal powers. This study showed that managers absorb knowledge from these dimensions when using the mechanisms and making decisions. Thus, according to the DMC view, managers combine elements of these dimensions to advance capability development. Managers can introduce key specialists to outside partners and accelerate the co-innovating processes. At the same time, these dimensions could hinder the manager's intentions: that is, economic fluctuation could block planned investments, or the resignation of a key specialist might delay the launch of a product.

Prior DC theory literature has not explicated the reflection mechanisms referring to managers' evaluation of ideas and suggestions concerning the core idea. The core idea functions as a manager's filter for all ideas received from various networks and information channels. However, DMC literature indicates managers draw from past experiences when making choices, and from a CR perspective, Bhaskar (1994) reports that humans can transform situations through reflexivity. Accordingly, the reflection mechanism seems to contain a variety of perspectives: the manager's values and aims in business and the current situation in the workgroup and resources. This study explores how managers are caught in the constant storm of permanence versus the company's procedural plan renewal. Interestingly, Heubeck (2023) found that an individual's cognitive processes that make decision-making more efficient and less complex strengthen the relationship between entrepreneurial skills and digital business model transformation. This lower level of cognition refers to processes where an individual utilizes automatic processes compared to the deliberate processing of information. It can be so that the core idea can, for that part, ease a manager's decision-making in a changeable and complex environment. The decisions about suitable partners and marketing efforts are easier to make with a solid key aim and interests.

From the perspective of sensing, seizing, and reconfiguring dimensions, Teece (2007) stated that entrepreneurial management has little to do with analyzing and optimizing but is about sensing and seizing opportunities. Similarly, George et al. (2022) recognize that DMCs may affect DCs, but they are still a distinct concept. This

idea is verified in this study: it was easier to recognize the manager's role in sensing and seizing opportunities, where the aim was often to create and achieve something new, whereas reconfiguring refers to a more confirmatory activity. These findings echo those of other studies. Durán and Aguado (2022) conducted a meta-analysis of cognitive variables underneath managerial sensing, seizing, and reconfiguring; they found a positive correlation between CEO's managerial cognition and DCs, emphasizing the role of managerial sensing. Further, they noted that managerial sensing had a direct effect on firm-level sensing and an indirect impact on seizing (and the effect of managerial seizing disappeared). In contrast, the managerial reconfiguring effect on firm-level reconfiguring could not be verified.

The current study shows that SMEs have varying tools and routines available to share and evaluate the value of reached ideas to practice seizing. The SME culture might support informal discussions, knowledge-sharing, and experiments. Also, it seems beneficial to practice sensing and seizing with partners to increase the impact of the project outputs. Other research agrees that companies may build knowledge-sharing routines to support partnerships. Knowledge-sharing routines are defined as *"regular pattern of interfirm interactions that permits the transfer, recombination or creation of specialized knowledge"* (Dyer et al., 2018: 669). Thus, innovation can originate from the company's networks, such as suppliers (Jean et al., 2012). Accordingly, SMEs could also concentrate on interorganizational knowledge-sharing practices that might yield better results.

Although DC literature has a long argument for leadership (Augier & Teece, 2009), it has not been clearly integrated into the present definitions. However, a theoretical definition of leadership disciplines that link leadership and DC clusters in VUCA conditions are managerial anticipation and challenges in sensing, interpretation and deciding in seizing, and alignment and learning in transforming (Schoemaker et al., 2018: 31). There is a narrow, blurred line between managerial skills and competences (what is needed) that the study of Schoemaker et al. (2018) represents and between managerial mechanisms (how to get things to go forward) that this research represents. Interpretation and decision-making mirror the findings of this study: managers of SMEs make or are important members of the group that makes the main investment decisions. The interpretation refers to sense-making and sense-giving (Gioia & Chittipeddi, 1991) in strategic matters and resembles this study's reflection and alignment capabilities. In the process of sensing, the words chosen are not the same, but concrete examples show that managers anticipate, for example, through networking. During reconfiguring, the manager's role is about constant adjustment, and reflection mechanisms would be a part of the alignment and learning, as Schoemaker et al. (2018) pointed out. Accordingly, the findings of this study are

close to these disciplines, although the framework of Schoemaker and others represents a cross-sectional view, whereas this study focuses on development.

Further, earlier microfoundational research on sensing, seizing, and reconfiguring to enable service innovations highlights many leadership-related management tasks, for example, leading change and being a messenger or an ambassador when building a new culture (Kindström et al., 2013) mirroring the found alignment mechanisms of this study. Consequently, the continuous renewal of resources and enhancing, combining, protecting, and reconfiguring business assets (Schoemaker et al., 2018; Teece, 2007, 2014) are often conducted after a (strategic) choice. As in earlier research, it is acknowledged in this study that managers utilize DMCs to stimulate the creation and building of DCs (Durán & Aguado, 2022). However, the DMCs are now more detailed concerning how managers affect the company-level sensing, seizing, and reconfiguring dimensions through the three managerial mechanisms.

