



LAPPEENRANTA-LAHTI UNIVERSITY OF TECHNOLOGY LUT
School of Business and Management
Master's Programme in International Marketing Management

Miska Jukkola

**DIGITAL TRANSFORMATION AND STRATEGIC CRISIS RESPONSES IN B2B
MARKETING: A DYNAMIC CAPABILITIES APPROACH**

Supervisor: Assistant Professor Joel Mero

Supervisor: Professor Olli Kuivalainen

ABSTRACT

Author: Miska Jukkola
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Covid-19 pandemic has created uncertainty in the business environment with severe restrictions. This in turn has put pressure on companies to think of new ways to reach and meet customers and other stakeholders. The aim of this study is to find out how the marketing organizations of large incumbent B2B companies have responded to this and how the pandemic has affected the digital transformation. The dynamic capabilities approach is used here to help address the root causes that have enabled or prevented marketing organizations from implementing strategic crisis responses during the pandemic.

The study is carried out as a qualitative case study, utilizing content analysis and cross-case analysis. Empirical data have been collected through semi-structured thematic interviews with 14 interviewees from five different companies. The Covid-19 pandemic has served as an external trigger toward more digital oriented marketing in B2B companies, but transformation and strategic renewal still require a critical examination of enabling factors such as top management support, resourcing, and digital maturity. Companies' internal functions such as marketing and sales have converged during the crisis and the value of marketing is being recognized at different organizational levels, but at the same time, the use of external partners to fill gaps in digital capabilities has increased.

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Covid-19 pandemia on luonut epävarmuutta yritysten liiketoimintaympäristöön, kun ihmisten toimintaa on jouduttu rajoittamaan. Tämä puolestaan on luonut yrityksissä painetta miettiä uusia tapoja tavoittaa ja kohdata asiakkaita ja muita sidosryhmiä. Tutkimuksen tavoitteena on selvittää kuinka suurten vakiintuneiden B2B yritysten markkinointiorganisaatiot ovat reagoineet tähän, ja miten pandemia on vaikuttanut digitaaliseen transformatioon. Tässä apuna käytetään dynaamisten kyvykkyyksien viitekehystä, sillä tutkimuksessa halutaan päästä kiinni niihin juurisyihin, jotka ovat yrityksissä mahdollistaneet tai estäneet markkinointiorganisaatioita toteuttamasta strategisia kriisivastauksia pandemian aikana.

Tutkimus toteutetaan laadullisena case-tutkimuksena hyödyntäen sisällönanalyysia ja vertailevaa tapaustutkimusta. Empiirinen aineisto on kerätty puolistrukturoiduin teemahaastatteluin, joihin osallistui 14 haastateltavaa viidestä eri yrityksestä. Covid-19 pandemia on toiminut ulkoisena laukaisimena kohti digitaalisempaa markkinointia B2B yrityksissä, mutta transformaatio ja strateginen uudistuminen vaatii vielä mahdollistavien tekijöiden kuten johdon tuen, resursoinnin ja digitaalisen maturiteetin kriittistä tarkastelua. Yritysten sisäiset funktiot kuten markkinointi ja myynti ovat lähentyneet kriisin aikana ja markkinoinnin arvo tunnistetaan eri organisaatitasoilla, mutta samaan aikaan myös ulkoisten kumppaneiden hyödyntäminen paikkaamaan aukkoja digitaalisissa kyvykkyyksissä on lisääntynyt.

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1 INTRODUCTION

In 2020 the global pandemic Covid-19 caused a faster and deeper recession than anyone could have predicted. Attempts have been made to prevent the rapid speed of the virus by quarantines and nationwide social distancing practices, which has caused massive damage to the economy (The World Bank, 2020). In the spring 2020 International Monetary Foundation stated that the recession would be worst since the Great Depression in the 1930s (Gopinath, 2020), which aptly describes the extent and severity of the situation. By October 2021, over 240 million cases have been confirmed worldwide, of which about 4,9 million have been fatal (WHO, 2020). There are also large differences between countries in terms of both infections and deaths, as countries have had various strategies to combat the pandemic depending, among other things, on national laws and economic structures.

The effect of the crisis on the economy have been significant and no geographical area has survived the pandemic without a notable decline in growth. This was realized as a decline in GDP, which in 2020 was 6.2 percent at the level of the European Union, and 2.8 percent in Finland (Eurostat, 2021). According to Confederation of Finnish Industries and the Business Tendency Survey, in April 2020 the economic outlook for companies fell more suddenly and pervasively than ever before during 50-years of measurement. The coronavirus and the resulting restrictions collapsed demand in the service sector and extensive challenges in supply chains have caused supply problems in many sectors. (Pakarinen, 2020) Certain organizational similarities have been identified, such as the major increase in online working due to quarantine (e.g., exposure or strict recommendation on remote work), the shift of certain functions of operations such as sales and marketing to virtual environment, extended working hours, declining sales, as well as challenges securing production in the manufacturing industries. The truth is that the Covid-19 pandemic affects everyone in some way, and that it is exceptional as a public crisis precisely because of its humanitarian nature. (Cortez and Johnston, 2020)

In this study, the Covid-19 pandemic is viewed as a public crisis causing widespread market shock and creating uncertainty in the business environment. The crisis has not only affected demand, but at the same time the pandemic has revolutionized the way work is done in many business areas where work is not necessarily tied to a physical location. Sales and marketing are activities that have traditionally combined both physical encounters in the form of various events and meetings. Especially in the field of marketing, digitalization and the use of new technologies not only offer diverse opportunities but is also to some extent

inevitable because global digitalization systematically changes consumer behavior, customer paths as well as purchasing processes. As a result, companies are part of the digital economy whether they wanted or not but may still remain very static, and thus unable to take advantage of new ways to create value for customers (Day, 2011). It seems that B2B companies are lagging behind B2C companies in adopting new digital technologies as part of their marketing strategies (Dwivedi, Ismagilova, Rana and Raman, 2021). Therefore, the research focuses on large incumbent B2B firms in order to find how these companies have been able to respond the crisis posed by Covid-19, assuming that this has required a great deal of adaptation, seizing new opportunities, and digital transformation in the companies.

Technology has changed our lives and the way we work over the last couple decades, but the current pandemic has undoubtedly accelerated the adoption of various applications of digital technology further (Saliola and Islam, 2020). According to US-based cloud service company Twilio's survey, where 2,569 decision-makers globally evaluate the state of digital transformation, 97% of executives estimates Covid-19 to accelerate transformation (Koetsier, 2020); meaning a growing budget for transformation, an increase in digital means to engage customers, and a total of up to 6 years of development leap in digital communications strategies at the global level (D'Mello, 2020). But why have companies not embarked on a transformation before the global pandemic that is already causing a major headache for businesses anyway? There must be many reasons for this, but in general it can be said that transformations are often complex and difficult to implement requiring the necessary resources, the right kind of competencies and commitment. What is more, it is essential that the company is able to sense and seize new opportunities in the first place. Although not all companies can have the same capacity to lead the digital transformation and make strategic decisions leading to success. This is what the research seeks answers; how the Covid-19 pandemic has impacted and changed the way companies approach digital transformation, and what are the capabilities underlying marketing related digital transformation toward strategic crisis responses.

1.1 The aim of the study and delimitations

The aim of the study is to gain an understanding of the marketing related digital transformation activities in large incumbent B2B companies under the influence of the Covid-19 pandemic. Based on interviews, previous research and theory, the study considers which capabilities are essential for B2B marketing in the implementation of digital

transformation. In addition, efforts are being made to identify enablers of fast-paced digital transformation, i.e., building digital capabilities under the uncertain environment. Accordingly, the main research question and two sub-questions are set up:

RQ1 ***How has Covid-19 pandemic affected B2B marketing practices?***

SQ1 *How do companies' dynamic capabilities support strategic renewal (triggers, enablers and barriers) in the midst of an uncertain and turbulent environment?*

SQ2 *What kinds of roles do dynamic capabilities and strategic crisis responses play in the companies' digital transformation related to B2B marketing?*

Research focuses on large incumbent B2B companies. That is, pre-digital organizations (Chaniyas, Myers and Hess, 2019) established in the pre-digital economy on which their success is largely based, have been selected as case companies (Sebastian, Mocker, Ross, Moloney, Beath and Fonstad, 2017). Therefore, small and medium-sized enterprises (SMEs) are excluded from the study. The delimitation is based on fact that the study seeks to find the possible impact of the external crisis on digital transformation in companies where existing structures and underlying operating environment is known to pose obstacles for rapid change, and the processes are otherwise traditionally more complex. The companies interviewed are limited to Finnish-based public and state-owned companies.

This study complements dynamic capabilities and digital transformation related research base in the field of marketing and strategic management (Hunt and Madhavaram, 2020; Warner and Wäger, 2018; Wilden and Gudergan, 2014) conducted during the Covid-19 crisis. Dynamic capabilities have been previously examined in post-crisis studies, where the overall picture and effects of the crisis are well-known (Battisti and Deakins, 2017; Makkonen, Pohjola, Olkkonen and Koponen, 2014). Moreover, dynamic capabilities have also been used as an approach in research focusing on digital transformation (Elleström, Holtström, Berg and Josefsson, 2021; Matarazzo, Penco, Profumo and Quaglia, 2021), so the research setting which seeks to extend the use of the approach in the field of marketing is seen interesting. The study provides empirical evidence for the capabilities and structures that underneath digital transformation, and the real crisis responses of companies without possible over-interpretations of the strategic nature of actions.

1.2 The key concepts

Dynamic capabilities

Dynamic capabilities describe firms' abilities that refer to both internal and external competencies (Teece, Pisano and Shuen, 1997). The structure is divided into two schools, where Teece et al. (1997) look at capabilities in rapidly changing environments as unique and difficult-to-imitate assets to gain sustainable competitive advantage, while Eisenhardt and Martin (2000) base their view on high-velocity markets where past experience and routines guide processes to respond to market changes. The concept origin in resource-based view of the firm (Peteraf, Di Stefano and Verona, 2013, p. 1392), and has versatile theoretical background in evolutionary theory of economic change, creative destruction and many others, but above all, it relies on the study of strategic management (Eriksson, 2014, 65-66). Due to the nature of the digital transformation and the Covid-19 crisis, dynamic capabilities are examined based on Teece (2007) classification to subdivide capabilities into three capacities: 1) to sense opportunities and threats, 2) to seize opportunities, and 3) to achieve and maintain competitiveness through transformation.

Digital transformation

In his literature review, Vial (2019, p. 118-121) summarizes the general view of the digital transformation into a process in which digital technology causes disruption to which companies respond in their strategy by updating processes to better support value creation and manage the resulting structural changes and organization barriers. In addition to processes, accelerating change is reflected in the business competencies, activities and models (Demirkan, Spohrer and Welser, 2016, p. 14) as well as products and management practices (Matt, Hess and Benlian, 2015, p. 339) to boost change and take advantage of the business opportunities offered by digital technology. The digital transformation is based on the need of the company to be able to embrace new technologies in order to stay involved in the competition (Mergel, Edelman and Haug, 2019, p. 2), that is, to build new capabilities and business models to reach customers and meet their changing needs and ways to consume products and services (Berman, 2012, p. 16). One could also say that the digital transformation is not so much a choice, but a given technological progression.

B2B Marketing

Industrial marketing or business-to-business (hereafter B2B) marketing refers to commercialization activities with organizational goods and services (Qurtubi and Kusriani, 2019, p. 196) that takes place in business markets where the marketing action is targeted at other companies rather than individual consumers (Kotler, Armstrong and Opresnik, 2018, p. 188-189). B2B marketing has been studied since the late 19th century, but it was not until the 1990s that it really began to contribute marketing theory (Cortez and Johnston,

2017, p. 90; Hadjikhani and LaPlaca, 2013, p. 294). Until the 70s, the focus of B2B marketing theory was on transactions, the characteristics of tangible products and differentiation (quality, price, delivery) until services began to take over the market; B2B marketing become more interactive, and research focused on behavioral patterns (Cortez, 2019, p. 1840-1841). It is noteworthy that trade between businesses is notably higher than to consumers, and it is characterized by professional purchasing activities (Qurtubi and Kusri, 2019, p. 196) that follows defined processes and involves various roles (e.g., users, influencers, approvers, and buyers) that must be taken into account in marketing activities as well (Kotler and Keller, 2015, p. 211-216).

1.3 Theoretical framework and initial literature review

The theoretical framework (see Figure 1) is built around dynamic capabilities, which allows us to look at issues affecting digital transformation in a broad way. This is considered appropriate in the context of the Covid-19 crisis, as we do not yet know where and how exactly it will affect companies' transformation. Through dynamic capabilities, we look at the mechanisms such as opportunity recognition, agility (leadership and structures), digital capabilities, and strategic choices and renewal. At the time of the study, the Covid-19 crisis is still an acute crisis around the world, so we get to scratch the impact of the pandemic on digital transformation. Above all, the theoretical framework aims to form an understanding of the transformation steps taken in B2B marketing during the crisis and the factors influencing it.

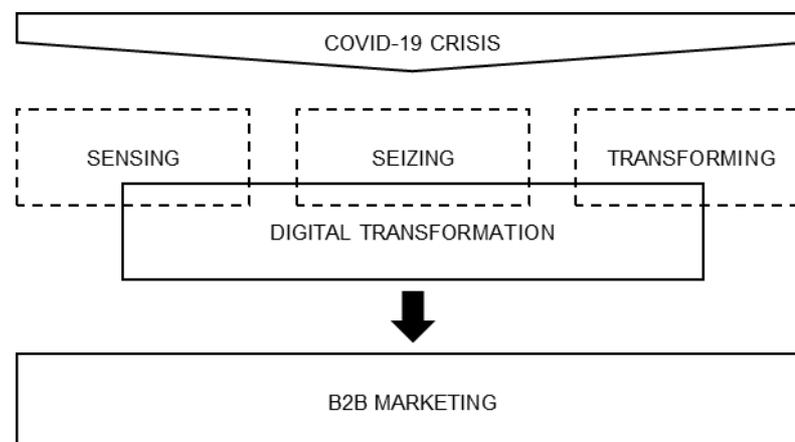


Figure 1 Theoretical framework of the thesis

Theoretical background of this thesis primarily focuses on previous research on dynamic capabilities as well as digital transformation. Regarding dynamic capabilities, the focus is on gaining a thorough understanding on what is meant by these, and what mechanisms are known to affect them. Digital transformation in relation to digitalization and digital technologies is being considered. In addition, previous research and use cases are being studied to understand the possible changes in attitudes with the Covid-19 pandemic. Some individual empirical studies in the Covid-19 environment have also been published, which are examined from the perspective of the research context.

For example, Guo, Yang, Huan, and Guo (2020) look at digitalization and crisis responses in small and medium-sized Chinese firms that have been squeezed between wood and bark to cope with severe restrictive measures and economic shocks. Here, they talk about a combination of dynamic capabilities and digitalization, where digitalization enhances companies' ability to sense the true scale of the crisis, and seize opportunities created by the environment. Moreover, digital technologies are part of an agile ecosystem (Day and Schoemaker, 2016), creating flexibility in resources (Guo et al., 2020). Indeed, organizational agility seems to play a major role in an uncertain environment (Teece, Peteraf and Leih, 2016). Thus, the role of management is to support and create structures (Warner and Wäger, 2018) that enable the firm to learn and develop through experimentation (El Sawy, Kræmmergaard, Amsinck and Vinther, 2016), which makes it possible for firms to build dynamic capabilities for digital transformation (Warner and Wäger, 2018).

All companies have ordinary capabilities, which are operational and administrative, and therefore also quite easy to imitate. In addition to this, however, companies can have competencies, high-order capabilities, on which the company's management should focus the most as these are an essential part of innovation, identifying problems and opportunities, and choosing suitable business models. (Teece, 2018) Accordingly, Lin and Wu (2014) found that compared to other resources, dynamic capabilities can have a significant mediating effect on firm performance. Moreover, Teece's (2007) classification of dynamic abilities into sensing, seizing and transformation helps to look at the different stages that affect both transformation processes and crises response. For instance, in their study, Warner and Wäger (2018) identified how incumbent firms built digital capabilities for digital transformation. There were certain triggers, as well as internal enablers and barriers at each of the three stages (sensing, seizing and transforming). Among others, Martinelli, Tagliazuchhi and Marchi (2018) found that dynamic capabilities improved the recovery of

retailers in post-crisis phase (natural disaster). The ability to sense and make the appropriate interpretations during the crisis became particularly essential, which helped companies to make the necessary strategic decisions in the post-crisis environment to respond to the changes caused by the disaster (e.g., consumer behavior). Also, Guo et al. (2020) emphasizes that crises are opportunities to exploit the full potential of dynamic capabilities.

When looking at marketing, the key is to understand that B2B marketing is more relational by its nature compared to B2C marketing which, in turn, is more transactional (Qurtubi and Kusriani, 2019). Thus, in the field of marketing, B2C companies have usually been the forerunners in adopting new technologies and channels (Karjalainen, Mustonen and Ulkuniemi, 2015). A pertinent example of this is the use of social media, which B2C companies effectively utilize as a digital marketing channel (Dwivedi et al., 2021), while B2B companies are typically emphasizing more traditional channels like websites and emails (Brosnan, 2012). Evidently, in their study, Cortez and Johnston (2020) observed that during the Covid-19 pandemic B2B companies have paid attention to their website content, but there has also been some use of social media and webinars to support the sharing of different types of information. Even more important, however, is what happens in the structures of the marketing function; what role marketing has been given under the crisis, and how it has contributed to its success in digital transformation to create value for the company under an uncertain environment. Now, in terms of dynamic capabilities and successful digital transformation, it is promising that the successful management of a coronavirus crisis in B2B companies has been found to at least adhere agile policies, decentralized power and decision-making, strategic flexibility, as well as budget reallocations (Cortez and Johnston, 2020).

1.4 Research methodology

The study has been carried out as a qualitative study. The study examines possible effects in the digital transformation of large incumbent B2B companies during the Covid-19 pandemic in relation to marketing. There is uncertainty associated with crisis situations. In this context, the study aims to deepen understanding of related crisis responses. The Covid-19 pandemic, in its acute phase, has spread worldwide and led to extensive isolation measures, and is therefore the most significant global humanitarian crisis of the 21st century. For this reason, the research utilizes a case study methodology to get close to marketing organizations; key decision makers, influencers and relevant stakeholders.

Interviews are used as the data collection method of the study. Qualitative thematic semi-structured interviews provide research with relevant and up-to-date information. The study involves five companies in different fields and 14 decision-makers, from specialists to c-level. Interviewees work in various positions, such as global marketing leaders, digital marketing specialists, brand and communications specialists, as well as sales directors and persons in charge of development, were selected for the interviews.

The interview protocol consisted of three categories, and a total of 17 questions (see Appendix 1 – Interview questions). In addition to this, as is the nature of a semi-structured thematic interview, the interviewer is allowed to ask probing questions, or the interviewees themselves have been able to take the discussion in spontaneous directions within the theme (Eisenhardt, 1989, p. 539). The interviews were recorded to allow the researcher to transcribe the interviews for data analysis. The whole data set was then transferred to a single case study database, where the data was processed (classification and coding). The study used qualitative content analysis (Hsieh and Shannon, 2005, 1277) to describe and form interpretations of themes and topics found in the data. Moreover, because of the reliable comparability of the different case study units, cross-case analysis (Cruzes, Dybå, Runeson and Höst, 2014, p. 1639) was used to identify similarities and differences.

1.5 Structure of the study

The chapter two provides an in-depth theoretical framework for research, starting with a dynamic capabilities approach; distinction and limitations of the past research streams, microfoundations, technical and evolutionary fitness, and subdivision of the capacities. Then we look at the digital transformation, considered as a strategic process, and gain an understanding of the key drivers and barriers. This is followed by a process model for building digital capabilities and summary of the applied theories in the context of Covid-19 and B2B marketing. Recent studies on the subject are also taken into account. The empirical part of the research begins in chapter three with the presentation of the research design and methodology, continuing with the presentation of the findings in chapter four. The reliability and validity of the study will be assessed in this context. The fifth and final chapter of the study presents theoretical contributions, answers research questions. Finally, managerial implications and limitations and recommendations for future research are provided.

2 THEORETICAL FRAMEWORK

Although dynamic capabilities as a framework is scientifically measured moderately young (little more than twenty years), it has been a very lively research topic from the very beginning, and for this reason is clear that the number of definitions of the framework has increased and the structure of it has been described somewhat vaguely (Barreto, 2010, p. 257). For this reason, the study will mainly focus on one active line of research on the dynamic capabilities framework. That is, in this thesis dynamic capabilities framework is mainly considered based on the studies by David J. Teece together with research fellows. This is justified and necessary to do so that the study does not suffer from the clutter of definitions (Peteraf et al., 2013) or unintentional complexity. However, from a research point of view, it is vital to compare different lines of research and characterization of the concept as set out in section 2.1.

Compared to other strategy perspectives there are two aspects: 'dynamic' and 'capabilities' that the concept stresses. The former addresses the capacity to reinforce competences as the business environment changes, and the latter demonstrate the role of strategic management; the function that adapt, integrate, and reconfigure the skills of the organization to the best of its ability to respond to external changes (Teece et al., 1997, p.515). Dynamic capabilities look at different levels of a company's capabilities that affect its ability to create and maintain sustainable competitiveness in a turbulent environment (Teece, 2007; Warner and Wäger, 2018). Now the public crisis of the Covid-19 pandemic has caused changes in the environment to which companies have had to respond mainly through digital means which requires transformation by adopting digital technologies, for example.

A firm's response to a crisis is always based on strategic choice (Guo et al., 2020; Wang, Hong, Li and Gao, 2020), but strategic renewal is the result of transformation (Warner and Wäger, 2018) that research approaches through dynamic capabilities; to sense, seize and transform. The world is digitalized, and we have global digital technologies in use, but companies have different resources at their disposal, and operate in different markets where different functions such as marketing emphasize different capabilities (Cortez and Johnston, 2020), both of which affect readiness and ability to transform. Chapter 2.1 builds an understanding of the fundamentals and motives behind dynamic capabilities. After this, Section 2.2 focuses on digital transformation, environmental impact, and barriers to transformation. The paragraph concludes (section 2.3) with a summary of the theories

applied in the context of the Covid-19 pandemic and B2B companies and provides a process model for building digital capabilities. In the theoretical framework, the study examines recent empirical research results and presents different use cases.

2.1 Dynamic capabilities framework

Theoretical framework of dynamic capabilities was originally developed in 1997 by Teece et al. (early mentions of the concept in 1994) and has since been a prominent research topic in both the original discipline, strategic management, and most of the essential fields in business administration like entrepreneurship, marketing, human resources and international management (Barreto, 2010, p. 257). In their first seminal article on the topic, Teece et al. (1997, p. 509) build the framework around the central theme of strategic management; how to gain and maintain a competitive advantage, but instead of focusing on firm-level strategies (such as Porter's competitive forces), researchers look more broadly at sources of value creation and how companies take over these favorable sources, naming this as the dynamic capabilities approach.

Barreto (2010, p. 260-264) describe in his literature review the fundamental characteristics that are defined differently by researchers who have studied dynamic capabilities such as: what these capabilities really are in nature, what their role is in companies, how they are created or acquired, in what context they are seen as useful, whether they are unique or not, and what they ultimately aim for. Discrepancy in the definition of the concept is best illustrated, and the differences in characteristics are well highlighted by comparing Teece's studies with Eisenhardt's research on dynamic capabilities (see Table 1 for the comparison).

For instance, Eisenhardt and Martin (2000, p. 1105) describe and argue that dynamic capabilities are organization-specific processes such as strategic decision making or product development, while a significant proportion of studies have defined it as capacity (Helfat et al. 2007; Teece et al. 1997; Teece, 2000, 2007). Another fundamental difference of opinions relates to whether the dynamic capabilities are firm specific and unique or not, or how crucial they are to a company's competitive advantage. Instead, these two lines of research do share a common view of the role of dynamic capabilities in shaping an organization's internal components, resources, and capabilities (Teece et al., 1997; Teece, 2007; Eisenhardt and Martin, 2000).

