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Designing a Measurement Framework for B2B Customer Experience on Firm-controlled Digital Channels

Master's thesis
in Marketing

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Understanding business-to-business (B2B) customer experience (CX) is crucial for organizations in today's rapidly developing digital economy, as interactions between customers and companies are increasingly relying on digital channels and touchpoints. One of the key elements in understanding and managing CX is measuring and analysing how customers react to interactions with a company. Furthermore, technological developments, particularly in Business Intelligence and analytics, offer significant opportunities for enhancing customer experience management (CXM) by providing firms with deeper insights into customer journeys and CX. Prior academic research on digital channel CX, its measurement, and analytics has been limited in the B2B context, resulting in a significant research gap regarding the measurement of B2B CX on firm-controlled digital channels.

The purpose of this thesis is to develop a framework for measuring B2B customer experience on firm-controlled digital channels. The research problem is investigated through three research questions:

1. What elements constitute B2B CX on firm-controlled digital channels?
2. How to measure B2B CX on firm-controlled digital channels?
3. How could analytics be utilized in measuring B2B CX on firm-controlled digital channels?

This qualitative study is conducted as an intensive single-case study, and the empirical data are gathered through semi-structured thematic expert interviews. The research results support existing CX literature by indicating that a good B2B CX is usually an effortless and easy experience and therefore recommends defining the target CX on firm-controlled digital channels as a *smooth* experience. To provide smooth CX, the research identified two key focus areas for the studied case company: *the quality of the customer journey*, including journey seamlessness, coherence, and personalization, and *the user-friendliness of the digital channels*. Furthermore, the results of this thesis suggest that it is crucial to recognize and understand the varying customer goals and different customer personas to successfully identify and map the customer journeys on firm-controlled digital channels.

According to the research results, measuring CX at individual touchpoints, rather than the overall journey level, allows more precise identification of pain points and weaknesses. Therefore, organizations should collect immediate feedback from customers at key touchpoints to capture their spontaneous responses. Furthermore, this research suggests that B2B organizations should focus on two types of CX measurement on firm-controlled digital channels: *customer response metrics* and *CX valence approximate metrics*. In order to gain deeper insights into the customer journeys and CX on firm-controlled digital channels, this research suggests integrating *descriptive*, *predictive*, and *text analytics* into organizations' customer experience and journey management practices. By leveraging these analytics methods, organizations could ultimately transform CX data into valuable *attitudinal* and *psychographic insights* and subsequently into concrete actions to enhance CX.

Key words: B2B customer experience on firm-controlled digital channels, customer journey, customer experience management, CX measurement, analytics

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B2B-asiakaskokemuksen ymmärtäminen on erityisen olennaista yrityksille nykypäivän nopeasti kehittyvässä digitaalisessa taloudessa, sillä asiakkaiden ja yritysten välinen vuorovaikutus on yhä enemmän digitaalisten kanavien ja kosketuspisteiden varassa. Yksi keskeisistä tekijöistä asiakaskokemuksen ymmärtämisessä ja johtamisessa on mitata ja analysoida, miten asiakkaat reagoivat vuorovaikutukseen yrityksen kanssa. Lisäksi teknologian kehitys, erityisesti analytiikassa, tarjoaa merkittäviä mahdollisuuksia asiakaskokemuksen johtamiselle antamalla yrityksille syvällisempiä ja yksityiskohtaisempia näkemyksiä liittyen asiakaspolkuihin ja -kokemukseen. Aiempi akateeminen tutkimus digitaalisten kanavien asiakaskokemuksesta, sen mittaamisesta sekä analytiikasta on ollut hyvin rajallista B2B-kontekstissa, mikä on johtanut merkittävään tutkimusaukkoon liittyen B2B-asiakaskokemuksen mittaamiseen yrityksen hallitsemilla digitaalisilla kanavilla.

Tämän tutkimuksen tarkoituksena on kehittää viitekehys B2B-asiakaskokemuksen mittaamiselle yrityksen hallinnoimilla digitaalisilla kanavilla. Tutkimusongelmaa tutkitaan kolmen tutkimuskysymyksen avulla:

1. Mitkä tekijät muodostavat B2B-asiakaskokemuksen yrityksen hallinnoimilla digitaalisilla kanavilla?
2. Millä tavoin B2B-asiakaskokemusta yrityksen hallinnoimilla digitaalisilla kanavilla voidaan mitata?
3. Kuinka analytiikkaa voidaan hyödyntää B2B-asiakaskokemuksen mittaamisessa yrityksen hallinnoimilla digitaalisilla kanavilla?

Tämä laadullinen tutkimus toteutetaan intensiivisenä yksittäistapaustutkimuksena, ja tutkimuksen empiirinen aineisto kerätään puolistrukturoiduilla teemahaastatteluilta. Tutkimustulokset tukevat aiempaa asiakaskokemuskirjallisuutta osoittamalla, että hyvä B2B-asiakaskokemus koetaan usein vaivattomana ja helppona. Tästä syystä tutkimus suosittelee määrittelemään tavoitekokemuksen yrityksen hallinnoimilla digitaalisilla kanavilla *sujuvaksi* kokemukseksi. Sujuvan asiakaskokemuksen tarjoamiseksi tutkimus tunnisti kaksi keskeistä painopistettä tutkitulle case-yritykselle: *asiakaspolun laatu*, mukaan lukien saumattomuus, johdonmukaisuus ja personointi, sekä *digitaalisten kanavien käyttäjystävällisyys*. Lisäksi on tärkeää tunnistaa ja ymmärtää asiakkaiden vaihtelevia tavoitteita ja erilaisia asiakaspersoonia, jotta asiakaspolkuja yrityksen hallinnoimilla digitaalisilla kanavilla voidaan tunnistaa ja kartoittaa.

Tutkimustulosten mukaan asiakaskokemuksen mittaaminen yksittäisissä kosketuspisteissä mahdollistaa kipupisteiden ja heikkouksien tarkemman tunnistamisen. Näin ollen yritysten tulisi kerätä välitöntä palautetta asiakkailta keskeisimmistä kosketuspisteistä saadakseen heidän spontaanit reaktionsa. Lisäksi tämä tutkimus suosittelee B2B-organisaatioita keskittymään kahteen asiakaskokemuksen mittaustapaan: *asiakkaiden reaktioiden mittaukseen* ja *asiakaskokemuksen valenssin mittareihin*. Saadakseen syvempiä näkemyksiä ja oivalluksia asiakaskokemuksesta ja -poluista digitaalisilla kanavilla, tämä tutkimus suosittelee *kuvailevan* ja *ennakoivan analytiikan* sekä *tekstianalytiikan* integroimista yrityksen asiakaskokemuksen ja -polkujen johtamisen käytäntöihin. Hyödyntämällä näitä menetelmiä organisaatiot voivat muuttaa asiakaskokemusdatan *asenteelliseksi* ja *psykograafiseksi oivalluksiksi* ja lopulta konkreettisiksi toimiksi asiakaskokemuksen parantamiseksi.

Avainsanat: B2B-asiakaskokemus yrityksen hallitsemilla digitaalisilla kanavilla, asiakaspolku, asiakaskokemuksen johtaminen, asiakaskokemuksen mittaaminen, analytiikka

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1 Introduction

1.1 Background

Understanding customer experience (CX) is critical for companies especially now when technological developments are changing the ways customers and companies interact with each other (Lemon & Verhoef 2016). Business-to-business (B2B) customer experiences are increasingly relying on digital channels and touchpoints, such as company websites, social media, search engines, or digital service platforms (Lundin & Kindström 2023, 2; Rustholllkarhu et al. 2022, 241; Weber & Chatzopoulos 2019, 201), leading to more complex customer journeys (Lemon & Verhoef 2016, 69). Organizations that are able to manage the entire customer journey and experience are gaining significant benefits, including higher customer satisfaction, reduced customer churn, and increased revenue (Rawson et al. 2013, 92). Therefore, investigating and understanding complex B2B customer journeys has represented as a key research priority, as B2B organizations are facing emerging challenges regarding managing and designing highly valuable customer journeys (De Keyser et al. 2020; McColl-Kennedy et al. 2019; Witell et al. 2020; Zolkiewski et al. 2017), especially when they are relying on digital technologies (Lundin & Kindström 2023).

Customer experience and its management have become leading marketing concepts for both managers and researchers (Becker & Jaakkola 2020; De Keyser et al. 2020; Gahler et al. 2022; Witell et al. 2020; Zolkiewski et al. 2017), as they are important drivers of organizations' success and competitive advantage (Becker & Jaakkola 2020; Holmlund et al. 2020; Lemon & Verhoef 2016). The evolution of digital channels has substantially altered B2B business operations (Shree et al. 2021, 354) as nearly the entire buying and selling process – including information search, communication, selection, transaction, delivery, and after-sales – can be carried out through digital channels (Weber & Chatzopoulos 2019, 201). With B2B interactions occurring more frequently in digital environments, companies are required to adopt new technological solutions and tools to effectively manage their customers' journeys. Additionally, due to the complexity of B2B buying and selling processes, companies are developing their managerial practices to successfully navigate and thrive in the digital era. (Rustholllkarhu et al. 2022, 241.)

In recent years, business intelligence and analytics (BI & A) have become increasingly important tools for both B2B and business-to-customer (B2C) organizations (Xu et al. 2017, 674).

Organizations have been embracing the capabilities of BI & A tools by making large investments in the underlying technologies, as well as making it a strategic priority inside the organization. Since

2009, BI & A have represented the largest single expense by organizations among all IT investments. (Torres et al. 2018, 822.) Effective BI & A enables firms to achieve better understanding of B2B customer experience, journeys, and behaviour (Holmlund et al. 2020, 356). Additionally, analytics helps firms to understand customer needs and preferences better and to implement market segmentation. (Xu et al. 2017, 674.). CX insights are typically obtained through analytics, but most companies, however, are still facing major challenges in capturing data from various digital touchpoints, applications, channels, and devices. Furthermore, even if the data are successfully captured, most firms are experiencing difficulties in generating the most relevant customer insights. (Holmlund et al. 2020, 356.)

CX data and its potential to provide valuable information for organizations to enhance decision-making processes has recently attracted interest from both academics and practitioners. Therefore, analytics has also become a trending practice that organizations are utilizing to uncover valuable information from data. (Sivarajah et al. 2017, 263.) Recent developments in BI & A tools have revealed possibilities for organizations to uncover important customer insights for managing the B2B customer experience. Research combining both fields has, however, remained deficient, and there is a clear requirement for conceptual research that would provide relevant information on the opportunities on how to utilize data analytics for CXM. (Holmlund et al. 2020, 356.)

1.2 Research gap

Plenty of academic research on customer experience, its management, and customer journeys already exists (e.g., Becker & Jaakkola, 2020; De Keyser 2020; Gahler et al. 2022; Homburg et al. 2015; Lemon & Verhoef 2016; Witell et al. 2020). However, prior research on these topics has mostly focused on B2C contexts, and despite the great promise, only a few studies have taken the B2B perspective (Purmonen et al. 2023, 74; Witell et al. 2020; Zolkiewski et al. 2017, 173). This gap is also evident in other research fields as well, such as CX on digital channels (e.g., Hoffman & Novak 2009; Martin et al. 2015; Rose et al. 2012; Trevinal & Stenger 2014) and CX measurement, which have mainly focused on the B2C context (Zolkiewski et al. 2017, 173). Consequently, there is a notable lack of prior research on B2B CX measurement on digital channels.

Academic research on CXM has been developing conceptually and empirically over the years. At the same time, the challenges and opportunities of utilizing data analytics for customer experience management have also been examined in business management literature. Although the possibilities

of data analytics impacting CX has been mentioned by some researchers, there has still been unexpectedly little research that has purely focused on that area. (Holmlund et al. 2020, 357.) Wendel and Kannan (2016) researched marketing analytics in data-rich environments, and one of the focus areas in their research was the utilization of analytics in customer relationship management (CRM), with approaches that could help organizations with customer acquisition, retention, and satisfaction. However, the research focused mainly on marketing and CRM contexts leaving the customer experience perspective still unresearched.

One significant exception is research by McColl-Kennedy et al. (2019), where they studied how to utilize text mining to gain customer insights for CXM in a B2B context. Their research offered valuable insights about the use of big data analytics in B2B CXM. However, the study focused on only a specific type of data from firm-controlled touchpoints (i.e., written text from surveys) and the use of specific form of data analytics (i.e., text mining). (Holmlund et al. 2020; McColl-Kennedy et al. 2019.) Holmlund et al. (2020) also researched the utilization of big data analytics (BDA) in CXM, but they took a broader perspective on their research, and they did not specifically focus on either B2C or B2B contexts. They developed a strategic framework for organizational managers on how to utilize the capabilities of BDA for CXM as a result from their literature review. However, despite the available literature on CX analytics, the empirical research has remained scarce.

As expressed in this chapter, prior research on these topics has left behind a significant research gap. Academic research on digital channel customer experience, its measurement, and analytics remains limited, especially in B2B context. In conclusion, research combining these specific fields and focusing on the measurement of B2B customer experience on firm-controlled digital channels through analytics has remained insufficient. Therefore, this thesis seeks to narrow this research gap by bringing together relevant literature and broadening the existing knowledge with empirical research.

1.3 Purpose of the thesis and research questions

The purpose of this thesis is to develop a framework for measuring B2B customer experience on firm-controlled digital channels. The research problem is investigated through three research questions:

1. What elements constitute B2B CX on firm-controlled digital channels?

2. How to measure B2B CX on firm-controlled digital channels?
3. How could analytics be utilized in measuring B2B CX on firm-controlled digital channels?

This research is commissioned by a Finnish industrial manufacturing company. By combining theory and practice, this study seeks to provide knowledge and understanding for B2B organizations on how to utilize analytics in measuring B2B customer experience on firm-controlled digital channels. This thesis is expected to have valuable theoretical and managerial contributions for all B2B organizations that are utilizing digital channels in their business. Furthermore, this thesis aims to develop concrete managerial contributions, especially for the case company, on how to measure B2B customer experience on digital channels and how Business Intelligence and analytics could be utilized in that. The empirical data of this research is gathered through semi-structured thematic expert interviews. The experts are employees of the case company, and they specialize in marketing, customer experience, or analytics.

1.4 Delimitations and structure of the thesis

In this thesis, there are three main delimitations. First, this research investigates business-to-business (B2B) customer experience from the organizational perspective, which leaves out the business-to-customer (B2C) customer experience. Second, the customer experience is limited to CX on digital channels, leaving out other forms of CX. More specifically, this thesis focuses only on the firm-controlled digital channels, which are further limited to three distinct channels of the case company: website, e-commerce platform, and customer portal. Lastly, as this thesis is commissioned by the case company, the empirical research material is also limited to a specific industry and company.

This thesis consists of eight main chapters. Chapter 1 focuses on the introduction of the thesis, including background for the research, presenting the research gap, purpose of the thesis, research questions, and delimitations of the thesis. Then, chapters 2, 3, and 4 build the theoretical framework for this thesis. Firstly, chapter 2 defines the characteristics and elements of B2B customer experience, customer journeys, touchpoints, and factors influencing CX on digital channels. Secondly, chapter 3 focuses on CXM and CX measurement, including CX analytics, data, insights and actions. Finally, chapter 4 brings together the previous chapters, and presents the theoretical framework for utilizing analytics in measuring B2B CX on firm-controlled digital channels.

Chapter 5 focuses on the methodology of this thesis, including presenting the chosen qualitative research method, introducing the methods for data collection and analysis, and evaluating the trustworthiness and ethical aspects of this study. Additionally, the operationalization table and interview frame of this thesis are presented in the chapter 5. Then, chapter 6 presents the empirical findings from the semi-structured expert interviews. Furthermore, chapter 7 discusses the findings from the empirical research by considering the existing academic research and the theoretical framework. Chapter 7 also includes presenting the enriched framework of this thesis. Finally, chapter 8 presents the theoretical and managerial contributions of this thesis, as well as the limitations and implications for future research.

2 B2B customer experience on firm-controlled digital channels

2.1 Characteristics of B2B customer experience

Despite receiving significant attention in both academic research and practice for the past decades, the concept of CX is still lacking a common definition (Becker & Jaakkola 2020; Lemon & Verhoef 2016). Lemon and Verhoef (2016, 71) define CX as a multidimensional concept that is based on a customer's cognitive, emotional, behavioural, sensorial, and social responses to a firm and its offerings throughout the purchase or usage journey. This definition is widely used in CX literature, but other definitions are also noteworthy. Meyer and Schwager (2007, 118) define customer experience simply as the customer's internal and subjective response to all direct and indirect interactions with the company. Gentile et al. (2007, 397) also conceptualize that CX stems from a series of interactions between a customer and offering, firm, or part of the organization, which trigger a response at cognitive, emotional, sensorial, physical, and spiritual levels. Moreover, McColl-Kennedy et al. (2019) define CX as comprising of value creation elements, distinct emotions of the customer, and the customer's cognitive responses at distinct touchpoints.

Becker and Jaakkola (2020) summarize CX as unintentional and spontaneous responses to particular stimuli. These responses can be cognitive, affective, physical, sensorial, and social responses. This definition rejects alternative suggestions that constructs such as customer satisfaction or perceived service quality are components of CX, whereas Lemon and Verhoef (2016) include these concepts in their definition. Furthermore, Holmlund et al. (2020, 356) summarize CX as a customer's response to all interactions with a company at any stage – before, during, or after purchase or consumption – through various touchpoints, and across time. In this thesis, customer experience is defined as the customer's subjective, unintentional, and spontaneous responses to all direct and indirect interactions with the company (Becker & Jaakkola 2020; Meyer & Schwager 2007, 118) throughout the customer journey (Holmlund et al. 2020; Lemon & Verhoef 2016). The customer's responses are further divided to cognitive, affective, physical, sensorial, and social responses to a firm's offerings (Becker & Jaakkola 2020; Lemon & Verhoef 2016). The concept of CX is illustrated in Figure 1.

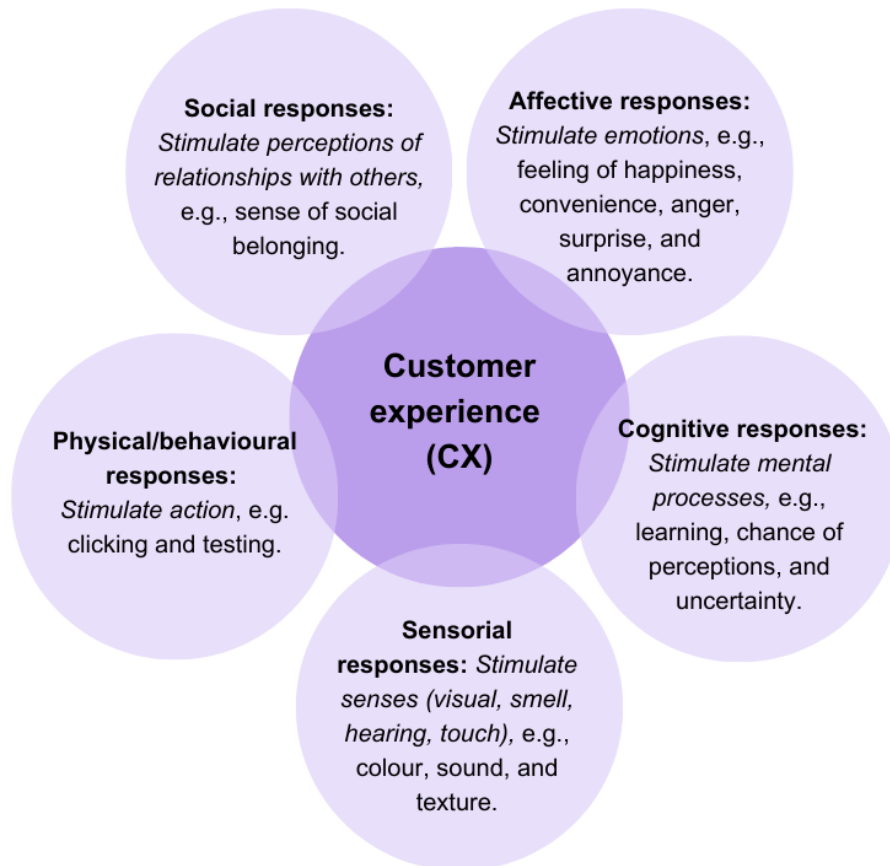


Figure 1 The concept of CX (Gahler et al. 2022; Gentile et al. 2007)

Given the recent technological developments, the importance of digital channels and providing online communication for customers is constantly increasing. Therefore, digital CX strategies, as well as monitoring and managing digital customer experience, is becoming more and more relevant for organizations. (Klaus 2014, 308; McLean 2017, 658.) Digital customer experience refers to customer's responses when interacting with a company through digital channels. Digital customer experience is the overall CX, where touchpoints between the customer and the company are supported by digital means. (Weber & Chatzopoulos 2019, 201.)