Thus, regarding the sensing, seizing, and reconfiguring perspectives of DCs, it seems that in SMEs, similar DMCs are intertwined with the structure of these DC clusters. The situation means that managers of SMEs have a role to play in each of these capabilities and that the (DCs and DMCs) are difficult to separate. Another microfoundational research piece on DCs supports this notion. Similar to this study, the research posits that CEO's sensing, seizing, and reconfiguring influence the development of firm-level sensing, seizing, and reconfiguring through micro-founded mechanisms (Durán & Aguado, 2022; originally, Bendig et al., 2018). Accordingly, the CEO's cognition triggers causal mechanisms underlying the DCs. Similarly, manager's perceptions and attention preceded the activation of the learning mechanism in this study.

Overall, managerial learning, reflection, and alignment mechanisms were found in the context of SMEs but proved not as closely tied to the context as the developed framework of DCs in SMEs. Instead of creating stand-alone DCs, SMEs should incorporate elements of DCs into their existing routines. In this way, SMEs can make more efficient use of resources. Managers of SMEs should identify situations where they can add value to practices by adding more systematic data collection, analysis, and exploitation. Recently, other researchers have come to a similar conclusion: *"Our findings extend work into capabilities by showing that the development of a dynamic capability stemmed from the scaling, embedding, and integration of an operational capability"* (Stoyanova & Stoyanov, 2023: 40). In this study, DCs in SMEs are best described as a combination of knowledge creation and absorption, the core and the strategy, and ordinary capabilities that are supported by managerial mechanisms, interaction and decision-making.

6.2 Managerial implications

The managerial implications of this study are presented based on the longitudinal follow-up of four Finnish food business SMEs that serve customers with appealing product and service combinations. Because each company's story was at its heart during the research process, the implications are built on the trajectory recognized in companies' NPSD capability and business development. First, it is recommended that the managerial focus is on potential customers. That involves figuring out what customers want (*learning mechanism*) and, most importantly, a business model suitable to bring customers close to the business offering. That requires creating product-service combinations that ease customers' processes, offerings, or services. Second, the manager must be careful when searching for the boundaries between customer focus and efficient use of resources (*reflection mechanism*). Not every customer request is within the limits of reasonable use of resources. Third, due to these resource constraints, managers should search and build partnerships that add competences and resources, for example, in the routines of NPSD capabilities (*learning mechanism*). Earlier studies also found that the social capital of SME managers (e.g., networks with other companies' representatives) contributes to the growth of sales, net income, productivity, and returns on assets and sales (Acquaah, 2007).

Fourth, constantly searching for new revenue paths and customer groups is an intrinsic part of the manager's job. Nevertheless, that cannot be done without carefully considering the company's and manager's resources and competences (*reflection mechanism*). Although this study was not about managerial well-being, on some occasions, long working hours, coping at work, and the capability to manage pressures when taking risks appeared in the interview content. Fifth, sometimes, when a company finds its direction, mission, or purpose, the decision-making can become easier for the manager. Deciding on partnerships, in-house development projects, and marketing efforts can be easier when the core idea of the business is set (*reflection mechanism*). Past choices, values, and goals that define the core idea of the business can also clarify decision-making when, for example, considering new products or entering partnerships. The manager is often key to disseminating and keeping the mission alive in SMEs (*alignment mechanism*). However, sixth, managers can find themselves in a situation where the initial idea is challenged by the market, the environment, or company personnel (*alignment mechanism*). Accordingly, the final theme in the trajectory is the manager's ability to renew a mission, especially when that manager is a company owner. That renewal may require trust in others' visions about the future and a willingness to learn, reflect, and redefine the direction (*reflection and learning mechanisms*). Managerial cognition studies also support this last notion. Laamanen and Wallin (2009) found that the existing mental models of

managers affected how operational capabilities were developed in three software companies. Additionally, Rosenbloom (2000) showed how managers' mindsets prevented strategic change in a company and how the new path was eventually found through a new CEO with a different attitude to change.