Table 1 A comparison of Teece's and Eisenhardt's research streams on the characteristics of dynamic capabilities (according to Barreto, 2010)

	<i>Teece et al. (1997), Teece (2000, 2007)</i>	<i>Eisenhardt and Martin (2000)</i>
Nature	Ability or capacity	Specific and identifiable processes
Role	To modify internal components, resources and capabilities of the firm	To modify internal components, resources and capabilities of the firm
Context	Rapidly changing environments (Teece et al., 1997); especially environments open to international trade with poor technological and managerial knowledge and possible institutional shocks (Teece, 2007)	High velocity* and moderately dynamic** markets
Creation and development	Capturing, assembling and orchestrating difficult-to-replicate assets (Teece, 2007)	Past experience and repeated practice
Heterogeneity vs. homogeneity	Firm specific and unique	Common across firms, "best practices"
Outcomes	Relationship between dynamic capabilities and firm performance (Teece et al., 1997); source of competitive advantage over time, core of firm success or failure (Teece, 2007)	Necessary terms for competitive advantage, and help firm to define resources for long-term competitive advantage
Purpose	To address rapidly changing environment	To create and respond to market change

*difficult to predict, high uncertainty about markets, and little existing information (Eisenhardt and Martin, 2000, p. 1111-1112)

**stable markets with cyclic but predictable changes, relying on existing knowledge (Eisenhardt and Martin, 2000, p. 1110-1111)

Focusing on Teece et al. (1997) and Teece's (2007) study on dynamic capabilities, the most significant development in characteristics is the refinement of contexts as well as capacities. While Teece et al. (1997, p. 509-510) describe the environment as increasingly demanding characterized by rapid technological change, Teece (2007, 1319-1320) describes the business environment in much more detail; a rapidly evolving technologies and existing global markets where international trade is open but technological and managerial

knowledge exchange is at a weak level. In other words, although Teece's definition of dynamic capabilities has evolved, it can be said that the changing environment is nevertheless the ultimate driver of the dynamic capabilities approach. Definitions are given below of which the conceptualization and examination of sensing, seizing, and transforming are the subject of this study.

The firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments (Teece et al. 1997, p. 516).

Dynamic capabilities can be disaggregated into the capacity: a) to sense and shape opportunities and threats; b) to seize opportunities; and c) to maintain competitiveness through enhancing, combining, protecting, and, when necessary, reconfiguring the business enterprise's intangible and tangible assets (Teece, 2007, p. 1319).

According to Teece et al. (1997, p. 515-516) those companies that manage to coordinate their internal and external competences in a way that responds to rapid change are the ones that are able to win in global marketplaces. Thus, it can be said that the dynamic capabilities require continuous development of competencies in relation to the business environment (Teece et al., 1997, p. 515), involving two levels of dynamic capabilities; *microfoundations* that modify and reshape existing conventional capabilities, or create new ones guided by *higher-order dynamic capabilities* (Teece, 2018, p. 40-41) related to sensing of (upcoming) opportunities and threats, to seize the opportunities, and to adjust configuration of the organization assets to match the environment (Teece, 2007, 2018).

2.1.1 Microfoundations

Microfoundations, or second-order dynamic capabilities, are part of a company's capability spectrum, acting as an integrative and adaptive force of the company's ordinary capabilities; the routines like operational and administrative activities (Teece, 2018, p. 41-42). Dixon, Meyer and Day (2014, p. 197-198), for example, describe microfoundations as actions that underlie adaptation and innovation activities such as search, risk-taking, project funding, knowledge acquisition and resource integration. In the seminal article, Teece (2007) continue refining Teece et al. (1997) dynamic capabilities approach by defining in more detail these different levels of capabilities. At this level, Teece partially affirms the existence

of routines and processes, which by some researchers are treated as more or less the whole nature of dynamic capabilities.

For instance, Eisenhardt and Martin (2000, p. 1007-1008) pay a great attention to process in which product development activities bring together experts from different areas in order to produce more profitable products, or routines like knowledge transfer which provide management with different decision options (Eisenhardt and Martin, 2000; Winter, 2003). In other words, what some researchers consider as dynamic capabilities, Teece (2007, p. 1319) further defines these structures, processes, procedures, guidelines and decision rules as components or factors that are conducted by high-order capabilities. In any case, microfoundations are a set of ongoing and identifiable activities that are moderately easy to imitate but still necessary in order to gain sustainable competitive advantage (Teece, 2007, p. 1321- 2322).

2.1.2 Technical and evolutionary fitness

Teece (2007, p. 1321) emphasizes that an open global economy has made it challenging, if not impossible, for companies to succeed merely with technical excellence. That is, only by identifying and adopting best practices a company cannot form dynamic capabilities that are necessary for long-run survival, growth and value creation. Here we talk about two performances 'yardsticks', technical fitness and evolutionary fitness. The above describes quality per unit cost (Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece and Winter, 2007, p. 8). More specifically, technical fitness measures how effectively the operational capabilities available to the company can perform certain functions without considering ability to produce any return (Teece, 2007, p. 1321, 1344-1345).

Evolutionary fitness, in turn, aims for more sustainable competitiveness and the ability to generate long-term returns for owners (Teece, 2007, p. 1321, 1344). According to Helfat et al. (2007, p. 8-9), in addition to technical fitness, there are two factors that affect the evolutionary fitness: market demand and competition. Demand is considered in relation to the output of the capability, whether the market has been correctly interpreted and technical fitness has been correctly proportionated to the volume of demand. Last, evolutionary fitness is also dependent on how consistent the dynamic capabilities of the firm in relation to the market are. Therefore, the company must try to influence either competition or the amount of cooperation, depending on differences in technical capabilities among the rivals.

In their research Makkonen et al. (2014, p. 2707-2708) examined dynamic capabilities and firm performance of three companies in different sectors during the 2008 financial crisis. The study shows that competitive advantage created through dynamic capabilities and innovation favors evolutionary fitness. In terms of dynamic capabilities, an interesting research finding was that different industries faced the financial crisis in very different ways; those at risk of losing their business opportunities will benefit most from the renewal of their capabilities (resource base), while those whose opportunities may not be affected by the crisis but instead, for example, purchasing behavior and consumption habits change, will benefit by using regenerative capabilities to transform the organization to adapt to the situation and meet the needs.

2.1.3 Sensing opportunities and threats

The first dynamic capability, sensing, can be thought to represent sensitization of the organization to an environment that always offers companies both opportunities and threats. In an open competitive environment just about all elements can be seen as moving objects such as customers, competitors, and technologies, which obviously makes market entry and exploitation of a changing environment attractive for new entrants, exposing those already on the market at risk (Teece, 2007, p. 1322). In other words, it is a matter of perceiving future situations (Teece, 2018, p. 42) by active and continuous search for and acquisition of new knowledge and learning about and creation of new markets and technologies (Teece, 2007, p. 1322). Without the ability to accurately sense the surrounding reality, the company puts itself at risk for the future (Teece, 2000, p. 42).

Incumbent firms run the risk of taking root in learned and customary practices where certain assumptions prevail and information proceeds along hierarchy or organizational structure, leaving problem solving as a schematic process, and thus the company sticks to solutions that worked well in the past (Teece, 2007, p. 1322). This poses a challenge for management to organize and position the company so that it would not be blind to market changes nor technology developments (Teece et al., 1997, p. 517). Sometimes management can drift into isolation, causing information from other levels of the organization to become tangled (Teece, 2007, p. 1325). An internationally known example of management isolation is the Finnish-based Nokia, once the world's largest mobile phone manufacturer.

Opportunity recognition – individual vs. enterprise

It is vital for any business to recognize market opportunities, but at the same time understand on what things the recognition depends on (Andersson and Evers, 2015, p. 260-261). According to Teece (2007, p. 1323), opportunities can be recognized through individuals or enterprises. These are, of course, partly overlapping since enterprises are entities made up of individuals. For this reason, an individuals' personal abilities always contribute in part to the identification of opportunities, but the essential difference is in the way the organization seeks to accomplish this relatively creative activity. Small companies have more flexibility and management can react quickly to emerging opportunities (Kontinen and Ojala, 2011, p. 490), but in larger companies it requires investment and defined processes. Discovery of opportunities by an individual is interpretation of the scattered information on which the hypotheses are built, whereas enterprise-oriented opportunity recognition is an investment-based process in which information is collected, filtered and tested, finally resulting in some sort of evidence of commercialization opportunity (Teece, 2007, p. 1323). This is better described in Figure 2.

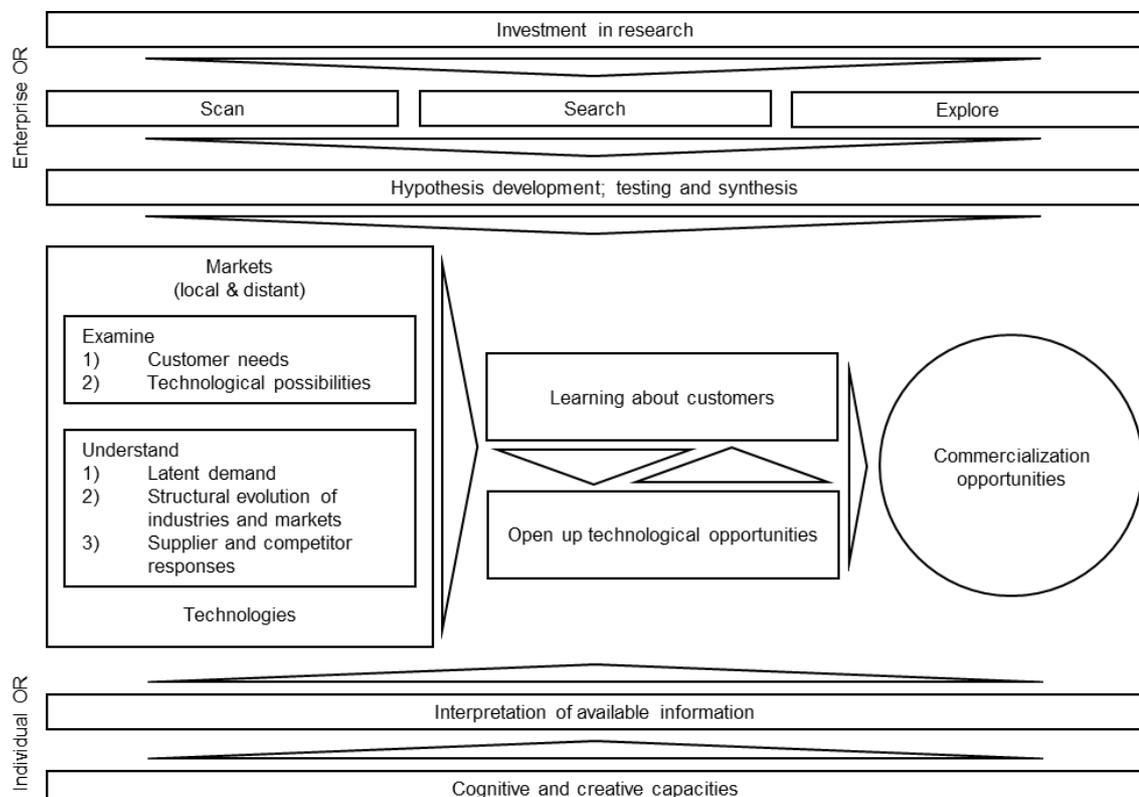


Figure 2 Process of enterprise and individual opportunity recognition (OR) (adapted from Teece, 2007)

While studying dynamic capabilities in relation to the performance of small and medium-sized enterprises in a post-disaster environment (series of earthquakes in Christchurch), Battisti and Deakins (2017, p. 78-80, 93-94) identified in a quantitative study that dynamic capabilities have a great impact on whether a crisis has negative or positive impact on firms' resources, and thus their performance. They found that in the post-crisis environment, it is the opportunity recognition that was essential for companies to remain competitive. It is noteworthy that in such companies, capabilities rely heavily on core management (Helfat and Martin, 2015, p. 1281-1282), but it was noticed that in those firms where management was proactive, i.e., participated industry networks and were able to leverage external resources, were the ones creating new commercial opportunities (Battisti and Deakins, 2017, p. 93-94). According to Teece (2007, p. 1323), here it is about individuals' cognitive and creative activities to sense the environment; internal and external technological developments, and to assess consumer behavior and needs.

Cross-functional processes

Looking at dynamic capabilities in line with Teece's research flow, the firm seeks to respond a rapidly changing environment (Teece et al., 1997; Teece, 2000, 2007, 2018) that makes dynamic capabilities more or less innovation-based (Helfat et al., 2007) aiming at new, even unpredictable innovations (Warner and Wäger, 2018, p. 329). Often, a company's research and development alone may be too focused on local exploration. Indeed, the company's customers and suppliers, among others, are potential partners to participate in innovation activities. (Teece, 2007, p. 1324)

When applying new technologies, consumers may well be the first to sense the opportunity (especially in cases where the company have not fully internalized specific customer needs) but are unable to test or develop a prototype. Moreover, Fang and Shaoming (2009, p. 744-745) emphasizes cross-functional processes where product development management, customer relationship management and supply chain management are critical in creating value for the customer, because when these functions are well coordinated, they support innovativeness and ultimately respond to market changes. With such cross-functional process, the company becomes aware of customer need as well as with other channel members (customer experience, preferences, needs, etc.), will take care of network relations, and is able to lead the supply chain, in a way that supports proactive and effective innovation activities.

2.1.4 Seizing opportunities

After a company has sensed a new opportunity, generally on the market or in a certain technology, it needs to start designing its business models to seize the opportunity. That is, in practice, to look at the possible way of creating value in each case whether it was a service, product or process. (Teece, 2018, p. 41) The initial challenge in seizing an opportunity is the investment decision to be made since there are often many paths in parallel. Of course, it would be advisable to remain flexible and not invest heavily until it is known that the model can succeed, but in most cases, unless the company is particularly well-positioned in the market, it must be fast and "use elbows". Anyway, it should be noted that investment decisions can be particularly challenging in hierarchically organized companies where approval is sought far from the unit to which the decision relates, and for that reason decision-making at the unit level, or a strong leader capable of influencing the decision-making and breaking the status quo, is a major internal enabler in seizing opportunities. (Teece, 2007, p. 1326-1327).

However, even though sensing the future commercialization opportunities and seizing the potential ones are typically spoken as separate capabilities they cannot be fully separate functions, otherwise the resistance in the organization is likely to be greater than the support for new insights about market (Teece, 2007, p. 1327). To illustrate, in the context of digital transformation, Warner and Wäger (2018, p. 337-338) argue that in building and nurturing sensing capabilities a firm must pay attention to fostering internal mindset (entrepreneurial and digital) to accelerate change, while in turn the ability to seize opportunities is affected by sufficient (digital) maturity of the workforce. Thus, to ensure transition from sensing to seizing and the necessary investments requires, as Teece (2007, p. 1327) describes them, visionaries or promoters to defend naysayers.

As such, seizing opportunities relies heavily on investment decision in which the manager is prone to rely on decision rules that may contain preconceptions or even be skewed (Teece, 2007, p. 1327). Table 2 presents some identified problems and biases and their implications for decision making. While managers have decision-making power over investments, it is noteworthy that the willingness of managers of incumbent firms to make changes that challenge the archetypes of business models, that is, the models of which value creation logic is well known (Baden-Fuller and Morgan, 2010, p. 166-167), is a typical

obstacle to experimentation (Ritter and Lettl, 2018; Warner and Wäger, 2018). In context where the company is trying to reduce time-to-market (e.g., new service or process), managers' personal abilities, perception of the environment, and the ability to make decisions (avoiding biases) play a significant role (Teece, 2007, p. 1327).

Table 2 Seizing opportunities: Typical biases in investment decision processes (according to Teece, 2007, p. 1327-1329)

<i>Bias</i>	<i>Impact</i>
Hierarchical organization (bureaucracy)	Decision-making takes place in a committee structure (report and written justification are required). Decision-making is slow and seeks balance and compromise.
Path-dependencies	Favoring incremental competency-enhancing improvements instead radical competency-destroying innovation (common in incumbent firms). Relying on existing routines, assets and strategies, making a company incapable of making or adopting radical innovations.
Isolation errors	In the case of several options, selection is facilitated by evaluating alternatives in isolation.
Certainty effect	If there are alternatives among them for which the outcome is secure, the results of those where the outcome is only probable are discounted.
Excessive risk aversion	Due to existing routines and assets, incumbent firm become more risk averse than new entrants leading biased decision making and, therefore, reduce the likelihood of finding (risky) radical innovations.

Business model

In order to seize opportunities, the company must choose an appropriate business model in addition to the required investments (Teece, 2007, p. 1327). Profitability is at the core of the business model (Teece and Linden, 2017, p. 1); how to deliver value to customer, induce them to pay for it, and how to turn payment into profit (Teece, 2010, p. 172), that is, it defines the strategy for commercialization (Teece, 2007, p. 1327). As an example, Aspara, Lamberg, Laukia and Tikkanen (2013, p. 459-460) studied Nokia's globally successful business model change in the 1990s from a conglomerate to a mobile phone manufacturer, where the company was able to change its business model and fitness towards the external

environment. Ritter and Lettl (2018) conclude while studying ongoing business models research that it fits poorly into an independent theory, but rather a mechanism that connects different streams of literature, for example dynamic capabilities. Indeed, there is a strong interdependence between dynamic capabilities and business model (Teece, 2018, p. 48). Indeed, acquired dynamic capabilities enable the creation of new business model (Teece, 2018, p. 48), so the dynamic capabilities are used in business model designing (Teece, 2007, 2018; Teece and Linden 2017), while the business model is an activity complementary to dynamic capabilities; sensing, seizing, and transforming (Ritter and Lettl, 2018, p. 4).

According to Teece and Linden (2017, p. 5-7) business model design is empowered by sensing (e.g., unmet customer needs) when the company seizes the opportunity to build a mechanism for revenue generation. Business model transformation where either one of the core functions or business logic of the enterprise, or at least one dimension of value creation, is transformed (Ritter and Lettl, 2018, p. 6) has also received attention in research. At best, the business model works for decades, but as external factors (e.g., competitive environment, demand, technology) change, the model needs to be reformed (Teece and Linden, 2017, p. 6). However, similar to the problem in the investment decision process (shown in Table 2) business models are also overshadowed by path dependencies (McGrath, 2010, p. 253-255), and instead of disruptive business models incumbent firms often seek to remain competitive by reshaping the existing model(s) (Kim and Min, 2015, p. 34) unless the mechanisms itself is disrupted by some shock (Warner and Wäger, 2018, p. 330).

2.1.5 Managing threats and transforming capabilities

In large companies, transformation is much more challenging as it requires the dismantling of traditional ways of thinking (Teece et al., 2016, p. 26). Incumbent firms form hierarchies, rules, and routines (Teece, 2007, p. 1335) that are conducive in creating a culture where there are difficult to seize opportunities and implement transformation; the real need for change is no longer perceived because of ingrained interests and stubborn adherence to them (Teece, 2007; Teece et al., 2016). In other words, once the opportunity has been identified and a commercialization strategy and business model have been implemented, the company need transformative capabilities to convert the strategy into action and profit

(Teece and Linden, 2017, p. 7). However, for the necessary change to take place in large incumbent firms, it is often triggered by some crisis (Teece et al., 2016, p. 26).

In their research, Teece and Linden (2017, p. 7-8) take into account capability gaps between existing and required (new) activities, and how to close those gaps; whether it is implemented internally or externally, that is to say, how much time it takes to build a capability, and how relevant it is in respect to the strategy. This requires strong leadership, management that is committed. At worst, in centralized structures, the strategic decisions made by senior management do not reflect market realities (Teece, 2007, p. 1335). Therefore, as the company expands, decentralization is required to avoid isolation (Teece, 2007, p. 1336), otherwise transforming capabilities, and thus also the ability to react to a rapidly changing environment deteriorates (Warner and Wäger, 2018, p. 333).

Day and Schoemaker (2016, p. 64-66) emphasize that the true potential of business opportunities created by sensing and seizing is only captured through transformation required by the new strategy. Their two sub-capabilities of transformation involve *organizational redesign* and *external shaping*. With organizational redesign, Day and Schoemaker (2016) mean that depending on the speed and nature of change, the organization should be modified either as a whole or by units which, for example, in a fast-paced environment could mean allowing considerable autonomy for organizational units in decision making, and coordination of joint activities (Teece, 2007, p. 1337). The external shaping, in turn, means adjusting the ecosystem and business ecology more favorable to the business, that is, using relational capabilities to build networks and connections, and thereby gain access to the valuable resources (Day and Schoemaker, 2016, p. 64-66).

Organizational agility

The global market has increased the amount of uncertainty, which has created a state in which different shocks as well as opportunities can occur anywhere and everywhere at the same time (Teece et al., 2016, p. 15). Around such uncertainty, a company needs an agile ecosystem that responds quickly when needed (Day and Schoemaker, 2016, p. 73). Agility has its roots in software methodology (Warner and Wäger, 2018, p. 332) and is accompanied by three capabilities: 1) customer agility, 2) partnering agility, and 3) operational agility (Sambamurthy, Bharadwaj and Grover, 2003, p. 245-246). Teece et al. (2016, p. 17) argue that under an uncertain environment, dynamic capabilities framework enhances manager's ability to lead an organization's agility (Figure 3).

In their research, Day and Schoemaker (2016, p. 59-60) examined dynamic capabilities in context of pharmacy industry, more closely, how Novartis Pharmaceuticals introduced nascent digital technologies in marketing and transformed company's commercial functions globally. In brief, in the early 2010s, changes in the business environment had put Novartis Pharmaceuticals' sales representatives in a challenging situation where the sales model used, i.e., visits to receptions, one-way sales presentation, printed material and giveaways, was becoming troublesome to implement as it was difficult to arrange appointments, sales reps did not identify the needs of the doctors, and thus the desired results were not achieved.

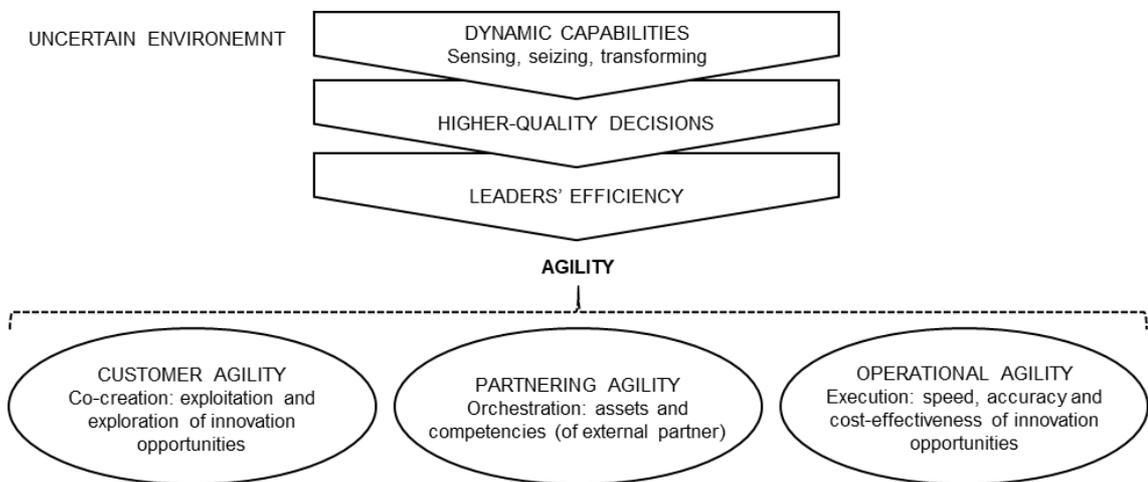


Figure 3 Dynamic capabilities and organizational agility in an uncertain environment (adapted from Sambamurthy et al., 2003)

Subsequently, what was done at Novartis, the company's management made an initiative to turn sales model into a consultative dialogue between doctors and salespeople (sensing), after which all 25,000 sales reps were given an iPad, and the company started the development of a digital sales platform based on several pilots where the platform was further developed through experimentation and learning based on field experiences (seizing). To sum up, the transformation here is based on leader's strong vision of the digital future of sales, that is, how to redesign company's commercial approach, and how to achieve sustainable competitive advantage by shaping customer engagement through digital technology. In addition, awareness of the internal dynamism of the company, and innovative development with a partner network together with sales representatives supported the company's agility. As a result, through the transformation, Novartis

Pharmaceuticals made possible 35,000 new customer visits per year. (Day and Schoemaker, 2016, p. 70-73)

2.2 Digital transformation

There are many concepts related to digital but in this context, we focus on digital transformation. Nonetheless we cannot wholly ignore concepts such as digitization, digitalization or digital technologies as they are interrelated. It is well presented by Rachinger, Rauter, Müller, Vorraber and Schirgi (2019, p. 1144) who describe digitization, that is, analog information converted into digital data sets (Warner and Wäger, 2018), as a framework for digitalization, which is the exploitation of digital opportunities by combining different technologies. Digital transformation, in turn, is a process that enables and through which economies, institutions, and society at system level are changed. Figure 4 is provided as a process model to guide the concept of digital transformation.