Previous literature acknowledges some contextual differences between B2B and B2C customer experiences. Overall, the differences between B2B and B2C customer experiences are considerably minor, although B2B transactions exceed B2C in volume. However, the effect of CXM on B2B suppliers, such as improving customer satisfaction, loyalty, and future performance, is notably more significant. B2B purchasing tasks are also professional by nature and include unique context-specific conditions, which usually make the customer experiences more complex. (Gounaris & Almoraish 2024.)

According to Meyer and Schwager (2007, 119), a good customer experience in B2B context is not necessarily an exciting one but one that is trouble-free and reassuring. Thus, understanding CX in B2B context is particularly crucial considering its significant impact on the supplier-buyer relationship (Gounaris & Almorais 2024). In B2B environments, offerings tend to be more complex than in B2C settings, and so are the interactions between the actors involved. Different business actors are participating to the B2B interactions in various ways, with different sets of objectives and different individual perceptions. Each actor in these interactions is playing a different role, for instance, buyer, decision-maker, or user, engaging in many different ways and at diverse phases of the customer journey. (Witell et al. 2020, 421; Zolkiewski et al. 2017, 173.)

2.2 B2B customer journey

Customer journey is considered a key concept for analysing modern customer behaviours in the field of CX research (Purmonen et al. 2023). Customer journey can be defined as an individual customer's path through a set of offering- or firm-related touchpoints that customers are interacting with during their purchase or usage process (Becker & Jaakkola 2020; Lemon & Verhoef 2016; Purmonen et al. 2023). Customer journey is the continuous customer experience across the various stages of a purchase or service cycle (Siebert et al. 2020). These phases are usually defined as “pre-purchase, purchase, and post-purchase” stages (Lemon & Verhoef 2020; Purmonen et al. 2023; Siebert et al. 2020).

The concept of customer journey is considered particularly useful in the context of customer experience for multiple reasons. First, the journey construct is naturally customer-centric, and it can provide valuable understanding of individual customer's purchasing paths throughout various touchpoints, some being also outside the firm's control (Purmonen et al. 2023, 74). Second, the customer journey concept can also provide a wider understanding of the customer's purchase process through the different stages (Lemon & Verhoef 2020, 74-76; Purmonen et al. 2023, 74). Furthermore, it provides understanding on the customers' experiences on their purchase and usage paths and during the complex and long customer journeys (Becker & Jaakkola 2020; Purmonen et al. 2023). The journey construct also recognizes that the purchasing paths are more commonly complex and customer-steered processes, which are navigated by the buyer through diverse digital and social touchpoints. Lastly, the concept of a customer journey is especially useful in characterizing the purchase processes in digitalized markets. Digitalized markets enable customers

to rely less on sellers due to the nearly limitless access to information on digital channels. (Purmonen et al. 2023, 74-75.)

B2B customer journeys require specific attention in both practice and academic research. Compared to the B2C context, there are some unique journey characteristics and features in B2B context that need to be considered. Purmonen et al. (2023, 80) define B2B customer journey as “*a combination of buying and usage centre members' intertwined, goal-oriented paths to purchasing and using offerings along multiple direct and indirect touchpoints, which are affected by the context of business relationships*”. Previous research has emphasized that B2B customer journeys are typically described as long usage processes, and they are embedded in long-term business relationships. These characteristics emphasize the significant role of understanding the post-purchase phase of the journey and the overall impact of business relationships on the customer’s journey. (Purmonen et al. 2023; Rustholkarhu et al. 2022; Witell et al. 2020.)

In comparison to B2C context, B2B customer journeys are more complex entities as both the supplier and the customer are organizations. B2B relationships can be seen as more dynamic, long-standing, and evolving than B2C relationships. (Lundin & Kindström 2023, 1.) Furthermore, B2B purchase processes include multiple organizational actors who are, at least to some extent, controlled by formal rules and policies and driven by different goals. Organizational buying is typically motivated by shared organizational goals, which are usually related to the organization’s financial outcomes. However, the purchases are also affected by the individual’s goals, such as personal reputation, social comfort, and reducing uncertainty. (Purmonen et al. 2023, 75-77.) B2B customer journeys are also more rationally oriented compared to B2C customer journeys, as business customers use touchpoints primarily to generate economic value (Holmlund & Tischer 2023, 1051).

As B2B interactions are typically embedded in long-term relationships, they are influenced by the relational environment and also the connections and experiences formed along earlier interactions. For instance, trust between a customer and organization can impact interactions at different touchpoints by reducing the customer's cognitive effort. Furthermore, a customer may also engage in multiple continuous journeys with one organization and across a network of suppliers. Thus, B2B customer journeys are generally influenced by both the relational circumstances, as well as other interrelated customer journeys. (Purmonen et al. 2023, 79-80.)

Along with technological developments, B2B buying behaviour and customer journeys have changed significantly. Organizations are now able to alter the ways they are interacting with

business customers throughout the customer journey. (Andersson et al. 2024, 161-162.) The digitalization of B2B customer journeys indicates how different touchpoints, organizational actors, and eventually, the entire customer journey process are affected by digital technologies. The goal of digitalizing customer journeys does not necessarily mean creating an entirely digital journey, but rather to meet the constantly developing needs of business customers. (Lundin & Kindström 2023, 3.) Due to this, customers can search for necessary information, compare different brands or products, and analyse the market with digital tools before contacting the potential suppliers and making a buying decision. Therefore, B2B organizations with strong digital capabilities usually succeed better financially as they are able to communicate and interact with their customers more efficiently in all stages of the customer journey. (Andersson et al. 2024, 162-163.)

One of the key characteristics of customer journeys is their process nature that involves different journey phases from pre-purchase through purchase to post-purchase (Purmonen et al. 2023, 79). Furthermore, recent customer journey research proposes that the journeys should be contemplated as recurring cycles with “loyalty loops” rather than purely linear processes (Purmonen et al. 2023; Siebert et al. 2020). Siebert et al. (2020, 45) also conceptualize two different types of customer journeys: a “smooth” journey and a “sticky” journey. In a smooth journey model, the emphasis is on designing seamless, consistent, effortless, predictable, simplified, and personalized customer journeys. In contrast, the sticky journey model aims at creating exciting journeys that customers desire to continue due to the inconsistency and unpredictability of the journey.

B2B customer journeys typically begin from either a new purchase activity or from previous journeys. B2B customer journeys can be separated into iterative usage and purchase phases, where the usage phase can uncover a completely different need and thus generate a new customer journey. Interactions at the different customer journey touchpoints and the course of the whole journey are influenced by existing relationships, as well as previous interactions between the customer and the supplier organization. However, the extent and distinct nature of different phases, paths, and steps are likely to change along with the purchase activity, ranging from conventional and low priority tasks to more complex purchase tasks. (Purmonen et al. 2023, 79-81.) Different customer journey phases and journey touchpoints are illustrated in Figure 2.

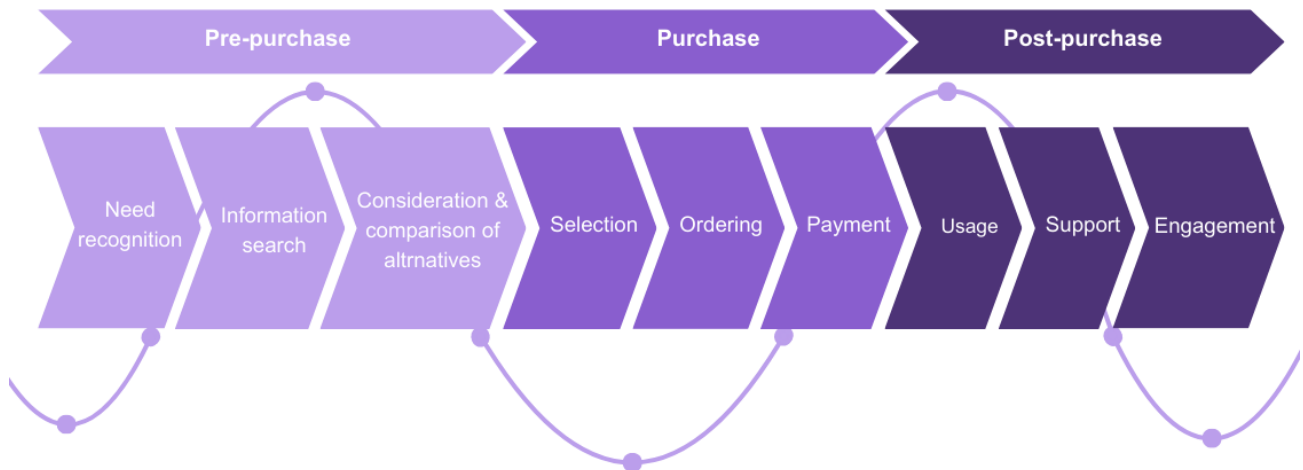


Figure 2 Touchpoints through the different stages of a customer journey (Lemon & Verhoef 2016; Rusthollkarhu et al. 2022)

The first stage of a customer journey, the pre-purchase stage, comprises all forms of the customer's interactions with the firm before the purchase transaction. Theoretically, the pre-purchase stage could involve all of the customer's experiences before the actual purchase. However, in practice, this phase encompasses the customer's experiences and responses all the way from the need recognition to information search and consideration of the actual purchase. The second phase of the journey, the purchase stage, covers all the customer's interactions with the firm during the purchase transaction itself, and it refers to the different behaviours related to purchase, such as selection, ordering, and payment. The final phase of the customer journey, the post-purchase, encompasses all interactions between the customer and the firm after the purchase transaction. The post-purchase phase contains behaviours related to the usage, service requests, and post-purchase engagement. The post-purchase phase could, in theory, extend temporarily all the way from the purchase to the end of the customer's lifetime. In practice, however, this phase comprises aspects of CX that are genuinely related to the firm or offering itself after the purchase. (Lemon & Verhoef 2016, 76; Rusthollkarhu et al. 2022, 243.)

Customer journeys comprise different types of company- or offering-related touchpoints, which are conceptualized as episodes of direct or indirect interaction between a customer and a company (Becker & Jaakkola 2020; De Keyser 2020; Purmonen et al. 2023). Compared to B2C context, B2B customer journeys are further complicated as touchpoints are likely to happen across a wide range of both front- and back-office functions, and across organizations (Zolkiewski et al. 2017, 175). Witell et al. (2020, 422) characterize touchpoints in B2B customer journeys as all verbal and

nonverbal episodes experienced either consciously or unconsciously by the business customer. Touchpoints in B2B context, however, include different types of interactions which are incorporating various actors coming from the supplier, customer, or partner firms.

Touchpoints vary in terms of the touchpoint control, touchpoint nature, and the stage of the customer journey. Touchpoint control indicates who controls the touchpoints between the customer and the firm, and touchpoints are typically divided into firm-controlled and non-firm-controlled ones. Firm-controlled touchpoints are those touchpoints that are primarily designed and managed by the firm, such as corporate websites, advertising, and store environment, whereas non-firm-controlled touchpoints are mainly managed by other actors, such as the customer, or other brands and firms. Touchpoint nature, on the other hand, refers to the way the organization is represented in the specific touchpoint. A touchpoint nature can be either physical (e.g., store environment), digital (e.g., website), human (e.g., frontline employee), or a combination of these. Lastly, the touchpoint stage refers to the distinct phase in which the specific touchpoint occurs during the customer journey. (DeKeyser et al. 2020, 438-40.)

One key observation from previous studies is that firms usually have very little control over some touchpoints, particularly those that include customers' social interactions with other customers related to the supplier (De Keyser et al. 2020; Purmonen et al. 2023). Previous customer journey studies have also indicated that some touchpoints are more crucial for outcomes than others. Furthermore, previous studies have also observed the relationship of customer responses and the structure and order of touchpoints. This includes, for example, understanding the effects of multichannel touchpoints on brand consideration, the dependencies between online sales metrics and traditional marketing mixes, and the effect of clickstream conversion rates on actual purchase transactions. (Purmonen et al. 2023, 77.)

Lundin and Kindström (2023; 2024) define that touchpoints are considered digital when the utilization of digital technologies impacts the way customers interact with an organization. Not only can interactions between a customer and an organization take place in digital environments, but existing touchpoints can also be mediated by digital technologies in order for organizations to provide more support for their customers throughout their customer journeys. Typically, both the variety and number of customer journey touchpoints are likely to increase when firms include digital technologies in their operations. This leads to the growing importance of understanding organizations' capabilities to manage digital touchpoints.

2.3 Digital channels

Digital technologies have created new communication channels called “digital channels”, which can be defined as internet-enabled and technology-based platforms that connect a firm and its customers. Implementing digital technologies has allowed firms to enhance customer engagement and improve CX, as the interconnectivity of digital channels has transformed the communication between a firm and its customers. Digital channels enable firms to communicate with its customers without the physical barriers, or boundaries regarding time and place. Additionally, digital channels allow firms, for instance, to reach more customers, gather and exchange information, and facilitate transactions. (Straker et al. 2015b, 111; Straker & Wrigley 2016, 136.)

Most organizations are utilizing not only website but also other digital channels, such as social media and e-commerce platforms, to connect with customers. Through these digital channels organizations can not only provide value to customers but also collect strategic and important customer insights. The rapid growth of available data and the increasing capabilities of digital channels are providing organizations with large amounts of valuable information to utilize in strategic decision-making and achieving competitive advantage. (Straker et al. 2015b, 111, 113; Straker & Wrigley 2016, 136, 140.) Digital channels are also important components of digitalized customer journeys, as various channels can fulfil different stages of the customer journey. Customers can, for instance, search for information through a first channel, purchase through a second one, and use or collect the product or service through a third channel. (Straker et al. 2015b, 112.)

Digital channels are very different from traditional physical channels, as customers interact with the organization purely through digital technology. The interactions on digital channels are relatively different from physical interactions because customers are relying on sight and sound, whereas physical channel experiences incorporate all senses. However, digital channels also have numerous advantages, as those are not limited, for instance, by opening hours or distance. Thus, companies can provide a higher level of convenience to their customers through digital channels. (Straker et al. 2015a, 138.)

The design and management of a firm's digital channels offers a chance to strengthen customer loyalty and enhance customer experience. Customer loyalty represents the degree of customer's emotional engagement towards the company and reflects the likelihood of repeated purchase and engagement. In order to develop a loyal customer, firms could build emotional engagements, in addition to generating positive customer behaviours and attitudes. Different elements of digital

channels, such as the design, can evoke various emotions, feelings, and moods in customers. The emotional association with the firm creates an affective response, which begins with feelings that inform emotions, and over time it creates a mood. Digital channel experience creates various attitudes, behaviours, and meanings in the customer. The affect caused by the interactions with the company creates experiences across various channels, and overtime these experiences impact the customer's attitudes, behaviours, and meanings towards the experience forming positive emotional connections with both the experience and the company. (Straker et al. 2015a, 137-138.)

2.4 Factors influencing CX on firm-controlled digital channels

According to previous literature, a well-designed and fluid digital channel enhances the customer experience. In order to enhance CX and ensure the fluency and user-friendliness of a digital channel, firms can utilize different mechanical, functional, and humanistic dimensions. The mechanical dimensions cover the physical representation of the channel, such as design, whereas functional dimensions include the technical quality and reliability of the channel. Lastly, the humanistic dimensions are responsible of the interactivity of the digital channel. Customer's interactions with these dimensions trigger cognitive and affective responses, which influence their decision to engage with the channel and choose, whether they want to continue using it.

(Ramasundaram et al. 2023, 3.)

Customer focus is crucial within digital environments as customers are interacting with it through various touchpoints, channels, and media, which result in unique customer journeys. Previous research indicates that customers are experiencing positive and negative emotions during their digital journey, which affect their overall CX. Thus, enhancing and developing the digital CX in line with the customer's needs and preferences would substantially improve the organization's profitability by increasing customer retention, generating positive word-of-mouth (traditional WoM or electronic eWoM), and in the end, facilitating more and more effective customer acquisition.

(Ramasundaram et al. 2023, 5.)

When customers operate in an online environment, they are interpreting different types of information, such as text, images, and videos, which are influencing the experience (McClean 2017, 658). According to previous research, numerous different variables can influence the digital CX, including the aesthetics, ease of use, engagement, control, interactivity, customization, and enjoyment (Hoffman & Novak 2009; Martin et al. 2015; McClean 2017; Rose et al. 2012; Trevinal &

Stenger 2014). Additionally, Mclean (2017, 658) adds three other variables to the list that have not received enough attention: credibility, information quality, and customer support. According to Martin et al. (2015, 91-92), firms should focus on providing digital channels that engage the customers in correct ways and thus achieve affective experiences. This can be achieved, for instance, through the aesthetics of the channel and enhancing customers' sense of being in control through ease of use and the ability to customize and personalize the channel for their own needs and preferences. Customer's engagement and satisfaction with the firm-controlled digital channels are noted to affect customer's purchase behaviour, and thus also customer experience.

Perceived control is defined as the user's desire for efficiency in order to limit their own cognitive resources. Especially ease of use and customization impact the levels of user's perceived control. The ease of use is considered as the user's experience on the technical aspects of the digital channel, such as website navigation. According to previous research, the ease of use of the digital channel is important in the formation of experience impressions, as overly complex navigation and information overload interferes the emotional state of the user and thus the likelihood of a repeat purchase. Customization, on the other hand, is defined as the user's experience of tailoring the functionalities and appearances of the channel for their personal needs. The ability to customise information to suit their own needs and preferences can build sense of personal control and enhance the experience. (Martin et al. 2015, 84; Rose et al. 2012, 312, 315-316.)

Customer experience is based on the interactions between the customer and the organization, which makes interactivity a key variable in the formation of CX (Hoffman & Novak 2009; Trevinal & Stenger 2014). Additionally, aesthetics, such as colours, graphics, design, and layout provide sensory stimuli that affect the formation of experience responses and result in multiple different responses including enjoyment, purchase intention, and customer satisfaction (Martin et al. 2015, 84; Rose et al. 2012, 312). In the digital environments, the imagery and sensory elements of the experience causes enjoyment, aesthetic pleasure, and value for the customer (Trevinal & Stenger 2014, 316).

According to the research by McLean (2017, 659, 664-665), information quality and the credibility of the digital channel influence CX during information search on B2B websites. Information search is found to be a significant part of the decision-making process, and the information-seeking behaviour happens as a result of a need recognized by an individual. In the end, the information-seeking process results in success or failure to find the desired information. In B2B settings, individuals are usually more time conscious during the information search, meaning that customers

who are unable to find relevant information on time are more likely to abandon their information search process. The stages of an information-seeking process consist of cognitive thinking, affective feelings, and the physical aspect related to the collection of the information. Therefore, a successful information search has a positive effect on the overall CX.

The credibility of the digital channel has a significant effect on the success of the information search. Credibility in digital channel context can be defined as the degree of trust that the channel conveys to its users. The most common way to assess credibility includes customers evaluating the brand of the channel, design, look and feel, used sources, associations, and accreditation, which can all be conducted on time. In order to achieve channel credibility, firms should ensure that contact information, accreditation, and credentials of the organization are provided, there are no faulty links, no grammatical or spelling errors, and the design of the channel is professional. These aspects help firms to provide cues about the credibility for customers and thus have a positive impact on the experience. (McLean 2017, 660-661, 665.)

Information quality, on the other hand, can be defined as how users perceive the quality, accuracy, relevance, and usefulness of information provided on the channel. The level of quality of the information provided on a website influences customer's assessment of the channel. Thus, firms should ensure that customers are provided with relevant, up-to-date, accurate, and useful information to meet the customers' goals regarding the information and reduce the amount of time used for the information-seeking process. Furthermore, providing customers with relevant cues on the information quality also enhances the CX. These cues should indicate, for instance, the relevance, accuracy, and how current the information is (e.g., time and date), as well as links to sources, in order to inform customers on the information quality. Also, a well-designed digital channel, which provides brand information, is supported with accreditation and company credentials, and includes the possibility for customers to contact the company, can enhance the credibility. (McLean 2017, 660-661, 665-666.)

In addition to credibility and information quality, online customer support is also linked to information search and thus influences customer experience. Firms are utilizing technology to provide online customer service and support, for instance, online customer helpdesks and live chats. The success of information search is found to affect the customer's need to seek customer service or support, as those customers, who are able to find the desired information or navigate the website effortlessly, do not usually require customer support and are typically more satisfied with the overall experience. In contrast, customers, who are unable to discover the wanted information or

experience doubts regarding the information found, usually need to seek customer support. (McLean 2017, 661-662, 665-666.)

