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MBS Outstanding Thesis

MBA Master's Thesis

Analysis of the Impact of Customer Experience Management Among B2B Companies in the Construction Industry

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Sarim Mehtab Hasan, MBA
Email: Sarim.Hasan@munich-business-school.de

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Abstract

Today's customers have integrated digital technologies in their everyday lives and look for the overall value rather than the end-product. Business-to-consumer (B2C) companies identified this change of customer's needs and incorporated customer experience management (CXM) strategies into their business models and benefited from it. The topic of CXM has been extensively researched in the B2C environment, however, in the business-to-business (B2B) environment it has just begun recently, and its relevance has been emphasized repeatedly because the new generation of workforce have set expectations of customer experience (CX) in the B2B context based on their experiences in the B2C environment. When it comes to the construction industry, an industry that comprises of multiple stakeholders with different roles and interests, the requirement of CX is even more vital. This study investigates CX in the B2B environment of the construction industry and identifies plausible CX strategies by conducting a review of available research and in-depth interviews with senior professionals from construction companies. The results were analysed based on key themes, which identified crucial aspects of CX in the industry and validated CX strategies. A generic customer journey map was also drawn which facilitated in visualising the customer's journey to identify opportunities. The research indicates that the construction industry is still traditional, lacks effective communication and focuses on short-term returns, which doesn't align with customer's needs. Moreover, the industry has insufficient awareness of CXM and its benefits. The thesis was concluded with recommendations, and short-term and long-term implementation strategies based on the findings.

I would like to express my deepest gratitude…

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Abbreviations

MBS:	Munich Business School
CX:	Customer Experience
CXM:	Customer Experience Management
CRM:	Customer Relationship Management
B2B:	Business-to-business
B2C:	Business-to-consumer
AI:	Artificial Intelligence
OEM:	Original Equipment Manufacturer
FM	Facilities Management
CEO:	Chief Executive Officer
RFI:	Request for Information
RFQ:	Request for Quotation

1. Introduction

1.1 Research Background

It was in 1955 when Abbott first proposed that consumers' real desire is a satisfying experience rather than the product which is just the means to achieve that experience (Abbott, 1955). Fast forward to 43 years later, Pine and Gilmore address the significance of customer experience in the modern world and how businesses can gain a competitive advantage by offering impactful experiences (Pine & Gilmore, 1999). This shift in consumer habits can be explained by the rapidly changing sociocultural environment from one generation to another. Not only is generation Y, also known as millennials, (i.e., people born between 1981 and 1996) the first generation to integrate internet-related technologies in their personal life but they are also the first generation to prefer experiences over products (Kotler, Kartajaya, & Setiawan, 2021). A study carried out by PwC highlighted that 73% of consumers consider customer experience as a key factor in their purchases (PricewaterhouseCoopers (PwC), 2018). Considering the fact that generation Y and the generation Z (i.e., people born between 1997 and 2009) make up majority of the market today, it has become vital for businesses to adapt their offerings accordingly (Kotler, Kartajaya, & Setiawan, 2021). B2C companies like Disney, Amazon, Ikea, and Netflix identified this shift quite early on and incorporated customer-centric strategies into their business models to provide a rich CX. In fact, such businesses have set the bar of customer experience so high that consumers now expect a similar experience in the B2B context as well (McKinsey & Company, 2016).

Customer experience management in a B2B environment is far more complex compared to the B2C environment where interactions are laid out across a single customer journey. These interactions are further enlarged in the construction industry where a variety of stakeholders need to align in every construction project. Therefore, in a B2B setting like the construction industry, businesses need to create a seamless 'business customer experience' for its customers who in turn can provide a similar experience to their customers by solving their problems (Meyer & Schwager, 2007).

1.2 Relevance to the Topic

Customer experience management in a B2B environment is lagging far behind and if we zoom in on the construction industry, it even struggles to be customer centric

(Construction Week Online, 2021). According to McKinsey, the customer-experience index ratings of B2B companies is at an average of less than 50 percent while B2C companies are typically between 65-85 percent (McKinsey & Company, 2016). There are quite a few reasons that explain this gap apart from its complexity, financial reasons, leadership challenges, lack of transparency, to just name a few (Meyer & Schwager, 2007).