Digitization is therefore only necessary if the information is not already in digital form, as digital technologies make use of digital data sets. This has made digital technologies central elements in prominent business improvements across a wide range of applications (e.g., social, mobile, analytics, cloud, internet of things). While digital transformation has made numerous business models obsolete (Liu, Chen and Chou, 2011, p. 1728), it has nevertheless created unprecedented efficiencies that support organizations even in radical business model innovation (Autio, Nambisan, Thomas and Wright, 2018, p. 76). In practice, digital transformation is therefore the use and adoption of new digital technologies in business processes to create new models, streamline operations and improve the customer experience (Fitzgerald, Kruschwitz, Bonnet and Welch, 2014, p. 3). Thus, the transformation is strategic in nature (Singh, Klarner and Hess, 2020, p. 2) as it is about the ability of leaders to find new ways to capitalize new and unforeseen models (Warner and Wäger, 2018, p. 326).

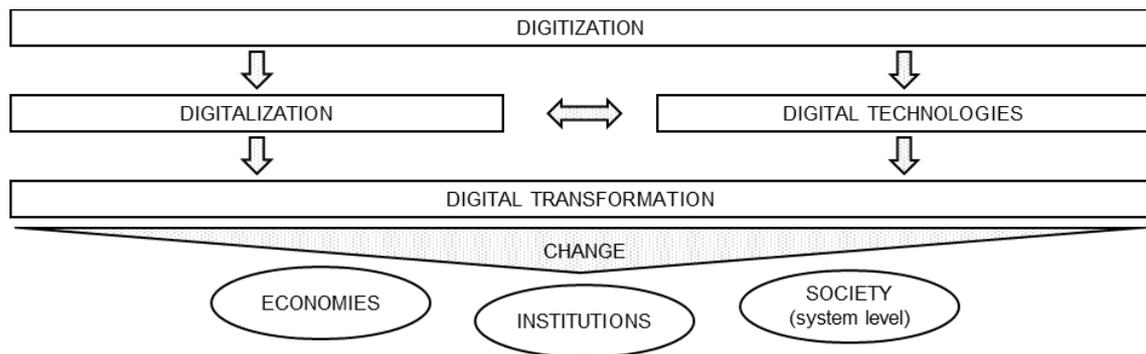


Figure 4 Interrelation of digital concepts: A process model (adapted from Rachinger et al., 2019)

Digital transformation today is often the agenda guiding strategy work (Singh et al., 2020; Warner and Wäger, 2018). Technologies are seen as an opportunity to achieve transformation and initiatives to experiment with new technologies are taking place in all industries (Matt et al., 2015, p. 339), but often executives remain unaware how to achieve results and benefit from the transformation (Fitzgerald et al. 2014, p. 3). Moreover, there is still little empirical research on how organizations are digitally transformed (Warner and Wäger, 2018, p. 326). Still and all, digital transformation has radically changed business practices, ways to build customer and supplier relationships, and how companies create value for their customers (Matarazzo et al., 2021, p. 642). Great need for transformation is seen in a dynamic and competitive markets, where new types of business opportunities can even provide disruptive change (Scuotto, Arrigo, Candelo and Nicotra, 2019, p. 1123).

2.2.1 Drivers and enablers of digital transformation

A study by MIT's Center for Digital Business together with Capgemini Consulting, where the online survey was attended by 1,559 people from CEOs to staff in 106 different countries, found that the level at which digital transformation is part of the leaders' agenda will affect how competitive a company is seen in near future. In those companies where digital transformation is fixed on the agenda, 81% saw their company as to some extent or much more competitive in the next two years, whereas in those where management does not focus on transformation, almost half of the respondents saw the competitiveness impairing. (Fitzgerald et al., 2014, p. 4) A few years later, Kiron, Kane, Palmer, Phillips and Buckley (2016, p. 6) in a joint study with Deloitte, involving 3,700 executives, managers and analysts from nearly 30 different industries and more than 100 countries, found that almost 90% of respondents predicted digital technologies to cause market disruption. However, less than half felt that their organization was preparing for this.

When talking about digital technologies, one dreams of creating new innovations and business models, but most of the time they seek help for the transformation and its drivers are the desired benefits, for example, in a better customer experience or operations (Fitzgerald et al., 2014, p. 5). As such, understanding of digitalization and the existence of digital technologies has increased and their significant impact on any sector is identified; the challenge is how to handle digital transformation in the organization, how to prepare for it, and what is the digital maturity of the company (Kiron et al, 2016). Now the Covid-19 pandemic has caused a disruption in the external environment that has challenged, or even forced, companies to focus on transformation and maintain related operations (Bonnet and Westerman, 2021, p. 89). On the other hand, increasing digitalization and use of technologies is seen to make companies more resilient, helping them to better cope with the various disruptions that the global economy is causing (Autio, Mudambi and Yoo, 2021, p. 3-4).

Fitzgerald et al. (2014, p. 5-6) argue that companies that effectively lead digital technologies can achieve benefits in three areas: 1) better customer experience and engagement, 2) streamlined operations, and 3) new lines of business or business models. Similarly, Singh et al. (2020) shows that customers are the main drivers behind digitalization. Companies that are more mature in their digital strategies are also driven by long-term goals to create transformation over time. This means preparing for rapidly changing environments, or uncertainties in the market in general, but most of the companies are likely to seek to adapt existing models and practices to fit altered environment, and thus run into a competency trap. (Kiron et al., 2016, p. 9)

Pre-digital organizations

Pre-digital organizations represent traditional industries, that is, those that were not originally based on digital business (Chanias et al., 2019, p. 17). These companies have been established and their success is based on pre-digital economy (Sebastian et al., 2017, p. 197). In these traditional industries accelerating technological development and digitalization expose both internal and external environments of companies to transformation; challenging their processes, operations, products, services, and overall business models (Chanias et al., 2019, p. 17). However, not all business processes and operating models can easily be digitally transformed, or it may not be profitable which, after

all, should be the starting point in all cases. The company must estimate both the costs and time required for the transformation and be able to model that it will increase the performance for sure. (Andriole, 2017, p.20-21).

In any case, new technology represents new business opportunities (Sebastian et al., 2017, p. 197) and offers the company opportunity to be among the successful companies regardless of when the company is established or what industry it represents (Guinan, Parise and Langowitz, 2019, p. 717). However, the unifying factor of pre-digital organization is that they are not typically companies that would cause digital disruptions (Andriole, 2017, p. 22). Instead, disruptive transformations often originate in startups, most of which stand for B2C sector (Tekic and Koroteev, 2019). Digital transformation involves both an inherent risk and external threat. Andriole (2017, p. 22) describes that incumbent firms are reluctant to transform anything as long as it remains profitable with existing models and processes. Thus, failure and depleting cash flows motivate the firm to embark on transformation. Threat, in turn, is new competitors utilizing digital technologies as well as evolving customer expectations that old pre-digital companies cannot meet without sensing and seizing new opportunities, that is, to gain new success through transformation (Sebastian et al., 2017, p. 206).

2.2.2 Barriers to digital transformation

Digital transformation is a troublesome for the very reason that there is no readymade answers or rules to take, and often defining the desired outcomes is challenging likewise (Jones, Hutcheson and Camba, 2021, p. 936). Clearly there are barriers to digital transformation as transformation is perceived challenging, organizations are not prepared enough, and the pace is often too slow. As with all activities, digital transformation is also influenced by institutional challenges such as politics, the legacy of old technologies and IT systems as well as employee attitudes and ideologies. (Fitzgerald et al., 2014, p. 8-10) Indeed, while transformative vision (i.e., knowledge of market and trends), forward looking and understanding technology are seen as the most important skills for coping in the digital environment, at the same time internal issues such as lack of agility, satisfaction with one's own work and cultural inflexibility are identified as the biggest threats in relation to digital trends (Kiron et al., 2016, p. 7, 12). In other words, it is much about the organization's digital maturity, the company's internal workforce and external talents (Warner and Wäger, 2018,

p. 327-328), which affect how strong barriers these cultural conflicts and ignorance form for digital transformation.

A typical misconception in companies is that new digital technologies bring the transformation to life and take it forward. However, implementation of technologies is often an easier part of the transformation, while challenges are faced in managing it and getting people involved (Kane, 2019, p. 46). When examining the digital maturity of manufacturing companies, those in leadership positions were not uncertain about whether the organization would be ready for digital transformation, instead they were uncertain about how the change would be initiated (De Carolis, Macchi, Negri and Terzi, 2017). That is, by investing in technology alone a company will not ensure its competitiveness. In contrast, companies that have avoided pitfalls and overcome the barriers have often outsourced most of their digital processes, focusing only on some core functions (Volberda, Khanagha, Baden-Fuller, Mihalache, Birkinshaw, 2021, p. 5). This requires leaders to have a transformative vision, the capability to recognize the factors affecting the business environment, and to create a collective understanding of the required change. (Kane, 2019; Teece, 2007).

However, in addition to benefits, efficiency and innovation potential identified, digitalization to some extent complicates business as the digital landscape is constantly changing and executives must be able to demonstrate the challenges it faces and navigate the organization. Kiron et al. (2016, p. 14-16) talks about digital consistency, which the organization should strive for, including culture, people, structure, and tasks. Digitalization affects the surrounding economy, society, and organizations (such as culture) (Rachinger et al., 2019), and thus digital transformation has been studied to be fundamentally about strategy, culture, and talent development (El Sawy et al., 2016, p. 141-142). In digital consistency culture seeks to embrace risk-taking, strong experimentation as well as learning, which also includes failure. In addition, employee skills are deepened by providing opportunities for development and training, but as changing environment places a fast pace, it is advisable to make use of external talent in some specific and complex tasks. Lastly, the organizational structure aims at agility, which has been found to be supported by cross-functional cooperation with clear guidelines set by leaders. (De Carolis et al., 2017; Kiron et al., 2016)

The development processes

Digital transformation is not just the introduction of digital technologies, but rather an ongoing process in which a company develops its digital maturity. Thus, technology not only enhances internal operations, but is a way to reach customers. It can have a significant impact on services, disrupt markets, or even change industries as a whole. (Ivancic, Vuksic and Spremic, 2019, p. 36). A good example of this is the banking industry, where transition to e-banking has put into practice almost all of these. Online banking reforms have been significant digital transformation throughout the 21st century. It has been the vital condition for banks to survive and remain competitive in digital economy (Guinan et al., 2019; Liu et al., 2011; Vial, 2019).

Liu et al. (2011, p. 1734-1738) examined an e-banking project of Taiwanese CBC bank through resource fit and identified both internal and external resources as well as internal and external capabilities that enabled a fluent digital transformation in relation to this particular project. In this case, the trust was found as an essential resource in the successful digital transformation, as the company had previously been able to break free from strict regulations in the sector and establish confidential relationships with agile external partners. Another similar successful digital transformation in the financial sector is from the globally operating ING. Their methodology was based more on internal reorganization, consisting of strong cross-functional teams involving productization and marketing specialists, UI designers, data analysts, and IT engineers. These teams were formed in each of the 13 customer segments and their main function was to improve the end-to-end customer experience and develop the customer path. After a few years, the positive results were clear in terms of both customer satisfaction and employee engagement. Such teams combining business and technical expertise have been identified as ideals in businesses where customer preferences are cyclical and operational challenges often complex. (Guinan et al, 2019, p. 718)

In both cases, the sector had lagged behind digital developments, but individual companies managed to sustain and improve their competitiveness through digital transformation, approaching it in a different way and using a different methodology. Presumably CBC Bank had somewhat strong dynamic capabilities (at least sensing emerging developments) in its organization, as they understood to seek value from agile partners under the highly uncertain environment. In addition to technology and agile partnerships, the transformation team was highly authorized to operate otherwise in a well-centralized organization. Also, transparency, information sharing, and collaboration were increased so that the company would not remain isolated. (Liu et al., 2011) That is, according to Warner's (2018) process

model, CBC Bank increased its digital mindset through partner network, created strategic agility by directing and authorizing internal resources, ultimately leading to redesigning internal structures as well as proliferation of digital information and the use of digital technologies improving digital maturity. In the background, the company was able to start creating value for its customers by customizing its services with the integration of digital technologies (Liu et al., 2011).

2.2.3 Digital transformation strategy

Regardless of what technology the company adopts and what it seeks to achieve, the introduction is most likely to involve some sort of transformation in a way the organization operates, management practices, structures of the processes, or company's products and services. Thus, transformation always requires proper design, coordination, and prioritization. At best, the company forms a digital transformation strategy around it (Matt et al., 2015, p. 339), which supports different stages of customer journey, and ultimately leads customer value creation (Matarazzo et al., 2020, p. 653).

As an example, at LEGO Group one of the cornerstones of the company's strategy is 'leveraging digitalization'. That is to guide the company to take advantage of digital in everything it does, i.e., to integrate digital into all business activities. (El Sawy et al., 2016, p. 145) Most often transformation is inherited as part of the corporate strategy cycle, for example, a three-to-five-year plan or annual budgeting, which can be problematic as they tend to take a poor stand on environmental change, or completely ignore the potential disruption caused by digital technologies (Warner and Wäger, 2018, p. 337, 341). However, LEGO Group's corporate strategy extends exceptionally far, all the way to the 2030s. The point is that the company has built the capabilities through which many digital experiments are implemented, and from which the organization learns and develops continuously. (El Sawy, 2016, p. 145)

Digital transformation is holistic when implemented at a strategic level (Matt et al., 2015, p. 340), having a broad impact on the company's different operations as perceived in LEGO Group's marketing. When the company started to take steps to digitize marketing, it was noticed that marketing and customers' experience of the product in the digital environment converged. Whereas marketing had previously been a push activity to provide customers with product information, in the digital environment it became a pull activity, engaging and

seeking interaction with the customer community. (El Sawy, 2016, p. 146) That is to say, guided by digital strategy, and through new channels and technology-enabled interactivity between customers and the company, LEGO's marketing function was transformed fundamentally. In summary, digital transformation strategy always requires the right attitude towards new technologies as well as their use. It is also likely to change the way value is created (from analog to digital activities), in which case the change must be led (assigned person in charge), it needs to be funded, and may require structural changes as well. (Matt et al., 2015, p. 340-341)

Characteristics of the digital transformation strategies

Digitalization can be explicitly defined, as presented in section 2.2, whereas digital transformation is more multifaceted phenomenon that can mean different things in different firms, varying greatly in what stage of digitalization a company is (Tekic and Koroteev, 2019, p. 684). In any case, it is a change that digital technologies are bringing to companies' business models (Hess, Benlian, Matt and Wiesböck, 2016, p. 124), like automation and process optimization, value creation through new services, or acquisition of new types of capabilities (Tekic and Koroteev, 2019, p. 684). However, for future success, it is important that the company has a clear strategy for how it intends to adopt and leverage digital technologies (Hess et al., 2016, p. 124).

The booming academic interest in digital transformation has resulted in very diverse views on what it represents in each situation and how management should strategically guide the transformation. If a company is unable to form a clear understanding of what digital technologies it should pursue in order to support the business, it will lead to uncertainty in decision-making. This in turn may prevent the identification of strategic alternatives and make it difficult for the company to assess the consequences of transformation related decisions for business. (Tekic, 2019, p. 685) Therefore, it would be essential for the company to be able to commit to one strategy that serves as a guide and drives both resource allocation and investment decisions (Sebastian et al., 2017, p. 200-201). However, it is much easier to manifest a digital strategy than to implement one (Hess et al., 2016, p. 124, 137).

According to Sebastian et al. (2017, p. 198-199) there are two digital strategies that one company should stick to: 1) customer engagement strategy, and 2) digitized solutions

strategy. For example, LEGO's decision to create a channel strategy that utilizes different digital channels alongside physical locations, such as social media, gamification and augmented reality (El Sawy et al., 2016, p. 146-147) is an example of a digital strategy, which seeks to increase customer loyalty by creating an innovative, personalized and integrated customer experience. The strategy is based on customer data as well as analytics, which allows the company to create a better understanding of consumer needs and demand through continuous two-way communication as well as interaction. Where customer engagement strategy responds accurately customer needs in the present time, digitized solutions strategy aims to anticipate the future customer needs typically by R&D activities. It can mean, for example, transforming an existing product and thus business logic into service-based by combining products with intelligent sensor technology to collect data, whereby instead of selling the product, the company sells a solution that generates recurring revenue for the company. (Sebastian et al., 2017, 199-200)

Tekic and Koroteev (2019, p. 685) describe digital technology as an enabler of transformation, and business model as a driver. Guided by management, the strategy should be open enough to adapt to the implications caused by digital transformation and strive to enhance the operational performance (Hess et al., 2016, p. 123). In other words, experiments related to business models can be conducted through digital technologies (Tekic and Koroteev, 2019, p. 685). The digital strategy therefore leverages available technologies to respond to an ever-changing market environment (definition below).

A business strategy, inspired by the capabilities of powerful readily accessible technologies (like SMACIT), intent on delivering unique, integrated business capabilities in ways that are responsive to constantly changing market conditions (Sebastian et al., 2017, p. 198).

Technology-based transformation affects a company on many levels. The rough division is that digital transformation is either technology-based with the aim of automating and optimizing existing processes, or business model-based where opportunities to change business models are identified through innovations (Berghaus and Back, 2016, p. 2). Looking at a slightly wider spectrum, digital transformation strategies can be placed in a quadrant alternating between two dimensions: 1) mastery of digital technologies, and 2) business model readiness for digital transformation (see Figure 5). In addition to just describing the typical characteristics, Tekic's (2019) typology goes beyond describing what kind of leadership the strategy is connected, the level of required creativity among staff,

strategy-related risks and challenges, tactics for improvement as well as the types of companies that pursue the strategy (characteristically).

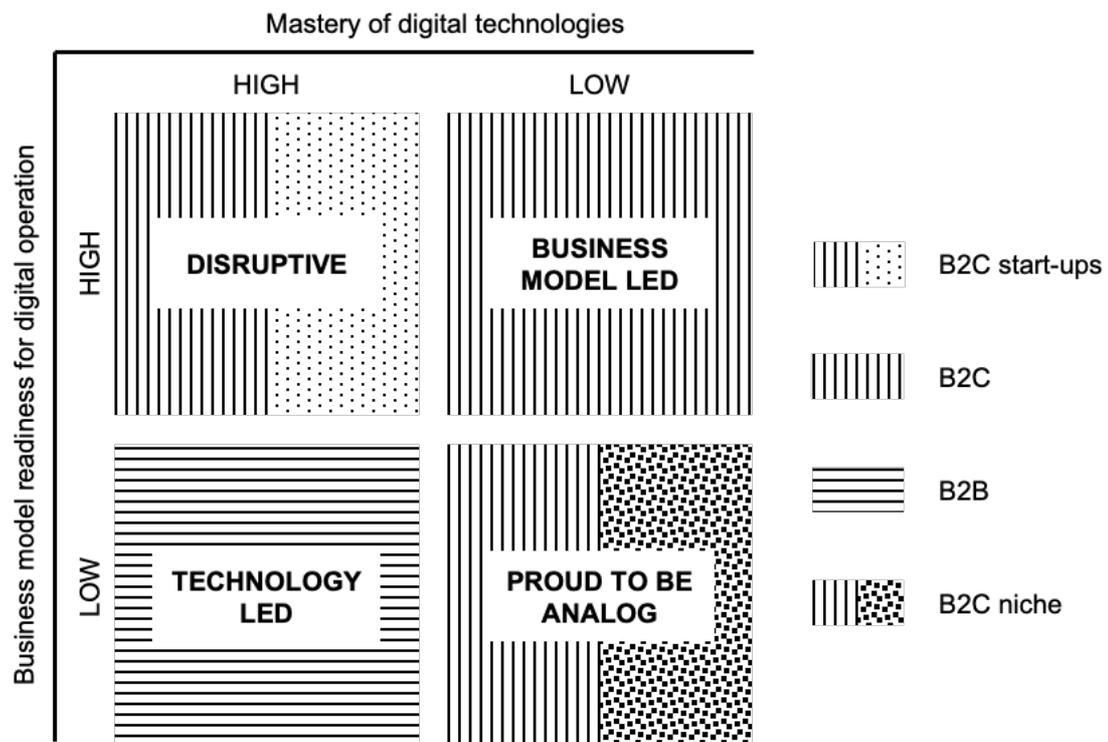


Figure 5 Typology of digital transformation strategies (adapted from Tekic and Kroteev, 2019)

As shown in Figure 5, the B2C sector represents majority of the strategies, although disruptive and proud to be analog strategies are utilized by a smaller group (start-ups and niche segments such as luxury brands). B2B companies, especially incumbents such as the manufacturing industry, rely on a technology led transformation strategy where the business is not exposed to such high risks but seeks to achieve benefits based on optimization and cost reduction. Moreover, it is “less risky, more predictable, and easier to justify than experimenting with own business models”. Disruptive transformation typically occurs in situations where there is nothing pre-limiting (e.g., resources, customers, suppliers, brand, routines, processes, management system), which describes start-ups whose tactics, philosophy and operations are based on a ‘fail fast and fail cheap’ model. Also, in business model led strategy exploration and identification of new opportunities is the primary target requiring visionary leadership, but instead of endogenous disruption, the models and innovations is taken from smaller and more agile actors such as start-ups. (Tekic and Koroteev, 2019, p. 687-691)

Overall, pre-digital (B2B) companies have not been exposed to the same level of risk to stay competitive in the digital economy, and therefore are less mature in leading the digital transformation in a strategic way (Berghaus and Back, 2016, p. 12-13). However, some functions such as marketing, digitalization have changed in a revolutionary way and the change is fast paced and permanent. Thus, the gaze turns on the competencies of management to assess business needs and achievable benefits in the field of digitalization. In her study, Geramisenka (2021, p. 20-21) found that deficiencies in managerial competencies are the main reason why the implementation of digital strategies is difficult in some companies and thus digitalization develops unevenly between companies. Technology-led transformation often seeks to solve a particular challenge with some individual technology, leaving long-term effectiveness small and giving space for overinterpretation of technological capabilities and the positive outcomes (Tekic and Koroteev, 2019, p. 690). However, in such a case it is not yet a question of implementing a digital transformation strategy.

Team and competencies guiding the digital transformation

Digital transformation is often much more abstract in nature than perhaps more traditional changes in organizations. This is because it is accompanied by several different initiatives driven simultaneously by several interest groups, making it challenging to create a structure that would only be led from the top down (Solberg, Traavik and Wong, 2020, p. 106). Chantias et al. (2019) state in their study examining the digital transformation of a traditional European financial services provider that the most effective way to implement the transformation is to combine top-down and bottom-up strategizing. By this they mean that transformation always requires strong support from the top management of the company. Instead, bottom-up strategizing is often more effective as it is not hindered by unnecessary politics. That is, according to their model, management is responsible for digitization of existing products and services as well as envisioning and encouraging bottom-up activities, that is, through agile and flexible working practices in collaboration with partners is about to recognize, adopt and implement new digital services for the company.