The companies of this study have a strong baseline through their capacity to introduce novel, meaningful, and superior outputs in the NPSP, but this is not always the case. On these occasions, the focus should be on knowledge creation and absorptive capacity. These concepts capture human resources, partners, technology, and the capacity to absorb and exploit knowledge. The manager's role through learning, reflection, and alignment is central, together with possible supporting structures (e.g., regular meetings and fluent ways to share knowledge). My recommendation for managers of SMEs is to take care of the basic routines behind value creation and capture and then concentrate on enhancing the routines close to the knowledge view some researchers name as a separate DC. Consequently, when developing NPSP capability, managers should consider the following themes that capture viewpoints from value proposition, creation, and capture:

- What are we pursuing?
- What kind of resources and partnerships do we need to succeed?
- How do I communicate the core idea in-house and externally?
- How do I stay flexible and open to suggestions without abandoning the core idea?
- How successful has my decision-making (validity and timing) been in the past five years? How will I improve my decision-making in the future?

Leading a company is never a one-person initiative, and a manager must always be mindful of others' expectations, wishes, and requests. The prioritization about what suggestions to say yes to and what experiments not to give more time or other resources is often on the shoulders of the manager. These suggestions involve products and services under development, process and technology development, marketing and administrative aspects of business, and NPSP capability development. Depending on the manager's commitment to NPSP, it can involve product making, testing, and serving customers.

Similarly, managers may evaluate whether the company possesses DCs. SMEs seldom have an opportunity to build separate DCs; instead, they are closely related to ordinary capabilities already practiced in the company. Managers can, however, be more aware of the sensing, seizing, and reconfiguring dimensions of DCs and

intentionally integrate these elements into existing routines and practices. For instance, in NPSD capability, the quality and amount of information sources can be evaluated (sensing) through closeness of cooperation with partners, diversity of networks and ability to obtain new ideas from the media and networks. Managers may also evaluate their own input in these sensing activities. Further, new ideas can be purposefully conflicted with existing views (seizing) by evaluating the company's tools and practices for idea generation, sharing, and testing. Again, managers may evaluate their own input based on how they enable tools for open information sharing and communication, and how their own (investment) decision-making facilitates the proceeding of others and the success of the company. Finally, SMEs can systematically review its strategy and decision-making (reconfiguring) by evaluating the aim of the strategy and whether it should be, for example, about changing the rules of the game in the markets or shaping the competition in the markets. The aim may clarify the needed resources and how to organize them. Managers can also reflect on the ways they and the company have navigated challenging times such as COVID-19. Moreover, managers can evaluate their own ability to make tough decisions when needed. Additionally, the managers set standards through functioning as, for example, with a commitment to work and an attitude to finding solutions. Their participation influence both the quality of the work and the working culture.

6.3 Limitations and suggestions for future research

This study has many limitations that open important avenues for future research. First, the initial measurement utilized in the case selection was based on the companies' evaluation of their capability to produce novel, meaningful, and superior products and services. In future studies, this could be done based on more objective measurements (e.g., sales reports, amount and content of reclamations, opinions of customers, consumers, and other operators in the field). However, regular measurement was not the purpose of this study; instead, the purpose was to get close to the personnel of case companies and *to understand why and how* companies can produce competitive products and services for the markets.

From the perspective of a routine approach to capabilities, the data could have been richer. However, this would have required the researcher to have closer access to companies, which would also have demanded more time from the case companies. The primary data-gathering method, theme interviews, was applicable in the research settings; however, the ethnographic approach could have given more insight into the routine dynamics (Feldman et al., 2016). In this study, the cooperation of participants could only be observed during the visits and workshops. It would, therefore, be worthwhile to conduct a longitudinal within-case study with an

ethnographic approach in SMEs to challenge, build on, or verify the outcomes of this study.

Under the selected CR case study research setup, some hints were received about the interaction between team members in NPSD capability phases; however, managers were interviewed several times, and only some subordinates were interviewed twice. Accordingly, this study offers limited inputs on understanding the influence of other company members on ordinary and DC development. However, other members were also asked to present their views about the manager's role in NPSD and the company's development trajectory.

Publicly available information on SMEs is also limited compared to that for listed companies. Nevertheless, future qualitative research in a large company is recommended. That could be action research, where the researcher could attend to the practices and development while conducting research. That scenario could also be beneficial from the perspective of a participative company. Qualitative DC research can be rather intensive, and involving a researcher could benefit both parties.

Kurtmollaiev (2020) has called for more research about individuals' (agents') beliefs, desires, and emotions to understand individual actions better. He argued that DC research had focused on cold cognition. The same study also challenged the prevailing assumption in DC literature about managers' or TPM teams' sole right to change organizational routines. Nevertheless, in line with Gavetti (2005), Kurtmollaiev admits that if managers do not see an opportunity pointed out by other members, the opportunity may not be recognized at the group level. An avenue of future study might be how managers' knowledge base affects company-level choices in SMEs.