Recently, effective design of customer journeys has become an essential part of value creation in today's increasingly digitalized and complex markets (Kuehnl et al. 2019, 551). According to Jaakkola and Terho (2021, 2-3), customer journey quality is also significantly affecting customer performance in modern businesses, and they identify journey seamlessness, personalization, and coherence as critical drivers of customer loyalty. Kuehnl et al. (2019, 554) also introduce three elements of customer journey design qualities that are affecting the experience: thematic cohesion, consistency, and context sensitivity of touchpoints. Customer journey seamlessness requires integrating and aligning different firm- and partner-controlled touchpoints throughout the journey, allowing customers to transition smoothly between them. Journey coherence can be enhanced by combining all touchpoints thematically, along with the related "experience cues", to ensure a consistent impression of the brand or firm across all channels and touchpoints. Lastly, customer journey personalization emphasizes customizing the sequence of journey touchpoints to fit the customer's situation and preferences. (Jaakkola & Terho 2021, 20.)

Thematic cohesion of touchpoints refers to ensuring that all customer interactions consistently reflect the common brand theme in order for customers to easily recognize and connect the brand with their goals. This means that the brand theme is present in every interaction, consistently communicating the core value proposition, and ensuring a unified brand message across all brand-owned channels. High thematic cohesion simplifies the customer's understanding of the brand across various touchpoints, and any new touchpoints should align well with this established theme. Second, consistency of touchpoints refers to how well customers perceive a cohesive brand design across various touchpoints during their journeys, including design, language, navigation, communication messages, processes, and interaction behaviour. Lastly, context sensitivity of customer journey touchpoints refers to how well customers perceive various brand-owned touchpoints as being responsive and adaptable to their individual preferences, goals, and activities, through elements like self-customization, providing context-sensitive information, and customer flexibility. (Kuehnl et al. 2019, 555.) Figure 3 illustrates all the factors influencing CX on digital channels that were presented in this chapter.

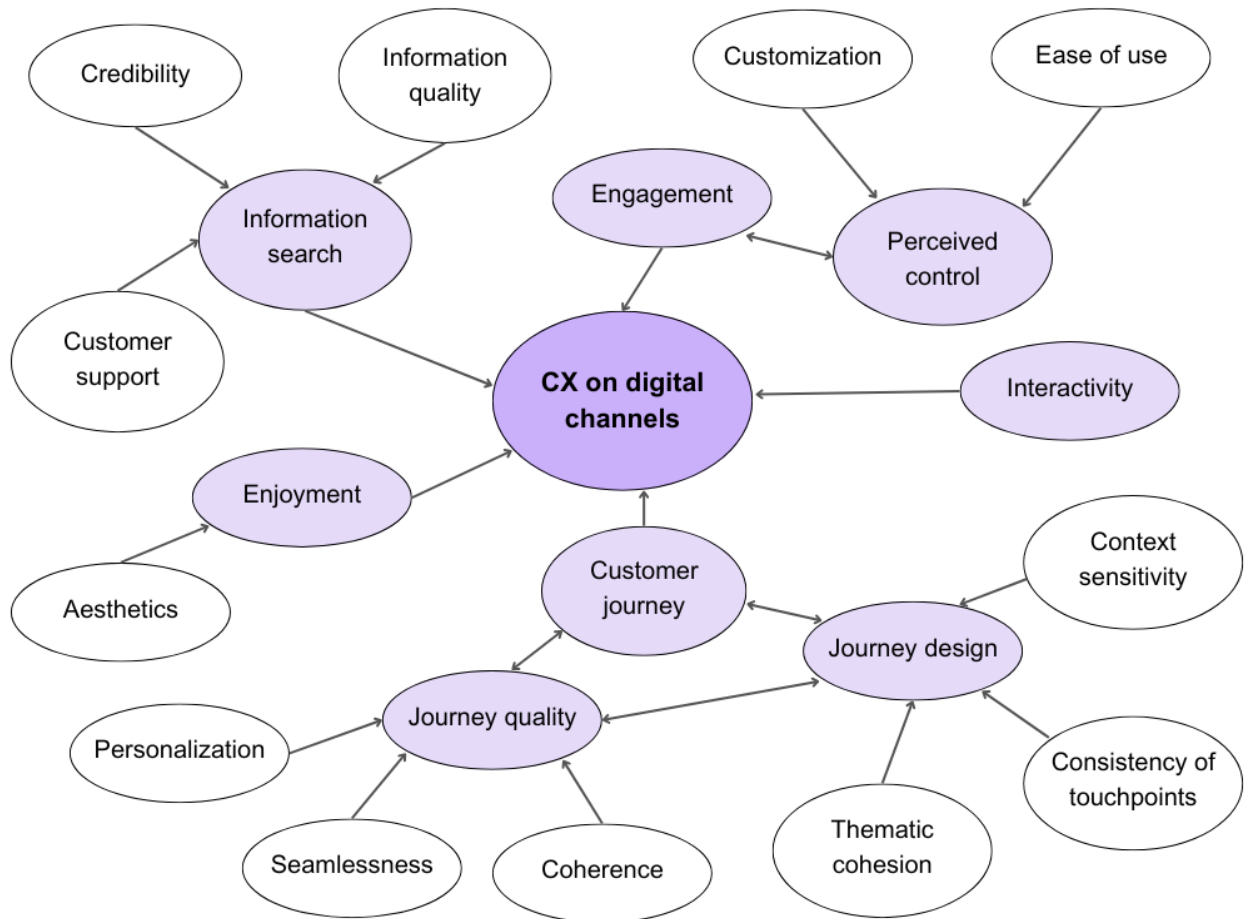


Figure 3 Factors influencing CX on digital channels (Jaakkola & Terho 2021; Kuehnl et al 2019; Martin et al. 2015; McLean 2017; Rose et al. 2012)

3 Analytics utilization for CX measurement

3.1 Customer experience management

Customer experience management (CXM) is a key priority for organizations, mainly because of its far-reaching implications for an organization's performance (Gounaris & Almoraish 2024). The consequences of a positive customer experience, such as satisfaction, trust, loyalty, re-visit, and re-purchase intentions, are vital for all organizations, and thus focusing on CXM is essential (McLean 2017, 658). In the last years, organizations have been transitioning from focusing on distinct touchpoints in the customer journey to tracking and managing the entire journey holistically. Consequently, CXM has developed to capture the formation and delivery of a comprehensive CX at all stages of the customer journey, and across different channels and touchpoints. In order to manage CX effectively, organizations are required to control multiple touchpoints at the same time, and hence recognize and manage the critical encounters that significantly affect the customer experience. CXM includes the understanding of customers' perceptions of the firm and the ecosystem around it. (Holmlund et al. 2020, 257.)

CXM can be defined as the strategic direction for designing CX, organization's cultural mindset towards CX, and the organization's capabilities for continuously enhancing CX. It is the process of strategic management of a customer's comprehensive experience with a product or firm, where the goal is to attain and sustain long-term customer loyalty. (Homburg et al. 2015; Lemon & Verhoef 2016.) Weber and Chatzopoulos (2019, 202) propose CXM as the new way to gain insights into customers' needs and preferences, which are influencing customer behaviour and loyalty. Additionally, they define CXM as a business strategy that is aimed to manage CX and facilitate a beneficial value exchange for both the supplier and its customers.

Factors influencing CX expand far beyond the customer journey controlled and designed by the organization. CXM includes understanding customer perceptions of the organization and its surrounding ecosystem. Therefore, CXM requires firms to leverage data from not only their own, firm-controlled touchpoints but also those owned by partners, customers, and external sources across digital, physical, and social realms. The primary goal is to adapt the CX continuously and proactively in order to achieve loyalty and drive long-term growth. (Holmlund et al. 2020, 257.)

CXM is considered similar to customer relationship management (CRM) as both are employing market data. CRM, however, focuses primarily on retaining customers and maximizing the firm's profit, and it involves planning, implementing, and tracking customer relationships, while CXM is

dedicated to continuously enhancing the customer experience at all touchpoints. (Holmlund et al. 2020, 257.) Meyer and Schwager (2007, 120-121) also separate the two concepts. According to their definition, CXM captures the immediate responses of the customer at the points of customer interaction (touchpoints), whereas customer relationship management (CRM) captures the customer's actions after there is record of customer interaction.

Witell et al. (2020, 422) identify two critical characteristics for CXM in business markets: managing different relationship types and controlling touchpoints inside a network of actors. A supplier firm should develop networks of customer relationships to enhance the financial value of the relationships. The type of these relationships, either transactional or relational, significantly impacts the CX. Transactional relationships involve single, short-term, market-controlled, and automated exchange events that are completed when the product or service is delivered and paid for. Relational exchanges, on the other hand, include events joined together across time and indicate ongoing processes of exchanges that are related to prior interactions. Long-term relationships also require more administrative management and cooperation between organizations and its customers or channel partners than transactional exchanges.

Customer journey management (CJM) is a significant part of CXM. While CXM has a wider scope that goes beyond customer journey related aspects, CJM focuses specifically on the order, composition, and design of journey touchpoints to create positive evaluative outcomes and value. In more detail, CJM focuses on firm-controlled touchpoints directly controlled by the supplier. (Holmlund & Tischer 2023, 1046, 1051.) However, managing touchpoints is an essential part of B2B CXM as touchpoints contain various forms of interaction and include multiple actors from the supplier organization, customer, or partner firms, or the actors can be embedded in an even more far-reaching ecosystem. Within each of these firms, touchpoints are including various organizational and functional units, but also individuals functioning at diverse hierarchical levels, adding complexity to managing the touchpoints. In addition, time-related complexity increases as different actors are engaging in several different touchpoints throughout the various phases of the journey, meaning that no distinct individual actor is necessarily included through the whole B2B customer journey. (Witell et al. 2020, 422.)

Additionally, target experience is a significant research area in CXM (Youssofi et al. 2024, 513). Previous research has referred to target experience also as “intended” or “desired” experience. Ponsignon et al. (2017, 765) define intended experience as a strategically designed experience that a company creates for its target customers. Von Richthofen and von Wangenheim (2021, 766) also

conceptualize target experience as the CX companies aim to achieve. Youssofi et al. (2024, 517), on the other hand, focus on intended experiences on the digital environments. They define intended digitalized experience as the anticipated series of sensations that the company desires to create for its target customers through interactions on digital channels and throughout the customer journey. In contrast, the “realized” experience is the actual experience lived by the customer. The organization’s role is to align the target experience with the realized experiences in order to create a successful customer experience in the end. (Ponsignon et al. 2017, 765.)

Figure 4 presents a simplified framework for CXM highlighting the role of the firm in CXM activities. Although firms are not able to actually create CX, they can manage, design, and monitor a range of touchpoints and stimuli that affect experiences (Becker & Jaakkola 2020). Additionally, defining target CX can be considered as one of the key CXM activities. Together these form the role of the firm in CXM. Figure 4 also illustrates the creation of CX from particular stimuli within various touchpoints along the journey. These form cognitive, affective, physical, sensorial, and social responses in the customer that create the experience. In the end, the experience creates different evaluative outcomes, such as value-in-use, perceived quality, satisfaction, and loyalty.

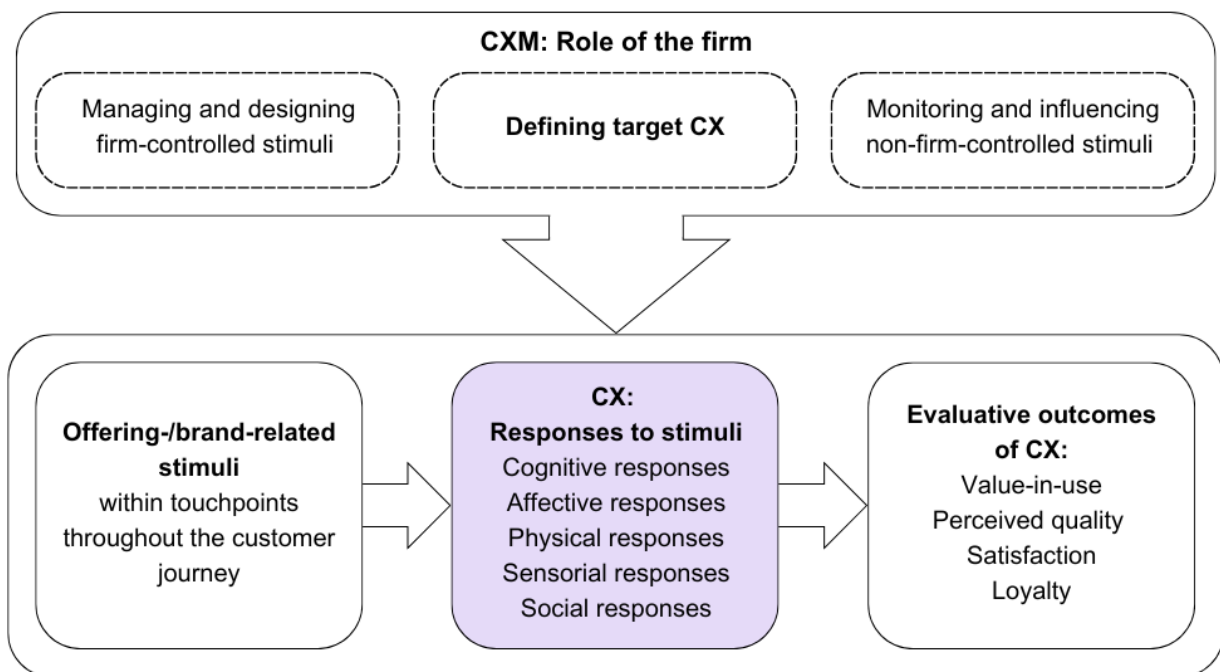


Figure 4 CXM framework (modified from Becker & Jaakkola 2020)

3.2 CX measurement

One of the key elements in managing and understanding CX is measuring and monitoring how customers react to a company's offerings, particularly their perceptions and attitudes (Lemon & Verhoef 2016, 71). The strategic aim of measuring CX is to utilize the insights to support customers' desirable and positive experiences and to achieve higher levels of customer loyalty and long-term customer relationships. The ambiguous nature of CX and complexity of B2B interactions demand that the various customer journeys are considered, and more suitable measures of CX are identified. (Zolkiewski et al. 2017, 173.) Due to the complexity of B2B customer relationships and interactions, measuring B2B CX requires distinct practices compared to B2C CX. In B2B settings, the focus is on understanding the experiences and delivering value. As B2B offerings are generally more complex, the value-in-use encompasses the competences of supplier, customer, and partner firms, and also how the offering is utilized within the customer firm. (Witell et al. 2020, 422.)

In order to develop and implement a functional measurement scale for CX, the practical challenges must be recognized (Palmer 2010, 203). Meyer and Schwager (2007, 123) emphasize that a well-designed survey does not only bring out the desired information but avoids impacting negatively to the customer experience. Thus, the common questionnaire approach might be insufficient in measuring the affective components of CX over time. Long questionnaires can also cause customer frustration and "survey fatigue" leading to unreliable results. (Palmer 2010, 203.) Therefore, firms must consider whether their methods for data collection and CX measurement are effective or whether they will lead to negative experiences and customer dissatisfaction. Additionally, it is necessary to contemplate the measure quality and how to utilize them. Therefore, addressing the question of "What is measured?" is extremely valuable. (Zolkiewski et al. 2017, 176.)

Palmer (2010, 202-203) further identifies three key challenges in managing CX and developing common and operationally acceptable CX measures: the complexity caused by different context specific variables, the non-linearity of CX, and identifying the targeted level of experience. First of all, customer experience is usually measured by using general proxy measures, for instance, service quality (SERVQUAL), net promoter score (NPS), customer satisfaction measures (i.e., CSAT), retention rate, first contact resolution (FCR), and customer lifetime value (CLV) (Becker & Jaakkola 2020; Patti et al. 2020; Zolkiewski et al. 2017). However, Becker and Jaakkola (2020) emphasize that the operationalization of CX should rather focus on the customer's spontaneous and unintentional responses to firm- or offering-related stimuli. In addition to contextual parameters, a CX measure should also include the order of the events and the attitude after an event occurred.

(Palmer 2010, 203.) Defining CX as spontaneous responses strongly indicates that timing should be considered important for CX measurement. Therefore, customer's responses should be captured immediately after the interaction with the offering- or firm-related stimuli. (Becker & Jaakkola 2020.)

Moreover, capturing and measuring customer experience specifically in B2B context is considered more complicated because the experiences arise from both direct and indirect interactions between the customer organization, suppliers, end users, and other actors who are included in the interaction. Firms are driving to deliver higher levels of customer satisfaction and, in the end, higher overall performance, which has led to the collection of constantly increasing amounts of customer survey and feedback data. Luckily, due to the advances in technology, it has become easier to collect more and more end customer information. Performance is usually evaluated against different types of KPIs to understand events and phenomena such as service failure and success, customer loyalty, and customer retention. However, concerns related to the measurement of CX have been expressed by practitioners across various sectors. These concerns have included, for example, methods used in the collection of the data, amount and quality of the data, such as customer feedback, analysing the data, and responding to the insights. (Zolkiewski et al. 2017, 173-177.)

Measuring CX in each of the steps in a customer journey helps organizations to identify those touchpoints, where customers might abandon their current journey or move to another channel. By doing so, organizations have the possibility to salvage defecting customer relationships. Significant part of CX measurement is the process of selecting and integrating optimal CX metrics. Some of the CX metrics are usually considered backward-looking, such as customer satisfaction, whereas some metrics are considered forward-looking, such as customer loyalty. Most CX metrics are providing only a snapshot at a specific point in time regardless of the customer journey stage. However, few metrics, such as CLV, are able to create predictions over a long period of time. (Patti et al. 2020, 2396.)

The process of selecting the suitable measures is influenced by different factors, such as the industry, brand, and product category. CX measurement is also developing over time as new data enables enhanced metrics administration and improved data analysis. Integrating multiple measures leads to enhanced predictive capabilities. (Patti et al. 2020, 2396.) Different types of customer experience metrics are usually divided into three categories: interaction, perception, and outcome metrics (Forrester Research 2021; Reload Media 2022). In customer service experience literature, interaction metrics can be replaced with operational metrics (Patti et al. 2020, 2394).

Additionally, monitoring customer's reactions on cognitive, affective, physical, sensorial and social levels can be a significant part of a firm's CX measurement. De Keyser et al. (2020, 442) introduce dimensionality (i.e., cognitive, affective, physical, sensorial and social dimensions of the customer responses) and valence as two of the key qualities of CX. The valence of CX refers to the positive, negative, or neutral nature of the customer's responses when interacting with the firm or brand. All three levels of valence can hold value to the customer, and therefore it is potentially useful dimension of CX measurement. The different types of CX measures and related sample metrics are presented in Figure 5. The measures are divided into four categories: interaction metrics, customer response metrics, CX valence approximate metrics, and outcome metrics, where the CX valence approximate metrics category is used instead of perception metrics.

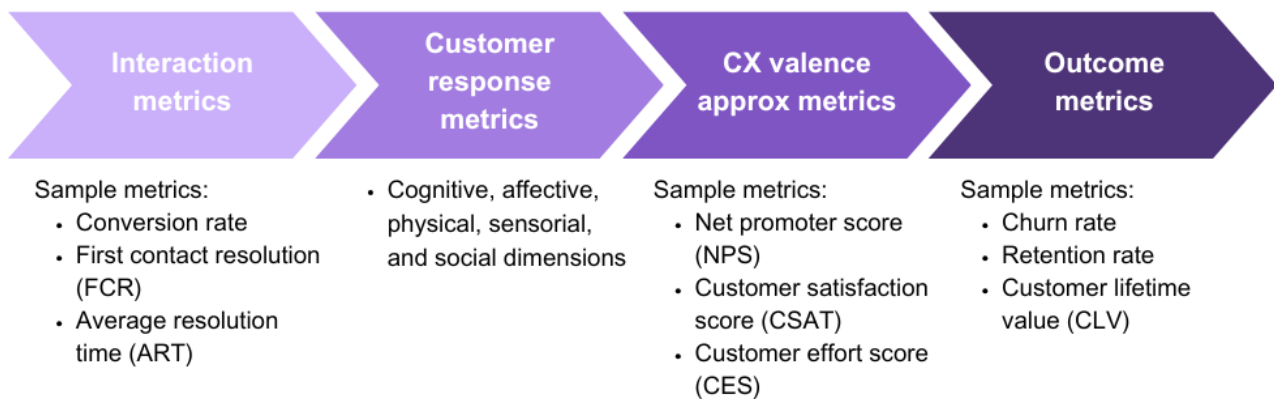


Figure 5 Different types of CX measures (De Keyser et al. 2020; Forrester Research 2021; Reload Media 2022)

Interaction metrics focus on what happens during the customer experience, and in service context, operational metrics focus on the concrete dimensions of the service activities created by the organization. Interaction can be measured, for example, with conversion rate and first response time (Forrester Research 2021; Reload Media 2022), whereas common operational metrics are, for example, response, wait, and resolution times (Patti et al. 2020, 2394). Most of the measures are time-based, such as average resolution time and first contact resolution. Average resolution time (ART) measures the time needed to resolve a problem, whereas first contact resolution (FCR) is used to measure the total number of contacts that were resolved during the first interaction initiated by the customer. (Patti et al. 2020, 2395, 2402-2403.)