New technologies in digital business create opportunities across organizational and functional boundaries (Sebastian et al., 2017, p. 208), requiring new types of structures, dynamic and digital teams that experiment and exploit technologies in close collaboration (Guinan et al., 2019; Sebastian et al., 2017). Moreover, digitalization has increased the

complexity of collaboration as it requires a great deal of coordination to function (Riemer and Schellhammer, 2019, p. 1) due to the many roles and standpoints involved (Guinan et al., 2019, p. 718). Typically, building new technology capabilities begins with the IT unit (Sebastian et al., 2017, p. 205), which is a natural reason why past research offers various agile software development methodologies as a guide to smooth digital transformation (Chanias et al., 2019).

Guinan et al. (2019) in their study identified IT based factors that help create an innovative team for harnessing digital transformation. What comes to team composition, digital transformation, or its subprojects, is best served by teams where the members have various skills and competencies from different functions. Among the functional experts, the resilience of the team is enhanced by individuals having the ability to engage other stakeholders across the business. From the management point of view so-called servant leadership serves the team as a coach or a mentor by involving team members in decision-making and removing administrative obstacles to teamwork. In terms of upper management, senior management should periodically monitor the progress of the transformation so that goals can be set iteratively. This illustrates well the meaning of words and deeds; whether management is constantly and prominently supporting the transformation, or have they only seemingly accepted the presence of the concept in the organization, which has been found to be represented especially in the management of public companies. (Andriole, 2017, p. 22).

In any case, despite the many possibilities digital transformation always set a risk for the company, especially from a financial point of view, so budgeting should be flexible on both sides; instead of an annual allocation, the results of experiments should be the justification to raise funding for the upcoming sprints (Guinan et al., 2019). If a company seeks to develop its digital maturity through transformation, it should align resources with strategy. This means investing in technology, human resources, and new business that not only seeks to automate existing operations, but the organization is genuinely looking for new business opportunities. (Mugge, Abbu, Michaelis, Kwiatkowski and Guderan, 2020, p. 31-32) Most of the incumbent firms are still in the early stages of digital transformation, but the digital economy puts the company ahead of strategic decisions; what technologies to invest in, and what capabilities are needed for repositioning in the digital landscape (Sebastian et al., 2017, p. 198).

2.3 Summary of the applied theories in respect to the context of the study

The effects of global coronavirus crisis, the Covid-19 pandemic, are far-reaching with disruptions ranging from production capacity to supply chains (Guo, Yang, Huang and Guo, 2020, p. 1) and from purchasing behavior to demand (Wang et al., 2020, p. 214), due to the block of cities and the isolation of people at home. Drastically declining sales have an impact both within and between organizations. The situation requires a lot from managers, especially in sales and marketing where lockdowns have required new approaches to manage business operations. (Cortez and Johnston, 2020, p. 125) Moreover, impacts have been significant, especially on traditional manufacturing and thus on the supply chain, especially in areas where entire production lines have been modified to meet the needs of corona crisis (e.g., face masks and ventilators) (Jones et al., 2021, p. 937). With its many waves and new variants, the Covid-19 pandemic can be considered to have been globally active for almost two years. Nonetheless, the actual exit is seen to be long-lasting, and the pandemic will have a negative impact on global economic growth (Guo et al., 2020, p. 1).

What is more, the Covid-19 is an unexpected public crisis that causes uncertainty and disruption (Guo et al., 2020, p. 2-3), but differs from the most common financial crises (e.g., subprime crisis in 2008) in that it has caused a humanitarian crisis centered on individual and the human being, rather than the economic system alone (Cortez and Johnston, 2020, p. 125-126). Such a crisis breaks out unexpectedly and spreads rapidly, causing a high degree of uncertainty, which companies should respond to quickly without knowing exactly how (Guo et al., 2020, p. 2). However, it is known that the Covid-19 pandemic has, regardless of industry, accelerated firms' efforts toward digital ways of action. This for sure puts those companies that already prior the corona had difficulty adapting to the digital economy in a particularly difficult position. (Volberda et al., 2021, p. 2) Even though research on these responses and strategies in the Covid-19 pandemic is still scarce, there is empirical results on how dynamic capabilities help companies respond effectively to public crises (i.a., natural disasters), and how the digital transformation would contribute to overcoming the crisis.

2.3.1 Building digital capabilities

What comes to dynamic capabilities, even so Teece et al. framework thoroughly describe dynamic capabilities the process seems very systematic where sensing, seizing and

transforming proceed linearly. Although the theory is not very old, the speed of change has only accelerated and it can be assumed that the business environment is in many ways more fast-paced and cyclical, which also makes the development of dynamic capabilities more non-linear, perhaps even more experimental. In their study, Warner and Wäger (2018, p. 326-327) describe a process model in the context of digital transformation with nine microfoundations for sensing, seizing and transforming. What is more, the model considers external triggers (here we look at the Covid-19 pandemic as one) as well as internal enablers and barriers. As a summary of the applied theories in respect to the context of the study, four propositions are made to address the central ideas of the current state of knowledge and/or future developments, of which the first is:

P1 *Marketing strategies will become more agile and adaptable in the longer term, as companies' attitudes toward digitalization become more favorable as a result of Covid-19.*

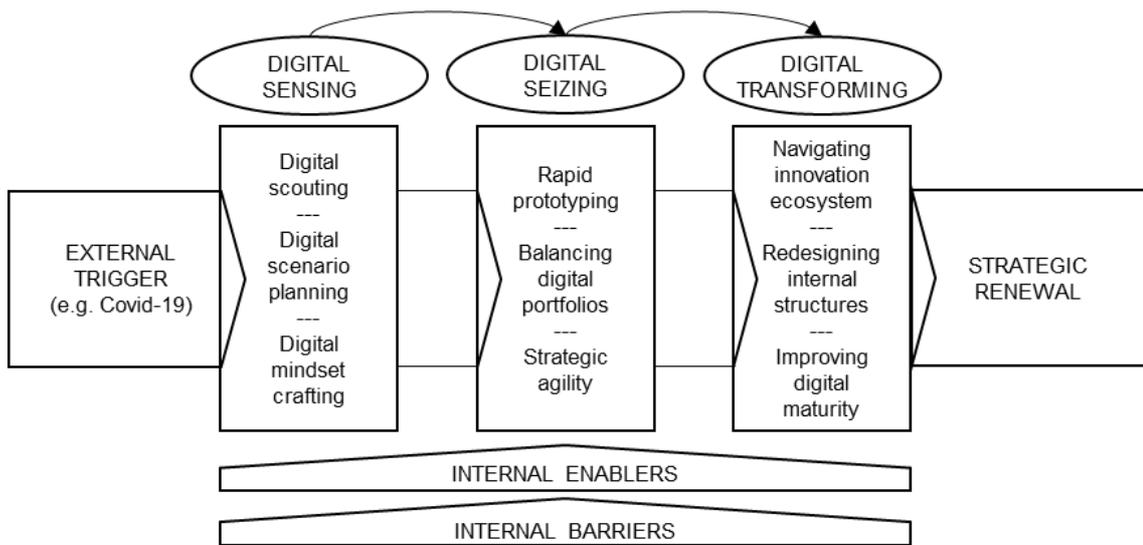


Figure 6 Building digital capabilities: A process model (according to Warner and Wäger, 2018)

To build dynamic capabilities for digital transformation, Warner and Wäger (2018, p. 336) identify three external triggers: 1) disruptive digital competitors, 2) changing consumer behaviors, and 3) disruptive digital technologies. According to this, the study propose that the Covid-19 pandemic is likely to have affected the existence or accelerated all the above-mentioned triggers when looking at large incumbent B2B companies. The widespread economic impact of the coronavirus and isolation measures have influenced consumer behavior, or better describing B2B context the purchasing processes. The disruption, in turn, is affected by the capabilities of competitors to respond to the shock and gain the first-

mover advantage. A good case example from the last decade is Case Novartis, which was described in section 2.1.5. At the same time, of course, the pandemic has accelerated technological development itself and digital technology is now being integrated into new areas and new use cases. The following proposition is set:

P2 *The Covid-19 crisis is serving as an external trigger for digital transformation, from traditional marketing activities to more strategic digital marketing or hybrid models, in the large incumbent B2B firms.*

It appears that the process model used for dynamic capabilities is always slightly different from the context in which the framework is used. However, the prevailing characteristics appear to be more or less permanent. For example, Witschel, Döhla, Kaiser, Voigt, Pfletschinger and Fandel (2019, p. 1023) studied whether dynamic capabilities can facilitate digital-driven business model change, and found that only by appropriate adjustment of strategy, organizational design, and leadership mindset can dynamic capabilities be effective. Similarly, Day and Schoemaker (2016, p. 74) recognize dependence between the characteristic and capabilities, although the leadership mindset is replaced by a broader concept that is culture. In Warner's (2018, p. 336-338) process model, digital sensing, seizing, and transforming are driven by internal enablers: 1) cross-functional teams, 2) fast decision making, and 3) executive support. In opposite, internal barriers to building digital capabilities are created by 1) rigid strategic planning, 2) resistance for change, and 3) high level of hierarchy. All linked to the company's strategy, organizational design, leadership, and culture.

2.3.2 Dynamic capabilities under the influence of Covid-19

Speaking at the company level without considering the epidemiology and scientific understanding of the prevalence of viruses, unlike the Covid-19 outbreak, some companies may have sensed the spread of the virus and the threat of a global pandemic. In their study, Guo et al. (2020) examine responses of Chinese small and medium-sized enterprises to the public crisis. In these circumstances, dynamic capabilities have a significant impact on a company's ability to understand a turbulent, unstable, and rapidly changing environment. Without such understanding it is almost impossible to create any sensible strategic response to the situation; to address and capture new business opportunities and direct the right resources to overcome the crisis. At the heart of the examination the dynamic capabilities approach to sense, seize and transform.

In any case, it would seem that digital transformation and dynamic capabilities are becoming increasingly difficult to distinguish. It is fact that digital technologies such as artificial intelligence, cloud computing, internet of things, mobile and social are part of everyday life and not so much the future. The coronavirus has just accelerated the digital leap in work habits (e.g., demand for cloud-based video conferencing tools) and companies are now actively paying attention to digital technologies (Kodama, 2020, p. 1). Thus, as Warner and Wäger (2018) in their study look at dynamic capabilities in the context of digital transformation, the purpose and nature of the capabilities change with the increasing use of digital technologies.

The role of digital technologies in dynamic capabilities

Guo et al. (2020, p. 2) note in their study that digitalization has the potential to help companies respond effectively to public crisis by activating a company's dynamic capabilities. By this they refer to the features of digital technologies: programmable, addressable, sensible, communicable, memorable, traceable, and associable. In other words, digital technologies themselves do not offer a competitive advantage, as they are available to everyone and virtually anyone can adopt them. That is, technology is in a way like a new class of ordinary capabilities, but their advantage is based on advanced flexibility (von Briel, Davidsson and Recker 2018, p. 49). In terms of dynamic capabilities, Guo et al. (2020, p. 5) propose that digitalization in general improves firms' abilities to sense, seize and transform. It is about agility to respond and adapt to changes in the environment, which consists of the flexibility offered by digital technologies (Guo et al., 2020; Teece et al., 2016; Vial, 2019).

Guo et al. (2020, p. 2, 4-5) found that among small and medium-sized enterprises, those who were advanced in digitalization (digitally mature) were able to make better use of dynamic capabilities. In sensing changes in the environment these companies utilize, among other things, IoT technology and big data analysis systems to access external data sources. What is more, by its very nature, the Covid-19 crisis has opened new business opportunities, especially in the digital economy, and online business in many forms has flourished. One major change concerns the use of digital channels in marketing and sales; how to reach and engage in dialogue with customers. LEGO Group, which utilizes and emphasizes digital in all its operations, uses an omnichannel strategy (El Sawy et al., 2016,

p. 146-147), in which the company integrates a multi-channel approach to increase visibility of the brand as well as the interactivity of the content (Vial, 2019, p. 125). Digital technologies enable rapid operational change at a reasonable level of investment (such as social media marketing). However, successful implementation and efficiency still depend on transformation capabilities and strategy. Consequently, a third proposition is made:

P3 *Digital technologies introduced during the Covid-19 crisis will improve companies' ability to sense and seize new business opportunities.*

Crisis response strategies

It is noteworthy, of course, whether the company is overcoming the crisis as a short-term emergency strategy, for example by experimenting with digital channels, or whether it is a longer-term strategic goal that essentially involves digital transformation. Public crises are by no means unusual, although the effects of the Covid-19 pandemic may be exceptionally far-ranging and long-lasting. In just over a year, Africa has suffered from locust plague, US stock market have melted, and oil prices have plummeted (Guo et al., 2020, p. 18), not to mention numerous natural disasters or the Ebola crisis from the last decade, just as an example (Cortez et al., 2020, p.126). That is, companies operate in a volatile, uncertain, complex and ambiguous (VOCA) environment (Guo et al., 2020, p. 18), so they need a strategy to respond to the various uncertainties in the environment.

There are several approaches to strategic responses, but Guo et al. (2020, p. 7-13) look at these in a time perspective, dividing them into short-term and long-term crisis response strategies. For instance, the above focuses on recovering production and protecting personnel, and the latter is about digital transformation and strategic change such as changes in product line, market coverage, or partnerships. Research shows that digitally mature companies (here SMEs) with dynamic capabilities are able to change internal and external resources quickly and adopt new means to keep operations running. In terms of performance, all strategies follow the same pattern; actions improve predicted performance and are potentially beneficial in the longer term, but because all strategies commit resources, they do not necessarily significantly improve the current situation.

Wang et al. (2020, p. 215-218) in turn look Covid-19 responses through marketing innovation strategies. They use two dimensions in their typology; the motivation for innovation (impact of the crisis on the company) and the level of cooperation (resources

and capabilities). This constitutes four strategies: 1) responsive, 2) collective, 3) proactive, and 4) partnership strategy. Companies for which Covid-19 is particularly problematic include, for example, those whose business is offline based, or demand for service has collapsed due to constraints, blocks and/or isolation. Depending on the resources, a company can either seek to maintain the current business and initiate transformation in relation to channels through the responsive strategy or seek to revitalize existing business through new business models in a collaborative model as the collective strategy. In proactive and partnership strategies, the company's performance is at a higher level than expected, allowing it to seek competitive advantage and new business from existing and new customers either independently (proactively) or in partnership. That is, responsive as well as proactive strategy is about reconfiguration of the capabilities and transformation, while collective and partnership strategies leverage the existing capabilities.

2.3.3 Digital transformation in B2B companies and the implications of Covid-19

In this crisis environment caused by the Covid-19 pandemic the challenge has been uncertainty about when and how it will end. In other words, companies have not had any pre-defined or known protocol to face this particular crisis, which at a certain level occurs, for example, in the case of a more traditional economic crisis. Here, virtually all industries and B2B companies representing them have most likely faced the scale and nature of the crisis in equal uncertainty. (Cortez and Johnston, 2020, p. 128) On the other hand, when talking about the digital transformation, it can be assumed that the rapid outbreak of the Covid-19, strict governmental constraints and prolonged exit have accelerated digitalization but also made it more sustainable. Even so that the longer-term strategy may already have been revised to better support the digital technologies introduced and adopted during the pandemic. The fourth and final proposition is set:

P4 *The Covid-19 crisis is accelerating the digital transformation, and at the same time making it more sustainable as companies seek strategic responses not only to overcome the crisis but also in the post-crisis period.*

During the coronavirus crisis, companies' efforts in the digital transformation have mainly focused on maintaining and improving social exchanges. In their study of medium and large B2B companies from different geographical areas and sectors, Cortez and Johnston (2020, p. 127, 129-130) identified, among other things, eight digital activities that companies adopted to overcome the crisis. Companies have identified an increase in web traffic

(average 5-10%), which has led them to develop web content. In the absence of physical encounters where companies have typically been able to distribute physical materials, companies have implemented digital showrooms. The intention of such spaces is to create a genuine experience of the product or service being offered and to enable active dialogue directly through the platform, so that the customer path can also be effectively steered in the right direction. Webinars have been used, for example, to provide technical information through which it has been possible to initiate a conversation and engage buyers. Companies with e-commerce activities have also paid attention to educating customers on smooth use of the e-commerce platforms.

Social media is a good example of a digital technology application that B2C companies have strongly embraced (Dwivedi et al., 2021) and followed by B2B companies, especially in the high-tech businesses, but both practice and research on the use of social media by more conservative companies have lagged behind (Buratti, Parola and Satta, 2018, p. 491). Yet social media has been identified relevant part of the digital transformation of businesses, as it is one of the fundamental forms of global digitalization (Dwivedi et al., 2021), and one of the key activities in digital marketing (Cortez and Johnston, 2019, p. 611). It is a source of information and increasingly strategically essential marketing channel, which is already part of purchasing process, and thus a part of decision-making in B2B sectors as well (Dwivedi et al., 2021).

Even so, in the study by Cortez and Johnston (2020, p. 130) companies have become more active in the use of social media during the corona crisis, although it is still mostly about better dissemination of information, rather than customer involvement, information gathering (e.g., innovations), brand awareness, or engagement (Dwivedi et al., 2021). It would seem to be that the bottleneck for digital transformation (at least without the accelerating force created by Covid-19), such as the use of social media in digital marketing, has been the conservatism in some industries and companies (Buratti et al., 2018, p. 491); structural challenges in the decision-making process such as centralized power, agility, limited strategic capability, and lack of digital maturity. Now the outbreak of Covid-19 and the global crisis have led companies to look at these factors, while for many companies the digital transformation has been a matter of "life and death".

3 RESEARCH DESIGN AND METHODS

According to Farquhar (2012, p. 2) the cornerstone of good research is consistent research design, that is, the methods used are harmonious and the research flows logically. The research design can be described as a general plan for how the research will respond to the research questions posed, including research objectives, data sources, data collection and analysis methods as well as addressing constraints related to the study (Saunders, Lewis and Thornhill, 2016, p. 163-164). The research methodology applied in this thesis follows qualitative research design. Qualitative research is characterized by an interpretation in which researcher verbalizes and search for a rational explanation and structure for the phenomenon under study. To gain access to meanings and in-depth understanding, research requires operating in a natural research context, which is why qualitative research is sometimes referred as naturalistic approach. (Saunders et al., 2016, p. 168) A solid foundation for this study is formed by a tripod in accordance with Farquhar (2012), which consists of the conceptual framework, the research design, and the discussion.

Alongside the research design, consistent research is guided by a research strategy, which serves as a methodological link between the research philosophy followed and the appropriate data collection and analysis methods selected (Saunders et al, 2016, p. 177-178). In this study, the research strategy utilizes the case study approach. This is well justified when the aim is to form a better understanding of a phenomenon that is new and an understanding of its effects is still relatively limited (Yin, 2009), that is, the aim is to look at the phenomenon in depth and in context for which the case study is well suited (Farquhar, 2012, p. 12). Case studies often address complex issues in the natural real-life environment, making it a widely used research strategy, especially in the social sciences (Crowe, Cresswell, Robertson, Hubby, Avery and Sheikh, 2011, p. 1). Indeed, the literature also refers to it as naturalistic design (Yin, 2009; Crowe et al., 2011) as it allows close access, for example, to companies under research (Halinen and Törnroos, 2005, p. 1286). According to Yin (2009), the advantage of case study is that the researcher can form an understanding of events and phenomena, like why and how, without the researcher having control over these. What is more, one of the prevalent characters of the chosen research strategy is to capture the underlying dynamics within the companies. (Eisenhardt, 1989, p. 534) Given the above rationale for the case study approach, and taking the research context, objectives, and layout of research questions into account, this study follows an exploratory purpose. In other words, the research clarifies and work toward understanding of the

phenomenon discovering the events and new insights around the topic of interest, focusing on 'How' and 'What' type of questions (Saunders et al, 2016, p. 174-175)

3.1 Case selection

The selection (or sampling) of the cases selected for the study is justified by their suitability for the conceptual framework. Eisenhardt and Graebner (2007, p. 27) describe this theoretical sampling as case choices that are likely to 'illuminate and extend relationships and logic among constructs'. In other words, cases are selected on the basis that they are likely to provide some theoretical insights, for example, by replicating or extending the theory in some way. This study follows an information-oriented approach in selection of samples, utilizing information from cases that are originally selected based on the expectations about their information content (Flyvbjerg, 2006, p. 230). Add to this that revelatory case study type where there is an opportunity to investigate a phenomenon which has previously been inaccessible is aimed for (Farquhar, 2012, p. 14). Second, this study follows a multiple-case design. Simply, this provides more analytical power for research (Eisenhardt and Graebner, 2007, p. 27), as the phenomenon can be studied through several cases, also allowing comparison, and finding contrasts between the cases (Farquhar, 2012, p. 16). Also, when selecting more typical cases, the uniqueness of individual cases is less relevant, and thus it is possible to study the phenomenon more thoroughly (Crowe et al., 2011, p. 5). Case study has been identified as an effective method in, for example, operations management, where technology and management methods are subject to constant transformation (Voss, Tsiriktsis and Frohlich, 2002, p. 195). In general, the advantages of multiple-case design are that the theory is better grounded when based on varied empirical evidence (Eisenhardt and Graebner, 2007, p. 27), more accurate with an appropriate level of abstraction (Brown and Eisenhardt, 1997, p. 2), and stronger rationale for high validity (Voss et al., 2002, p. 195).

The research questions as well as the theoretical framework guided the case selection in this research. The selection was targeted at large incumbent B2B companies, as the study of dynamic capabilities in the field of marketing was intended to be complemented in relation to this sector. The specific research context was chosen because the research aims to provide new insights, to explain and describe the effects of the phenomenon under study. Thus, dynamic capabilities in marketing, and now in a crisis situation and uncertain business environment, provide a solid framework through which to form an interesting first-hand empirical understanding of the effects that are identified in the field of B2B marketing.

Furthermore, case selections were targeted at pre-digital organizations, representing more traditional industries, because these companies are not at the forefront of representing the digital economy. All case companies represent industrial products and services and are major manufacturers or service providers in their field. These companies are headquartered in Finland, three of which represent multinational companies serving the global markets with significant market shares, and two regional companies operating in the domestic market with less or no market share in neighboring areas. Each company represents an established position and has been operating for several decades. Naturally, some companies have undergone changes in ownership, reorganized, and/or the name of the company may have changed over time. One of the case companies operates as a subsidiary, while others represent the parent company. For confidentiality reasons, the companies are identified using pseudonyms in this study.

A total of five companies are included in the study. The size and revenue of the company were used as guiding selection criteria so that the company meets the Finnish definition of a large company. In addition, the case selections paid particular attention to the industry, i.e., the delimitation of recently established companies in the digital economy, which could have led to considerable differences between companies, which would not have been meaningful in terms of research setting and the results. Thus, companies were selected from the manufacturing, construction, and process industry as well as maintenance and logistics. When applying these criteria, it is natural that the research context is limited to B2B marketing. From a research perspective, it is more intriguing to look at companies that rely on more traditional business models and strategies in overall, through which it is more likely to reach the fundamental factors that affect companies' capabilities to implement strategic crisis responses through digital transformation.

The smallest company involved in the study represent manufacturing of investment products and equipment related to the processing of raw materials, with an annual revenue of EUR 150 million (approximately) and employs less than a thousand people globally. A total of four companies' total strength of workforce is something between one thousand to three thousand employees. At the other extreme, is a company representing the engineering, with a revenue of several billion, and tens of thousands of employees. Also, the only case-company acting as a subsidiary (process industry) belongs to the heavyweight division with revenue of more than a billion. Of the five companies, three are public corporations, in addition to which the subsidiary is part of a listed parent company. The interviewed company representatives work in Finland, but nine of the fourteen

interviewees work in a global role, i.e., all the interviewees of multinational enterprises operate in part or in full in a global role. The two companies operating more locally, either entirely in Finland or in Finland and its surrounding areas (Northern Europe), represent a narrower regional field of activity.