As noted above, managers' willingness to learn also impacts their learning capability. Accordingly, it would be worth researching situations when SMEs missed opportunities because the opportunity was introduced to the manager at the wrong time. Perhaps the manager was occupied with other tasks and could not spare the time to investigate the opportunity to isolate its potential benefits.

Additionally, this study shows that managers attach more readily to partners who promote the same values. Accordingly, future research might investigate the value of social cognitive capital in managerial and strategic decision-making, such as that involving partnerships and customers. Similarly, more research on cooperation-based innovation routines between SME partners would be beneficial.

6.4 Reflection

Challenge 1. When committing to causal analysis, researchers may unintentionally build a reasonable narrative while dismissing important details of the empirical material (Ylikoski, 2018). The researcher was aware of this trap during the research process and tried to break down the data consistently from several theoretical perspectives (temporal development of capabilities, self-reinforcing mechanisms, and cross-sectional analysis of capability). However, the mechanism-originated explanation is ultimately selective, and it is the researcher's responsibility to build descriptions that highlight the substantial features of mechanisms that explain the investigated phenomenon.

Further, a mechanisms-based explanation permits the investigation of phenomena between the micro and macro levels. However, the relationship between micro and macro is relative and depends on the research subject (Ylikoski, 2018). For example, a company can refer to the micro-level when the study's subject is SMEs' export efforts. However, when concentrating on dynamism inside an organization, the micro can refer to the individual and the macro to the organization. In other words, actors (individuals) are part of the social processes that form the phenomenon, and mechanisms-oriented researchers seek to tie their existence or involvement to the given explanation.

Challenge 2. Although the role of agency is acknowledged, the aim is not to reduce the social factors to individual characteristics (Ylikoski, 2018). Instead, it is to understand how the micro and macro are composed. Macrophenomenon cannot be explained based on individual characteristics, for example, a manager's motives, but individual characteristics can be utilized as a theoretical frame that explains changes in behavior. Further, the mechanisms-based explanation does not try to explain social processes as psychological processes; still, psychological assumptions are important.

This study applies psychological assumptions from the DMC perspective (Adner & Helfat, 2003). The qualitative approach in the analysis limits the agent-based explanations of behavior to some extent. For example, the researcher introduces managers' education and work experience (human capital) when they naturally respond to subsequent behavior or choices in which managers have taken part. These managerial networks (social capital) are relatively easy to interpret from the data. Sometimes, external networks can be formed with earlier education institutions. However, managerial cognition is the most challenging part of applying the DMC perspective in a qualitative frame. To avoid the pitfalls of interpreting managers' knowledge structures (or mental models) and cognitive capabilities (or mental processes), the researcher restricted observations of managerial perception and

attention based on the data analysis and explicit choices managers made. These are also cognitive capabilities, but the researcher interprets them through meaning: the issues managers pay attention to also have some meaning directly related to them or the topic they are advancing. Cognitive capabilities, such as problem-solving and reasoning, remain beyond the boundaries of qualitative research. The three features of DMCs overlap, and the researcher utilized the analytical frame of the three underpinnings when they explained why and how the NPSD capability developed in a particular direction.

Challenge 3. Researchers can fall into biases at different stages of qualitative research. For example, a researcher may have a firmly defined theoretical framework that overlooks new perspectives generated by interviews or observation. The researcher may also ask leading questions without realizing it. In this study, the theoretical framework was approached through concrete temporal events and examples, which reduced the direct interpretation of responses to existing theoretical frameworks. At times, informants from the same company recounted the same events, leading to a natural triangulation of knowledge. On some occasions, the researcher found it necessary to read the data in a different order, sometimes starting with subordinates' responses, thus avoiding giving too much weight to the managers' perspectives. Participants in the study may also be subject to bias. The researcher sometimes felt that the subordinate responded similarly to the manager. Sometimes, it was difficult to interpret whether this was a question of a very well-established company culture or a desire to present the 'right' image of the company to the outside world. It is also known that when team members trust each other, they may disagree and present divergent opinions. Trust requires time, and it can be that, for example, newcomers may give the most positive answers. Some interviewees who had a close or a long relationship with the manager did express criticism. Ultimately, that is a sign of a well-functioning working environment.

Qualitative case study research is rewarding; as pointed out earlier, it reminds one of detective work. Clues are searched from the field, from theories, and based on the chosen philosophical approach. The researcher is an active actor who takes notes, combines clues with theory, and mirrors their applicability to the chosen view of the world. In this research, critical realism both attracted and challenged the researcher. For example, the critical realist approach does not recognize research methods that directly fit its purposes. With multiple actors, levels, and temporality, courage to search and try out was needed during this journey.