CX valence approximate metrics measure the customer’s self-evaluation of non-observable elements and how the customer feels about their experience, such as loyalty, satisfaction, trust, advocacy, and effort. Common valence metrics are, for instance, net promoter score (NPS), customer satisfaction score (CSAT), and customer effort score (CES). (Forrester Research 2021; Patti et al. 2020, 2394.) Lastly, outcome metrics focus on the observable customer behaviours resulting from the experience, and it can be measured, for example, with retention rate, churn rate, and customer lifetime value (CLV) (Forrester Research 2021; Patti et al. 2020, 2394; Reload Media 2022). Net promoter score (NPS) is one of the most widely used CX metric that is used to measure advocacy, loyalty, and customer’s willingness to recommend a company or its offerings. (Lemon & Verhoef 2016; McColl-Kennedy et al. 2019; Patti et al. 2020; Zolkiewski et al. 2017.) NPS can be calculated by subtracting the percentage of those who are unlikely to recommend (detractors) from the percentage of respondents who are highly likely to recommend (promoters) (Patti et al. 2020,2394, 2399). NPS has, however, received a lot of critique for not being a very reliable measure for CX, as it measures customer loyalty, and identifying opportunities for CX improvement is challenging based on NPS (Patti et al. 2020,2394; Zolkiewski et al. 2017, 175). Few of the most commonly used CX metrics are described in more detail in Table 1.

Table 1 Common CX metrics

Measure	Description
<i>Net promoter score (NPS)</i>	Net promoter score (NPS) is based on customer feedback, and it measures advocacy, loyalty, and customer’s willingness to recommend a company or its offerings (Lemon & Verhoef 2016; McColl-Kennedy et al. 2019; Patti et al. 2020; Zolkiewski et al. 2017). NPS is a single-item scale based on the question “How likely are you to recommend our company...?”. NPS score is then calculated by subtracting the percentage of detractors (0-6) from the percentage of promoters (9-10). (Patti et al. 2020, 2394, 2399).
<i>Customer satisfaction score (CSAT)</i>	Customer satisfaction score (CSAT) measures the average or mean satisfaction score for a particular experience. The responses of CSAT are measured on a five-point scale ranging from “very unsatisfied” to “very satisfied”. (Patti et al. 2020, 2394-2395, 2398.)
<i>Customer effort score (CES)</i>	Customer effort score (CES) is a one-item scale that is measured by asking a customer how easy the interaction was. CES is scored on a scale from 1 to 5, ranging from “very low effort” to “very high effort”. Customer effort is the customer’s perception of their energy and time spent on an interaction with an organization. Measuring customer effort allows organizations to evaluate the ease of use of their product or service and reduce the customer’s effort by creating effortless and quick interactions. (Patti et al. 2020, 2394-2395, 2399.)

<i>Customer lifetime value (CLV)</i>	Customer lifetime value (CLV) is used to measure the profit a company earns from a customer over a specific period of time. CLV calculated based on the average order value, repeat purchase rate, and customer acquisition cost. (Patti et al. 2020, 2407.)
<i>Churn rate</i>	Churn rate is used to measure the percentage of customers that is lost by the organization. Churn rate can be calculated by dividing the number of lost customers during the time period with the number of customers at start of the time period. Low churn rate usually indicates general satisfaction. (Patti et al. 2020, 2395, 2406.)
<i>Retention rate</i>	Retention rate is used to measure the percentage of customers, who remain as active buyers over a given time period (Patti et al. 2020, 2395).

In addition to NPS, other commonly used CX valence approximate metrics are customer satisfaction (CSAT) and customer effort score (CES) (Patti et al. 2020, 2394). Customer satisfaction, effort, and other methods used to evaluate customer's perceptions of their experience are essential components of understanding the overall CX and forming the foundation for its measurement (Lemon & Verhoef 2016, 72). Previous research propose that increased customer satisfaction is related to higher levels of customer loyalty and fewer customer complaints. CSAT measures the average or mean customer satisfaction score for a particular experience, and the responses are measured on a five-point scale ranging from "very unsatisfied" to "very satisfied". The deficiencies in satisfaction, loyalty, or advocacy evaluation have increased the interest in customer effort measurement. Customer effort is the customer's perception of their energy and time spent on an interaction with an organization. Measuring customer effort (CES) allows organizations to evaluate the ease of use of their product or service and reduce the customer's effort by creating effortless and quick interactions. CES is a one-item scale that is measured by asking a customer how easy the interaction was. CES is scored on a scale from 1 to 5, ranging from "very low effort" to "very high effort". (Patti et al. 2020, 2394-2395, 2398-2399.)

Outcome metrics are used to measure the customer's behaviour and actions after their experience (Forrester Research 2021; Patti et al. 2020, 2395). Common outcome-based metrics are, for instance, retention rate, churn rate, and customer lifetime value (CLV). Retention rate measures the percentage of customers, who continue to be active buyers over a given time period. Similarly, churn rate is used to measure the percentage of customers that is lost by the organization. Customer churn has been identified to directly impact the customer retention and lifetime value (CLV). Furthermore, customer lifetime value (CLV) is used to measure the profit that the company earns from a customer over a specific period of time. CLV helps businesses to evaluate customer

behaviour over a longer time period and estimates the current value of a customer's future purchases. (Patti et al. 2020, 2395, 2406-2407.)

These different CX metrics seek to understand the impact of firm's marketing actions on the customer's experience, such as customer satisfaction, loyalty, and NPS, but also behaviours, such as retention, or CLV. Different CX metrics aim to link firm actions, customer behaviours, and customer perceptions to firm's performance. For example, in B2B context, specific interaction types between the customer and the supplier have been identified to have significant impact on whether a contract was renewed or not. (McColl-Kennedy et al. 2019, 9.) However, most of the commonly used CX metrics, such as NPS and CES, usually fail to describe where the CX issues are, and using a specific metric alone would provide a deficient measure of B2B CX (Zolkiewski et al. 2017, 176). Therefore, utilizing and combining multiple CX measures can predict customer experience and behaviour better than using a single metric (Lemon & Verhoef 2016, 81, 86).

3.3 CX analytics

Due to the technological developments and today's rapidly developing digital economy, Business Intelligence and (big) data analytics have an enormous potential to affect and empower CXM by helping firms to better understand the customer journeys and improve customer experiences. Data alone are not able to provide valuable customer insights. Thus, customer insights are derived from analysing and interpreting data and information, which provides organizations the capability to make conclusions and managerial decisions. Insights that, in the end, drive concrete actions are generally more valuable than ones that only provide answers to questions. (Holmlund et al. 2020, 357-358.) Firms can track diverse customer interaction patterns to better understand the CX they are providing. Depending on the desired insights, firms can analyse either past, present, or potential patterns, or choose a combination of these. However, each type of pattern requires unique methods of collecting and analysing the data, which then leads to different types of CX insights. (Meyer and Schwager 2007, 123.)

Business intelligence and analytics (BI & A) is an umbrella term for information systems, techniques, technologies, practices, applications, and methodologies that are used to transform raw data into valuable insights. BI & A help organizations in decision-making and to better understand their business and the market. (Torres et al. 2018, 822; Xu et al. 2017, 674.) The term business intelligence (BI) refers to a variety of technologies used for information management, activities for

seeking information, and the resulting informational outputs. BI can be described as a technology that helps organizations gain, understand, and transfer new information, where business analytics (BA) is the tool focusing on applying analytical techniques to address managerial questions and enhance organizational decision-making. BI&A underline the increasing importance of analytical components inside business intelligence systems and the transition from reporting-focused to analysis-focused capabilities inside BI applications. (Torres et al. 2018, 823.)

Big data analytics (BDA) are tools, methods, and approaches helping organizations gain customer insights from (big) data (Holmlund et al. 2020, 358). Data analytics can be classified into four main types: descriptive, diagnostic, predictive, and prescriptive analytics. All of these four types have their own purposes. (Holmlund et al. 2020; Wedel & Kannan 2016.) Descriptive analytics allow organizations to understand the current status of CX, diagnostic analytics provide organizations with CX diagnostics, predictive analytics provide organizations with indications of the likely future outcomes of CX, and lastly, prescriptive analytics can help an organization determine its opportunities to enhance CX (Holmlund et al. 2020, 360).

In more detail, descriptive analytics answer the question “What happened?” and include methods and tools that help summarize and visualize the data for exploratory purposes and characterize the situation or phenomena for further analysis. Typically, descriptive analytics involve, for example, statistics displayed through visualizations, like charts and graphs, and numerical summaries (e.g., mean, median, variance, etc.). Diagnostic analytics, on the other hand, answer the question “Why did things happen?” and include methods and tools that help test hypothesis, determine causation, and identify relationships between variables. Typical examples of diagnostic analytics include statistical deduction techniques, such as analysis of variance, or factor analyses. (Holmlund et al. 2020, 360; Wedel & Kannan 2016, 104-105.)

Predictive analytics answer the question “What could happen?” and include methods and tools that help in predicting future possibilities and trends. Predictive analytics typically involve, for instance, forecasting models, such as regression-based models for time-series, classification models, and neural networks. Lastly, prescriptive analytics answer the question “What should happen?” or “What is the best action or outcome?” and comprise methods and tools that help organizations provide quantifiable results for problem-solving. Typically, prescriptive analytics can include, for example, mathematical programming models for optimization and discrete event simulations. (Holmlund et al. 2020, 360; Wedel & Kannan 2016, 104-105.)

In addition, organizations are generally collecting large amounts of textual data from various touchpoints in the customer journey, such as written customer feedback. Textual data can be analysed by using qualitative text analytics or text mining methods. Text analytics and text mining can be used to extract customers' perceptions from unstructured comments and utilize those in improving the CX. Different types of textual data, such as open-ended customer feedback and user-generated content, can provide valuable insights that help organizations to identify critical pain points along the customer journey. (McColl-Kennedy et al. 2019, 9.)

3.4 CX data and insights

The rapid growth of software applications, digital channels, devices, and media has given organizations remarkable opportunities to utilize CX data to add more value to customers, improve CX, and enhance customer satisfaction and loyalty (Wedel & Kannan, 2016, 97). As a result, firms are now able to collect and generate higher volumes of data, faster, and from different sources. These complex and large data sets are called "big data". (Zolkiewski et al. 2017, 178.) Big data is usually described by four "Vs", which are volume (i.e., the amount of data), velocity (from snapshots to high-frequency and streaming data), variety (e.g., text, image, video, and numeric data), and veracity (i.e., validity and reliability of the data). The first two big data characteristics, "volume" and "velocity" are especially important from the computing viewpoint, whereas the latter two, "variety" and "veracity", are more important from the analytics point of view. (Wedel & Kannan, 2016, 102.)

Interactions between the customer and the organization generates CX data from physical, digital, and social touchpoints. CX data can range from structured data to unstructured. Structured CX data can be expressed by countable numbers, such as sales figures, customer satisfaction survey scores, or location coordinates, whereas unstructured CX data are typically contained in multimedia formats, like text, images, videos, and sound which are harder to calculate. Furthermore, CX data can be divided into solicited and unsolicited data, where the solicitation of CX data indicates an active effort from the organization or its partner firms to gather customer feedback. Solicited data require that the organization seeks customers to participate in the assessment, such as answering a customer survey or writing a review, which is invited by the organization. Unsolicited data, on the other hand, primarily result from the customers' own initiative, for instance, by providing feedback through email, social media comments, or by giving feedback directly to frontline employees. (Holmlund et al. 2020, 358-359.)

CX data can also be divided into volunteered and observed data. Volunteered data refer to information that individuals are deliberately sharing about themselves or others. In contrast, observed data are information about individuals' actions that is collected implicitly without involving the subject of the data, such as clicks, opens, purchases made, or search terms used. Furthermore, CX data can also be categorized as first-party, second-party, third-party data, or zero-party data. First-party data are firm-owned data that are gathered from the firm's internal databases. Second-party data refer to other organization's first-party data that are purchased or exchanged and utilized, for instance, to target new audiences. Third-party data, on the other hand, refer to data that are purchased from external data aggregators who are collecting data from different channels and paying data owners for their first-party data. Lastly, zero-party data are any data that are deliberately shared by a customer for personalized experience. (Hartemo 2022; 586.) These different CX data types are presented in the Table 2.

Table 2 Different types of CX data (Hartemo 2022; 586; Holmlund et al. 2020, 359-360)

Type of CX data	Characteristics
<i>Solicited–structured</i>	Most common form of CX data, for example, CSAT and NPS. While this type of numerical and structured CX data are useful, it has less potential to be used in CXM, as CX is often too complex to be captured by just numbers. Solicited and structured customer feedback is easy to manage, develop, and has low fixed costs. Such CX data are usually analysed using statistical methods, such as descriptive analytics and regression analysis.
<i>Solicited–unstructured</i>	Organizations are increasingly collecting unstructured data by, for instance, incorporating open-ended questions in customer feedback surveys, for instance, asking customers to explain their NPS score, or by executing in-depth interviews. Such CX data usually require more participation from the customer and are more complex to analyse but have a higher potential for CXM. Usually used in qualitative research methods.
<i>Unsolicited–structured</i>	Organizations can also collect structured CX data resulting from the customers' own initiative, for instance, if customers provide ratings on an independent review platform. This form of CX data can also come from other sources, such as Google analytics, websites cookies, or the Internet of Things (IoT) devices.
<i>Unsolicited–unstructured</i>	Unsolicited and unstructured data, such as text, speech, images, and videos, usually have the greatest potential for CXM. Customers can provide such data, for example, by writing online reviews and emails, uploading videos on YouTube or photos on Instagram, or calling contact centres. Capturing such CX data require low effort from the customers but causes quite high fixed costs for organizations and raises significant legal and privacy concerns.

<i>Volunteered</i>	Volunteered data refer to information that individuals are deliberately sharing about themselves or others.
<i>Observed</i>	Observed data are information about individuals' actions, such as clicks, opens, purchases made, or search terms used. Observed data are collected implicitly without involving the subject of the data.
<i>First-party</i>	Firm-owned data that are gathered from the firm's internal databases, for instance, purchase history data.
<i>Second-party</i>	Other organization's first-party data that are purchased or exchanged and utilized, for instance, to target new audiences.
<i>Third-party</i>	Data that are purchased from data aggregators who are collecting data from different channels and paying data owners for their first-party data.
<i>Zero-party</i>	Any data that are deliberately shared by a customer for personalized experience.

One major challenge related to collecting CX data in both the B2C and B2B contexts is that there is no agreed way on how to execute it. There are a lot of different kinds of data collection methods utilized in the collection of CX data and also in the questions asked from the customers.

Traditionally, both academic researchers and practitioners have been using the standard methods for data collection, meaning tools like interviews, questionnaires, focus groups, comment cards, and most recently, analysing of social media content and dialogue. However, the standard methods, such as interviews and questionnaires, might not successfully capture all interactions and touchpoints. (Zolkiewski et al. 2017, 176.)

According to McColl-Kennedy et al. (2019, 20), organizations would need to collect both quantitative and qualitative data from a variety of sources, such as customer surveys and CRM systems, in order to gain a comprehensive understanding of the CX. Furthermore, analysing different types of CX data enables organizations to uncover valuable insights about customers with the aim of continuously enhancing CX. CX insights can be divided into attitudinal, psychographic, behavioural, and market insights. The attitudinal insights indicate the attitudes and perceptions customers have towards their previous, present, and future CX with the organization. In turn, the psychographic insights include the psychological states that customers express temporarily in relation to their CX, such as thinking and feeling. Attitudinal and psychographic CX insights are the most common among practitioners, as those include information about customer satisfaction, perceived effort, or advocacy, which are valuable for organizations. Organizations can gain attitudinal and psychographic CX insights, for example, from email and direct website interfaces, and by tracking online discussion to obtain information about touchpoints that are more emotionally charged. (Holmlund et al. 2020, 360.)

Behavioural insights help organizations understand, how customers behave and make decisions as a result of CX. To gain behavioural CX insights, organizations are required to capture customers' decisions throughout the customer journey. One common example of behavioural CX insights is Google Analytics, which can provide organizations with a real-time information of customers interactions with their firm-controlled digital touchpoints with the help of descriptive analytics. From these insights, organizations can further gain insights on customer behaviour and preferences through diagnostic analytics. Other common sources of behavioural customer insights are, for example, web platforms, which provide large amounts of CX data, such as scroll-tracking and clickstreams, and recommendation systems that provide customer recommendations based on past behaviour. Lastly, market insights enable organizations to track and evaluate their performance regarding CX in relation to the marketplace and competitors and help organizations evaluate the overall effect on their brand equity. Organizations can use, for instance, predictive analytics to obtain knowledge on the structure of the marketing, brand positioning and trend forecasts. (Holmlund et al. 2020, 360-361.)

4 Theoretical framework

The theoretical framework of this thesis aims to provide an overview on B2B customer experience measurement on firm-controlled digital channels. The framework was developed based on the literature review. The literature review combined relevant studies related to CX, customer journeys, and CXM in B2B context, examining them from the perspective of firm-controlled digital channels. Previous research on CX measurement, data, and analytics was utilized to provide an understanding of the advantages and possibilities of utilizing analytics in CX measurement. The framework was developed by combining significant findings from the existing literature, and it is used as a foundation for empirical research on CX measurement on firm-controlled digital channels. The theoretical framework of this thesis is presented in Figure 6.

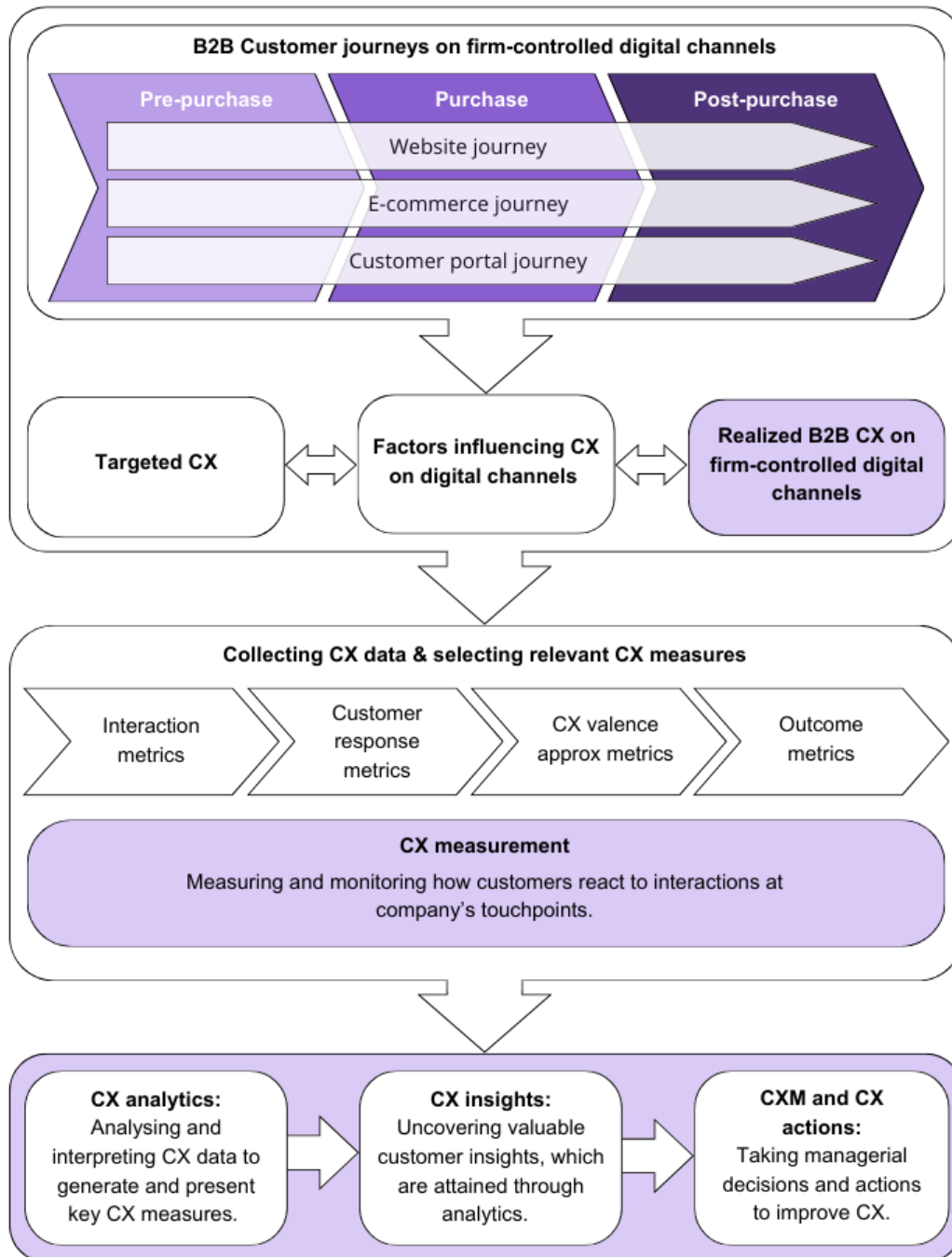


Figure 6 Theoretical framework

Primarily, the theoretical framework provides a process description for B2B CX measurement and analytics on firm-controlled digital channels. The process description will be further developed with empirical research to develop a comprehensive framework for CX measurement. The framework in Figure 6 is in three sections which represent the three research questions (RQ) of this thesis. The first section answers RQ1 “*What elements constitute B2B CX on firm-controlled digital*

channels?”, second section in the middle of the framework answers RQ2 “*How to measure B2B CX on firm-controlled digital channels?*”, and the last section answers RQ3 “*How could analytics be utilized in measuring B2B CX on firm-controlled digital channels?*”.