3.2 Data collection

As Crowe et al. (2011, p. 5) put it, there need be clear scope, beginning and end for the case study, which includes as an integral part “collecting and analyzing data; interpreting data; and reporting the findings”. In this study, data have been collected by interviewing key informants such as marketing, communications, and sales directors and specialists who play a key role in respect of the marketing related digital transformation or having otherwise a thorough understanding of the company’s marketing from the perspective of close stakeholder representative. The suitability of the interviewees for the study was confirmed by a cover letter and a preliminary discussion with company representatives. Prior to the interviews there were discussion (via email, Teams, or by phone) with C-level persons (incl. VP’s and directors) identified on the company’s website or via LinkedIn in order to identify other key informants either directly influencing in the marketing organization or those working closely with marketing looking at the function closely enough but approaching issues from slightly different angle. The interviews were semi-structured and included three pre-defined themes; 1) background and the current situation, 2) dynamic capabilities, and 3) digital transformation.

It was essential for the study to understand the initial situation in which the company had faced the Covid-19 crisis, as well as the organizational situation in order to get a view of starting point from which marketing (as a function) has begun to adapt its operations. Central to the study was access to both internal and external factors that have enabled and/or prevented companies from responding to the crisis and the resulting uncertainty in the business environment; sense, seize and transform. It should be noted that such tacit information may be difficult to disclose with a particular question. That is, in order to maximize the opportunity to disclose information relevant to the study, interviewees also had the opportunity to speak loosely within the topic. Each interview was audio-recorded and ranged in length from 30 to 70 minutes.

Table 3 Case company overview and scope of data collection

Pseudonym	Machine	Power	Mechanic	Construction	Package
Overview					
<i>Industry</i>	Machine manufacture	Engineering	Maintenance and logistics	Construction and infrastructure	Organic products
<i>Employees</i>	> 500	> 15,000	> 1000	> 1500	> 3000
<i>Revenue</i>	> €100 million	> €4 billion	> €200 million	> €500 million	> €1 billion
<i>Firm type</i>	Parent	Parent	Parent	Parent	Subsidiary
<i>Market focus</i>	Global	Global	Regional	Regional	Global
Data					
<i>Informants</i>	1. Chief marketing officer 2. Communications specialist 3. Vice president of sales	1. Director of communications and branding 2. Digital marketing specialist 3. General manager of marketing operations and digital acceleration	1. Marketing and communications specialist 2. Managing director 3. Senior vice president, key accounts	1. Head of CX and communications 2. Communications manager	1. Capability manager, commercial development 2. Director, brand and marketing 3. Marketing director

3.3 Data analysis

The study utilizes qualitative content analysis to describe and interpret themes and topics identified from transcribed interview data and discussion notes. As a method, content analysis is suitable when intended to form an understanding of the phenomenon and its implications, and to provide new insights (Elo and Kyngäs, 2008, p. 108). A directed approach is applied, and the data analysis process follows abductive logic. Guided by this methodology, initial codes are derived based on existing theory, and the goal of content analysis is to construct or complement a theory, sometimes through even surprising observations (Timmermans and Tavory, 2012, p. 169). Directed content analysis can be used to supplement existing theory or incomplete information about a phenomenon by further description (Hsieh and Shannon, 2005, p. 1281). The data analysis of the study was iterative in nature, starting with three main themes (used in interviews), followed by coding where the data was categorized into 12 sub-themes based on background data and factors affecting (digital) dynamic capabilities. Coding is about the researcher's construction, that is, a systematic structuring of interpretations that makes it easier to see what is being addressed in the data (Eskola and Suoranta, 2008, p. 155-156). This is illustrated by the data structure in Appendix 2 – Data structure.

3.4 Reliability and validity

In order to assess the transparency of a study and its shortages, it is essential to disclose and deliberate the reliability and validity of the research process and outcomes. Reliability and validity can be thought of as giving the research a kind of scientific acceptance, or at least carrying the research towards it (Carmines and Zeller, 1979). It is noteworthy, however, that the terms are not symmetric (Kirk and Miller, 1986). According to Hiltunen (2009), reliability indicates how reliably and repetitively used research method measures the desired phenomenon, whereas validity indicates how well the research method used in the study measures the exact attribute(s) of the phenomenon under study. For this reason, it is essential to evaluate both, as a high degree of reliability could be achieved without significant or any validity at all, for example. On the other hand, when the validity is high (or complete), it also ensures the reliability of the study. (Kirk and Miller, 1986) Therefore, the researcher in this study has primarily sought to ensure that the research strategy and methodology chosen support that the study measures exactly what it is intended to

examine. In general, the design of the study, a qualitative case study along with an abductive approach and chosen data collection and analysis methods, can be seen to have supported the objectives of the study providing the required validity and reliability for scientific research.

First, it can be said that the study has followed a discipline in which the framework, the research material, and the conclusions and arguments based on these have been carefully composed, and efforts have been made to anticipate the possible negative impact of the decisions throughout the study. In other words, the research is based on a clearly identified research topic that is relevant in relation to the previous research, and this is supported by appropriate research questions that can be answered with the data collected. Research philosophically, the study follows Eskola's (2008) view that the task of the research material (or data) is to assist the researcher in building a conceptual understanding of the phenomenon under study. In other words, from the beginning of the study, the aim is to develop a theoretical sensitivity to the target phenomenon, and thereby to build sustainable perspectives rather than mere narrative.

Research is always about creating information based on different choices and interpretations. In this context, for example, companies with which the researcher has no personal connection have been selected for this study. In addition, reliability can be viewed through its cohesion and persistence (Ronkainen, Pehkonen, Lindblom-Yläne and Paavilainen, 2011, p. 132). Persistence is supported by the fact that the same thematic interview has been repeated and a certain degree of saturation has been achieved, i.e., a certain basic theoretical pattern can be presented from the research material (Eskola and Suoranta, 2008, p. 63). Cohesion, on the other hand, aims for consistency, which in this study has been taken into account so that all interviewees are presented with the same background information, the interviews use the same semi-structured interview body, each interview is transcribed exactly according to the interviewee's speech and non-verbal communication is considered. Of the above-mentioned matters, the latter involves the possibility of some inconsistency, as all interviews (due to the pandemic) were conducted via Teams, which sometimes led situations where the camera had to be closed due to poor connection, or the sound may be interrupted so that a single word could not be transcribed subsequently. Interviewees were selected with the assistance of individuals who were more experienced and had been in the company for longer time (e.g., business director, team leader), and two or three interviewees per case-company participated in the study. At company level, there was a desire to keep the number to a minimum of two in order to

minimize over-interpretations. In this regard, in addition to marketing representatives alone, the interviews were attended by experienced sales and communications specialist and managers. The anonymity of both the interviewees and the companies has also been used to minimize the unnecessary caution of the interviewees or the outright refusal to talk about certain topics. In the individual questions, some inconsistencies were observed at company level between the interviewees due to different roles, positions, or years of work (in the company in question).

The reporting of the results follows good and clear language, and the research results have been stressed and tested, for example, by examining at different sub-entities of the research material in the coding and analysis phase together and separately (certain companies and/or certain company representatives). The structure, empirical approaches and conclusions of the study have been accurately described so that they can also be evaluated by an outsider. Regarding the objectivity of the study, the study adopts Ronkainen et al. (2011, p. 12) description to strive for information that is well-reasoned, tested in different ways and recognizing its limitations, being aware of fact that research data, however, reaches only a part of the phenomenon under consideration and even from a certain point of view. However, subjectivity and complete relinquishment of interests in qualitative research cannot be avoided. In this study, at least the researcher's personal will to conduct qualitative research on the subject under study as well as certain expectations relevant to the research (e.g., propositions made) are recognized.

4 FINDINGS

This chapter discusses the key findings derived from collected data. As the study is conducted in the context of Covid-19 pandemic, this has not been left in a separate paragraph, but the effects of the corona crisis on the phenomenon under study are examined along with dynamic capabilities and digital transformation in marketing. Utilizing cross-analysis, the findings from all five case companies have been examined both independently and in relation to others. However, the findings only describe the companies in relation to each other so that prevailing differences can be detected, and the factors behind the phenomenon can be identified. Findings are divided into six subchapters derived according to the logical structure formed through analysis based on main themes and coded data (see Appendix 2 – Data structure). The aim is to provide a logical progression, first providing an understanding of the impact of the Covid-19 pandemic on the business environment of case companies as well as the marketing organizations involved in the study. Second, to catch up with the prevailing dynamic capabilities, it is necessary to understand the starting points and extremes (resources and roles) from which the different marketing organizations of large incumbent B2B companies have formed their own strategic crisis response, moving towards opportunity recognition and multifaceted sources of dynamic capabilities. We then look at their relationship to the current state of digital transformation and the effects of the external crisis on transformation. Last the findings of strategic renewal and impact assessment is provided.

Noteworthy background information reflected in the marketing of different case companies, their strategic crisis responses, and digital transformation initiatives during the pandemic, is that in all five case companies marketing is organized in slightly different way. In other words, there is only little or no systematic structure between these large incumbent B2B companies in relation how the marketing function is organized. In fact, even in three case companies out of five marketing has been organized in its current form for only one to three years. The Covid-19 pandemic has not significantly affected any marketing organization, i.e., there have been no personnel changes. Instead, (constant) budget pressure is identified, and cuts have been made, but this has little to do with digital transformation and related activities. Uncertainty in the business environment is largely related to various restrictions and the postponement of investment decisions, which have been strongly reflected not only in marketing but also in sales and other functions operating close to the customer interface. Indeed, a significant impact due the pandemic is identified in how different functions (e.g., sales) have identified needs for new ways of working and skills,

many of which are marketing related. This is notable in the sense that the study shows very well how dependent marketing is on other activities of the company such as sales and IT. The fact that the external crisis (here Covid-19 pandemic) has brought marketing and sales closer together is conducive to improve marketing capabilities to operate at a strategic level and have a visible impact on the business. Other factors identified strongly affecting marketing capabilities include the organizational role in relation to top management, the type of support it receives from other functions, and how it is positioned in relation to the business strategy. From a strategy perspective, one of the key insights is that through business strategy marketing is empowered to act, while marketing strategy creates purpose for and motivates the executors.

When it comes to sensing, seizing and transforming, it could be said that Covid-19 has been about mental growth and increasing understanding more than transformation per se. It appears that scarce or overladen (e.g., core experts or combined functions) resources in marketing is the most prominent single factor undermining decision-making, and thus the ability to seize new opportunities and transformation. Digital maturity can also be found to be low on average due to, among other things, high age structure. In any case, large incumbent B2B companies would seem to suffer from some degree of conservatism and simply a slow clock speed to seize the transformation. From a technology point of view, it is generally difficult for these companies to adopt new technologies, and therefore well-established solutions in marketing are also preferred. At its best, the identification of new opportunities is organized as a systematic activity and is dedicated to some specific team that can take advantage of strategic partners or a subcontracting network by outsourcing some of the early-stage research. Especially those in leading positions in marketing often see experimentation and change as an integral part of the activities in marketing organizations, but in the light of the research it seems that strategic flexibility and prevailing mindset and culture have some connection, and only in an environment where these two factors genuinely prevail can experimentation with a low threshold take place in practice. The study would also recommend raising IT to visible part of building marketing-related digital capabilities, as most of the new opportunities identified in marketing are technology-related and here marketing needs IT support, making it a significant internal enabler to seize and transform.

From the perspective of large incumbent B2B companies, Covid-19 has not per se caused complete strategic renewal, any radical business model reforms, or major digital transformation. Instead, the prolonged external crisis has created favorable ground for

longer-term and more sustainable development of B2B marketing in large and incumbent firms in general. This study identifies the lack of a solid framework for marketing organization (way of working) as well standardized marketing processes, which has been a significant internal enabler in an uncertain environment in those organizations where a similar framework and processes have been in place. Moreover, agility cannot be underestimated either, since capabilities to make strategic crisis responses in different marketing organizations seems to be most influenced by the pre-Covid-19 marketing position in the company (functional vs. strategic), the execution of qualified decisions, and the orchestration of external partners to acquire competencies needed. Thus, this study emphasizes particularly two types of agility, partnering and operational agility. The main findings are illustrated in Figure 7.

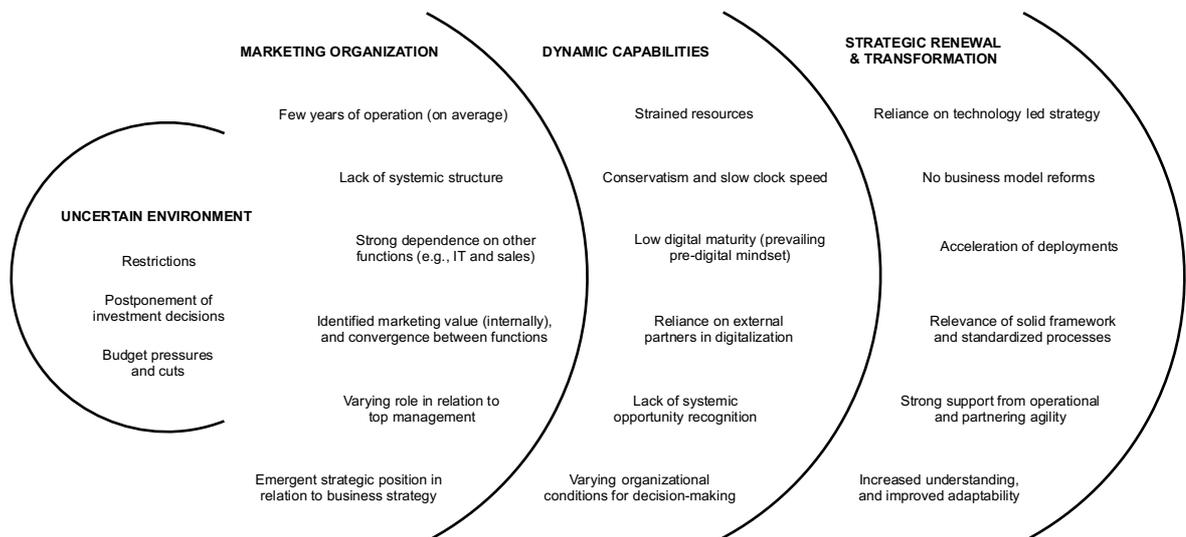


Figure 7 The main findings of the study thematically

4.1 Twofold impact of the Covid-19 crisis

To assess the capabilities of B2B marketing organizations in relation to transformation in times of crisis, it is necessary to understand how the crisis affects a company's business environment. In addition to understanding the effects on the business environment, the gaze cannot be diverted from potential internal effects, such as organizational arrangements that can considerably enhance or debilitate the marketing capabilities to support digital transformation and implement strategic crisis responses. The business environment, with its rapid changes and uncertainties particularly are central to the dynamic capabilities approach. According to the Warner's (2018) process model, the catalyst for building digital dynamic capabilities is some external trigger, in this case the Covid-19 pandemic. Thus,

interesting for this study is how powerful as a trigger this external crisis actually has been, and what capabilities it has affected most if the impact on firms is identified. Then if the Covid-19 pandemic has had little impact on the company's business environment, or in turn has led to significant organizational changes, such as cutting marketing resources, it is appropriate to ask what the company's incentives are or the overall capacity to implement strategic crisis responses at all.

4.1.1 Effects on the business environment

Data included two issues that had effect on business environment. The Covid-19 pandemic has invariably affected all the companies, their business and activities, involved in the study. Some of the impacts are identified as common in most companies as well as different roles. In principle, the impact on the market has not been positive, and the pandemic has caused uncertainty in the business environment. At the same time, however, due to the nature of the pandemic it has also had the exact opposite effect and has provoked some surprising market reactions. However, this mainly concerns the case where certain end-uses, such as e-commerce, have naturally increased demand.

Restrictions is the most significant common denominator when assessing impact of the pandemic on business environment. In all five companies involved in the study, trade fairs, seminars and other events have played a major role, with a significant share of marketing in terms of both resource utilization and marketing budget. However, this is not only a change for marketing organizations but also, of course, a significant change for companies' sales organizations, sales representatives, and their operations. Responsibility for organizing and budgeting events often lies with marketing, and cancellations or postponements of events have freed up marketing resources for other activities, however, with the difference that the Covid-19 pandemic has put cost-saving pressures on businesses and marketing budgets have been cut in several cases. Although budget cuts have been made, no company explicitly points out that money has been withdrawn in the same proportion as events have been canceled or postponed. In this respect, marketing organizations have had at least some potential to look for strategic crisis responses and alternative marketing activities.

Events are one part of face-to-face encounters but in B2B business the impact of appointment restrictions and travel bans has also strongly radiated on the nature of general

sales meetings. In some companies, it has also affected other important stakeholders such as installation and maintenance services when customers have not been reached on-site. Companies have had to look for new ways of how and where (in digital form) to meet customers and maintain the above-mentioned functions, for example. Here, not only the selling company's ability to adapt to the situation and create a natural digital presence and the necessary touchpoints of contact may not be enough, but also the receiving party's (customer) ability to adapt to the new environment and their will to move things forward has been remarkable in order to handle ongoing business matters.

That has set up a massive gap for us in terms of how we can connect to our customers, and how can we maintain and nurture the relationships, which really drives the demand to have a great digital presence. That was probably the biggest factor how do we create virtually the same look and feel, a touchpoint, without the physical connection. (Digital Marketing Specialist, Power)

The postponement of investment decisions is the result of uncertainty. In three out of five companies, the corona crisis has generally affected customers' investment decisions and thus also their turnover. The company [Mechanic], which in recent years has sought strong external growth from new customers, mentions that organic growth has declined due to the pandemic. Only one [Package] of the five companies has seen a rapid increase in demand as result of the pandemic. One leader in charge of a global marketing organization describes the situation as follows:

There has been a general stagnation. As soon as Covid came, it felt like the whole world was stopping at it. We only collected reports that the investments will not take place in 2020 but in 2021, and we are now living in a situation where they will not take place until 2022. (Chief Marketing Officer, Machine)

Especially in the early stages of a pandemic, companies describe that their customers reacted strongly by postponing their investment decisions. Companies around the world tried to understand and interpret the situation that has led to over-caution in making decisions. In any case, the nature of the company's main activity, customer types and segments, as well as products and services and the relationship between them (e.g., new building vs. service business), are a significant part of the actual revenue impact of the pandemic. For example, a single company [Package] in the study, whose demand for products has increased as result of the pandemic, has products that serve certain end-

users, such as e-commerce and the food industry, which are among the great winners in pandemic due to demand growth. However, another company [Machine], where customers' investment decisions in general have been significantly delayed, has also opened new business opportunities as corona crisis has changed the consumption behavior in another sector. Naturally, new manufacturing of investment products has suffered losses from the pandemic, but a strong maintenance business is described as doing relatively well in almost any circumstances. It is noteworthy that the market environment of the [Construction], which mainly serves the public sector, has also proved unstable, despite the recovery measures made (by the state) due the corona crisis.

4.1.2 Effects on the marketing organization

Data revealed that both large and small marketing organizations have not undergone any organizational changes directly related to the pandemic, but the different functions have converged and there is a need for new (digital) ways of working. The clearest need for change is identified in smaller marketing organizations, where there would be pressure to increase digital capabilities of marketing organizations as result of the pandemic, especially in situations where the responsibilities and job description of existing resources include other roles. Especially in larger marketing organizations where resources are not that strained, marketing has been able to support other functions in a new way, and the role of marketing in business has been identified differently during the crisis (e.g., convergence of marketing and sales).

Minor adjustments have been made at a general level, but these have not had an impact on marketing organizations. Particularly, in terms of both turnover and employees, the two largest companies [Power and Package] are described by the slow clock speed that is typical for such large companies. That is, the company is generally slower to respond strongly to crises such as the Covid-19 pandemic. In any case, these two companies have lacked a strong driver to initiate change, while one of the companies has been in excellent financial condition as result of the pandemic, and the other company has adapted sufficiently without initiating major changes. Instead, of the two companies [Mechanic and Construction] with significantly smaller marketing resources (from one to four employees at the time of interview), [Construction] headcount has been generally adjusted, but new investments have also been launched in the areas of renewal, development, and project business. In the same company, the new 'Customer experience and communication' unit

has been built as a new function virtually entirely during the pandemic, i.e., the pandemic has had no impact on the marketing organization or its creation in this respect. The two companies are also united by the fact that in another company [Mechanic] the communications manager has been the main person responsible for marketing. That is to say, the task has been carried out in addition to other duties. In the same way in [Construction] marketing is part of the 'Customer experience and communication' activities, but its main focus is identified as being in communications. In the same company, the interviewees point out the lack of resources in several contexts. In another company [Mechanic], on the other hand, the recruitment of a new marketing manager has just been completed, which in this case means doubling the marketing resource. However, according to the interviewees, this and other recruitments are explained by actions in line with normal employee turnover and strategy, and the Covid-19 pandemic has not influenced these recruitment decisions.

Transition from physical encounters to a virtual environment creates need for new types of capabilities and new ways of working. This can be seen to be largely due to forced and prolonged remote working when functions that previously had little or no cooperation with marketing have needed marketing assistance in planning and implementing activities. Particularly, it has been about supporting sales by utilizing new technology (including streaming and virtual content sharing). In the largest global companies [Power and Package], it is seen that remote working, and thus the tools required for it, have already been familiar to employees, so within the company this has not been reflected in a significant need for policy change. However, instead of internal needs, they have had to train their customers to use certain systems, for example. Overall, however, it appears that the Covid-19 pandemic has accelerated the change in marketing job descriptions and content as well as roles. Some people working in marketing see that marketing has already become different from what it was before the pandemic, and that marketing now plays a prominent role in their own business. The importance and drivers (forces of change) in digitalization is now being recognized, and new types of roles combining marketing and sales particularly are expected to emerge in the future.

The kind of tasks we have now, they will probably be very different in just five years. For example, a sales development rep who works between sales and marketing, processing leads and contacting them so we can make better use of the lead pool. This is a clear area of development that we have not taken into account so much in the past. The second is marketing insight roles, which need to be developed a

*lot to provide up-to-date and relevant information on end-user development.
(Marketing Director, Package)*

4.2 Premise for strategic level marketing – resources and different roles

Data included three issues which had effect the role of each marketing organization, and thus the capabilities to respond to the crisis as well. While examining the impact of the Covid-19 pandemic on B2B marketing, more precisely the digital transformation of B2B marketing through dynamic capabilities approach, not the actual role or position in which marketing in each company operates can be ignored. This study involves five case-companies that are linked by their focus on commercial trade between companies, their size, and their well-established position in the market, as well as the fact that all the success of all companies relies on the pre-digital economy. Despite this, marketing is organized in very different ways in these companies. In fact, no single marketing organization operates in a similar structure to each other even though a parallel ideology can be identified. First, it is necessary to understand in general what kind of resources marketing has, in other words, whether we are talking about organizational structure or individual resources. Second, it is key to outline the focus of marketing, whether it is more of a tactical level support function, or a truly strategic marketing organization identified by top management, so that we can generally understand the starting points from which the company has formed its strategic responses to the uncertainty in the business environment caused by the Covid-19 pandemic. To support this analysis, five marketing factors are formed in this section, and efforts have been made to assess their presence for each case company.

Examining the different roles of marketing in companies, five factors emerge that are seen to be positively reflected in the ability of marketing to operate efficiently and effectively: 1) function-specific centralized lead, 2) top management support, 3) marketing (as a function) identified and positioned as strategic level of activity, 4) active and close collaboration in between marketing and sales, and 5) mandate to look for new solutions and experiment by reporting to senior management. The study shows that in large established B2B firms, none of these five factors (see **Error! Reference source not found.**) can be taken for granted. Instead, marketing still often appears to be a semi-detached actor from other activities (autonomy to define its own activities without control and/or visible role in strategic decision-making), or as part of other functions where it is de facto difficult, if not impossible, to have a direct impact on sales, for instance.

Most of the marketing organizations in their current form are quite new and are still looking for a role and a way to operate. Except for the two largest companies [Power and Package], it can be said that the actual marketing capabilities, that is, a marketing function, an organization staffed by marketing professionals with functional competencies needed for modern (digital-driven) marketing, have been built only recently, from one to three years. Prior to that, companies either had no person dedicated to marketing at all, person with a marketing-related title [Mechanic and Construction], or marketing has been responsible for a very narrow area of activities such as trade fairs and websites [Machine]. This is a significant finding among the large incumbent firms, one listed company [Machine] and two privately owned [Mechanic and Construction], all of which employ hundreds of people and have an annual turnover of over one hundred million to half a billion euros. A significant difference in the resources devoted to marketing and the way in which activities are organized is also seen in whether a company operates globally or is focused on local markets.