Challenge 4. Qualitative longitudinal research requires a certain degree of courage to explore the unknown. One must trust that the research process will hold and that the core of the matter will eventually emerge when approached systematically and from

different perspectives. Looking back, I realize courage is also needed in the smaller choices made during the research process. For example, in this work, it would have been beneficial to more clearly focus on casing. The case companies provided a context for the research to investigate how the key concepts in capability literature relate, how capabilities develop, and what role the managers carried in this development. However, in critical realist research, the analysis cannot stop at merely identifying the role of managers in developing capabilities; it must also reveal the mechanisms through which they influence development. This outcome is presented in Figure 30 of the work. However, without identifying the roles of management in the different stages of capability development (pre-formation, formation, lock-in), it would have been challenging to delve into their impact and how they achieve this influence. Moreover, the different depths of the chosen concepts can also be complicated when defining the case casing. For example, DMCs can also be examined from the perspective of their antecedents: human capital, social capital, and cognition. On the other hand, DMCs are also explained by their expertise, which adds further depth perspectives. In this study, antecedents were mainly considered in the first phase of capability development, the pre-formation phase, while in later phases, the focus was on the managers' knowledge of the industry, markets, value chain, partners, customers, and ordinary capability routines and resources.

Finally, in research, the last challenge is to present the findings and reasonings in writing. I hope readers will find a common thread to follow throughout this dissertation, with some new beginnings to inspire your research.

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Appendix 1. Interview templates

2014 Manager Delta

Job title

Job description

Ownership

Basic information about the business

How would you describe the products and services that your company offers?

Where are the company's products and services sold, and in what types of locations?

What types of customers do you have? Are some of those more important than others?

How close or personal is your relationship with your customers?

Do customers pay an individual price for all products, or are there any service or license fees?

What kind of partners do you have?

Are there some things the partners take care of that you do not take care of yourself?

What are the biggest cost items?

Where would you describe that competitive advantage for the company comes from?

How are your resources like equipment, people, and brands connected with your competitive advantage?

Is there a resource you do not have that is really important for your operation that comes from a partner?

Are some of the resources difficult to find outside the company?

Is there competition for talent between competitors?

How much have your resources and expertise developed over time?

Knowledge acquisition

Where do new product, service, and process ideas come from?

Do you encourage staff to collect ideas?

Do you collect ideas through some tool like a website or Facebook, a customer survey, or a feedback channel?

Is there anything you feel is a barrier to ideas not coming in? Are there any obstacles of sorts?

If you would have unlimited resources, what would you do? Something like a completely absurd situation where you would just have unlimited resources to gather information.

Do you intend to do data collection differently in the future?

Knowledge assimilation

How are new ideas about market possibilities shared within the company?

How often do you share this kind of information?

Where do you discuss ideas?

Then, if an idea comes up, is there someone to whom it should be told?

Are there some factors that make it difficult to share information?

Is there something that stifles discussion with the market? Or is there something that prevents the information from being discussed with customers?

How will the information-sharing systems and habits be developed in the future?

Knowledge transformation

Once new information starts coming in-house, how will it be used to generate new services? How do you figure out if you can actually make this idea a reality?

How do you find out what the idea will cost?

How do you find out whether you need any partners to proceed with the idea?

How do you start to develop the required services and processes?

How do you go about finding out just what it will cost?

How do you estimate the sales potential in terms of volume?

How much do you communicate with customers when developing a novelty?

Who makes the final decision about a new product or service?

How do you see your own role in decision-making in the future?

Knowledge exploitation

What kind of actions are needed to get the products or services to the market? What does it take for it to really start to reach the customers?

How is it like to get customers to buy new products and services?

Who brings new products and services to the customers' attention and reach, is it only salespeople, or are also others involved?

How do you make sure that the new products and services are introduced to customers?

How do you collect information from customers and their opinions about new products and services, do you have any methods for that?

How do you act on the received feedback?

Do you help customers with their machinery?

How does the end customer know (e.g., in restaurants) that it is your offering?

To what extent do you test new products before you go out and launch it on a full scale?

How do you ensure that new products get maximum margins and maximum volumes from the market?

Do you proceed in certain ways to ensure that customers would stay with you?

How do you ensure that new products will be sold in all the places where you want it to be sold?

How do you make sure that all your customers have heard about the new product?

What kind of tastings and training sessions do you organize to customers?

2017 Manager Delta**Research interview**

Demography (Managers' and specialists' interviews in 2017-2022)

Company name

Year of establishment

Turnover

Number of employees

Other indicators

Name

Age

Education

Length of time in the position

Work experience

Visual technique

The aim of the exercise is to find out what and how managers perceive competitors. They will produce a comparative talk on how competitors differ from their own company, e.g. what differentiate products and services from competitors' offerings. The assignment will make managers produce comparative speech about their own companies' choices compared to the main main competitors.