The framework begins with the B2B customer journeys on different firm-controlled digital channels. Business customers are interacting with the supplier firm on different digital channels and touchpoints in different stages of the customer journey. Each interaction results in customer’s cognitive, affective, physical, sensorial, and social responses which form the customer experience. Additionally, various factors influencing CX on firm-controlled digital channels were identified. Multiple digital channel qualities, such as aesthetics, ease of use, engagement, control, interactivity, customization, enjoyment, credibility, information quality, and customer support, are affecting CX. In addition, customer journey quality, including journey seamlessness, personalization, and coherence, as well as customer journey design, including thematic cohesion, consistency, and context sensitivity of touchpoints, are affecting the digital channel CX.

The second phase of the framework describes the process of CX measurement, which includes collecting the CX data, as well as selecting and implementing the relevant CX measures. The process of selecting and implementing optimal CX measures is a significant part of CX measurement. Different CX measures are divided into interaction metrics, customer response metrics, CX valence approximate metrics, and outcome metrics. These are measuring the experience in different ways, such as satisfaction, loyalty, churn, monetary value, willingness to recommend, and the valence of the experience (i.e., positive, negative, or neutral). Last part of the CX measurement phase is the actual creation and calculation of the measures to monitor customer responses, perceptions, and attitudes.

Last phase of the theoretical framework describes the process from CX analytics to insights and CXM actions. Customer insights are derived from analysing and interpreting CX data and, which provides organizations the capability to make conclusions and managerial decisions. Firms can analyse past, present, or potential customer patterns, or choose a combination of these to gain different types of CX insights. Each pattern requires unique methods of data collecting and analysis. CX analytics is used to generate and present the key CX measures chosen at the earlier phase. Analysing CX data enables organizations to uncover valuable insights about customers, which can be divided into attitudinal/psychographic, behavioural, and market insights. These CX insights are then used in CXM to make managerial decisions and take actions to continuously improve CX.

5 Methodology

In this chapter, the methodological choices of the empirical research are presented and justified. First, qualitative research and the chosen research approach for this thesis are described. Second, the method for data collection is introduced, followed by the presentation of the interviews and operationalization of this thesis. Then, the selected method for data analysis is presented, and lastly, the trustworthiness and ethical considerations of the study are evaluated.

5.1 Qualitative intensive single-case study

Research methods can be categorized into two main types: qualitative and quantitative research. Qualitative research aims to understand and interpret relatively new or unexplored phenomena in a specific context, whereas quantitative research aims to predict, explain, and test hypothesis through generalization and without a specific context (Eriksson & Kovalainen 2016, 4-5; Hirsjärvi & Hurme 2010). A qualitative research method was chosen for this study, as the features and characteristics of qualitative research suited the purpose of the thesis and research questions. The purpose of this thesis was to develop a framework for measuring B2B customer experience on firm-controlled digital channels, and the goal of the research questions was to understand the different parts of the framework and related phenomena. As presented in chapter 1.2, there is significant research gap related to this topic which means that it is relatively new and unexplored.

From different qualitative research approaches, case study, and more specifically *intensive single-case study*, was chosen as the approach for this research. A case study is a type of empirical research that explores a contemporary phenomenon in its real-life setting. Case study can be either a single- or multiple-case study. (Eriksson & Kovalainen 2016, 132; Halinen & Törnroos 2005, 1286.) Case study is particularly useful in new situations, where relatively little is known about the phenomenon (Halinen & Törnroos 2005, 1286). Case studies can be further divided into intensive and extensive case studies. Intensive case study seeks to gain an in-depth understanding of the case from the inside by providing a comprehensive and contextualized interpretation and description. In contrast, extensive case study aims to generate and advance theory by comparing multiple cases in order to achieve generalization. Intensive case study is used to explore one case or a few cases in-depth, whereas extensive case study explores common patterns between multiple cases. (Eriksson & Kovalainen 2016, 133.)

An intensive single-case study can provide a comprehensive description of the phenomenon and its dynamics within a single setting (Eisenhardt & Graebner 2007, 27; Halinen & Törnroos 2005, 1286). The goal of an intensive single-case study is to understand and learn how a unique and specific case functions (Eriksson & Kovalainen 2016, 134). Intensive single-case study was chosen as the research approach for this thesis, as relatively little is known about the phenomenon, and the aim is to provide a holistic interpretation of the phenomenon rather than to achieve generalization. In this research, the case company is used to study B2B CX measurement on firm-controlled digital channels in a real-life setting. The case company in this research is a large Finnish industrial manufacturing company. This research is commissioned by the case company, and therefore this particular company was chosen. Choosing this case company offers this study a unique real-life context for an in-depth understanding of the research topic.

As the goal of the research was not to validate previous theories, but to produce new understanding and information, *abductive research logic* was chosen to gain a comprehensive understanding of the topic. Abductive approach refers to a process of developing concepts and categories from the common descriptions and meanings given by people in order to create the basis for the understanding of the phenomenon studied. Abductive approach can be considered as a process of exploratory data analysis and generating new ideas or hypothesis. (Eriksson & Kovalainen 2016, 24.) In abductive research logic, the researcher has some existing theoretical knowledge and assumptions related to the topic, which they aim to verify with the collected research data (Hirsjärvi & Hurme 2010).

5.2 Data collection

For this thesis, *semi-structured thematic interview* was selected as the method for data collection. As a data collection method, interviews allow flexible and interactive collection of data (Hirsjärvi & Hurme 2010; Tuomi & Saarijärvi 2018). A semi-structured interview is defined by having some predetermined aspects, while still allowing flexibility for other elements to be decided during the interview (Hirsjärvi & Hurme 2010). Thematic interviews utilize pre-selected key themes and corresponding clarifying questions. Thematic interviews are semi-structured, as the themes are same for all interviewees. Semi-structured thematic interviews allow the questions to be elaborated and specified during the interview. Additionally, thematic interviews allow questions to be presented in a flexible form or order. The purpose of semi-structured thematic interviews is to study

individuals' experiences, perceptions, thoughts, and beliefs related to the specific themes, rather than achieve generalization. (Hirsjärvi & Hurme 2010; Tuomi & Sarajärvi 2018.)

More specifically, the empirical data in this research is gathered through semi-structured thematic expert interviews. The experts selected for the interviews are employees of the case company, and they were chosen based on their role in the company. In the end, 11 interviewees were selected, and they specialize in customer experience, digital channels, or analytics. The interviews were conducted at the end of January and the beginning of February in 2025. All the interviews were executed in English via Microsoft Teams. In the beginning of each interview, the interview participant was informed about the anonymity and confidentiality of the interview, as well as the usage of the material, including where the material will be stored and how it will be deleted after the research is completed. Then, permissions to use direct quotes from the interview and their job title were requested. Additionally, permission to record and transcribe the interview was asked. Table 3 presents information related to the interview participants. The names of the interview participants are changed to ensure that the case company and interviewees remain unidentified.

Table 3 Information on the interview participants

Interviewee (name changed)	Job title	Language	Means	Date	Duration	Main areas of responsibility (self-reported)
Ashley	Head of Customer Voice & Insights	English	Teams	30.1.2025	40 min	Responsible for collecting customer insights and making sure it's available for business to be used.
Bob	Product Owner, Customer Experience Analytics	English	Teams	30.1.2025	48 min	Responsible for leading an analytics development team for marketing and CX.
Sophie	Specialist, Voice of Customer	English	Teams	31.1.2025	31 min	Responsible for collecting customer insights and supporting Voice of Customer team with new developments.
James	Architect, Marketing & Customer Experience	English	Teams	31.1.2025	57 min	Supporting teams that work in the CX and marketing area to achieve their goals and exploring possible future IT

						solutions for the company.
Adam	Head of Customer Portals	English	Teams	3.2.2025	36 min	Responsible for e-commerce platform and customer portals.
Kate	Customer Experience Manager	English	Teams	3.2.2025	45 min	Responsibilities include incorporating the customer's point of view into all business development.
Harry	Web Development Lead	English	Teams	4.2.2025	61 min	Working as a product owner for website development team.
Arthur	Director and Product Owner, E-commerce & Portals	English	Teams	7.2.2025	71 min	Working as a product owner for e-commerce and portal development team.
Keith	Manager, CX Digitalization	English	Teams	10.2.2025	48 min	Working in digital CX and sales related developments.
Tiffany	Director, Marketing & CX Processes	English	Teams	12.2.2025	69 min	Responsible for overall vision and process development for marketing and CX area.
Thomas	Vice President, Marketing CX & Sales Processes	English	Teams	13.2.2025	40 min	Responsible for all marketing and CX related processes, systems, and the overall architecture.

The operationalization of this thesis is presented in Table 4. First, the operationalization table describes the purpose of this thesis followed by the three research questions. Next to the research questions, the key concepts that were derived from the theoretical framework are presented. The interview themes presented in the third column were further derived from the key concepts. The interview themes utilized in this research were CX on digital channels, CX measurement on digital channels, CX analytics and insights, and CX analytics implementation and actions. The last column of the operationalization table includes few example questions from each of the themes in the interview frame (see Appendix 1).

Table 4 Operationalization table

Purpose of the thesis			
To develop a framework for measuring B2B customer experience on firm-controlled digital channels.			
Research question	Key concepts derived from theoretical framework	Interview themes	Example questions
<i>What elements constitute B2B CX on firm-controlled digital channels?</i>	B2B CX on firm-controlled digital channels B2B customer journey Target CX	CX on digital channels	How would you define customer experience on digital channels (website, e-commerce, customer portal)? What are the roles of these three digital channels in the customer journey (pre-purchase, purchase, post purchase)? Do you think that the customer journey in each channel can be further divided into different journey stages? Are there some specific critical touchpoints on these channels that are especially important? What kind of CX is the company currently trying to achieve on these digital channels?
<i>How to measure B2B CX on firm-controlled digital channels?</i>	CXM CX measurement	CX measurement on digital channels	How are you currently measuring CX on these digital channels? What are the key metrics you are currently using to measure digital channel CX? What kind of CX data do you get from the digital channels (website, e-commerce, customer portal)? According to previous literature, CX can be measured in four ways: interaction, perception, outcome, or the customer responses (valence, or dimension of cognitive, emotional, behavioural, sensorial, and social responses). Thinking about these views, what kind of measures or ways of measuring you would like to include in the future?
<i>How could analytics be utilized in measuring B2B CX on firm-controlled digital channels?</i>	CX data from firm-controlled digital channels CX analytics CX insights and actions	CX analytics and insights CX analytics implementation and actions	What is the current status of digital channel CX analytics in the company? What are the current biggest strengths and biggest challenges in measuring and analysing CX on digital channels? What are the insights that you would like to gain with digital channel CX analytics?

			<p>How do you see the role of analytics evolving in the enhancement of CX on digital channels?</p> <p>What are your plans and next steps in order to reach the targets related to CX on digital channels?</p>
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5.3 Data analysis

Qualitative content analysis refers to the method of analysing the meanings and content of qualitative data. Qualitative content analysis is used to increase the understanding and create a holistic description of the phenomenon in a specific context. (Eriksson & Kovalainen 2016, 119-120.) The data analysis method selected for this research was *thematic analysis* which is a type of qualitative content analysis. Thematic analysis is a type of data analysis that uses categories or themes as its main units of analysis and examines data to identify recurring themes (Eriksson & Kovalainen 2016, 331). The qualitative data used for analysis in this research are transcribed interviews. Transcription refers to transforming speech, in this case interviews, into typewritten text (Eriksson & Kovalainen 2016, 331).

The interviews were both recorded and transcribed via Microsoft Teams after which the recording was used to ensure the validity of the transcription and make corrections where needed. The recorded interviews were transcribed as accurately as possible using the exact words of the interviewees, but some repeated words were removed from the transcripts. Once the interviews were fully transcribed, the data analysis started with coding the data. Coding is an important part of qualitative content analysis, where the data are categorized and organized into different segments and labelling those (Eriksson & Kovalainen 2016, 120). After coding the data based on the research questions of this thesis, the themes for thematic analysis were recognized.

5.4 Trustworthiness of the study

Trustworthiness of this study is evaluated through four criteria: credibility, transferability, dependability, and confirmability. *Credibility* refers to indicating logical connections between observations and categories, allowing others to come to relatively similar interpretations or agree with the claims made (Eriksson & Kovalainen 2016, 308, 325). Triangulation is a part of assessing the credibility of the study. Triangulation means using various data sources to validate the research findings in order to achieve higher credibility (Eriksson & Kovalainen 2016, 306; Hirsjärvi &

Hurme 2010.) The researcher's in-depth familiarization of previous academic research on the subject and an internal position within the case company enhance the credibility of this research. The findings of the empirical research are supported by existing research and literature, which validates the triangulation. Additionally, the number of interviewees enhances the credibility of the research.

Transferability of the research indicates the applicability of the study's results to different contexts and establishes a connection between the research and previous findings. (Eriksson & Kovalainen 2016, 308, 331.) The findings of this research can be applied to B2B organizations, especially in the field of industrial manufacturing. Furthermore, the framework can be transferred to other contexts as well, when acknowledging the distinctive characteristics of the business. To indicate the transferability of this study, the findings from the empirical research are linked to prior academic research in chapter 7.

Dependability refers to demonstrating that the research process has been logical, traceable, and documented (Eriksson & Kovalainen 2016, 308, 326). The research process of this thesis is thoroughly reported in chapter 5, validating that the process has been logical, traceable, and documented, thereby enhancing the dependability of the research. Additionally, all decisions related to the research methods, data collection, and analysis, are justified and reported.

Lastly, *confirmability* refers to connecting findings and interpretations to the research data in such ways that are easily understood by others. (Eriksson & Kovalainen 2016, 308, 324). The direct citations from the interviews indicate, that the findings of this research are objectively interpreted. Thus, the link between the research material and the findings is shown. Since the researcher has an internal role in the case company, it is valid to acknowledge that there might be some incentives towards this research and the results. However, it is important for the researcher to analyse the material objectively, as accurate research results provide the most effective recommendations for future actions.

5.5 Ethical assessment

In addition to trustworthiness, the ethical aspects need to be considered when conducting research. Research ethics are essential to achieve and maintain the trustworthiness of the study and its results (ALLEA 2023). Before starting the research process, the researcher familiarized themselves with the fundamentals of research ethics. The research was conducted according to The European Code

of Conduct for Research Integrity (ALLEA 2023), which includes eight good research practices for ethical research. These research practices are based on four fundamental principles of research ethics and integrity: reliability, honesty, respect, and accountability. The ethics of this research are evaluated according to two following practices of The European Code of Conduct for Research Integrity: (1) research procedures and (2) data practices and management.

The evaluation of the *research procedures* include the transparent and thoughtful approach to the design, execution, analysis, and documentation of the research, disclosing the research results in an honest, open, and accurate manner, while respecting the confidentiality of data and findings if required, and reporting the results and research methods used, including the use of artificial intelligence (AI) or other external tools, transparently (ALLEA 2023). The methods, design, execution, and analysis of this research were documented transparently and thoroughly in chapter 5, supporting the good practices related to research procedures. In addition, the results of this research were reported in an honest and open way, while respecting the confidentiality of the data and findings. Guaranteed and maintained confidentiality is one of the key principles of ethical research (Flick 2018). The case company was kept anonymous in this research, as well as the interviewees, ensuring the confidentiality. Lastly, the used methods in this research, including the use of AI (see Appendix 2), were reported transparently.

The assessment of the *data practices and management* include, for instance, appropriate data storage and curation of all data, metadata, and other research materials, and informing the research participants how their data will be used, stored, accessed, and deleted, in compliance with GDPR (ALLEA 2023). Informed consent is another key principle of ethical research and essential to guaranteeing voluntary participation in the research (Flick 2018). Before the interviews, each interviewee was informed about the anonymity and confidentiality of the interview, as well as the usage and storage of the interview data. The interview participants were also informed that the material would be deleted after the research is completed. Permissions to use direct quotes from the interview and their job title were then requested, as well as permission to record and transcribe the interview. Thus, the informed consent was ensured in this research. Furthermore, the accuracy of data and their interpretation is a fundamental principle of ethical research (Flick 2018). Both the research data and metadata were stored and curated appropriately. The interviews were transcribed as accurately as possible using the exact words of the interviewees. In addition, the interviewees were also offered the possibility to review the findings section of this thesis to check how the interview material has been used.

6 Findings

This chapter presents the findings of the research based on the interview material. The findings answer the research questions of this thesis, and the chapter follows the same structure as the theoretical framework of this thesis. The findings are presented through three key themes: *B2B CX on firm-controlled digital channels*, *digital channel CX measurement*, and *analytics utilization for CX measurement*. The first chapter 6.1 reviews the characteristics of B2B CX and customer journeys on firm-controlled digital channels. The second chapter 6.2 identifies the current status of digital channel CX measurement in the case company, as well as the goals for the future. Lastly, chapter 6.3 discusses the possibilities of utilizing analytics for CX measurement.

6.1 B2B CX on firm-controlled digital channels

To understand B2B customer experience on firm-controlled digital channels, it is important to understand what customer experience is and identify the customer journeys on these channels. Furthermore, it is relevant to also identify critical touchpoints and pain points within these journeys, as well as to define the target CX that the company aims to achieve on its digital channels. Thus, this chapter provides insights into the first research question of this thesis “*What elements constitute B2B CX on firm-controlled digital channels?*”.

CX on digital channels

In the expert interviews, the affective and cognitive dimensions of customer experience were especially highlighted. Most interviewees mentioned the customer’s feelings and emotions that interactions with a supplier company stimulate, as well as the customer’s perceptions of the company and its digital channels. The interviewees especially emphasized the importance of an easy and trouble-free customer experience, as the phrase “easy to do business” appeared in most of the answers. In addition, the importance of meeting and fulfilling the customer’s goals was highlighted by the interviewees.

In my own words, I think it is meeting the customer needs in a way that feels fluent and easy for the customer. That they are able to interact with us in a way that's cohesive, easy, and fulfils their need. – Harry

Any interactions that the customer has on those platforms. How they feel after? What is the perception of us for them as a customer? – Sophie

How do customers feel when they visit these sites? How well they are able to execute the things to which they are aiming? How easily and effectively our digital channels are supporting customer's needs? – Ashley

The subjectiveness and complexity of B2B CX on digital channels was also identified in the interviews. As the customers are also organizations, there are multiple different actors in the customer organization who are playing different roles in the interactions. Therefore, the users might vary inside one customer organization, and it can be quite difficult to understand and analyse the experiences. The current digital channel architecture of the case company was also identified as a challenge, as the different firm-controlled digital channels are existing mostly separately. This means that the customer needs to navigate between the different channels independently. Actions to make the customer journey and CX more seamless and coherent have been taken, but the current status of the CX is still found to be quite fragmented, scattered, and not coherent enough. Several interviewees identified the challenge of having multiple digital channels.

One could say that it's (CX) quite fragmented...so, there's definitely a lot to do in terms of harmonizing this entire experience and making it as seamless as possible. – Kate

B2B customer journey on digital channels

Generally, B2B customer journeys can be divided into pre-purchase, purchase, and post-purchase stages. Each of these stages can be further divided into more specific phases, for instance, need recognition, information search, consideration, selection, ordering, payment, usage, support, and post-purchase engagement. All interviewees identified that each of the three digital channels of the case company (website, e-commerce, and customer portal) have roles in all stages of a customer journey. In other words, each of these channels can have a role in either pre-purchase, purchase, or post-purchase stage. However, the interviewees identified that each channel have some stage where they are most prominent. According to the interviews, the website has the strongest role on the pre-purchase stage, but it has roles in purchase and post-purchase stages as well. The role of the website was identified as the broadest and most flexible out of the three channels.