Function-specific centralized lead guides systematic operations and drives marketing agenda, but only in a few companies. Those companies where marketing has more established role [Machine, Power and Package] are united by at least some degree of centralized functionality, global lead, and regional or business-specific teams. In locally operating companies [Mechanic and Construction], marketing is simpler in organizational terms: it is the responsibility of a specific person or persons, but the performance of the marketing function in these companies is linked to fact that the resources are shared. In other words, marketing is handled alongside other full-time tasks (such as communications) or the marketing role is combined with a broader entity that affects the ability of teams and executives to actively look for new opportunities and spend time on experimenting, even if money and management support are found.

This 'Customer experience and communication' function is pretty new to us. So, we support sales, marketing, and customer service development. We are also responsible for the brand, employer image and communication, as well as their development. We currently have four people, two of whom focus on communication and two resources to develop the customer experience, marketing, and sales, meaning we are responsible for a very broad entity. (Head of CX and Communications, Construction)

All marketing organizations seem to have a mandate to look for new solutions and experiment, but this should not be compounded with autonomy, which seems to be linked to the relationship with top management, the level of activity (functional vs. strategic), as well as cooperation and dependence on other functions. In only one [Power] of the companies included in the study, marketing has remained organizationally stable for a longer period of time. The company is divided into business units (some are further subdivided into smaller units), each with its own marketing team. All teams have their own business-specific goals, which means that in this respect the teams are very independent. However, these teams are united by a centralized 'Communications and branding' function that acts as a link between the different marketing teams, taking care of their communication with each other, adequate guidance in joint projects, and the enterprise architecture to which each marketing team is connected. The organization and roles in marketing in the company seem clear and marketers are able to focus on the marketing function and how to implement it. Instead, the relationship between top management control and the autonomy of marketing teams is contradictory. Of the three interviewees, two see that the interest of the company's top management in marketing is low due to the weak understanding of B2B marketing by top management. Interviewees in senior marketing positions in the case-company share their perception that marketing (as a function) is typically not one of the top management focus areas in large B2B companies. As a result, direct influence or management control over marketing is minimal. Nevertheless, marketers working in business-specific teams feel their autonomy is low, as teams are highly dependent on the activities, budget, and priorities of other organizations. There are also local differences between marketing teams, but the guiding processes, roadmap and strategic direction typically all come from senior management.

In two companies [Machine and Package], the marketing organization is identified as receiving strong support from management, and the relevance of the function is identified at the firm level. It is noteworthy that in the thematic interviews, the representatives of these companies (different positions) talk enthusiastically about the role of marketing in the company and the presence of top management. In both companies, marketing has been reorganized in the last few years (prior to Covid-19 pandemic), in which marketing has been raised from a purely functional level to a more strategic function. In one of these, marketing operates from a centralized 'Stakeholder relations' unit, where, in addition to marketing, communication and sustainable development work, among other things. However, marketing does not have a dual role in relation to these functions, i.e., marketing resources focus on marketing. Another company also has a somewhat similar multi-functional

'Customer excellence' organization unit. Instead of communication functions, however, here marketing is combined more with functions belonging to different sales functions, and organizationally marketing is even closer to the very top management of the company, reporting together with the sales management of different areas directly to the CEO. Both companies are united by a functional organizational structure in which all marketing organizations (both global and regional roles) report to the global marketing leader involved in the management team.

The reason why we have this 'Customer excellence' block [marketing and some sales functions] is so that we don't work in silos. We do not have separate sales and marketing activities that report to the CEO, but we do report together. Before the pandemic, we all sat in the same room in the office. (Chief Marketing Officer, Machine)

The link between marketing and sales is clear for only one company [Machine], in addition to which [Package] has made a lot of development work in this regard, and in the third company [Power] one of the interviewees says (marketing team leader) that he has personally set up a goal for the team, that is, to produce a measurable impact on sales. This does not mean that everyone in companies perceive these functions as separate from each other, but a clear organization as one line including close co-operation, harmonized processes, and common goals are represented by their absence. The person who acts as a global leader in marketing [Package] says that in their company, sales organization and different sales territories have a direct impact on product and service-specific marketing, while the impact of top management is more visible in brand-related matters. In recent years, however, marketing has been raised from a tactical level to work closer to sales for strategic development. The reasons for this are the changes in the organizational structure, robust transformation driven by certain key personnel, and activation of marketing in general (pull activity), which has led to a greater understanding of marketing at the company level and as part of the commercialization process. However, the thematic interviews show that marketing and sales are still clearly more independent in terms of functions and that cooperation is at its early stages. In another company [Machine] instead, the internal change in the active collaboration of functions has been made very visible, and the joint activities of marketing and sales are concretely reflected in everyday business operations. The marketing profile has been raised exceptionally high in the company-level strategy alongside sales. This is well illustrated by the fact that the sales manager participated in the interview describes marketing as a 'sales enabler' instead of a 'support function'. In the

company's operating model, marketing and sales work together, which is concretized into, among other things, a way of defining a marketing activity plan through sales objectives.

Table 4 Presence of five marketing factors in the case companies

	<i>Machine</i>	<i>Power</i>	<i>Mechanic</i>	<i>Construction</i>	<i>Package</i>
Function-specific centralized lead	x				x
Top management support	x		x		x
Strategic level of activity	x				x
Cooperation in between marketing and sales	x	x			
Mandate to look for new solutions and experiment	x	x	x	x	x

4.3 Opportunity recognition and initiations for experimentation

The identification of new opportunities in large incumbent B2B companies has remained limited during the Covid-19 pandemic. In fact, the study identifies only one case where the company has recognized actual new opportunity using digital technology so that it will be implemented. At its best, opportunity recognition is processed and dedicated to the team responsible for it, which has been allocated a budget and work time for systematic identification and testing. This creates a built-in way to think and look for new opportunities, which forms a stronger foundation for the company's marketing to stay up to date and develop functions. Such a more development-oriented internal marketing team can be found in only one case company. Another way to support the identification of opportunities is to rely on external partners that provide the company with potentially interesting pre-filtered information and findings about new opportunities, often targeted at some specific market area.

However, large and incumbent B2B companies seem to have a major barrier to start experimenting and adopting entirely new technologies. Instead, mature solutions are preferred. IT architecture and IT organization's support is also identified as an integral part

of the process and could be described as one enabler for marketing to seize and transform. Second, resources appear to be the single largest factor undermining decision-making and the ability to seize new opportunities and transform. In decision-making four organizational conditions that facilitate or hinder decision-making is being recognized. Somewhat surprisingly, the budget would not seem to hinder any case company from making decisions related to new opportunities. On the other hand, it may be questioned whether companies are actively seizing new opportunities and whether the company has enough ambition in which case the budget would also play a different role. Strategic flexibility to make decisions would seem to be linked, at least in some respects, to a general mindset and culture where experimenting at a low level is part of a company's way of working.

4.3.1 Opportunity recognition methods

The identification of new marketing opportunities during the Covid-19 pandemic had been rather limited and based on data four issues had effect on the recognition process. In one of the case companies [Mechanic], no different way of marketing the company or its services has been deliberately identified during the pandemic. Also, in another company [Construction] the identification of opportunities is ad hoc in nature and relies entirely on the resources of the marketing team. Therefore, *resources that are already identified as scarce provide little opportunity for marketers to look for and explore regarding industry-specific information such as changes in demand, or new applications of marketing tools and technologies.* This does not rule out the possibility that these companies would have not responded such needs created by the Covid-19 pandemic, for example to be more present on social media, to transfer touchpoints from face-to-face encounters to virtual dialogue over the network, to implement more targeted advertising, and to develop websites, but the actual identification of new opportunities has been lacking. For instance, in these two companies, the interviewees do not see that there are any major barriers to experiment, make new implementations by new means (if in line with business strategy), but due to limited marketing resources, time goes fully to operational tasks and there is no time left to develop activities and identify new opportunities. Second, *co-resourcing marketing so that the function is handled alongside other roles, or marketing is treated as a secondary area of responsibility of another function (such as communication), contributes to the fact that core competencies in marketing are less, and not all opportunities could necessarily be recognized even as part of more systematic process.*

Three out of five companies [Machine, Power and Package] do not have similar burdens behind them, but radical differences in how companies have marketed the company or its services during the pandemic are not identified with one exception. All three companies have significantly increased the production of webinars, which have replaced the cancellations of physical fairs and other events previously relevant to the industry. Moreover, one company [Machine] has made a notable investment in its own virtual event utilizing augmented reality and immersive solutions to showcase the company's products. The event and showroom implementation are considered a strategic investment, as the company has set out to compensate for the future need to participate major events in the field, but instead start to create its own virtual event alongside. Another company has also identified opportunity to invest in a hybrid virtual event solution, but the investment has not yet been implemented as it would be seen to change a lot of the existing (solid) way of working, and thus would require transformation in that sense. Even if new opportunities are recognized, when talking about the strategic choices of large B2B companies to seize them, it is often clear that companies despite their novelty value or growing visibility or brand awareness, are not very willing to be among the first to adopt new technology. This is potentially one of the main reasons why B2B marketing is seen to lag behind B2C marketing by an average of several years, and the implemented solutions may not ultimately serve companies in the desired way (e.g., metrics used).

If you start [implementing] among the first, you will get more 'wow effect', publicity and name, but at the same time you really have to do a lot more work for it, because the solution is not commercialized yet. If you want to be a forerunner you will have to: a) pay more, and b) have to solve a lot of practical problems. (*Director, Communications and Branding, Power*)

We strive to utilize proven and sustainable solutions in the industry, so that we are not among the first to use new technologies. However, technologies are actively scouted and introduced when they are mature. (*Senior Vice President, Key Accounts, Mechanic*)

Identification of new opportunities in companies relies more on individual than enterprise level. That is, opportunity recognition is based on individuals' capabilities and their personal willingness and passion to follow industry and market related discussion, development in technologies and digital solutions as well as other marketing trends. The research data show that in only two out of five companies [Machine and Power] has the opportunity

recognition been raised to a more strategic level as part of the marketing organization's job description. These two companies utilize largely the same principles, but logic in finding something new and identify opportunities slightly differs. In one of these companies [Power], opportunity recognition is primarily dedicated to a single marketing team. The marketers in the team are allocated a certain budget on an annual basis, as well as time to look for and identify new opportunities as well as to experiment with and test the findings. Through this each team member has a built-in way of thinking and constantly looking for new opportunities. In another company [Machine] in turn, the recognition relies more on the partner network, information gained from customers and active leadership. In both companies, however, the identification of opportunities plays a strategically important role, as identification is described as a systematic process rather than mere personal empowerment or initiative, which is described as a kind of 'fail cheap and learn fast' mentality.

Utilizing external partners frees up time for tasks at a more strategic level. A common denominator between these two companies [Machine and Power] is found in utilizing a partner or subcontractor network (differences in the terminology of the interviewees) as part of identifying opportunities. In other words, this means some level of investment to exploit partners as part of the process to gain and explore new opportunities. Following the opportunity recognition process illustrated in Figure 2, companies invest in research by outsourcing (part of) a time-consuming first-stage research phase (scan, search and explore), after which they have access to relevant information, for example, concerning some new marketing technology suitable for a specific target market that can then be tested and further developed internally or together with partners. In another company [Machine] this information gathering, analysis and reporting is part of the partnership agreements, which have been made in all different market areas. Similarly, in [Power] one of the defined tasks of the subcontracting network is to meet new suppliers, from which strategic partners filter the most interesting new things for their customer company. However, in addition to partnership activities, both marketing organizations place a strong emphasis on proactivity staff to scan and search for information in the market and bring it to marketing teams where potential of the findings can be researched more, and decision made on whether to continue to testing phase or not. In addition to information and research from own personnel and partners, information from customers is recognized to be valuable in marketing operations. An interview with one company representative reveals a recent example from the Chinese market, where the company identified, based on feedback from customers, a more appropriate way to contact and keep in touch with customers.

Marketing is actively looking for new ways according to the direction of CMO. Some new opportunities also come directly from our customers. (...) For example, there has been notes from outside the European market, such as the use of WeChat in China. It is understood that email is no longer a way to contact customers there. Then we examine what it requires and whether it is technically possible. After all, we also need to listen to our customers while following general technological developments. (*Vice President, EMEA, Machine*)

IT is an active part of the digital capabilities of marketing in seizing new opportunities. It is noteworthy that most of the new marketing opportunities are almost invariably related to some technology. In both case companies [Machine and Power], where identifying new opportunities is a more systematic and strategically prominent activity, the essential role of the enterprise IT alongside marketing is emphasized in most of the marketing-related projects. This is because data-based marketing solutions are related to the company's IT architecture, and marketing cannot carry these through on its own. For that reason, the essential role of IT solutions should be highlighted in the process of identifying new opportunities as an enabler to seize new opportunities and to transform. Another company [Machine] emphasizes that in new technology solutions, it is up to [marketing] function expert to pinpoint their needs (including use, purpose and intended benefits, etc.), followed by IT to support marketing and sales by finding the best tools best suited to these identified needs, implement their deployment along with marketing, and then be responsible for maintaining the technology. This creates one bottleneck for marketing development and the introduction of new marketing technology in large incumbent B2B companies if there is no such support available in the organization for technologies used by marketing and sales organizations.

4.3.2 Decision-making process

Based on data, four things that play a notable role in transformation had effect on decision-making. All the companies involved in the study indicate that decisions on new initiatives and implementation of new projects in marketing is relatively easy in their organization. However, if looking at the decision-making process through certain organizational conditions that facilitate or hinder decision making, we find that implementations are rather possible for the most part, but not as easy or nearly as

straightforward as a lighter review would suggest. The following conditions are identified: 1) adequate resources available for marketing, 2) sufficient flexibility at the strategic level, 3) an adequate budget to effectively recognize new opportunities, experiment and implement initiatives and deployments, and 4) organizational support, the mindset and culture for experimentation. The presence of these (favorable) organizational conditions in case companies is compared in **Error! Reference source not found.**

Table 5 Organizational conditions influencing decision-making

	<i>Machine</i>	<i>Power</i>	<i>Mechanic</i>	<i>Construction</i>	<i>Package</i>
Resources	x				x
Strategic flexibility	x	x			
Budget	x	x	x	x	x
Mindset and culture for experimentation	x	x			

Despite pressure due to the external crisis, the marketing organizations of large B2B companies have maintained an adequate budget in the crisis, but resources pose a bottleneck to take initiatives. Somewhat surprisingly when viewed against these conditions, no company clearly points to the constraint imposed by the budget to make new initiations in marketing. What makes it interesting for this study is that typically in a crisis the marketing budget is under harsh pressure and is being cut, which can affect the ability of a marketing organization to even perform day-to-day operational tasks, not to mention experimentation or investments in new technology just as an example. About half of the interviewees said that some cuts have been made to the market marketing budget during the pandemic, but this is not seen to have had a notable impact on new marketing introductions. Explanation for this seems to be that the Covid-19 pandemic has shifted the focus from more traditional marketing activities to digital marketing, and money allocated to the development of digital marketing has not been taken away from marketers in the same proportion where this would have been done, for example, in a more traditional downturn. Instead, the resources available would seem to pose the biggest bottleneck for decision-making in marketing organizations and is not only affected by how big the marketing organization per se (number of employees) is, but also by how much the decision potentially binds certain resources. That is to say, marketing organizations identify certain key personnel who are over-resourced due to, for example, the introduction of new marketing tools and technologies.

A top-down strategizing can paralyze strategic decision-making in marketing. Most marketing organizations are strongly guided by a business strategy that has both strengths and weaknesses. If marketing is entirely driven by business strategy and the influence of the marketing organization remains at the tactical level, there is a risk that strategic marketing decisions are based on a lack of understanding of B2B marketing and its potential to have a positive impact on the business when managed strategically. In this case, the ability of marketing to justify, among other things, new technology deployments depend entirely on priorities in the business strategy which has not been viewed from a marketing perspective at all. In addition, decision-making in two case companies [Construction and Package] is retarded by the fact that marketing must seek authorization from various management levels and stakeholders.

There can be large differences in mindset and culture for experimentation within a company across different teams. The mindset and cultural support for experimenting with marketing is somewhat contradictory when interviewing individuals working in different roles within the same organization. In two companies [Construction and Package], marketers themselves see just little or no barriers and constraints for their operations, but a person primarily responsible for sales or communications working in the same company or even in the same team sees that the company's top management or structures significantly affects marketing's abilities to seize new opportunities and transformation. However, direct schematics in these factors is not observed, and the factors are not closely related. In other words, it is organization-specific which conditions influencing decision-making prevail in the company, and therefore how straightforward is the decision-making, and how strategic in nature and marketing-oriented decisions can be done.

4.4 Multifaceted sources of dynamic capabilities – enablers and barriers

Based on the research data, it can be stated that no company has been able to prepare for the Covid-19 pandemic to the extent that the spread of the virus has affected the business environment and business opportunities of the companies. Time also influences this as several companies have experienced a certain degree of paralysis as result of significant immediate effects (e.g., mass cancellations of events and postponement of investment decisions). The interviews reveals that a certain kind of return to everyday life (accustomed ways of working and traditional means) was left to wait for months before the activities were clarified and functions (such as sales) really started to work in the digital environment. Nevertheless, positive longer-term developments can be seen as result of the prolonged

crisis. Marketing as a function, strategies and tactics to implement it have not changed radically or evolved during the corona crisis, but companies (here large incumbent B2B companies) have embraced existing modern customs at an accelerated pace, and the crisis has created favorable conditions for at least some of them to adapt in using digital technology that has not previously been taken into account or thought to be exploited on the same scale. Of course, we can only look for evidence and prove the usefulness of these implementations to the business in the longer-term review, utilizing quantitative research methods. This is a favorable topic for further research but excluded from the phenomenon under study here.

Despite, or precisely because of the Covid-19 pandemic has caused significant uncertainty in the business environment, some degree of clear established framework for the way of working and standardized processes have benefited companies in which these have been in place and improved their ability to respond to the uncertainty caused by the corona crisis. However, only one of the case-companies [Mechanic] has an existing formal operating model and processes in place for the actual state of emergency. This has made it possible for matters relating to the pandemic to be handled by a particular group, to deal with matters and to make the necessary decisions quickly, using only little time overall. Thus, the corona crisis itself has not committed extra resources, and the company has maintained order and has been able to focus on normal operational activities instead of the pandemic. Another company [Power] also recognizes that the structure of solid working practices and standardized processes facilitated adaptation by being able to focus only on adjusting operations rather than setting them up.

Nonetheless, of the five case companies only one [Machine] justified marketing's ability to respond to the Covid-19 crisis and the resulting uncertainty with strategic decisions already made in the past. Looking at the strategy in terms of the corona crisis, positive factors have included the decision and strategic direction of senior management before the pandemic, investing heavily in marketing (focusing on digitalization), managed CRM deployment and staff trained to use of the LinkedIn channel to boost sales and business in general. The decisions made and renewed and modern approach to marketing set before the Covid-19 pandemic have guided the company's commercial operations during the pandemic and have had a positive impact on business. From the company's perspective, this has been made possible by the fact that marketing and sales have not had to look for and shape common practices during the crisis since the common strategic goal has been clear, and marketing has taken a prominent role in driving it forward. The actual deployment, utilization

of systems and channels by Covid-19 pandemic has been significantly accelerated. Personnel trained before the pandemic have set out to put what they have learned into practice much faster than the interviewees estimate that it would have happened without the external crisis. What is more, through the research interviews it can be clearly identified that the corona crisis is seen as a catalyst to introduce new tools and methods, and it can be said at least to some extent to mitigate possible internal resistance to change on a general level, but especially in relation to digitalization. In the most conservative sectors in particular, marketing representatives have found that the global pandemic, as a collective humanitarian crisis, has facilitated adaptation to the ongoing (B2B) marketing revolution for all stakeholders. Common understanding of technology and data-based marketing has increased, even if there are no capabilities for deployments or any large-scale experiments yet.

In any case, standardized processes and strategic guidelines appear to be internal enablers only for individual firms depending, of course, on whether they exist or not. However, in terms of dynamic capabilities, it is noteworthy that those companies [Power and Machine] in which at least one of these can be said to be dominant, in this sample of five case-companies, it can be said that they are among the companies that have been able to implement at least some degree of strategic crisis responses by utilizing digitalization during the pandemic. More generally, companies seem to have benefited acting in and responding to the crisis if the team, its members and key stakeholders, has adopted agile ways of working. However, these do not arise in a void but are interconnected. Agile working methods are explained in slightly different starting points in each company. For example, in [Power] where marketing is organized into business area specific marketing teams, agile working habits are connected to the company's customary culture, its advanced and standardized processes. In this context, an explanatory factor can be found in the transparency brought about by working methods and processes within the team but also between different functions and other stakeholders. Also, in another company [Package] agile working methods are explained in a broader organizational context, i.e., clear structures, communication, and visibility between different functions. In other words, whether marketing is organized centrally or operates more independently as part of different businesses would not appear to have a significant impact on an organization's ability to adopt agile ways of working. In this case, however, the factual agility is in some respect seen as misleading, as one of the interviewees describes the agile working habits by familiar and already adopted working methods such as remote working in global organization. This is detached from the perspective from which agility is examined in this study, that is, from

the uncertain environment point of view and particularly what things in ways of working support marketing organizations to operate in this (e.g., dynamic capabilities, decision-making, and effectiveness in leadership, see Figure 3). In contrast, in a third company [Construction] where the team is more of a multifunctional communications and development unit and the marketers' job description includes other roles as well, agile working methods have been a built-in feature from the very beginning (set up during the Covid-19 pandemic). Here, in turn, agility is seen to emerge from a diverse experience (all team members are new and come from different industries) that allows the team to look at things from different perspectives. The small size and wide area of responsibility of the team also contributes to its ability to react and implement things quickly.

4.4.1 Internal capabilities

Data included three issues that had effect on digital transformation related crisis responses. The company's internal capabilities and existing or deficient processes have had a significant impact on different marketing organizations' abilities to implement any kind of strategic crisis responses. However, marketing in any company does not operate in a void, independent of the rest of the company, but the actions and policies of management and other stakeholders constantly affect the ability of marketing to operate, sometimes creating even serious barriers to its operations. In this study, internal capabilities are under special consideration, as they largely affect the ability of marketing to sense, seize, and transform as required by the crisis in order to maintain a competitive position in the market. Section 4.1 previously examined at the impact of environmental uncertainties on organizational change at the top level, now we look at these internal capabilities of the marketing organization; strategic choices to ensure capabilities, actions taken, challenges identified, and key barriers. It is largely up to the company's internal capabilities to see if attitudes towards digitalization have changed and how this is reflected in the strategic orientation, agility and adaptability of marketing. Based on the research, it can be stated that companies identify a strong need for digitally oriented capabilities in marketing, and the attitude towards digitalization is positive, but building a marketing organization that genuinely embraces this direction is challenging and achievable only in the longer term. In addition, strategic agility and adaptability depend heavily on top management as well as key stakeholders such as sales and IT. However, the external crisis has brought different functions closer together.

Frankly, the Covid-19 pandemic has not put any of the case-companies involved in the study in a position where there would be a real struggle for survival. So far, the pandemic has affected large incumbent B2B companies as a temporary drop in demand, causing general stagnation in the market as investment decisions have been postponed under the uncertain business environment. One company [Package] has even had notable positive impact on a fast-growing sector, and several other positive business developments have been observed, although in smaller business areas. Thus, in terms of the evolutionary fitness of companies, there may not have been a need for a complete renewal, but regenerative capabilities have helped companies adapt to the situation and better respond to the challenges posed by the corona crisis.

The dialogue between senior management and marketing provides a better ability to respond to an uncertain business environment. In only two of the five case companies [Machine and Construction] does marketing show the existence of active discussion with the company's top management, even the Board of Directors, about the market situation and common analysis concerning changes in the market and the world in general and their impact on business but also related to the marketing function itself. In one of these companies [Machine], marketing has engaged in dialogue and interviewed its customers also. This shows, on the one hand, the management's commitment and willingness to understand the strategic value of marketing for the company, but also that marketing has up-to-date knowledge and understanding of what is really happening in the business environment and impacts on the company.