The topic of CX and CXM has been researched quite extensively for some time now (Schmitt, 1999; Verhoef, et al., 2009; Gentile, Spiller, & Noci, 2007; Klaus & Maklan, 2012; Gilmore & Pine II, 2002; Lemon & Verhoef, 2016; McColl-Kennedy, Zaki, Lemon, Urmetzer, & Neely, 2019; Homburg, Jozic, & Kuehnl, 2017; De Keyser, Lemon, Klaus, & Keiningham, 2015; Puccinelli, et al., 2009) and while there are quite a few companies who have had much success with the implementation of CX in their business models, new and improved CX strategies are continuously being researched (Gerea, Gonzalez-Lopez, & Herskovic, 2021; De Keyser, Verleye, Lemon, Keiningham, & Klaus, 2020; Becker & Jaakkola, 2020; Kuppelwieser & Klaus, 2021; Klink, Zhang, & Athaide, 2021; Hodgkinson, Jackson, & West, 2022). However, most of the research is heavily focused on the B2C environment with just a mention of B2B, if at all. Research on CX in the B2B environment has just begun quite recently, with limited academic literature (Witell, et al., 2020; Feng, Sun, Fang, & Hasan, 2021; Russo, Confente, Gligor, & Cobelli, 2017; Zolkiewski, et al., 2017; Biedenbach & Marell, 2010; Kushwaha, Kumar, & Kar, 2021) and if CX in the construction industry is looked into, there isn't any concrete research available that specially states CX apart from a few online articles and interviews by experts (PBC Today, 2021; Contracting Business, 2021; Construction Week Online, 2021; Contractor Mag, 2021) but there is plenty of research that investigates relationship of trust against price among subcontractors (Manu, Ankrah, Chinyio, & Proverbs, 2015; Hartmann & Caerteling, 2010; Ulubeyli, Manisali, & Kazaz, 2010) and that is pretty much it. This study seeks to understand the status quo of customer centricity in the construction industry and build upon existing research to enhance CX within the sector.

1.3 Research Objective

The primary objective of this research is to contribute further findings to the literature of CXM in a B2B environment for the construction industry. An industry that is

observed to be one of the most complex B2B sectors in the world, considering its wide network of stakeholders with varied requirements. The research explores how can construction companies align with the latest customer needs by mapping out a customer journey and implement customer-centric strategies across its different phases to provide a consistent CX whilst contributing positively to the business through long-term customer retention. The objectives of this research can be achieved by answering the following questions:

Question 1: What strategies have been identified to improve customer experience?

Question 2: What does the customer journey of B2B companies in the construction industry look like?

Question 3: What is the current state of customer experience management among B2B companies in the construction industry?

Question 4: Which of the currently researched customer experience strategies would have an impact on the construction sector?

1.4 Approach and Structure of the Thesis

Since the topic of CXM in the B2B context is still a developing concept in majority of firms, a deeper understanding of this topic is required through a theoretical overview as well as practical insights. Hence, this research is divided into two main tracks.

In the first track, a theoretical overview is acquired from available literature regarding the emergence of CX as a holistic concept, with a further deep dive into the opportunities, challenges as well as success stories of CX in a B2C as well as B2B environment. This overview is carried out to identify the key strategies that experts propose for CXM. Once a solid understanding of the topic has been established, the focus is then turned towards the construction industry, where literature and expert articles on the emphasis of customer centricity and CX are discussed.

The second track gathers empirical insights through in-depth interviews with key representatives from high-level management of companies in the construction industry. The purpose of these interviews is two-fold, to understand the experience of a customer

at various touchpoints and create a customer journey map across the 3 main phases, pre-purchase, purchase, and post-purchase (Lemon & Verhoef, 2016). Secondly, to gather expert opinions on the CX strategies that have been identified in the literature review.

The study is formulated across six chapters, the introduction being the first one.

Chapter 2 lays down the theoretical aspects gained through literature review of this research across two sub-chapters. The concept of CX is discussed in detail in the first part of this chapter, elaborating on it holistically through its evolution from CRM and its implementation in the B2C and B2B environments. Following which six CXM strategies have been explored in the literature review, concluding with a discussion on three conceptual frameworks proposed by researchers. The second sub-chapter examines the construction industry, elaborating on the complexity of the entire network of stakeholders involved and a brief overview of the status quo of customer centricity in the industry before concluding with the research gap.

The third chapter talks about the research methodology selected for this study. It begins with a proposed conceptual framework, then moves into the research method, design and analysis tools that have been used in this study.

The fourth chapter summarizes the empirical findings of the research by describing key observations and additional insights gathered.

The fifth chapter consists of an in-depth analysis of the findings, combining the literature review as well as the empirical findings of this research and answers of the research questions.

The sixth and final chapter draws conclusions from this study and discusses the resulting implications and recommendations for customer experience management in the construction industry. Finally, the limitations of this study and prospects of further research are highlighted.

2. Literature Review

A structured literature review was carried out from academic journals on a variety of online databases such as the Bayerische StaatsBibliothek (BSB) online library, Google scholar, Emerald Insight and Science Direct. A total of 70 articles were identified using the keywords “customer experience management”, “customer experience”, “B2B”, “B2C”, “customer centricity”, “construction industry” and combinations of the same. The articles were selected in an iterative process where the first iteration focused on getting a broad understanding of the topic of CXM in B2C and B2B environments where relevant themes and references were identified, the next iteration analysed the data collected in the previous iteration to identify articles which have been citied multiple times and the third iteration looked at those highly citied articles before concluding it with a concise research on articles from the past 3 years to highlight the recent developments in the field.