The website would be, of course, as a little bit of a jack of all trades. So, it sort of connects to any part of the customer journey. – Arthur

Obviously, the website has most prominent role in the beginning, so we (the website) are quite often probably the first touchpoint that customers have with the brand. You don't have to log in anywhere so, there's a clear difference between, for example, the portals that are behind a login versus what is publicly available. The flip side is that we don't necessarily know much about the visitors...but this is clearly the role. So, kind of in the discover and explore and pre-purchase phase very much. – Harry

Websites is the pre-purchase channel for sure, but that's also a place where you enter the post if you are doing post-purchase activities you would go through the website and log into somewhere. So, in a way, it's part of that and it's also part of the purchase because it presents the information for you and again serves as a vehicle to launch into those other channels. – James

The e-commerce platform is used mostly on purchase stage, but it also has a role in pre-purchase and post-purchase stages. The case company's e-commerce platform is used for spare part purchase only, so the stage varies based on the purpose and the journey. When considering a spare part purchase journey, the e-commerce platform is strongly on the purchase stage. However, when thinking about purchasing an actual equipment, the e-commerce platform is strongly on the post-purchase stage, as the customer visits the e-commerce platform when they need a spare part for the equipment. The e-commerce also operates quite independently as a journey compared to the customer portal. The customer portal can be seen primarily as a part of the customer journey, but it also provides short journeys on its own. The customer portal has the strongest role on the post-purchase stage, but it has roles in pre-purchase and purchase stages as well.

Then I think e-commerce, that's the most specific maybe for the purchase part, but it does have a role in post-purchase and pre-purchase as well. – James

When thinking about the e-commerce, it is, of course, strongly on the purchase phase. For the e-commerce, you need to have a log in...The customer portal...is strongly on the post-purchase phase. – Thomas

When it comes to the customer portal (name removed), it behaves differently. It is part of a customer journey...It doesn't operate as a system on its own that can handle everything. – Adam

The interviewees identified some critical aspects affecting the customer journeys and roles of the digital channels. One critical functionality was that the website is publicly available, whereas the e-commerce platform and customer portal require login. It is possible to browse through the e-commerce platform without registering, but the actual purchase then requires login credentials. This was even identified as a possible pain point. Other critical pain point recognized was that the prices are not publicly available on the sites. These aspects could cause situations, where the customer decides to abandon the journey.

The interviewees also recognized that different customer personas and target groups affect the customer journeys and the roles of these different channels within the journey. The website is mostly used by new customers, whereas e-commerce platform and customer portal are used by existing customers. The person entering the website can be a suspect, prospect, existing customer, or even a competitor.

One good distinction is also that here we are talking maybe more about suspects and prospects and when you are an existing customer of course those come to the website as well but maybe as an existing customer you already have login credentials to these services. So, the website again doesn't have such a prominent role. – Harry

First of all, the website is publicly available, so everybody can enter our website, whether it's suspect, prospect, customer or competitor. So that is publicly available information that we that we show there. So, it is mainly for the pre-purchase phase...but website could be also used during or after purchase so it's all the time available but main topic is the pre-purchase to get first information and make yourself familiar with the company and the products. – Thomas

Sub journeys

The interviewees identified that the customer journeys can be further divided into smaller sub journeys inside these different channels. However, according to the interviews, identifying specific stages in these sub journeys is quite hard, as those are dependent on, for instance, the overall customer journey, customer target group or persona, and the customer's goals.

Customers might come to the website with some kind of specific need in mind or just looking for general information. – Harry

Each individual interaction and touchpoint can be divided into several, let's call them now sub journeys. So eventually this can become a very wide entity with all the little sub journeys, and this is of course something that we are also looking into on how to manage then this whole customer journey...It's also related to the particular users and the customer persona. So, let's say for instance customers maintenance manager might have a very different kind of a customer journey than their procurement manager. – Kate

Going into the future, we should have better predefined journeys that are measured...So ideally, we should actually have different journeys for different segments and personas. – Adam

In addition, the interviewees identified that it is possible to go endlessly deep in the sub journeys. Recognizing general customer journeys and their phases was also found challenging because customers enter and leave the journey at different stages and different channels.

I mean this is a bit more detailed, but you can always dive deeper and split these journeys into smaller ones. That can be done to yeah to eternity, I would nearly say, but the question is, does it make sense? But yes, in this pre purchase, purchase, post purchase phase it does make sense also to look a little deeper how the customer is behaving and what they might be interested in. – Thomas

There is the main customer journey, but of course some customers will enter at different stages leave at different stages. – Sophie

The difficulty with the journey is that it's hard to identify what stage in the journey the customers are coming to the site or what is their intent and then try to cater that need. So, it's a bit unfortunately kind of one size fits all in a way that you should be able to find all the necessary information from the website whatever stage you're in, whether just coming across the company (name removed) for the first time or whether you're already comparing options. – Harry

Especially the website journey was identified a difficult one to map. According to the interviews, it could include general pre-purchase stages, such as need recognition, information search, and consideration before the actual purchase decision. However, as the website is used in multiple ways, making it challenging to define one single journey.

So really within the website, I don't think there are really clear journeys as such. Because, like said, people kind of go back and forth and it's rarely a linear journey. – Harry

Recognizing critical touchpoints inside the customer journeys and the sub journeys was also found important. The interviewees pinpointed some critical touchpoints within the digital channels, including customer support chat, other methods of contacting the company, and the e-commerce checkout process.

I guess the most critical touchpoint is of course when they want to get in touch with us. So, we have on some of the sites, we have a chat available and where we have a team answering it. We have a bunch of contact forms for various purposes. – Harry

Target CX

Defining target customer experience and making actions in order to achieve the target was also found important by the interviewees. Reoccurring themes that came up in the interviews were easy, seamless, harmonized, smooth, personalized, uniform, coherent, effortless, and efficient experience. Additionally, providing some wow-elements for the customer on these digital channels and being a leader in that sense was identified as one goal by few interviewees. One clear target that was repeated in the interviews was having a single digital channel, which would make the experience a lot smoother and more seamless.

We want to offer you a complete and coherent customer experience in the digital space, meaning that there's a single easy to understand touchpoint. It covers the whole customer journey and customer life cycle. – Arthur

Our target is to offer one personalized and uniform experience to manage all aspects of their relationship with us. To ensure every interaction a customer has with us is productive, adds value, and keeps them coming back for more...For this, we're working a lot around the personalization aspects as there are so many different journeys. – Adam

What we are aiming for at the moment in the first step is bringing this together, merging as much as possible into a single channel to have really a seamless customer journey to have one access point for the customer where they can manage all the business with us... We will work on more personalization for individual customer. As of today, it's quite generic experience still, but this personalization is really one of the next topics to come. – Thomas

Each interviewee also identified the need to develop the target CX further and refine it. In order to provide tailored and personalized customer experience in the future, it is essential to understand the customer and different customer personas that might be using the digital channels. By understanding the customers, the company could reduce the customer's efforts in order to make the experience as effortless and efficient as possible. Additionally, the continuous development of digital technologies was identified as one reason, why the target CX on digital channels needs constant refinement and improvement.

I think that the target level right now is quite ambitious already. Obviously, it could be refined. And we need to understand what it means when we say personalisation, because it means different things for different people. And I think we are not there yet. So maybe we need to refine it into something more understandable and concrete. – James

Especially in the digital space, things are moving fast, things are developing faster... This is a continuous journey so this will not stop, so this will never be finalized to be honest. – Thomas

6.2 Digital channel CX measurement

One key element in understanding and managing CX is measuring the customers' reactions and utilizing the insights to support desirable and positive customer experiences. However, the complexity of B2B interactions requires organizations to consider different customer journeys to find suitable measures for CX. This chapter seeks to provide insights into the second research question of this thesis "*How to measure B2B CX on firm-controlled digital channels?*".

CX measures

The measurement of digital channel CX in the case company is currently heavily focused on user experience and usability, rather than the actual CX on those channels. The current measurement is mainly monitoring and measuring the customer behaviour and traffic on these channels. All interviewees recognized that digital channel CX has received less attention in the company, whereas the overall CX measurement is on a more mature level. According to the interviews, the Voice of

Customer survey has currently been the most valuable tool in CX measurement, however it is not focusing solely on digital channels and touchpoints. From general CX proxy measures, the company is using mostly customer effort score (CES) and net promoter score (NPS). In addition, some customer satisfaction scores (CSAT) are collected from digital touchpoints, but it is not yet widely used.

The Voice of Customer that's been existing over years now, which is measuring the NPS score, which is important, but not a real CX measurement. What we have done also now is that we measure the customer effort score, so how difficult or easy was it to do business with us. Then we have also the CSAT, so the customer satisfaction score that we can ask the experience and satisfaction on a single topic... We would like to implement these to more touchpoints that we can see, where we have some work to do or where are we doing good already. These three measures, I think are quite important, so NPS, CES and CSAT. But then we have also other measures. We started to explore online customer lifetime value and retention rate for instance. – Thomas

According to the interviewees, the current tools that are used to measure and analyze the experiences are Hotjar and Google Analytics. In addition, the Voice of Customer survey is the main tool to collect overall customer feedback. According to the interviews, Hotjar and Google Analytics are mostly used to understand the user experience and other usability related factors on the channels, whereas the Voice of Customer focuses more on the actual CX. The interviewees emphasized the significance of user experience in influencing the CX on digital channels, and thus there is a need to measure the user experience in the future as well.

About the user experience, you could look at what is the bounce rate, how quickly the website is loading, because, you know, just the speed of the website is a big customer experience factor because people have really short attention spans. – Harry

All interviewees identified the need to improve CX measurement on the digital channels. The need to implement various interaction metrics, CX valence approximate metrics, and outcome metrics was recognized, and also incorporating the measurement of customer responses (cognitive, emotional, behavioural, sensorial, and social responses). The case company has already been utilizing some interaction and CX valence approximate metrics. In addition, few outcome metrics have also been under development, such as customer lifetime value (CLV), retention rate, and churn rate. However, the measurement of customer responses has been lacking, even though it was found essential by the interviewees. Thus, there is a clear requirement to implement that in the future.

The importance of measuring the affective dimension of customer's responses was highlighted by most interviewees. There is a clear interest to implement emotion related measurement, which is currently still lacking from the case company's CX measurement. Measuring more customer's

responses in the future would likely require gathering more customer feedback in free text format. Furthermore, deriving insights from unstructured textual data would require utilizing some sort of text mining or text analysis.

What's the important part here is that the customers feel that we have been listening to them and we are able to, based on that listening, provide the right information at the right time. So, we need to understand what the customer's feeling is, why they are behaving in a certain way, and why they are doing certain things on the website...I've been thinking about that how could we do it in a way that really encompasses that customer's feelings, and where we can actually tie it into the key moments of the customer journey. And I think we can have some help with the semantic analysis of free text. So, what we have been building in the Voice of Customer with text analytics. – James

What we are missing today totally is this emotion related measurement or even to capability to analyse that. We have been starting to utilize text analytics with...the surveys that we are sending to customers. And when the customers are replying to us, we are using text analytics to analyse the free text format...Maybe we could be using more this customer sentiment analysis. Meaning that we would be even more analysing this sentiment from the feedback that we are getting from the customers. – Tiffany

The interviewees also identified some challenges in the customer surveys. Currently, the response rate is quite low, which creates challenges for the CX measurement. Few interviewees also noted that they would need to include some ways of surveying customers without making it obvious, as constant surveying can cause “survey fatigue” and frustration in the customers. Additionally, analysing the customer behaviour and user experience on the digital channels was identified as one way to understand the customer without asking them directly.

I'm not into these numerical measurements what we have now. We have a text analytics part of our data analysis, and I think there we can get these sentiments and really understand how customers are feeling because customer experience is so much about feelings. And therefore, we should really look into those. The only problem is that in order to do that, it would require customers to leave text feedback. And people are quite tired nowadays to leave feedback. Not to mention about writing text, so that is challenging to get information to get enough data. Therefore, we would need to find ways to understand that feeling without asking. – Ashley

I think we can see that people don't really necessarily love surveys. I think we should include ways to survey the customer, but maybe not make it as obvious...So, I think a solution where we offer support, but we're actually also probing the customer, while we're doing that. So, it's kind of an interactive way for us to collect the feedback but also guide the customer where they need to go. So maybe asking the customer, but without it being obvious. So that's something I would like to see also. – Sophie

CX data

Customer experience data are key elements in CX measurement. One of the biggest challenges recognized in the case company is the lack of centralized data storage. According to the interviewees, the case company has currently a lot of different data sources, and therefore the data are not stored in one place. Holistic digital channel CX measurement requires including data from different sources and channels, which creates significant challenges for the company. Therefore, plans to acquire a customer data platform (CDP) have been made within the case company.

We can say that the measurement right now is not comprehensive enough because we don't have the sources in one place, in a way where we could actually extract that data. So, in order to be effective in measuring CX, we would need to combine data from all of the channels, including the website, e-commerce, and customer portal. – James

So, our attempt in our organization is to go towards this customer data platform which is used to segment the customers and collect the customer and the user information. – Tiffany

The interviewees also identified the large amount of data as both one of the biggest strengths and biggest challenges in the company. Having a lot of data was mostly noted as a strength itself, but what makes it challenging, are the multiple data sources and lack of centralized data storage.

Well, we do have a lot of data, which presumably is the biggest strength, I would say. But the weakness is that the data are kind of all over the place, so maybe not in one place readily accessible, so that makes it very difficult. – Sophie

A big strength is that we have a lot of data in the company available. The biggest challenge is to bring it in the right order and to display it accordingly that we have really data that are proved and can be used. – Thomas

Another challenge identified is the data quality. The company is currently collecting a lot of solicited and unsolicited, as well as structured and unstructured CX and customer data, and the data quality is not on the ideal level. Most of the collected data are related to the channel usage, such as behaviour, engagement, navigation, visits, logins, cookie consent, performance, and other technical attributes. Improving data quality and reliability would be essential for generating valuable insights and guiding effective decision making.

We track the users and logins...and then we use Google Analytics and Hotjar solutions to see what they do inside those channels. – Adam

We can get things like cookie consent, and we can get some behaviour data from things like Hotjar. We can measure some of the traffic with Google Analytics, and we can measure some of the more technical attributes of the performance...And we can see also the transactional data, for example, from e-commerce. So, we see what type of

purchase, how big they are, and the same goes for CRM. There's a lot of measurement points but no comprehensive way to kind of tie all of that together. – James

I would like to improve...also our data quality, I said we have a lot of data, but it's not in the right order. So, the data quality has to be improved, that we can really create the right reports and actions out of that. – Thomas

In addition, some customer and user information and customer feedback are collected from the channels. However, a major challenge related to collecting customer data on the website is that the tracking is based on the cookie consent. Thus, a lot of customer information from the website is missing.

The difficulty with website data in general nowadays is that...a lot of the tracking is based on cookies. That's very limiting. We have maybe 50% of visitors accepting the cookies, so we're missing 50% of the data. – Harry

According to the interviews, there is a need to collect more data related to the customer journey, for example, information on where a customer abandons a journey. In addition, the interviewees want to implement more customer feedback measurement points. Multiple interviewees identified the need to collect immediate feedback from the customer at different digital touchpoints. Overall, collecting more qualitative CX data in the future was found important.

I think the whole measurement of the kind of like success of the customer in the digital channels is still lacking. So, as said, for example, we do have the Hotjar, but it's a very low usage. So, if there are any other ways to gather that immediate feedback from the customer. – Kate

We want to add more customer feedback options to the different touchpoints that we would get more input from the customers and somehow then collecting that into one, so that we can kind of see how we are doing. Where we have challenges and where are we doing good and identifying the things that we need to focus on to improve the customer experience further. – Harry

But then what also fascinates me more is the qualitative information so. So, once we start gathering more of that data and information. We can start looking into the into the reoccurring themes and topics. – Kate

6.3 Analytics utilization for CX measurement

Business Intelligence and data analytics can significantly enhance CXM by enabling firms to better understand the customer journeys and improve CX. Valuable CX insights are derived from analysing customer and CX data, which then help organizations to make managerial decisions and

drive concrete actions. Thus, this chapter provides insights into the third research question “*How could analytics be utilized in measuring B2B CX on firm-controlled digital channels?*”.

CX analytics

According to the interviewees, digital channel CX analytics in the company is still in its early stages. The current status was described as lacking comprehensiveness and not performing well yet but having significant potential. The interviewees identified that there is clear willingness and maturity within the company to invest more resources into analytics. So far, the focus has been on defining relevant measures and analytics for digital channel CX.

We are still in the beginning. It is, especially in a manufacturing company, when thinking about our products, very difficult, as it is very engineering driven and very figure driven business... Customer experience is something which is not so tangible maybe as other figures and measures. So therefore, it's even more important to have analytics to really prove that is the right thing to work on a great customer experience. Therefore, the status is quite in the beginning. – Thomas

One significant strength identified is the strong foundation for analytics that is already in place. The company is aware of the importance of Business Intelligence and analytics and has made investments in that area already. As analytics is already a vital part of the company’s operations, there is great potential for improving the digital channel CX as well.

I think the strength if we start with that one is that we have an analytics team. So that's already a lot. That's not something that every company has in place. It will tremendously help us. – James

A big strength, I would say, is a passionate team behind that which is really interested in bringing that and moving that forward. A big challenge is, of course, also, to convince the rest of the company that it's worth to do that, it's worth to spend time on it. – Thomas

In addition to the main tools, Google Analytics and Hotjar, some Power BI reporting and dashboards have also been developed. However, those are yet focusing more on the overall CX. The interviewees noted that a lot of measurements and analytics are already in place to monitor the digital channel usage and user experience. The current analytics solution was also described as being platform-based meaning that it is existing separately inside each channel, and therefore it is lacking comprehensiveness.

I think we need to improve radically here and like I said, there's different type of measurements in place in different platforms... We can see, for example, separate measurements on the website, e-commerce, and customer portal. Each of them are having own analytics inside the platforms. And then we have kind of the combined

analytics where we have some of these pieces of information included, so that's how it's set up right now. – James

The current state, I would say that it is solution-based. We are having analytics inside each of the solution sort of separately. – Tiffany

Qualitative text analytics has been proven to be a valuable tool for analysing CX in the case company. It enables capturing customers' emotions from textual customer feedback. The interviewees expressed a strong interest in incorporating text analytics even more in the future and utilizing it for customer sentiment analysis. However, one significant pain point has been the low response rate in customer surveys.

Most interviewees also identified that the company has been lacking the “CX thinking”, and the company would need to become more customer centric in the future. Also, the need for more measurement points was identified, as well as defining the entire CX measurement framework within the company. This would include finding and selecting the relevant metrics and developing the process for data collection.

But the challenge is that the CX thinking has maybe been a bit lacking...You have to think about it much more customer focused, and I think we're still very much in the journey towards that. So, I think that is the challenge, but we are in a good place to start from. But it's a long way to go and we need to become more customer centric. – Harry

The challenge is that we don't have enough measurement points...And that leads to the fact that we don't have enough information. – Ashley

CX insights

CX measurement and analytics can enable firms to improve CX by providing valuable and actionable insights. These insights can be derived from analysing customer and CX data. Turning CX data into CX insights and then into concrete action was seen as a generally challenging task by the interviewees. However, the importance of actionable insights, as well as the vital role of analytics has been identified inside the case company.

The journey doesn't stop with the measurement and analytics...I always say that the analytics is the most important part of the chain here. Without actually understanding what we are doing, we are just fumbling in the dark. We need to put a lot of emphasis on it, especially developing those actionable insights. – James

When we talk about measuring customer experience and turning it into an action, that's always a generic issue. – Ashley

Furthermore, the significant role of customer and user journey mapping was highlighted in the interviews. At the moment, the company is still lacking comprehensive customer journey mapping, which creates challenges for understanding and improving CX. According to the interviewees, acquiring a customer data platform (CDP) and mapping the journeys would enable the company to derive valuable insights and use those to enhance CX in the future.

So, mapping user journeys is one thing, but the other one is acquiring a CDP solution. With that tool and some simple mapping of user journeys, we would be able to get more, much more aggregated insight on the customer experience across our company and then that either matches with our setups sometimes and then sometimes mismatches with our setups, so we could then fill in the gaps. – Adam

If we look at the challenges once again...Not a comprehensive customer journey mapping available at the moment nor technology to support it. – James

More specifically, the interviewees noted that they would want to be able to identify pain points within the channels and customer journeys. They would want to recognize both strengths and weaknesses within the channels and identify recurring themes in order to support decision making and improve CX.

So, understanding that why do we lose the customer. Basically, what are the pain points in the customer journey or customer experience. Where do we lose the customer's attention? – Arthur

The main reason that we are collecting the sort of customer experience data are that we should be using it to make decisions that how can we improve the customer experience and finding really the key moments inside the customer experience and inside the customer journeys. So, guiding better our decision making that what areas to focus, and what to develop. – Tiffany

I'd be looking for those recurring themes or especially the challenges and the pain points that the customer is facing, but also of course maybe emphasizing the, the positive things as well so it's not always about searching for the for the negative parts. So that's what we maybe seem to do currently. But maybe also identifying like what goes well at the moment. – Kate

The interviewees also noted that they would want to have better understanding of the overall CX and investigate, how digital channel CX is affecting the overall CX. Therefore, it would be also important to include digital channel CX analytics and measurement into the overall CX analytics framework. Thus, examining digital channel CX both independently and as a part of the holistic CX analysis would be ideal.