Novel capabilities bring with them new ways and increase digital maturity, which needs to be ensured through both training and new recruitments. Another factor that unites the two companies [Machine and Construction] where the dialogue takes place, is that their internal marketing capabilities are novel, or the team is renewed only recently, where new people from outside have joined the marketing team bringing with them new ways of doing and driving things. In other words, the marketing capabilities of these companies were mainly acquired shortly before, or in the early stages of the Covid-19 pandemic, which has allowed these companies to define the required capabilities from different starting points than those with well-established marketing organizations. One of these [Construction] quite small marketing team has been set up fully during the corona crisis, and capabilities have been sought for the team so that it has people with as diverse background and experience as possible. On the other hand, the person who acts as a global marketing leader [Machine] says that there are few marketers available with 'full stack' capabilities for modern marketing

needs, meaning that companies need to look for people with a personal passion for modern marketing, including data and analytical understanding, personal desire to constantly learn new things and ability to learn quickly as well as some idea of agile working methods like working in sprints, for example. Furthermore, in [Power] which is otherwise well established and has a solid framework to guide its work and processes, states that they also need to constantly train employees as well as hire new people alongside existing marketing staff to be able to not only maintain but increase the maturity of the marketing organization.

Covid-19 has easing resistance to change, but the major barriers are simply the high age structure and conservative thinking. Indeed, the most typical barrier regarding the internal capabilities to adapt quickly to changes in the environment (here the Covid-19 crisis) identified consists of old practices and culture, including high age structure, conservative thinking, low digital maturity, and resistance to change at the personal level. In those companies where support from top management does not extend to marketing, marketers may also have to constantly justify the need for existence of marketing as a function, which in at least one of the case companies [Power] has contributed to the fact that instead of strategic crisis responses, the focus of marketing is largely on a budget which is under constant pressure. Marketing is also dependent on other stakeholders, such as sales and IT. In particular, the ability of an IT unit to meet marketing needs can cause significant operational barriers or retards if it is unable to adapt to the growing technological needs of marketing, or marketing does not receive adequate technical support in the implementations of digital solutions. Only one case company [Machine] show up that for marketing and sales tools they have their own dedicated IT person responsible for deployments and administration. In the largest companies [Power and Package], there is a lot of collaboration between marketing and IT, but it is generally described as challenging. In general, in the smaller marketing organizations [Mechanic and Construction] technology integrations are not so advanced that IT would be such an active party alongside marketing.

4.4.2 The role of the partnership network

Data revealed that external partners have been actively used during the Covid-19 pandemic specifically for digital marketing and related technology. Without exception, the marketing organizations of all the case companies involved in the study use external partners in support of marketing activities. Moreover, the partner network is hardly used in strategic work, but external operators are outsourced, for example, to maintain certain

channels or they are ordered single services as purchasing services. As a more strategically important form of cooperation in one of the five case companies [Machine] is that the partner network around the world provides and produces market information for their use, based on which the company plans and implements (alone or together with partners) tactical level measures.

Expertise to fill the gaps in digital capabilities is acquired from external partners. During the Covid-19 pandemic, companies have made only a few own recruitments of which in fact only one is directly related to marketing. Underlying the lack of new capabilities acquired in companies would seem to be influenced by two factors. First, during the pandemic, marketing budgets have been under the pressure, or money has been directed for other purposes. The second reason seems to be even more relevant than the budget, although it can be considered being indirectly linked to it. Namely, the money has been directed somewhat more than in usual circumstances specifically to partnerships and external capabilities rather than internal recruitments. This is because the corona crisis has created needs, especially for streaming and other digital marketing activities, for which the necessary expertise has simply been obtained more quickly from external partners. Second, new channels and related technologies such as webinars have been outsourced also for the reason so that the company has not had to integrate additional platforms and tools into its own enterprise architecture, which can become barriers from an IT and security perspective, especially in larger companies.

The pandemic has accelerated the ongoing digital transformation related projects in B2B companies as cooperation between both internal stakeholder and external partner network has developed and deepened. It is not in itself a strategic crisis response, but marketing organizations have taken note of the increased interest and demand for their expertise in other functions and used this to raise their own profile as a strategic function. For example, in one of the case companies [Construction], dialogue with the management of various businesses has evolved, interest has increased, and business units are willing to consult and know about marketing related issues. Much of the partnership collaboration during the pandemic has somehow focused on creating and maintaining a digital presence. In this context, three out of five companies [Machine, Power and Package] have had external partners supporting deployment, upkeep, and practical arrangements of new tools acquired. In addition, one company has separately made an investment in an external project manager to host the company's own virtual event.

We have not been able to acquire more talent from outside. For now, we have to cope with the existing resources, and more external partners has been taken. It would be good if couple more digitally capable marketers could be taken. (Director Brand and Marketing, Package)

We have strengthened our own processes and systems. A lot of partners have also been chosen so that they have been able to support us in this process. (Communications Specialist, Machine)

Dependence on external technology partners can shift from a tactical level to a strategic level if internal capabilities do not support digital transformation. In any case, the corona crisis has brought digital ways of working into the operations of every company, regardless of the stage at which securing digital capabilities in each company has been prior to Covid-19 pandemic. The reality, however, is that acquiring new skills is not straightforward, nor is training staff fully guaranteeing that everyone will understand and embrace the necessary skills in more technology and data-based marketing. As a result, the role of external partners has been emphasized in the corona crisis and they may play increasingly strategic role alongside in-house marketing organization. However, there are a few factors that can be identified in the marketing that has been taken place during the Covid-19 pandemic that emphasize dynamic capabilities. In identifying opportunities, the current internal capabilities of senior management and marketing will determine the direction of strategic crisis responses.

Ideally, there is an ongoing two-way conversation and mutual support between top management and marketing organization. In terms of ongoing activities, the existing structure and standardized processes are likely to prevent operational level not to fall into crisis despite the uncertainties affecting the business environment. In addition, marketing organization and teams should have enough leeway, not just mandate to look for new solutions and experiment at tactical level, but be involved in strategic development and to drive change (pull activity) as a broader front together with close stakeholders, especially in close collaboration with sales. Activities must also be organized, enabling agile working methods. In the context of digital transformation, current B2B marketing teams increasingly need external support when it comes to technology, tools, and tactics that require diverse core expertise, while internal resources are at the forefront of defining strategic direction. This raises the legitimate question of how large the role of external partners will actually grow in the marketing of large incumbent B2B companies in near future, and how it will

affect, for example, structure and roles of B2B marketing organizations. On the other hand, with the pandemic still in its acute stage, the digital transformation in B2B marketing has only materialized in certain areas such as the enhanced use of social media, marketing automation, and in some ways more advanced streaming and virtual event hosting. Thus, the support of the partners is largely based on technical implementations, and real structural changes can only be seen in the longer term.

4.5 State of the digital transformation

All companies included in the study identify digital transformation that has been underway at the company level even before the Covid-19 pandemic. On average, 'digitalization' has been raised as part of the business strategy of these companies from a year to three years before the corona crisis. However, digitalization has not been as active and rapid before the pandemic, and at the latest during the pandemic it has begun to be reflected in all organizational functions, including marketing. No significant differences in the views of those working in different roles are identified, i.e., all companies view the impact of the Covid-19 pandemic on digital transformation as a factor influencing its scale and/or speed, rather than as a driving force for transformation. In four out of five case companies the digital transformation is seen to have accelerated as result of the Covid-19 pandemic. In only one of the case companies [Construction] involved in the study the pandemic was not seen to have affected in any way the extent or speed of the ongoing digital transformation at company level. In addition to accelerated pace, in two case companies [Machine and Package] the corona crisis has caused re-prioritization. They also estimate that Covid-19 has facilitated digital transformation in general, for example from a change management perspective.

All case companies participating in the study are pre-digital organizations, i.e., they represent traditional industries whose business was originally based on non-digital business and is for the most part to this day as well. Despite this, however, all companies have ongoing development projects and visions of digital solutions alongside more traditional products, or even a digital business unit alongside traditional construction and manufacturing. Looking at the digital transformation against the Tekic's typology, assessing the mastery of digital technologies and the readiness of the business model for digital operations, for the reasons mentioned above, it is practically impossible to position any of these companies pursuing a 'disruptive' digital transformation strategy. An obstacle for [Power] which stands out among case companies to some extent as a 'forerunner' in digital

business (as well the use of digital technologies in marketing), is that the digital transformation does not seem to play decisive role in business, even though it is significant for the company as well as other companies. Just as digital transformation is for other case companies, although it would appear on a smaller scale.

From a business model perspective, none of the large incumbent B2B companies involved in the study are not in a competitive situation where their survival in the market would force radical business model reforms. Rather, digital transformation is part of natural evolution of operations, and creation of added value for customers utilizing digital technologies. In other words, in these companies, digital transformation is based on in-depth understanding of technologies used in their own business segment, but companies are willing to take only reasonable risks in related experiments, especially if it is the company's core business. This is also due the fact that barriers to entry are notable and there is no good reason for companies to digitize their entire business. Thus, all companies follow a 'technology led' strategy that focuses on individual technological solutions (tools, channels, methodology). In this model, therefore, digital transformation is based more on the fact that same things are done differently (digitally), but not necessarily in a radically new way (business model reforms).

4.5.1 Marketing-driven digital transformation

Data included two issues that had effect on digital transformation in marketing organizations. The Covid-19 pandemic has had a visible impact on companies, among other things, so that they have had to reconsider their channel strategy from new perspective when customers and other stakeholders cannot be reached in traditional means (non-digital). It is noteworthy that especially in those companies where marketing and sales have traditionally been separate activities, the gap between marketing and sales has been narrowed during the corona crisis, despite fact that no real organizational changes have been made in this respect. This is seen to be due to fact that other functions (including sales) have been found to benefit from marketing in a new way that has not been thought before the pandemic (e.g., streaming, customer journey mapping, customer experience insights).

Digital marketing has found a foothold in large incumbent B2B companies during the Covid-19 pandemic. While many companies describe how marketing has been an integral part of

the digital transformation even before the Covid-19 pandemic, it is salient that only during the pandemic and through technology introductions made due to limitations and otherwise enhanced digital marketing, its value to business has been recognized in the various functions. Thus, the impact of the pandemic on digital transformation seems to have been even more significant in terms of marketing than its impact is interpreted by the marketers. At a general level, the development of marketing has relied heavily on digitalization, which despite its relatively slow adaptation has also begun to show in B2B marketing. For this reason, as one of the interviewees describes, it can be difficult to distinguish what is a natural development and what is an adequate and strategically planned transformation of a company's marketing activities. However, it can be said that the Covid-19 pandemic has led these pre-digital incumbents to look for new opportunities and ways of working, and these have mainly been found in the field of digital marketing.

In pre-digital businesses, marketing can be a natural pull activity in digital sales. Digital transformation of marketing and the ability to actively look for new opportunities in digital marketing landscape also depends on how top management directs marketing, and what is its influence on marketing activities and strategic decisions. In incumbent large B2B companies marketing organizations are generally closely linked to business-level strategic guidelines regarding digitalization, for example. However, the design and implementation of these initiatives is function-specific and each organization (here marketing) is responsible for its own ways to implement this. For example, in [Power] where digital services already operate as a separate business unit with its own marketing team, the marketing team is responsible for how agile it develops its own operations and how it supports business objectives of the digital services. This is reminiscent of the idea that in these companies, marketing has long reminded like its own island that is at the same time everyone's and no one's land. However, in two companies [Machine and Package] the pandemic has brought marketing and sales closer together as functions. One of these companies [Package] recognizes that marketing has taken on a new kind of driving role in the introduction and exploitation of new digital ways during the pandemic. A good example of this is an end-to-end process of marketing and sales, in which marketing often has better understanding of digital customer paths than sales, utilizing marketing automation and other artificial intelligence solutions at the identified touchpoints in different stages of the paths.

In some ways, marketing drives strongly [transformation]. In the digital transformation and customer experience interface, sales and marketing are in a way inseparable. (...) We are defining more and more end-to-end [digital] customer

journeys. Creating paths for specific individuals and thinking about which points of it can be made more effective; how to utilize marketing automation, how to get social selling into the customer path more efficiently and systematically. (...) Marketing drives this kind of development because it is, in a way, our only way to demonstrate impact and make vision to action visible. (*Marketing Director, Package*)

4.5.2 Digital maturity

Based on data, digital maturity is still low, but indications of what has recently improved it and how the structures affect maturity is identified. Digital maturity is at the center when looking at the organizations' capabilities to transform preceded by sensing and seizing on the path of strategic renewal. Maturity level essentially involves reviewing internal structures, organizational model and capabilities, and the necessary redesign and positioning of these. For this study, it is important to identify the current state of maturity levels and the factors influencing these, as it strongly indicates the actual state of transformation as well as capability to drive change in a relatively short period of time as now in the Covid-19 pandemic. However, assessing it is not entirely problematic as individuals may easily reflect on themselves when assessing digital capabilities. A benchmark made by a person (competitors, customers, other companies, previous experience, etc.) when assessing an organization's digital maturity level can also affect the assessment at general level. In any case, when each company is represented by at least two people and all companies also include people working in non-marketing roles, the estimate of the organization's maturity level can be considered sufficiently reliable for research purposes.

Transition from traditional marketing to the digital environment brings out differences in capabilities at the individual level. The two distinct reasons for the increase in maturity have been either new capabilities (increased use of external partners and recruitments) or strong strategic direction. In one of the companies [Construction], creating a Chief Digital Officer position has improved the company's digital capabilities by bringing a clear structure to projects. In other words, technology projects and digitalization have begun to be looked at more systematically; what technologies are already in use, what should be used, and what the company has no intentions to adopt. Second, building digital capabilities aims to increase the level of maturity in marketing organizations where the age structure is generally

the most prominent single factor undermining digital maturity. Before the Covid-19 pandemic, people in larger marketing organizations were clearly divided into digital and traditional marketers, but the corona crisis has forced all marketers to adapt to digital marketing at least some level. This of course is not without its problems. There are major differences in personal motivation and abilities to learn. However, as the age structure of marketing organizations will be distributed more evenly between the younger and older generations, the differences begin to level off. However, the essential finding is that the maturity level of a novel marketing organization alone may not be significantly better than it is in such a 'hybrid organization', as it requires more external support and guidance that affects the speed of deployments, for instance.

The introduction of new technology is not very easy. There is more eagerness than skill. From a marketing perspective, there is a lot of reliance on partners and the information and support we receive them. There is still work to be done to adapt change more accurately and faster. *(Communications Specialist, Machine)*

For us in the B2B that is very exciting time because we are far behind and there is a lot of options to adopt and change our way of working. We are still very much in a growth phase and very far away from a maturity in that sense. But that can definitely be seen changing, and I think when demographics changes and evolves across the industry is when we will see more and more adoption and digital transformation in B2B. *(Digital Marketing Specialist, Power)*

Personnel can be prepared for transformation with strong strategic support, clear guidelines, and knowledge sharing. Another clear driver in increasing maturity seems to be strategy, clear management intent and set goals. In one case company [Machine] staff were aware of the related transformation needs and the required technological and process reforms through the new business strategy implemented before the pandemic, which made staff more receptive to the introduction of new technologies (e.g., CRM, marketing automation), despite fact that level of maturity in this company is not particularly high either. Similarly in another company [Package], the marketing organization has sought to increase the understanding that marketing does not operate in a void but must find its own strategic line in relation to the other functions of the company and add value to them through its activities. This is seen to have increased the perceived purpose of the marketing organization as well as the motivation for its own work and renewal. Moreover, companies are specifically associating the Covid-19 pandemic with a phenomenon that positively

affects digital transformation. Several case companies feel that the corona crisis has greatly facilitated change management related to the digital transformation as staff adapt better to the situation due to an external crisis.

Particular attention should be paid to internal organization and ensuring IT capabilities to support marketing. Organization also affects maturity. In one case company [Mechanic], the overall maturity level is perceived to be strongly immature and disorganized. Despite this, marketing as a function separate from other operational activities has been able to remain agile and flexible, where the readiness to introduce and implement new initiatives is at a better level than in other functions with large organizations and heavy systematics. Marketing is described to reminiscent of a small and agile company where there is flexibility at the personal level, and thus decision-making remains straightforward and fast. In any case, as noted different organizations live in symbiosis and enable things for each other, but also create barriers to action. One such hindrance is identified in enterprise IT architecture and data mass handling, which poses a challenge to marketing from the perspective of data usability, for example. This not only poses barriers to deployment or take-up of new technologies (if strong digital maturity), but it does place limitations in existing structures on marketing organizations that would otherwise have capabilities, and thus readiness for data-driven marketing.

4.5.3 Digital technologies prior the Covid-19 pandemic

Data showed that effects of the Covid-19 pandemic are largely reflected in redefinition and/or refinement of the channel strategy, the more efficient use of technologies already in place, and training of staff in the use of certain tools and technologies. In general, the corona crisis does not appear to have had a significant impact on the digital marketing means in large incumbent B2B companies. The lack of significant technology deployments is explained by two factors. First, the implementation of digital technologies in B2B marketing organizations is either at its early stages, and the Covid-19 pandemic alone has not act as a driver in deployments, or the implementation has not yet started during the pandemic due to lack of resources or lagging clock speed to initiate transformation in overall. Second, for those companies that have the actual marketing technology stack already in place, the Covid-19 pandemic itself has not created any significant new technological opportunities but has primarily enhanced the leverage of existing technologies.

For those companies that make greater use of digital technologies, the core technology is marketing automation coupled with other tools (CRM, CMS, email, organic and paid media, etc.). Somewhat surprisingly, up to three out of five companies [Mechanic, Construction and Package] the use of CRM system is not systematic. Even more surprising is that in one of these companies, marketing is in fact the main user of CRM system (lead generation), while sales representatives either do not use the system or the use is sporadic and inconsistent. In two other case companies, however, the use of a CRM system is to say the least unclear, and combined use of marketing and sales is non-existent in any case. Consequently, the actual new technological deployments have mainly concerned event platforms as well as digital tools to support companies' operational activities. A single clearly different technology implementation is related to gamification into an existing marketing technology stack. Digital event platforms during the corona crisis have been implemented in all but one case company, one of which has been implemented as a larger augmented reality implementation. Despite the small number of new technology implementations, the pandemic has been favorable time for companies to train personnel. In addition, the use of existing tools has become more efficient. In any case, digital technologies in B2B marketing both before and during the Covid-19 pandemic are still seen more as a channel and content strategy related issue rather than data-based marketing solutions.

4.5.4 Investment decisions

Based on the data, the main issue influencing investment decisions during the crisis has been the need to react quickly by adopting new digital ways. Despite the (moderate) budget cuts in times of the corona crisis, no technology-related investments have been left out of large incumbent B2B companies. However, this is due to fact that in those companies that have implemented major technology investments (such as CRM and marketing automation), the investments have already been made or have been part of a longer-term strategy, and thus left outside budget cuts and general tightening. Instead, campaigning or other shorter-term activities may have been temporarily reduced. Even so, it is noteworthy that some of the recruitments has not been made during the Covid-19 pandemic. The reason for this is that things have had to be made at short notice with larger share of the budget being directed to external partners, through which know-how and digital technologies have been rapidly deployed. In general, other marketing related investments

made during the pandemic include, among other things, website upgrades, CRM development, social media management tools and automation solutions.

The Covid-19 pandemic has generally helped B2B companies identify new technologies. During the crisis, one case company [Package] has started to build a roadmap of what kind of processes the company needs and how it should be organized in the future so that the different functions work seamlessly together. The aim is then to carry out a comprehensive technology mapping so that investments can be directed to tools that support strategic objectives, and so that the best use of automation can be achieved between different functions. While most large incumbent B2B companies continue to take early steps in marketing that leverages digital technologies and data at a strategic level, it can be said that the corona crisis has forced the marketing organizations to question traditional and customary ways. Rapid experimentation during the pandemic, increased understanding, and narrowing gaps between different functions (organizationally and utilization of technology) are potential to contribute to the development of B2B marketing. In one of the five case companies [Machine], marketing has been raised to a strategic function before the Covid-19 pandemic, but as result of the pandemic two other companies [Power and Package] are also identifying signs of more strategic role for marketing in the future.

We are not far from starting to look at marketing as an investment, instead expenditure. This alone is a major change in the mindset. (*Director, Communications and Branding, Power*)

4.6 Strategic renewal and impact of the measures taken

Data included four issues that had effect on strategic renewal. With exception of one company, all marketing organizations have had a marketing strategy in place before the Covid-19 pandemic. However, at the time of the interviews this company [Mechanic] is also in the process of starting to create a more systematic marketing strategy, and the company recognizes that the future strategy will certainly be different from what it would have been before the Covid-19 pandemic. The biggest reason is seen to be that the pandemic has brought new ways to reach customers closer to B2B marketing. This is equally evident in most of the strategy work in more established marketing organizations as well since the biggest changes will concern channel strategy. The Covid-19 pandemic will have a clear impact on the way work is done and the methodology, especially if the company has lacked a clear framework to guide work, or transparent and standardized processes. It is worth

noting that several marketing organizations are actively working on their own strategy, realizing that strategy can no longer be locked in years to come as it is impossible to predict significant trends and market shocks in marketing in such a wide time span.

In addition to the fact that one of the companies involved in the study is about to start strategy work as result of the corona crisis, the other case company [Construction] also has established entire marketing organization and created strategy from scratch during the pandemic. For this reason, no significant reform needs have emerged. However, in both cases renewal of the strategy cannot be assessed in the same way because there is no historical data. The interviews do not reveal that the marketing strategy would have been formed for a specific time-period but is part of the ongoing work of the marketing organization. No information is available from another company [Mechanic], but in another newly established marketing organization [Construction] the strategy is updated and fine-tuned in response to changes in the market, based on project feedback received, and in line with guidelines set by business units and top management.

Strategy work in marketing becomes more cyclical and the ability to prioritize is emphasized. In larger marketing organizations strategy work is more cyclical and runs alongside business strategy. In two of these [Machine and Package] marketing directors note that, for example, three-year strategies no longer serve marketing. Instead, the marketing strategy requires validation and adjustment in shorter sprints (e.g., semi-annually) despite fact that major business policies and strategies are made over the longer term. For one of the case companies [Machine] investments in digitalization as well as marketing in general have been notable even before the pandemic based on company level strategic guidelines and reorganization. However, the pandemic has at the latest given confidence for corporate management that heavy investments in automation and digitalization in marketing and sales is the right trend to follow. For this reason, content of the marketing strategy has not been significantly changed, but the adjustments have mainly concerned prioritization. Recently, the channel strategy has been modified in which the weight of virtual events has been raised over live events. However, at the same time the company is aware that they do not yet know at what extent return to 'old' will happen when the pandemic eases (e.g., lifting travel restrictions).

With the dismantling of silos between functions, the opportunity for marketing to promote digital transformation will improve. In contrast, in another case company [Package] the strategy has been strengthened in many respects and developed during the pandemic. The

most significant influencing factor has been the strengthened marketing position and strategic importance within the organization due to the corona crisis. With the pandemic, marketing has received support from other functions for things like automation which they themselves have been driving for a long time but have not received the necessary support to carry out the transformation to the desired extent. Marketing strategy is now guided by 'digital first' thinking, which strongly drives bringing of digitalization to the core of marketing and sales. Progress has been made here, as digitalization has been more strongly integrated into sales and business strategy in addition to marketing during the pandemic. According to marketing representatives, in the early stages of the pandemic sales organization adapted to the situation with a delay, and the return to 'normal' was waited for months. Subsequently, the long-standing global situation has forced all functions to think new ways and solutions to run business operations. Also, the multi-channel strategy has strengthened during the pandemic and the 'digital first' thinking driven by marketing now take advantage of the same features as LEGO Group's successful 'leveraging digitalization' strategy.