General questions regarding the competitive landscape

- In which markets do you currently operate?
- Have there been any recent changes?
- Describe your current competitive landscape: What kind of opportunities have you recognized in the markets? What kind of threats?

Place the cards of the competitors in relation to your own company.

You have identified XX/XY/YY etc. as your competitor. How would you describe this company? What could you learn from it?

Where do you get and obtain information about competitors? With whom do you discuss market changes?

Are there other companies competing with you in the same market?

What gap in the market would you like to fill in the future?

Decision-making, investments, team management and partnerships in the NPSD capability

What do you spend your time on at the moment?

What major decisions have been taken in your time as the manager

- Investments that have influenced the development of the business
- Have there been any investments that have not been made?

How are you involved in the NPS development?

Do you influence new recipes, production processes, equipment purchases, raw material purchases, do you bring ideas to the product development team?

Can you give an example of an idea that you heard and then took forward?

What kind of things are you asked for advice on when developing new products?

Who are involved in the product development team?

Which partnerships do you manage yourself? How do you manage customer relationships?

What is your relationship with raw material suppliers?

Do you visit distributors yourself (to look at product placement)?

What kind of cooperation do you have with the University of XX?

How do you motivate the team to come up with ideas and to do things again and again?

What motivates you going forward?

2019 – Manager Beta

What do you spend your time on at the moment?

Ownership

How is ownership of the company divided? Are your parents still involved in the business?

How has the change of ownership affected the development of the business? What things have changed? What has been invested in?

What did your parents emphasize in the development of new offerings?

Was the approach the same then, in terms of raw materials, customers, distribution channel, when you worked in production? Has anything changed fundamentally since the generation change?

From a customer perspective, has your brand changed in any way?

What investments have been made during these years?

History

In what ways is your handprint particularly visible on the Product X?

How has your turnover developed over the years? What about the number of employees?

In 2014, the result for the financial year was € XX, after which the result started to decline and fell into the red in 2016? What happened here?

Did you lose any major customers? Why?

How has the weakened economy affected your operations?

NPSP

Who decides on the product portfolio?

Since when has rye bread been abandoned? Why?

What is the strength of your product portfolio? How broad is it at the moment?

In 2017 you designed a Product Y, did it eventually become a product?

Is the Product Z still being served? Why weren't it modified to crisp bread? Where did the idea come from?

The different kind of berry breads were initiated in 2017. Has the collaboration with Consultant X continued?

NPSD capability

In 2014, Mr. X was involved as a baker. How long did he work for you and what was his input to company's offerings and production?

In 2014, you talked about a concept to approach customers. What is this concept? Can you describe it?

In 2014 you talked about Mr. X and Mr Y. How has their departure influenced the development of new products?

You told us you learned from Mr X. about resting and baking dough, have they come to life in the business?

Have you recently attended any events organised by suppliers? Have you found any new ideas from them? Have any raw material suppliers visited you here?

What role does marketing play in bringing new products to the attention of customers and consumers?

What do you think is important to emphasize in marketing?

When were electronic orders introduced?

Customers

What is the breakdown of customers?

When did you get the Group X as customers?

When did the Group Y leave your contract? What did it mean for your business?

How big are your sales to office customers? When did this become a supply?

Partners

In 2017 it was planned to supply a new product category to Group X, has it progressed?

How was the distribution of Product Category Y finally implemented?

Competitive environment

Have there been any significant changes in the competitive landscape?

Who are your main competitors at the moment?

What do you see as important to focus on in the future?

What are the most important measures to be taken in the near future?

2019 – Workshop

Participants: Manager and four team members

Orientation

What are the main processes that are handled in the main unit?

What are your main tasks? (One thing for one sticky note)

To which process is each task linked? (Place the task under the process to which it relates)

Group discussion

- What is the competence that distinguishes the company from its' competitors in the market?
- What competences (knowledge) should we develop in order to be successful in the future?
- What competences are necessary for us to serve our customers?
- Are there any competences that are outdated and could be abandoned?

Summary

- Are there any things that should be removed from the main processes?

- Are there some things that should be reduced in importance?
- Are there some things that should be emphasised (e.g. with new objectives / new units)?
- Are there some things that should be created?

2022 Manager Alpha

Business in general

How has the turnover and amount of employees developed since we met last time?
Turnover before, during, and after COVID-19?

Who are your largest customers, before, during, now?

Did anything change (tangibly) in your business during the COVID-19 period?

- products and services
- customers - how did customers behave during the period?
- distribution and supplier channels
- partnerships
- resources
- cost structure
- revenue streams

Did the COVID-19 change the way you use your time? Where did your time go?