I think it would be important to be included in overall account experience and not to be isolated from the other information. – Ashley

It needs to be linked to the overall customer experience. We need to better understand the customer's intent, and based on that, build more personalized experience...And the second element is then understanding the whole journey that the customers is going through. – Tiffany

CX analytics implementation and actions

The role of analytics is constantly evolving and growing, requiring the case company to adapt to the changes. Analytics already plays an important role in the company, but there is still some unused potential, especially on the CX topics. All interviewees identified the growing importance and expressed a strong interest in developing the analytics capabilities and processes further. The need for more resources in the future was also highlighted.

We definitely see this as something where we need more resources for if we want to achieve the ambition level that is often, you know being data driven. But I don't think we really have the capabilities to be very data driven today. So, I think that would need more focus and more resources. – Harry

Digitalization and continuous technological developments are significant factors that increase the importance of digital channel CX. Analytics plays an important role in CXM, as CX is an intangible phenomenon that can be challenging to manage. Furthermore, the implementation of emerging technologies, such as artificial intelligence (AI) and large language models (LLM), is becoming a significant topic in the field of analytics. Utilizing emerging technologies could help, for instance, in sentiment analysis and predictive modelling.

I think it (analytics) is growing and growing and quite fast. I think its role becomes more important, all the time. How we operate, how the world operates, it's going more and more digital...And then sort of utilize that information when we plan our business actions. – Ashley

And as I said earlier already, customer experience is a little bit intangible to many people, especially in our business and therefore analytics can support that. It (analytics) is very important for us. – Thomas

I guess there's a lot of buzz about kind of AI tools and how those are utilized. So, I presume there will be a lot more kind of AI analytics. So, sentiment analysis and predictive modelling will take place. – Sophie

However, some challenges regarding analytics and data collection were also recognized. One clear challenge is legal restrictions related to personal data collection, such as GDPR, which are likely to affect CX analytics even more in the future.

We are fully compliant on the GDPR...So, with that kind of restrictions, we know that it's getting more stricter to use and exact personal data. – Keith

The interviewees also expressed interest in moving more towards customer journey management (CJM). This would mean managing both the entire customer journeys and also the sub journeys inside the different digital channels. Comprehensive journey management would require understanding and mapping the customer and user journeys, also outside the digital spaces. Additionally, the interviewees would also like to see some prediction based on the customer journeys. Predictive modelling could help identify pain points within the customer journeys, different customer personas, and predict what their behaviour is telling about their experience and their future behaviour.

Then the other thing is that we want to go more towards this customer journey management. So, which means that when we are building the digital channels and further developing them, we should have a pretty good understanding that who are the people using it. So, we are able to go more towards the personalized customer experience...I think the foundation of improving customer experience inside these channels is to understand, what type of journeys customers are having inside the channels and the customer profiles. – Tiffany

Other key themes that were highlighted in the interviews were creating more personalized and seamless customer experiences in the future. Initially, this would require reducing the digital tools, for instance, by combining the existing channels to create a more seamless experience. Also identifying different customer segments and personas, as well as their varying goals would be important in order to create personalized CX for the different customers.

We want to reduce the tools we have in use as they are not collaborating with each other, so we would like to work more on common platforms. – Thomas

Also identifying the differing needs per different customer groups and then creating those customer experiences that will impact each individual identified customer segment. So, it's not only a one big group of customers but many different, let's say subgroups of customers, each with their individual needs. – Kate

7 Discussion

The purpose of this thesis was to develop a framework for measuring B2B customer experience on firm-controlled digital channels. This chapter discusses the findings presented in the previous chapter by linking them to existing literature and answers to the research questions of this thesis. In addition, this chapter presents an enriched framework for B2B CX measurement on firm-controlled digital channels.

7.1 B2B CX on firm-controlled digital channels

This chapter answers to the first research question of this thesis “*What elements constitute B2B CX on firm-controlled digital channels?*”. As stated earlier in this thesis, customer experience can be defined as the customer’s subjective and spontaneous responses to all interactions with the company (Becker & Jaakkola 2020; Meyer & Schwager 2007, 118) throughout the customer journey (Holmlund et al. 2020; Lemon & Verhoef 2016). CX on digital channels refers to customer’s responses when interacting with a company through digital channels and touchpoints (Weber & Chatzopoulos 2019, 201).

In B2B context, good CX is usually described as a trouble-free experience rather than a particularly exciting one (Meyer and Schwager 2007, 119). According to Siebert et al. (2020, 45), a smooth journey model focuses on designing seamless, consistent, effortless, predictable, simplified, and personalized customer journeys, whereas a sticky journey model aims at creating exciting journeys that customers desire to continue due to the inconsistency and unpredictability of the journey. The empirical data strongly highlights that the B2B customer journey and experience on firm-controlled digital channels should be, above all, a smooth one. The target described in the empirical research was to create easy, seamless, personalized, coherent, effortless, and efficient experiences, aligning with the definition of a “smooth” journey and experience by Siebert et al. (2020).

Furthermore, B2B customer experiences are often more complex in nature than in B2C context (Gounaris & Almoraiash 2024; Witell et al. 2020, 421; Zolkiewski et al. 2017, 173), which was also identified in the empirical research. B2B interactions include multiple different business actors, each playing different roles and engaging in different stages of the customer journey, which makes the interactions more complex (Witell et al. 2020, 421; Zolkiewski et al. 2017, 173). According to the empirical research, this creates significant challenges to understanding and analysing the customer experiences and journeys. The business actors involved in the interactions are also driven by different goals, including shared organizational goals and individual’s own goals (Purmonen et

al. 2023, 75-77). Thus, it is crucial to recognize and understand the varying customer goals and identify different customer personas. Furthermore, it is also relevant to map the key customer journeys based on the different goals and customer personas.

Both existing academic literature and the empirical research identified a lot of different factors affecting the CX on firm-controlled digital channels. According to previous research, these factors include, for instance, ease of use, engagement, perceived control, interactivity, customization, aesthetics, credibility, information quality and customer support (Hoffman & Novak 2009; Martin et al. 2015; Mclean 2017; Rose et al. 2012; Trevinal & Stenger 2014). Additionally, customer journey quality, including journey seamlessness, personalization and coherence (Jaakkola and Terho 2021, 2-3), and journey design, containing thematic cohesion, consistency, and context sensitivity of touchpoints (Kuehnl et al. 2019, 554), affect the experience significantly. The empirical data also support these statements. In the empirical research, the quality of the customer journey, including seamlessness, coherence, and personalization, and the user-friendliness of digital channels were especially highlighted.

According to Jaakkola and Terho (2021, 20), customer journey seamlessness requires integrating and aligning different touchpoints throughout the journey, allowing customers to transition smoothly between them. This was identified as a challenge within the case company, highlighting a significant need for improvement in the future. Reducing the number of digital channels was found to be a critical first step towards achieving the seamlessness. Journey coherence, on the other hand, could be enhanced by combining all touchpoints thematically, along with some related “experience cues”, to ensure a consistent impression of the firm across all channels and touchpoints. Lastly, customer journey personalization emphasizes customizing the sequence of journey touchpoints to fit the customer’s preferences. (Jaakkola & Terho 2021, 20.) The significance of both journey coherence and personalization was also emphasized in the empirical research.

Generally, customer journeys are divided into three stages: pre-purchase, purchase, and post-purchase (Lemon & Verhoef 2020; Purmonen et. al. 2023; Siebert et al. 2020). According to the empirical data, each of the different firm-controlled digital channels have roles in all journey stages, while still having some particular stage where they are most prominent. The website was identified as the most versatile and accessible among the different firm-controlled digital channels, while the e-commerce and customer portal had more specific roles in purchase and post-purchase stages. Figure 7 illustrates the elements of B2B customer experience on firm-controlled digital channels.

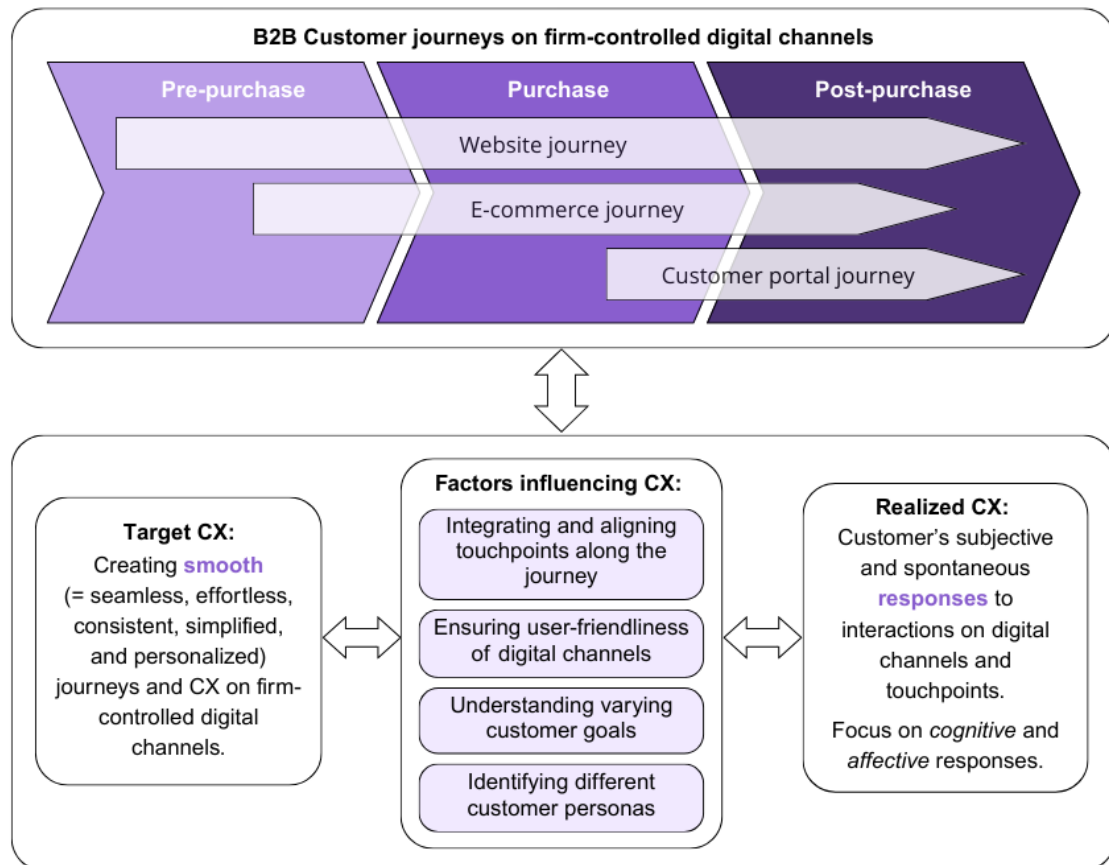


Figure 7 Elements of B2B CX on firm-controlled digital channels

7.2 Digital channel CX measurement

This chapter answers to the second research question of this thesis “*How to measure B2B CX on firm-controlled digital channels?*”. As stated earlier in this thesis, one of the key elements in understanding and managing CX is measuring and monitoring how customers react to interactions with a company (Lemon & Verhoef 2016, 71). However, the ambiguous and intangible nature of CX, as well as the complexity of B2B interactions demand that various customer journeys are considered, and suitable CX measures are identified (Zolkiewski et al. 2017, 173). Palmer (2010, 202-203) recognized three key challenges in managing CX and developing effective CX measures: the complexity caused by different context specific variables, the non-linearity of CX, and identifying the targeted level of experience. The empirical data support these findings, as the complexity and intangibility of B2B CX, as well as the unique aspects of the business and offerings were identified as challenges in measuring and managing CX.

In order to develop and apply an effective measurement scale for CX, it is essential to identify some practical challenges involved (Palmer 2010, 203). According to Meyer and Schwager (2007, 123), a well-designed survey does not only bring out the desired information but also avoids impacting negatively to the customer experience. The empirical data highlight, that constant surveying can cause “survey fatigue” and frustration in the customers. This is also supported by previous academic literature. According to Palmer (2010, 203), long questionnaires can cause dissatisfaction in the customer, leading to unreliable survey results in the end. Both existing literature and the empirical data highlight that the firms should consider whether their methods for CX data collection and measurement are effective or whether they will lead to negative experiences. Thus, the empirical data suggest incorporating methods to survey customers without making it obvious. In other words, firms should also find ways to understand the customers without asking them directly.

CX is usually measured by using general CX valence approximate measures, for instance, net promoter score (NPS), customer satisfaction score (CSAT), and customer effort score (CES) (Becker & Jaakkola 2020; Patti et al. 2020; Zolkiewski et al. 2017). Some of these commonly used CX metrics can help identify weak touchpoints and other pain points within the channel or customer journey. However, using one specific metric alone usually provides a deficient measure of CX (Zolkiewski et al. 2017, 176), and thus utilizing and combining multiple CX measures can predict customer experience and behaviour better than a single metric (Lemon & Verhoef 2016, 81, 86). The empirical data also support the importance of combining multiple measures in order to obtain a more comprehensive understanding of the customer experience.

Becker and Jaakkola (2020) emphasize that the operationalization of CX should rather focus on the customer’s spontaneous and unintentional responses to firm- or offering-related stimuli. According to previous academic literature, a CX measure should also include the order of the events and the attitude after an event occurred (Palmer 2010, 203). Defining CX as spontaneous responses strongly indicates that timing should be considered important for CX measurement. Therefore, customer’s responses should be captured immediately after the interaction. (Becker & Jaakkola 2020.) The empirical data support this, as the importance of collecting immediate feedback from the customer at different digital touchpoints was emphasized in the research.

Furthermore, the empirical data highlighted the significance of measuring CX at various touchpoints throughout the customer journey. According to Patti et al. (2020, 2396), measuring CX in each of the step of the journey helps organizations to identify those touchpoints, where customers might abandon their current journey or move to another channel. By doing so, organizations have

the possibility to salvage defecting customer relationships. The empirical data also emphasized the importance of having multiple measurement points throughout the journey to collect CX data. This could allow organizations to identify pain points within the journey or their digital channels and prevent customers from abandoning the journey. Measuring CX at the touchpoint level rather than journey level would enable organizations to identify weaknesses and pain points more precisely. Additionally, implementing simple CX measures, such as customer effort score (CES), to key touchpoints would require low effort from customers but result in large amounts of valuable CX data.

One important part of CX measurement is the process of selecting and integrating relevant CX metrics. In addition to the generally used CX valence approximate measures, monitoring customer's reactions on cognitive, affective, physical, sensorial, and social levels can be a significant part of a firm's CX measurement. This is supported by both the empirical data and previous academic literature, as De Keyser et al. (2020, 442) introduce the dimensionality of customer responses and valence as two key qualities of CX. Additionally, it is necessary to contemplate the measure quality and how to utilize them, and therefore, addressing the question of "What is measured?" is extremely valuable. (Zolkiewski et al. 2017, 176.) Thus, identifying and defining the target CX is important to ensure that right things are measured. In addition, this enables collecting the right kind of CX data. Various user-friendliness related factors are also part of CX, such as ease of use, aesthetics, and information quality. Therefore, the empirical data suggest that measuring the user experience and behaviour on firm-controlled digital channels can provide valuable insights related to customer experience.

Customer experience data are key elements in CX measurement, and the rapid growth of software applications, digital channels, devices, and media has given organizations remarkable opportunities to utilize CX data to add more value to customers and enhance CX (Wedel & Kannan, 2016, 97). As a result, firms are now collecting and generating higher volumes of data from various sources (Zolkiewski et al. 2017, 178). According to the empirical data, this type of "big data" can be seen both as a strength and a challenge. In addition, both previous academic literature and the empirical research state that the data quality is one significant concern in CX measurement.

Furthermore, the empirical research states that holistic digital channel CX measurement requires incorporating different kind of data from multiple sources and channels. McColl-Kennedy et al. (2019, 20) also highlight that organizations would need to collect both quantitative and qualitative data from a variety of sources, such as customer surveys and CRM systems, in order to gain a

comprehensive understanding of the CX. According to the empirical research, customer feedback data in textual format was found to be especially important, as it could enable firms to better understand and monitor the various dimensions of customer responses.

According to the empirical data, firms should collect both quantitative and qualitative CX data from key touchpoints immediately after the interactions. The qualitative CX data, more precisely solicited-unstructured data (i.e., written customer feedback), could be used for customer response metrics to capture customers' affective and cognitive responses, such as emotions. The quantitative CX data, specifically solicited-structured data, could then be used for CX valence approximate metrics. Figure 8 illustrates the elements of digital channel CX measurement presented in this chapter.

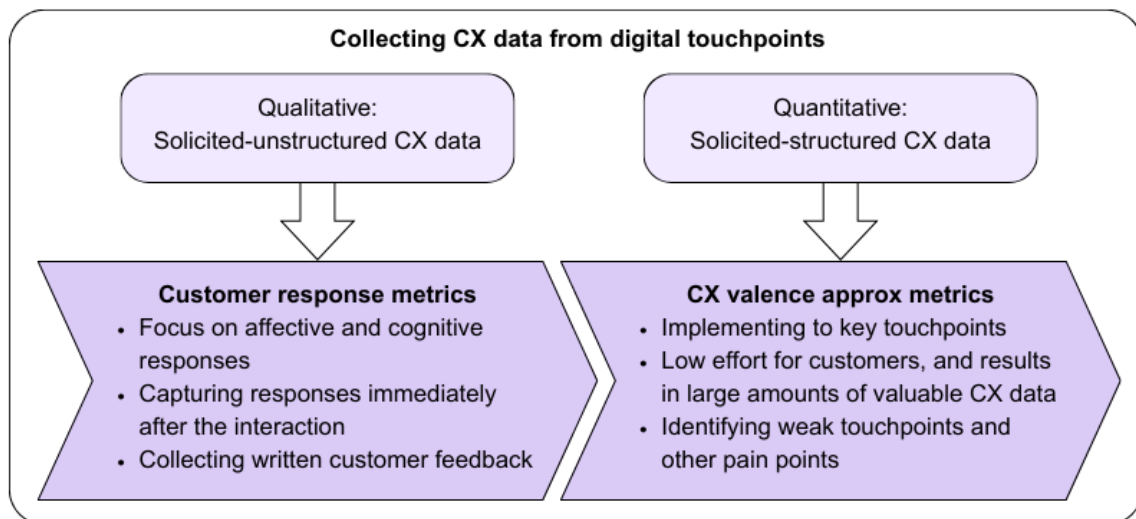


Figure 8 Digital channel CX measurement

7.3 Analytics utilization for CX measurement

This chapter answers to the third research question of this thesis “*How could analytics be utilized in measuring B2B CX on firm-controlled digital channels?*”. CXM is a key priority for organizations, and in the last years, organizations have been transitioning from focusing on distinct touchpoints in the customer journey to tracking and managing the entire journey holistically. CXM has developed to capture the formation and delivery of a comprehensive CX at all stages of the customer journey, across different channels and touchpoints. However, in order to manage CX effectively, organizations are required to control multiple touchpoints at the same time and hence recognize and

manage the critical encounters that significantly affect the customer experience. (Holmlund et al. 2020, 257.)

The empirical data highlighted the significant role of customer journey management (CJM), emphasizing the importance of moving more towards CJM in the future. According to previous academic literature, CJM is a significant part of CXM, which focuses specifically on the order, composition, and design of firm-controlled touchpoints to create positive evaluative outcomes and value (Holmlund & Tischer 2023, 1046, 1051). Managing touchpoints is an essential part of B2B CXM as touchpoints contain various forms of interaction and include multiple actors from the supplier organization, customer, or partner firms (Witell et al. 2020, 422). The empirical data states that understanding and managing the customer journeys and sub journeys better would require customer journey mapping.

The empirical data indicate that the role of analytics is constantly evolving and expanding, requiring organizations to adapt to the changes. In addition, the empirical data highlight the increasing importance of future investments to analytics, as well as the need to develop analytics capabilities and processes further. Due to the continuous technological developments and the rapidly evolving digital economy, Business Intelligence and analytics hold significant potential to affect and enhance both customer experience and journey management by helping firms to gain deeper understanding of customer journeys and improve CX. Since raw data alone cannot to provide valuable and actionable customer insights, those can be derived from the analysis and interpretation of data. (Holmlund et al. 2020, 357-358.)

Data analytics is generally classified into four main types: descriptive, diagnostic, predictive, and prescriptive analytics, each having their own purposes (Holmlund et al. 2020; Wedel & Kannan 2016). The empirical research emphasized the significant potential of descriptive and predictive analytics. Descriptive analytics allow organizations to understand the current status of CX, and usually involve statistics displayed through visualizations, such as charts and graphs. In contrast, predictive analytics provide organizations with indications of the likely future outcomes of CX and include methods and tools that help in predicting future possibilities and trends. (Holmlund et al. 2020, 360; Wedel & Kannan 2016, 104-105.)