Transition from traditional marketing to digital marketing creates new types of threats that need to be addressed in the strategy. Despite sporadic initiatives, it cannot be said that companies' strategy work is well organized and focused in all respects. Nonetheless, all marketing organizations have taken strategic work into account at least to some extent, and small-scale reforms related to digitalization and marketing channels have been launched. Naturally, the background is influenced by the business strategy as well as budget on which marketing is highly dependent. According to the interviewees the biggest change has taken place in ordinary people whose readiness and willingness to make changes has taken a big step forward. However, instill the digital transformation initiatives made will certainly take time long after the Covid-19 pandemic.. Moreover, there are some new pitfalls to look as well. For example, if companies implement their strongly expressed intentions to radically reduce participation in events a void will be created for the activity that binds a lot of resources and money, the fate of which marketing organizations do not yet know. However, there is a risk that the marketing budget will be cut drastically, leading to the transfer of capabilities away from the company. Such a trend is likely to create negative spiral of development. Temporary budget tightening is even seen as positive in terms of labor productivity and concentration, but in the longer term this is a strategic line that many B2B companies will certainly face in the aftermath of the pandemic as society and the world open-up.

Measuring B2B marketing stay unclear and KPIs are not properly defined. The study reveals that measuring the impact of marketing is the Achilles heel of large incumbent B2B companies. For the most part, the concrete effects of strategic crisis responses on marketing performance are difficult to verify. In practice, only two out of five case companies have some indications of how marketing during the pandemic has changed in metrics and what impact it has had. One of these companies [Power] has metrics that can be used to look at different marketing activities within a 12-month follow-up period, i.e., the growth of webinar production at the tactical level can be verified. In addition, some monitoring of marketing return of investment contribution to the pipeline is done. However, the visibility and quantification of the indicators to both directors outside the marketing teams as well as marketing specialists is challenging, leaving the reliability of the indicators and the relevance to the Covid-19 pandemic unclear. Another company [Machine] does not yet have the capability for ROMI metrics, but by leveraging new systems [CRM, marketing automation] and doing digital marketing new customers outside the portfolio have been verified during the pandemic. Utilizing new means customers have also been found in new sectors, which can be considered notable concrete impact of marketing on business. Through digital campaigning, visibility in market areas has been achieved and some of the new sales negotiations on certain topics have been organized through marketing. Other companies do not yet have the measurement capability or the metrics are based entirely on, for example, social media channel tracking, readership, and other indirect metrics that have no measurable impact on sales in B2B marketing and therefore useless to evaluate in this study.

We do not yet have marketing metrics that can show visibility and performance relative to investments. In this regard we are still in the early stages. *(Managing Director, New Business, Mechanic)*

In measuring, we have lagged behind. We have now talked within the marketing team about what those metrics would be and what we will be producing and providing in relation to those. (...) In the past, we have measured, for example, the open rate and click through rate of e-mails, which we have quite high, but it has also lacked goals and a longer-term view. *(Director, Brand and Marketing, Package)*

5 CONCLUSIONS AND DISCUSSION

Leach, MacGregor, Scoones and Wilkinson (2021) address the need for post-pandemic transformation; how and why Covid-19 requires us to rethink the development of society more broadly. Researchers note that Covid-19 is by no means unexpected in the light of zoonotic diseases, nevertheless it made the global economy and societies vulnerable, and for this reason, researchers call “analysis that addresses both structural political-economic conditions alongside ‘unruly’ processes reflecting complexity, uncertainty, contingency and context-specificity”. Obviously, this study alone like no other can answer that question, but we are all on the brink of these fundamental questions, gradually building that particular analysis in different disciplines with various approaches. This study examines the strategic crisis responses of companies, more closely the capabilities of marketing organizations to operate under the uncertain environment and interprets enablers and barriers arising from organizational conditions in the light of empirical findings. Thus, this research has contributed to gain understanding on how Covid-19 has impacted the digital transformation in the marketing of large incumbent B2B companies whose operations and natural development the pandemic has affected as a humanitarian crisis. Moreover, the aim has not only been to examine the phenomenon 'as is', but express structural and prevailing conditions, pain points that should be take into account in post-pandemic transformation. Moving towards the research goal by taking advantage of the dynamic capabilities approach, the research gap related to B2B marketing will be complemented. In this regard, the study provides a perspective for generally slow ability to embrace new digital technologies in B2B marketing (Dwivedi et al., 2021) through dynamic capabilities.

5.1 Theoretical contributions

The main focus of this study has been on the marketing organizations of large incumbent B2B companies. These organizations are identified as quite different from each other in terms of the way they are organized; resources available, roles within function, and maturity level both at functional level and in digital. If we do not pay attention to the impact of the Covid-19 pandemic in economic terms, the humanitarian crisis that companies have experienced has been in solidarity in the sense that the direct effects on organizations have been somewhat parallel in all case companies. The general attitude of business representatives to the pandemic, regardless of their role, is also identified through interviews as quite consistent; Covid-19 is temporary crisis primarily affecting human health

and thus safety, which has forced companies to adopt new ways of working primarily regarding ways to reach customers and other stakeholders, and thus caused uncertainty in the business environment. Therefore, this study has sought to gain understanding on what in the company's capabilities underneath customary habits and leadership mindset has led marketing organizations to sense, seize and transform in the prevailing crisis environment, each in its own way, forming crisis responses. This chapter concludes by analyzing the results of the empirical (see Chapter 4) and theoretical part (see Chapter 2) of the thesis by answering first two sub-questions and finally the main research question.

SQ1: *How do companies' dynamic capabilities support strategic renewal (triggers, enabler and barriers) in the midst of an uncertain and turbulent environment?*

In principle, the Covid-19 pandemic has created significant uncertainties in the business environment of large incumbent B2B companies as they represent pre-digital organizations. Based on empirical findings companies have responded to the pandemic, adapted their operations taking advantage of digital technologies, but as no actual strategic renewal in marketing organizations is identified, the more active use of digital tools and information sharing practices cannot yet be generalized to transformation. This aligns with the conclusion in the previous literature that strategic renewal is the result of transformation (Warner and Wäger, 2018). A firm's crisis response is based on strategic choice (Guo et al., 2020; Wang et al., 2020), but dynamic capabilities are effective only with appropriate adjustment of strategy, organizational design, and leadership mindset (Witchel et al., 2019). Against these results, the perception is strengthening as this research shows that marketing is well placed to implement strategic crisis responses as long as its capabilities are supported by function-specific centralized lead and top management, it is allowed to operate at a strategic level, marketing and sales work in close collaboration (at its best extended to IT), and marketing can actively and autonomously look for new solutions and experiment with these. In addition to the conservatism highlighted by Buratti et al. (2018), bottlenecks (internal barriers) for digital transformation is identified to create at least the organizational conditions that hinder effective decision-making as well as general resistance to change.

The results show that a significant factor influencing capabilities is the resources that are allocated and available to the company's marketing organization. According to the existing literature, the market in which a firm operates has a prominent impact on the kind of resources it uses and, on the other hand, on the capabilities that its various functions emphasize (Cortez and Johnston, 2020). This, in turn, has a natural impact on a company's

capacities, and thus capability to transform. The results of the study confirm the impact of the market environment on resourcing, as the companies involved in the study do not have fundamentally different profiles but differences in the market environment such as the area of operation (local vs. global) and the number of customers served seem to correlate with this. However, previous research does not pay much attention to the different roles of marketing when examining resources. The visible internal challenge identified in this study is co-resourcing of marketing, i.e., the role of marketing so that in addition to marketing responsibility marketers are accountable for more than just marketing related core functions (e.g., communication). On the other hand, it is quite natural way of organizing but not without its problems, as this would seem to affect already from the microfoundation level. This is a significant finding in terms of dynamic capabilities because microfoundations are rather simple and imitable activities, which form the basis for building competitiveness (Teece, 2007), and identified as necessary for higher-order adaptation and innovation activity (Dixon et al., 2014). If resourcing and/or overlapping roles undermine a marketing organization's ability to, for example, actively seek information and experiment with new technology and integrate resources (i.e., build and strengthen digital sensing), it should be reasonable to state that it makes the maintaining and effective utilization of dynamic capabilities challenging.

Nonetheless, in addition to internal resourcing the study shows strong reliance and increased use of external partners in marketing organizations during the pandemic. This provides an interesting theoretical contribution since the case companies involved in the study, where cooperation with external partners has been increased or deepened during the crisis, do not justify this much as a strategic response but rather as a need for agile service and targeted expertise to complement capability gaps. Previous research talks about external resources and partners especially in the context of opportunity recognition, transformation, and building related capabilities. Battisti and Deakins (2017) describe that in the post-crisis environment efficient use of external resources is central to create new commercial opportunities. Day and Schoemaker (2016), in turn, talk about external shaping in relation to transformation where a company works on a more favorable business ecology by building an external network through which it has access to useful resources. In other words, empirical findings show that during the crisis marketing management in individual case companies initiated a rather intuitive approach to seek support from outside the company, which has helped them to respond more quickly to environmental uncertainty. Looking at the relationship of external partners in Warner's (2018) process model, these relate to both, strategic agility in seizing as well as navigating innovation ecosystem and

improving digital maturity in transformation. Consequently, based on the findings of this study it is proposed to supplement the model for internal enablers with the information that marketing executives' capability to detect need and to make the necessary decision to extend the resource base, and thus enable cross-sectional partnering agility to sense, seize and transform. In other words, the company orchestrates an ecosystem that is created with both internal and external resources

SQ2: *What kinds of roles do dynamic capabilities and strategic crisis responses play in the companies' digital transformation related to B2B marketing?*

Virtually in all case companies, it appears that digitalization and the associated transformation are at least to some extent expressed as an objective as part of a business strategy. However, unlike Matt et al. (2015) describe the digital transformation implemented at the strategic level as a holistic action that permeates all operations and different functions, there are differences between marketing organizations in how digital has affected the way they operate and how it is reflected in continuous operations. Already through a sample of five case companies, notable differences are recognized in how digital is utilized in a company's marketing; one forerunner (compared to other case companies), two companies evolving in digital, and two companies at a very early stage. However, based on empirical findings, in only two firms does the digital transformation appear to be more ingrained in ways of working. That is, through a strategy known and accepted by the members of the organization, some degree of digital consistency has emerged in these companies. According to the existing literature, Kiron et al. (2016) describe this as a state where corporate culture, structures, tasks (including marketing) and people support digital transformation. Moreover, El Sawy et al. (2016) argues that digital transformation is not only about strategy and culture, but also talent development. This study identifies talent development along three mutually supportive pathways: 1) continuous training of staff, 2) recruitment of new people alongside old employees, and 3) capacity expansion through external partners. For other companies, the findings support Teece's (2016) view that in large incumbents change is most often triggered by a crisis, and now we recognize that the Covid-19 pandemic has generally accelerated digitalization in B2B marketing. This in turn is reflected in Chaniias et al. (2019) that the digitalization has forced companies to change, at least in terms of processes, operations, and in some cases even services. A good example of a marketing related crisis response is the new kind of support provided by marketing to services unit that has not been able to visit the customers' premises during

severe pandemic constraints, and thus marketing was able to support customer service by leveraging streaming expertise in maintenance operations.

With a rough examination, if we would only deal with sensing and seizing in companies, i.e., those capabilities through which openings associated with transformation are in principle made possible, in the context of the Covid-19 pandemic and in the form of strategic crisis responses dynamic capabilities could emerge even as processes. It would be tempting to say that those companies where marketing has top management support, a solid framework in place, and a processed opportunity recognition, are the ones making new openings, and thus able to take advantage of digital in marketing. As Teece (2007) describes, identifying opportunities in larger firms requires investment as well as defined processes. These could be described as a kind of fundamentals, and as empirical findings point out, among other things, decision-making (e.g., investments) in large incumbent firms is subordinate to various biases such as balancing and compromising under hierarchies, path dependencies (existing routines, assets, and strategies, etc.), and excessive risk aversion. Likewise, processes provide a framework but do not in themselves yet create a state of mind or an intention for transformation. As Andriole (2017) describes, existing models and processes make incumbents reluctant to transform as long as they remain profitable. Consequently, under the given circumstances, it is difficult to see that dynamic capabilities could be created through routines or past experiences as described by Eisenhardt and Martin (2000), for instance. Instead of best practices, these are competencies that go deep into culture and are drawn from leadership, from which companies can engage in digital transformation by utilizing or fundamentally changing the existing structures.

RQ1: *How has Covid-19 pandemic affected B2B marketing practices?*

Although the Covid-19 seems to have increased the introduction of new digital technologies in case companies to a very limited extent, one of the key findings of the study is that marketing has been internally identified in the pandemic to play a kind of digital role relative to other functions. This is likely to be rooted in two things. First, streaming (e.g., webinars) has been the largest single activity in marketing that has significantly increased, and various tools and other solutions have been introduced (related to meetings and online interaction) that have been able to be used for non-marketing purposes as well. Second, in several companies marketing is identified as a more digitally oriented function than other traditional functions, but other organizations or management may not have capabilities to support this. For example, Sebastian et al. (2017) describes in their study that building new technology

capabilities often begins with the IT unit. As some of the interviewees point out, marketing has changed radically in relation to technology. Marketing has become data-driven, even more than other traditional functions and close stakeholders (such as sales and communications), and now with the Covid-19 crisis this understanding has increased and companies' adaptability to this digital business ecology has increased. Moreover, the ability of companies to adapt to this digital business ecology has generally increased in large incumbent B2B companies, which in terms of marketing are known to have been at the tail end of digital transformation. Thus, building digital capabilities does not only depend on IT, although on basis of this study it appears to play important role as an internal enabler of digital capabilities. Yet, marketing would seem to be a prominent driver and the initiator, especially in relation to technologies that are linked to customer relation management (customer journey mapping, end-user processes, etc.) and automation, for instance.

Empirical findings show that the Covid-19 pandemic has led marketing organizations to look at structures, particularly employee skills in their own organization, that are dominant in increasing its resilience in a global and digital environment. Second, attention should be paid to ensure adequate agility, supported by working methods and processes through both internal and external collaboration. These findings support a culture of digital consistency, strongly associated with cross-functional collaboration, and which favors the use of external talents in specific and complex tasks in rapidly changing environments (De Carolis et al., 2017; Kiron et al., 2016). Warner's (2018) process model for building digital capabilities name as internal enablers cross-functional teams, fast decision-making, and executive support. The empirical findings of this study support these enablers. However, due to fact that the strategic renewal during the Covid-19 pandemic is identified as moderately low in B2B marketing organizations, the study provides a model in which resources, framework, and roles form streams that reinforce dynamic capabilities composed of internal and external factors (see Figure 8). Eventually, factors such as top management support, collaboration between functions, or filling a competency gap with external partners are tied to available resources, qualified framework, and prevailing roles. Internal roles define the relationship of marketing to business strategy, in other words, strategy that empower the function to act in accordance with business objectives (here in relation to digital transformation). Resources in turn reflect a marketing strategy that creates purpose for the marketers to execute strategic marketing that best supports business goals. Maturity is identified as highly dependent on the framework, which defines an organization's overall work methodology, processes, and is reflected in both operational and partnering agility. What is more, maturity is central to dynamic capabilities which are affected by both things

defined in the business strategy and things pursued in the marketing strategy. In addition, it should be made visible that digital maturity not alone enables digital transformation, but also requires functional maturity supported by a solid framework.

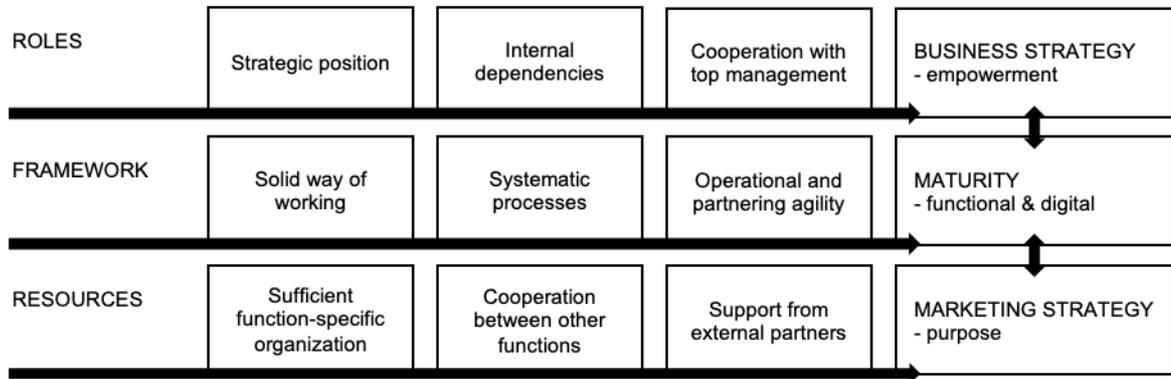


Figure 8 The fundamentals of enablers behind dynamic capabilities

5.2 Managerial implications

Based on the findings of this case study and their reflection on previous literature and research, some managerial implications can be presented that B2B marketing managers can consider both in the post-crisis phase but perhaps more generally in large incumbent B2B marketing development, strategy work, and digital transformation initiatives, implementations, and enhancements. Implications are targeted at marketing, but as marketing continues to be identified as seeking stronger legitimacy for existence in these companies, the status and role of strategic function, from other organization and C-suite, it is recommended that these would be treated with sufficient severity and curiosity more generally in the management of B2B companies as well.

First, it's even a little surprising how small the immediate impact of the Covid-19 pandemic would seem to have remained in terms of marketing in large incumbent B2B companies. On the one hand, this underscores how difficult and time-consuming digital transformation in large incumbents is in practice, and on the other hand, that digital transformation is above all business strategy derived, and thus functions such as marketing cannot drive transformation alone despite high level of autonomy in function-specific activities. In other words, the organizational structure and framework must be built to support transparent and parallel collaboration between different functions, and leadership must support digitalization through its mindset, crystal clear goals and effective decision-making. The research calls for strategy work where the business strategy provides a sufficient perspective and creates

a state of mind for the goals to be achieved through transformation. Based on this study, we can generalize findings only to the marketing of large incumbent B2B companies, but so far enterprise-level digital transformation seems to be mostly a concept that is accepted over organizationally. Moreover, in some respect it may be even strongly promoted, such as development of digital service business, but the continuous and visible support of top management can by no means be said to extend to all functions. This is especially the case if marketing works at the function level instead of the strategic level, i.e., it is not actively involved in the management team(s).

If a company is pursuing digital transformation, dynamic capabilities should be on the agenda of both marketing management and company's top management. This study set out to examine dynamic capabilities and their impact on digital transformation in the context of an external crisis. However, research shows that management should give priority to internal as well as external enablers that facilitate acquiring necessary dynamic capabilities for digital transformation. In a marketing organization, special attention should be paid to resourcing and clarification of roles. For example, there are certainly synergies in combining the roles of operative marketing and communications along development roles in sales and customer experience, for instance, but it is clearly seen to affect marketers' ability to sense new opportunities (due to lack of time), and thus to actively seize new opportunities (due to shortcomings in core competencies). Some degree of centralized lead appears effective for marketing organizations, allowing the marketing director to steer process-driven opportunity recognition, utilizing both external and internal talents. In addition to the fact that marketing makes sense to leverage external partners (such as specific technology expertise), competitive dynamic capabilities require agile internal collaboration, which in marketing should be ensured at least toward top management, sales, and IT.

5.3 Limitations and future research

First, it should be noted that this study has focused on a narrow group of firms, as large incumbent B2B firms represent the margin of all firms. As noted, the role of marketing in B2B in general still often differs substantially from the B2C sector, which is even more emphasized when looking at pre-digital organizations whose product life cycles can be measured up to decades and are often significant investments by the buyer. Thus, it is quite clear that buying and selling processes as well as decision making and the factors that affect it, both on the buyer and seller side, are distinct. Thus, it can be assumed that when looking at the B2C sector, or already when expanded to other industries alone, the study

could provide different insights. On the other hand, the eternal comparison of the B2B and B2C sectors does not necessarily provide the most interesting perspective for expanding research, not to mention developing the research stream that increase and advances knowledge in the field. It would be tempting in future research to look at those companies that, at some visible or identifiable level, identify themselves as representative of the human-to-human business. Particularly, in the light of this study in, it would be interesting from the point of view of dynamic capabilities to identify anomalies in the resources, frameworks and roles affecting the marketing organization that emerge as fundamental enablers in these companies and within the context.

Furthermore, the ultimate purpose of this study, but at the same time its own limitation, is the context in which the phenomenon is studied. The study provides and deepens an understanding of the digital transformation during Covid-19 pandemic and the associated dynamic capabilities in the companies selected for the study. In this study, both internal and external enablers (and barriers) of dynamic capabilities were accessed and well identified, as well as the state of the digital transformation under uncertain environment in the marketing organizations of large incumbent B2B companies. The Covid-19 pandemic provided the research with a context in which the themes of the research were well accessed through the external crisis as they were more or less on the surface in all companies, and thus providing an honest and accurate description. However, this study does not yet identify radical crisis responses, such as renewed business models or strategy, but identifies indications of increased understanding and improved adaptability, so post-crisis research on the subject would provide continuum to this.

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APPENDICES

Appendix 1 – Interview questions

<i>Theme</i>	<i>Question</i>
Background and the current situation	<ol style="list-style-type: none">1. Describe the impact of the Covid-19 pandemic on your industry and your business in general?2. What is the role of marketing in your company?3. How much a company's top management influences marketing activities?4. Is marketing actively seeking new digital ways to implement marketing and drive change, or is the company's management guiding the digital transformation also in terms of marketing?5. Has Covid-19 crisis caused organizational changes in the company? If yes, how have they affected marketing?
Dynamic capabilities	<ol style="list-style-type: none">6. Which factors would you assess to have contributed most to the marketing's ability to respond to Covid-19 crisis and the resulting uncertainties in the environment?7. Have you identified new opportunities to market your company and/or services during Covid-19 crisis? If yes, how did you sense them and decided to seize the opportunity?8. What things have triggered you to explore and try new technologies in marketing?9. What things have enabled you to implement marketing related strategic crisis response? Which in turn have been the barriers?10. When you start implementing something new, what kind of process is it?11. Have you been able to respond the crisis caused by the pandemic and related digital transformation by redesigning internal capabilities and processes, or have you acquired new kind of capabilities and/or external guidance?

Digital Transformation

12. Has digital transformation been active prior to the Covid-19 pandemic? If yes, how it has affected the pace and the scope of transformation?
13. What digital technologies and channels did you use in marketing prior to Covid-19 crisis? What have you adopted as new ones?
14. How mature is your organization to adopt new technologies?
15. Have you invested in new technology during Covid-19 crisis, or has something been abandoned due to lack of funding?
16. Do you intend to continue to implement the marketing strategy defined before the Covid-19 crisis or to renew the strategy either during or after the crisis?
17. Have you already noticed or been able to measure the concrete impact of your crisis responses in marketing activities?

Appendix 2 – Data structure

<i>Theme</i>	<i>Sub-themes/codes</i>	<i>Data sample</i>
Background and the current situation	Uncertainties in the business environment	“Overall, the Covid-19 pandemic has significantly reduced revenue.”
	Recent organizational changes	“It has been more about finding new ways of working within an organization.”
	The role and positioning of the marketing function	“With the updated business strategy three years ago, we started to invest more in marketing.”
	Top management influence and autonomy	“Depends on the activity, but typically the road map and strategic direction comes from the management to which we provide the building blocks.”
Dynamic capabilities	Opportunity recognition activity	“More ad hoc in nature, and it must fit into our strategic goals and marketing hierarchy.”
	Prevailing and emerging capabilities	“New people, a way to do and run things in a new way, strong and visible support from top management, and the professionals in the marketing organization and its strong leader.”
	Agile way of working and experimenting	“Solutions proposed by partners, and expectations from customers.”
	Decision making and the strategic hierarchy	“Top management poses an issue or problem that our team is looking for a solution to.”
Digital Transformation	Utilization of digital technologies and tools	“Social media channels and websites, there have been no others when proper CRM is lacking.”

Digital maturity	“A large organization where part of the individuals is more capable, attitude and motivation better, but also those who may never be capable in this sense.”
Strategic implications	“In general, the strategy is solid, but the channel strategy will be renewed.”
Impact assessment	“It is not possible to say directly to what extent and what they are, there is not yet capabilities to measure ROMI.”