In 2019, you said that the new places are becoming to City X and City Y. Have these negotiations continued?

Where are you currently looking for growth?

What do you spend your time on at the moment?

What issues do you identify in this time (war, inflation, etc.) that affect your business directly or indirectly?

Previously you said you participated to some extent in in-house development groups. Are there any development projects underway now? Are these related to business development and/or the development of new products/services?

What is your competitive advantage currently based on?

NPSD capability

You grew through acquisitions before 2020. How do you see this growth affecting the way you create and design new products and services?

Where do the ideas for new products come from?

Do you meet, and if so, what kind of people meet around product development issues and how often?

What trends are you currently seeing in the market that would be good to address?

On what basis do you think the company will succeed in the future?

2018 - Specialist

Demography

Idea generation

Where does the company get ideas for new products and services?

Have you noticed a common source of ideas?

Have you brought ideas to the process, what kind and how did it go?

Is there something in the company that prevents you from coming up with ideas?

Idea screening

Do you have any particular ways of sharing and developing ideas?

Why do you think new products and services are created? How do they benefit the company?

Idea testing

How are new products/services tested to see if they are ready for the market?

Market launch

What do you think is important to get a new product on store shelves?

Role of the manager

What is the role of the manager in creating new products and services? Has it changed in any way over time?

Innovativeness and competitiveness relating to NPSD capability

How innovative do you think your company is?

Have you recognized any opportunity in the markets that you should be working towards?

What is preventing you from producing more new products and services?

How would you describe the current competitive situation in the market? What competitive forces are in control now?

Have you recognized any niche that would suit you? Why would you think this would be a good thing?

What are the advantages of your company to succeed in the product and service market? Why these?

Have you been successful in your own activities in challenging other competitors? Or even change the competitive landscape?

2019 – specialist (new employee)

Starting point: the researcher already has an idea of the type of products and services the company offers and how the capacity to create new products and services generally works in the company. The business model of the company is also known to the researcher.

Aim: The aim of the interviews is to find out whether there have been changes in the capacity to create new products and services over time (i.e., the interviews are conducted in the present mode) and to deepen the knowledge already known about the company's product development capacity. The aim is to increase the researcher's

knowledge of the factors (mechanisms) that enable the creation of new products and services in this company.

Demography

General questions

What kind of company is this?

Do you think the company is innovative? In what areas?

What do you see as the company's strengths?

In what ways does the company stand out from its competitors?

Why and how did you apply to work for the company?

Have you received targets for your work?

Who do you mainly work with, and on what issues?

Do you work with external partners? Have you had a say in their selection?

Do things proceed smoothly, or have you noticed any possible slowdowns?

Have you been faced with any unexpected issues?

Do you have a specific budget for your work?

What kind of situation did you come to work in? Did they have clear plans for your role, or can you build the role rather independently?

What tasks/projects have you worked on so far?

NPSD capability

Have you been involved in the development of new products or services? If so, at what stage have you been involved? Ideation, evaluation, tastings, marketing materials?

How do your job responsibilities relate to products and services?

Are you involved in the development of packaging? How?

What are your priorities for marketing new products and services? What issues do you want to communicate?

Who are your main target groups?

Have you done any promotional activities? What kind of campaigns?

What are the criteria for selecting influencers?

Do you provide samples of the finished novelties? To whom? Are they free of charge?

Once the product is launched, how will its sales be monitored?

Do you get feedback from customers? Have they led to any action?

How big a role does raw material play in the success of the novelty?

Are you familiar with production?

What resources are most important in developing new products and services?

Most recent personal experience of involvement in the development of new products and services

What is the most recent innovation you have been involved in designing or producing

- when this happened

- where the idea came from, with whom the idea was discussed, on what basis the idea was considered feasible

- how the process went (did someone calculate the costs, how was the manufacturing done, was the product tested before launch)

- how a price was set for the product

- how the product was brought to market, what steps the company had to take, whether the company took any different account of customers and end-users in its marketing

- whether there was a sales target set for this particular product, whether sales were monitored, by whom

- whether the product was ultimately retained in the selection, on what basis; if not, why not

Future capabilities

What capabilities / resources are behind the company's success?

What is the company's advantage over its competitors?

On what basis do you think the company will succeed in the future?

2019 – second owner (family member)

What do you spend your time on at the moment?

History

When did you first join the company? For what tasks?

The generation change took place in year X. What kind of phase was it? How did you find your roles?

What areas of business are your responsibility? How has your role changed, considering the time before and after the generation change?

At the time of the generation change, did you make any plans or have any ideas about how you wanted to develop the business?

Do you feel that you have been successful with your plan? Is there anything you would have left undo or done differently in the light of what you know at the moment?