Furthermore, the significant role of collecting written customer feedback and utilizing text analytics to interpret and analyse that data was emphasized in the empirical data. According to McColl-Kennedy et al. (2019, 9), organizations are generally collecting large amounts of textual data from different touchpoints in the customer journey, such as written customer feedback. Textual data can

be analysed by using qualitative text analytics or text mining methods, which allow the extraction of customers' perceptions from unstructured comments that can be then utilized to improve CX. Different types of textual data offer valuable insights that help organizations to identify critical pain points along the customer journey. (McColl-Kennedy et al. 2019, 9.) The empirical data state that utilizing written customer feedback and text analytics could enable organizations to generate valuable customer sentiment analysis. According to the empirical data, text analytics has proven to be a significant tool for analysing CX, as it allows capturing customers' emotions from written customer feedback. Furthermore, the empirical data suggest that utilizing emerging technologies, such as artificial intelligence (AI) and large language models (LLM), could enhance sentiment analysis and predictive analytics.

Analysing different types of CX data enables organizations to uncover valuable insights about customers, which can be divided into attitudinal, psychographic, behavioural, and market insights. Attitudinal CX insights reveal customers' attitudes and perceptions towards their previous, present, and future CX with the organization. In turn, psychographic insights include the psychological states that customers express temporarily in relation to their CX, such as their thoughts and feelings. Attitudinal and psychographic CX insights are the most common among practitioners, as they provide valuable information on customer satisfaction, perceived effort, and advocacy. (Holmlund et al. 2020, 360.) The significant role of both attitudinal and psychographic CX insights for organizations was emphasized also in the empirical research.

Behavioural insights, on the other hand, help organizations understand how customers behave and make decisions influenced by CX. To gain these insights, organizations are required to track customers' decisions throughout their customer journeys. One common tool for obtaining behavioural CX insights is Google Analytics, which provides real-time information on customers interactions with firm-controlled digital touchpoints using descriptive analytics. Lastly, market insights enable organizations to track and evaluate their CX performance in relation to the marketplace and competitors and evaluate the effect on their brand equity. Organizations can use, for instance, predictive analytics to obtain knowledge on the structure of the marketing, brand positioning, and trend forecasts. (Holmlund et al. 2020, 360-361.) According to the empirical data, behavioural and market insights are valuable as well, and combining these insights into the attitudinal and psychographic insights could provide a comprehensive understanding of the customer experience. Finally, the empirical data state that the most valuable insights are actionable insights. Thus, organizations need to be able to turn CX data into CX insights and then into concrete actions. Figure 9 describes the process of analytics utilization for CX measurement.

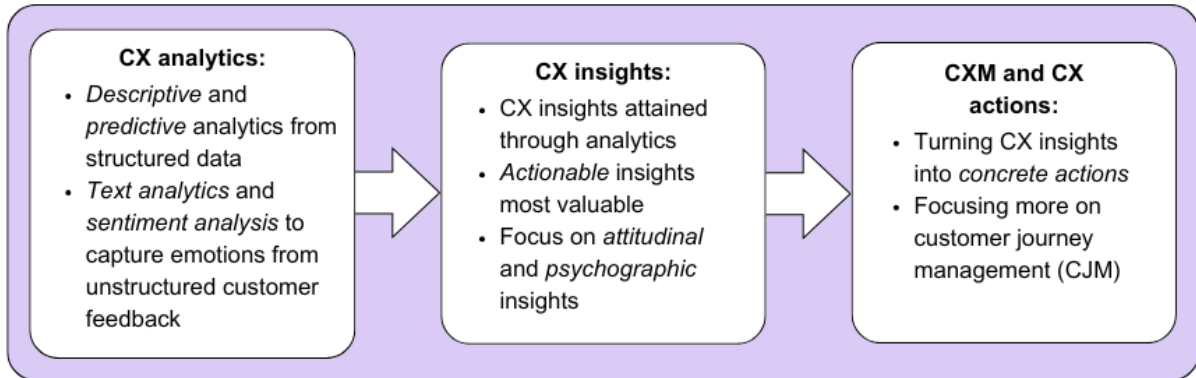


Figure 9 Analytics utilization for CX measurement

The findings of this research are summarized in Figure 10, which presents the enhanced framework of this thesis. The framework is based on the theoretical framework presented in chapter 4 and is further enriched with the findings from the empirical research. It presents the selections and suggestions that were made based on both the theoretical framework and empirical research. Figure 10 illustrates the framework for measuring B2B customer experience on firm-controlled digital channels.

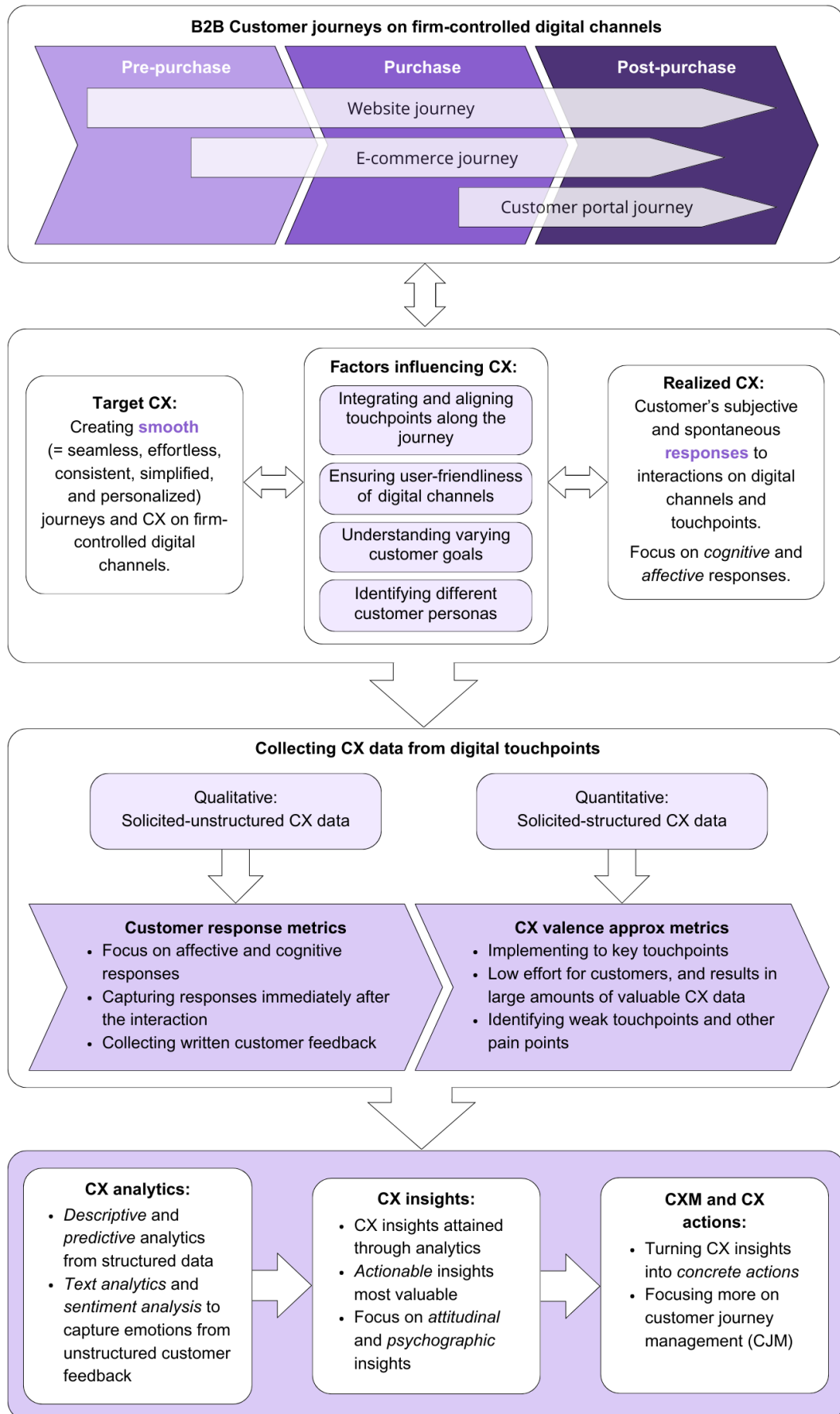


Figure 10 Framework for measuring B2B customer experience on firm-controlled digital channels

8 Conclusions

8.1 Theoretical contributions

Understanding customer experience has become increasingly important for companies in today's digitalized and rapidly evolving economy (Lemon & Verhoef 2016). B2B customer experiences are more and more relying on digital channels and touchpoints, transforming the ways customers and companies interact (Lundin & Kindström 2023, 2; Rusthollkarhu et al. 2022, 241; Weber & Chatzopoulos 2019, 201). One of the key elements in understanding and managing CX is measuring and monitoring how customers react to interactions with a company (Lemon & Verhoef 2016, 71). Ongoing technological developments in Business Intelligence and analytics offer significant potential to improve CXM by providing firms with deeper insights into customer journeys and enhancing CX (Holmlund et al. 2020, 357-358).

Academic research on digital channel CX, its measurement, and analytics has remained limited, especially in the B2B context. Consequently, research focusing on the measurement of B2B CX on firm-controlled digital channels has been lacking. By combining theory and practice, this research provides understanding on the topic and develops a framework for measuring B2B customer experience on firm-controlled digital channels. To fulfil the purpose of the thesis, three research questions were formed: (RQ1) "*What elements constitute B2B CX on firm-controlled digital channels?*", (RQ2) "*How to measure B2B CX on firm-controlled digital channels?*", and (RQ3) "*How could analytics be utilized in measuring B2B CX on firm-controlled digital channels?*". These research questions were answered by comparing the empirical data to the theoretical framework of this thesis.

This thesis offers three main theoretical contributions. First, this research advances existing customer experience literature by deepening the understanding of B2B CX on firm-controlled digital channels. The results suggests that, in the studied case company, the customer journeys and experiences on firm-controlled digital channels should be, above all, smooth, aligning with the smooth journey model defined by Siebert et al. (2020). The smooth journey model aims at creating seamless, consistent, effortless, predictable, simplified, and personalized experiences and journeys (Siebert et al. 2020). This research also supports the existing literature by indicating that a good B2B customer experience on digital channels is usually an effortless and easy experience (Meyer and Schwager 2007) and thus recommends defining the target CX on digital channels as a smooth experience. In order to provide smooth customer experiences on firm-controlled digital channels,

the research identified two key focus areas: the quality of the customer journey and the user-friendliness of the digital channels. The findings also complement existing literature by demonstrating the complex nature of B2B customer experience on firm-controlled digital channels. B2B interactions on these channels involve various business actors, each playing different roles and driven by different goals (Witell et al. 2020; Zolkiewski et al. 2017), making customer journey mapping a challenging task for organizations. Therefore, this research suggests that it is crucial to recognize and understand the varying customer goals and identify different customer personas in order to successfully identify and map the customer journeys on digital channels.

Second, prior research on CX measurement on firm-controlled digital channels has been lacking, particularly in the B2B context. The results advance the current theoretical understanding of CX measurement by providing novel understanding of the measurement of B2B CX on firm-controlled digital channels. This research states that constant surveying can cause “survey fatigue” and frustration in the customers and thus suggests incorporating ways to survey them without asking directly or requiring minimal effort. This complements prior CX literature, as Meyer and Schwager (2007) emphasize the importance for firms to evaluate the effectiveness of their CX data collection and measurement methods to prevent them from causing negative experiences. Additionally, this study aligns with existing literature by recognizing the dimensionality of customer responses as one of the key qualities of CX (De Keyser et al. 2020) and highlights the significance of measuring the responses on different levels, particularly the affective and cognitive responses.

Furthermore, the results emphasize the importance of collecting immediate feedback from the customers at various digital touchpoints. This complements Becker and Jaakkola’s (2020) statement that defining CX as spontaneous responses indicates that timing should be considered, suggesting that customers’ responses should be captured immediately after the interaction. The findings also underline the importance of having multiple measurement points throughout the customer journey. Aligning with existing literature, this research states that measuring CX at various touchpoints throughout the journey helps organizations identify pain points and prevent customers from abandoning the journey (Patti et al. 2020). The results advance current theoretical understanding by suggesting that measuring CX at individual touchpoints, rather than at the overall journey level, would allow organizations to identify weaknesses and pain points more precisely. Additionally, implementing simple CX metrics, such as customer effort score (CES), at key touchpoints would require low effort from customers while resulting in large amounts of valuable CX data.

This research supports prior CX literature by Lemon and Verhoef (2016) and recommends combining multiple CX measures and ways of measuring in order to obtain a more holistic understanding of the customer experience. The study also advances existing theoretical knowledge and offers novel understanding by recognizing two key methods for digital channel CX measurement: customer response metrics and CX valence approximate metrics. Furthermore, the results indicate that comprehensive digital channel CX measurement requires collecting both qualitative and quantitative CX data from key touchpoints immediately after the interactions, complementing existing academic literature (McColl-Kennedy et al. 2019). The research suggests that the qualitative CX data (i.e., solicited-unstructured data) could be used for customer response metrics to capture customers' affective and cognitive responses, whereas the quantitative CX data (i.e., solicited-structured data) could be used for CX valence approximate metrics.

Third, the results of this study narrow the existing research gap by extending the understanding of analytics utilization for measuring B2B CX on digital channels. This research recognized the significant role of customer journey management (CJM) and recommends a greater emphasis on CJM in the future. Aligning with prior theoretical knowledge, focusing on the order, composition, and design of firm-controlled touchpoints allows firms to create positive outcomes and value (Holmlund & Tischer 2023). Furthermore, the study identified the growing potential of Business Intelligence and analytics to impact and enhance both customer experience and journey management by helping firms to gain a deeper understanding of customer journeys and improve CX. Data analytics is generally divided into four main categories: descriptive, diagnostic, predictive, and prescriptive analytics, each having its own purpose (Holmlund et al. 2020; Wedel & Kannan 2016). This research recognized the great potential of descriptive and predictive analytics in enhancing B2B CX on firm-controlled digital channels. Descriptive analytics allow organizations to understand the current status of CX, while predictive analytics provide organizations with indications of the likely future outcomes of CX (Holmlund et al. 2020; Wedel & Kannan 2016).

Furthermore, complementing existing literature, this research identified the significant role of text analytics in analysing written customer feedback data, allowing the extraction of customers' perceptions and emotions from unstructured comments (McColl-Kennedy et al. 2019). Thus, the results advance existing theoretical knowledge and suggest that by utilizing written customer feedback and text analytics, organizations can generate valuable customer sentiment analysis. According to previous theoretical knowledge, CX analytics allows organizations to uncover valuable insights about customers, which can be divided into attitudinal, psychographic, behavioural, and market insights (Holmlund et al. 2020). This research recognized the significant

role of attitudinal and psychographic CX insights for organizations, complementing existing literature. Attitudinal CX insights reveal customers' attitudes and perceptions towards their previous, present, and future CX with the organization, while psychographic insights include the psychological states that customers express temporarily in relation to their CX, such as their thoughts and feelings (Holmlund et al. 2020). Ultimately, the results indicate that the most valuable insights are actionable insights, which require organizations to successfully transform CX data into meaningful insights and subsequently into concrete actions to enhance CX.

8.2 Managerial contributions

As stated earlier in this thesis, due to the complexity of B2B customer experience and customer journeys, measuring B2B CX requires distinct practices compared to the B2C context.

Understanding complicated B2B interactions and managing the experiences, particularly in the digital environment, can be rather challenging for organizations. Thus, this research offers managers, as well as marketing and CX professionals in B2B organizations few significant contributions.

First, this research offers the practitioners better understanding of the various elements of B2B CX on firm-controlled digital channels. B2B organizations should focus on creating smooth customer journeys and experiences by minimizing friction points, reducing the number of digital channels, and ensuring effortless interactions by evaluating and improving the usability of their digital channels. Furthermore, B2B organizations should recognize the varying customer goals, as well as identify and understand the different customer personas in order to effectively map and serve their unique customer journeys.

Second, this research provides a framework for B2B organizations to measure the customer experience on their digital channels. Measuring CX at individual touchpoints, rather than the overall journey level, allows more precise identification of pain points and weaknesses. Thus, organizations should collect immediate feedback from customers at key touchpoints to capture their spontaneous responses. This research suggests that B2B organizations should focus on two types of CX measurement on firm-controlled digital channels: customer response metrics and CX valence approximate metrics. This approach requires collecting qualitative CX data to capture customers' affective and cognitive responses, as well as quantitative CX data to generate approximate metrics for CX valence.

Finally, this research offers a roadmap for B2B organizations on utilizing analytics to measure and enhance B2B CX on digital channels. Going forward, B2B organizations should put more emphasis on customer journey management (CJM) as an integral part of CXM to create positive outcomes and value. To gain deeper insights into the customer journeys and CX on firm-controlled digital channels, organizations should leverage the growing potential of Business Intelligence and analytics. Managers of B2B organizations should integrate descriptive, predictive, and text analytics into their CXM practices, and put greater emphasis on transforming CX data into actionable insights to improve CX.

8.3 Limitations and suggestions for future research

When assessing the results of this research, certain limitations should be acknowledged. First, this thesis was conducted as an assignment for the case company, where the researcher is employed. While the researcher aims at objective interpretation, the internal role of the researcher in the case company might influence the outcome. Additionally, since the research focuses on a single case company, the empirical data are restricted to a specific industry and organization. Thus, it is also important to note that the findings of this research may not be easily generalized to the entire B2B context. The empirical data of this research focused on the three firm-controlled digital channels of the case company, and therefore the research results might not be directly applicable to all B2B organizations.

When evaluating the limitations of this study, it is also important to note the lack of prior literature on the topic. Previous academic research on digital channel CX, its measurement, and analytics has remained limited in the B2B context, leaving research specifically on the measurement of B2B CX on firm-controlled digital channels lacking. Lastly, the scope of the empirical research can be perceived as a limitation. This research was conducted by using semi-structured thematic interviews, where 11 experts were interviewed. As this research aimed at comprehensive in-depth interpretation of the phenomenon, the number of interviewees can be considered as a limitation.

These limitations and the findings of this research provide multiple possible topics for future research. Firstly, as this research was conducted as a single-case study, similar qualitative research could be executed as a multiple-case study to achieve a more generalized understanding of the phenomenon. The empirical data of this research is restricted to a specific industry and organization, and therefore it would be interesting to include other organizations from various

industries for further research. In addition, interviewing a wider group of interviewees could provide more in-depth and transferable results.

Furthermore, this topic could be further studied from the customer perspective. This research focused solely on the organizational perspective, leaving the B2B customer perspective still unexplored. Lastly, future research could also dive deeper on the actual measures and measurement techniques relevant to B2B CX on firm-controlled digital channels. The aim of this study was to develop a more high-level framework for CX measurement, leaving room for more detailed exploration in the future.

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Appendices

Appendix 1 Interview frame

Background information

- Can this interview be recorded and transcribed?
- Can some parts of this interview be used as direct quotes?
- Can your job title be used in the research?
- Can you describe your role and your main responsibilities briefly?

Theme 1 CX on digital channels

- How would you define customer experience on digital channels (website, e-commerce, customer portal)?
- How do you describe the customer journey through these channels? What are the roles of these three digital channels in the customer journey (pre-purchase, purchase, post purchase)?
- Do you think that the customer journey in each channel can be further divided into different journey stages?
- Are there some specific critical touchpoints on these channels that are especially important?
- What kind of CX is the company currently trying to achieve on these digital channels?
- Do you think that the target CX should be developed further?

Theme 2 CX measurement on digital channels

- How are you as a company currently measuring CX on these digital channels?
- What are the key metrics you are currently using to measure digital channel CX?
- What kind of CX data do you get from the digital channels (website, e-commerce, customer portal)?
- How are you monitoring these channels?
- According to previous literature, CX can be measured in four ways: interaction, perception, outcome, or the customer responses (valence, or dimension of cognitive, emotional, behavioural, sensorial, and social responses). Thinking about these views, what kind of measures or ways of measuring you would like to include in the future?

Theme 3 CX analytics and insights

- What is the current status of digital channel CX analytics in the company?
- What are the current biggest strengths and biggest challenges in measuring and analysing CX on digital channels?
- What would you like to improve?
- What kind of data are needed for digital channel CX analytics?
- What are the insights that you would like to gain with digital channel CX analytics?

Theme 4 CX analytics implementation and actions

How do you see the role of analytics evolving in the enhancement of CX on digital channels?

What are your plans and next steps in order to reach the targets related to CX on digital channels?

Appendix 2 AI usage declaration

Has AI been used in this thesis: Yes

A confirmation of responsibility: I take full responsibility for the content of the work based on AI usage.

AI tool used: ChatGPT

Purpose: Generative AI has been used in this thesis for proofreading and text editing of the researcher's own text to improve language and readability. The purpose of the AI usage was to ensure grammatically correct language and find alternatives for certain expressions.

Examples of the key prompts used: "Is this grammatically correct?", "Is this correctly written?", and "Can you give some alternative to this expression?".