The last few years have not been easy financially. In year X, the result for the financial year was X€, after which the result has gone down and dropped even more in year Y? What happened there?

Did you lose any major customers? Why?

How has the weakened economy affected your business?

What is your current staffing level?

How long did baker X work for you? Did his products and made investments stay in your offerings? How was the departure of baker X replaced? When did he leave? Who is currently responsible for product development on the bread side?

NPSP

What is the strength of your product portfolio? How broad is it at the moment?

How would you categorize your product portfolio? What sizes are frozen, breads, and confectionery sections?

Who decides on the product portfolio in bread and pastry?

Who bears the greatest responsibility for developing new products?

Is the product X still included to the portfolio? Where did the idea come from?

NPSD capability

How would you describe product development on the confectionery and bread side? How different or similar are they?

Is there a process description of product development? Do you have any regular meeting practice for product development or other issues (e.g. sales or administration)?

How would you describe product development on the confectionery side? Are innovations easy to come up with? Where do ideas come from, how are they developed, tested and finally marketed?

What is the main way your company does marketing?

Do you have separate budgets for product development and marketing, for example?

What ideas do you have for the development of the confectionery side?

Customers

What is the breakdown of customers?

When did you acquire group X as a customer?

When did customer Y leave? What did that mean for your business?

How big are your sales to office clients? When did this become a supply?

What kind of client is group Z for you?

How regular is your contact with clients?

Partners

Who are the main partners you work with?

Competition

Have there been any significant changes in the competitive landscape?

Who are your main competitors at the moment?

2019 – Specialist (external partner)

Introduction: a longitudinal study, interesting to hear the partner's point of view. I start by asking about your basic knowledge, then your work experience with company X, about your own company, then we talk more about developing new products and services for company X, where ideas come from and how the finished products are finally delivered to shops and consumers.

Starting point: The researcher already has an idea of the products and services that the company offers and how the process generally works in the company. The business model of the company is also known to the researcher.

Aim: The aim of the interview is to find out whether there have been changes in the capability to develop new products and services over time (i.e. the interview is conducted in the present) and to deepen the knowledge already known about the company's product development capability (retrospective). The aim is to increase the researcher's knowledge of the things that enable new products and services to emerge in this particular company (mechanisms).

Demographics

When did you start working with Company X?

In what positions did you work in Company X? What tasks did your work include?

When did you start your own business? Did your product development cooperation continue directly from there?

What is the main branch of industry of the company you set up?

What is the size of your company? Turnover, number of employees.

How important customer is Company X for you?

How important do you consider product development and the launch of new products and services to be for the success of Company X on the market?

How would you describe the product development process of Company X and its outputs?

Based on your experience, what do you see as the strengths of Company X's product development process?

Do you think Company X has a clear vision of where they are going with their product portfolio?

What skills do you bring to Company X?

In terms of product development, ideation, evaluation, testing and launch (including marketing), what are the main areas of focus for your activities?

Can you think of a specific product or service that you have been involved in developing?

- when this happened

- where the idea came from, with whom the idea was discussed, on what basis the idea was considered feasible

- how the process went (did someone calculate the costs, how was the manufacturing done, was the product tested before launch)

- how a price was set for the product

2022 – Specialist

General questions

What do you see as the strengths of your company?

What makes your company stand out from the competition?

What are the things that make the company successful in business?

Do you think the company is innovative? In what areas?

What would you highlight as the most important aspects of the 2021 strategy? What do you think the company should invest in?

NPSD capability

What kind of products and services does the company want to offer?

Where does the company get ideas for new products and services?

- Have you noticed any common sources of ideas?
- Have you brought ideas to the process, what kind and how did it go?

Do you think there is anything in the company that is preventing you from coming up with ideas?

Do you have any particular ways in which ideas are shared and further developed?

How are new products/services tested to see if they are ready for the market?

What do you think is important to get a new product on store shelves?

Is there anything currently on the horizon that you should be working towards in the development of your products and services?

What are the features of your company's products and services that you would not want to give up?

How would you describe the current competitive situation in the market? What features are dominant at the moment?

Most recent personal experience of involvement in the development of new products and services

What is the most recent innovation you have been involved in designing or producing

- when this happened
- where the idea came from, with whom the idea was discussed, on what basis the idea was considered feasible
- how the process went (did someone calculate the costs, how was the manufacturing done, was the product tested before launch)
- how a price was set for the product
- how the product was brought to market, what steps the company had to take, whether the company took any different account of customers and end-users in its marketing

- whether there was a sales target set for this particular product, whether sales were monitored, by whom

- whether the product was ultimately retained in the selection, on what basis; if not, why not

On what basis do you think the company will succeed in the future?