To review the topic of the construction industry, articles focusing on the customer in the industry and additional sources like business magazines and expert articles were used (contractor mag, contracting business, construction week online and tactical project manager).

2.1 Definition of Key Terms

Before diving into the core of the literature review, certain terminologies which have been frequently used in this study, need to be defined:

Customer Centricity: A strategy implemented by firms to develop their offerings according to the current as well as future needs of the customer in order to maximize the long-term financial value (Fader, 2020)

Customer Journey: The set of interactions that take place between the customer and a firm over time (Lemon & Verhoef, 2016).

Touchpoints: Specific points of interaction that take place between a customer and a firm or brand. These interactions may be directly with the firm (e.g., Through advertising efforts of the firm) or indirectly (e.g., Usage of the products from the firm) across

multiple channels (De Keyser, Lemon, Klaus, & Keiningham, 2015; Homburg, Jozic, & Kuehnl, 2017)

Customer Experience (CX): A construct of multiple dimensions that emphasizes on the cognitive, emotional, behavioural, sensorial as well as social responses of a customer to the products and services of a business across the entire customer journey (Lemon & Verhoef, 2016).

Customer Experience Management (CXM): It is a management approach which applies customer centricity across the entire firm and its business functions through shift in cultural mindsets, integrating CX in business strategies and leveraging the core capabilities of the firm (Homburg, Jozic, & Kuehnl, 2017).

Customer Relationship Management (CRM): It is a business strategy to improve shareholder value through the development of relationships between a firm and its key customers or customer segments (Payne & Frow, 2005).

Customer Satisfaction: The positive affective state that is the outcome of customer's comparison of their expectations of a firm's product or service and their perceptions of the same after having carried out a working relationship with them (Russo, Confente, Gligor, & Cobelli, 2017).

Customer Loyalty: A customer's likelihood to do repeat business with a firm (Homburg, Jozic, & Kuehnl, 2017).

Customer Lifetime Value (CLV): A measurement of the net cashflow that a customer would generate in their entire relationship with the company (Kotler, Kartajaya, & Setiawan, 2021; Fader, 2020)

Word-of-mouth (WoM): A form of marketing done by a consumer through daily dialogues of their experience with the brand or firm (Kuppelwieser & Klaus, 2021; Investopedia, retrieved on 2022).

Net Promoter Score (NPS): A metric to measure customer experience through customer satisfaction and loyalty based on a word-of-mouth measure (Zolkiewski, et al., 2017).

Brand Equity: The commercial value that is derived from the customers' perception of the firm's logo, its reputation, and its name (Fader, 2020).

Brand Awareness: The capability of a consumer to recognise a firm or brand (Biedenbach & Marell, 2010).

Moments-of-truth: These refer to the specific moments of interactions between the customer and the firm, where the customer creates or changes an impression of the firm which influence their current and future decisions when faced with complications during the entire customer journey (Klaus & Maklan, 2012).

Value-in-use: A customer's functional and/or hedonic outcome and the objective that is fulfilled by the utilisation of the suppliers' offerings (Lemke, Clark, & Wilson, 2011).

Customer Success: A phenomena that prioritises working proactively with customers throughout the customer journey to maximize value-in-use through improved customer experience (Hilton, Hajihashemi, Henderson, & Palmatier, 2020).

Employee Experience: The employee's perception of the company created by their interactions within that company (Qualtrics, Retrieved 2022).

General Contractor / Main Contractor: The general contractor (also known as the main contractor) is the firm that undertakes the responsibility of the planning, management, co-ordination, and execution of a project (Ulubeyli, Manisali, & Kazaz, 2010).

Subcontractor: The subcontractor is a firm that is hired by the general contractor to deliver specific goods or services that require a specialized set of skills which might be out of the general contractor's expertise. The term sub-contracting is often referred as the process of hiring a subcontractor (Andersen, 1999).

Facilities Management (FM): This organisation manages the facilities of a building or facility after it has been constructed. They manage both day-to-day activities and strategic long-term objectives which maintains a safe and efficient environment for its tenants (Designing Buildings, 2022).

Tender: A tender refers to an invitation to bid for a construction project. This bid usually includes technical as well as commercial details proposed by a construction company to be selected for the project (Designing Buildings, 2021).

2.2 Customer Experience Management (CXM)

The construct of customer experience has been analysed through a variety of perspectives, each of which provide a different definition of this concept challenging the previous ones (Gerea, Gonzalez-Lopez, & Herskovic, 2021). Some studies consider CX to be related to the quality of the firm´s offering while others view it as the response of the customer to the offering (Becker & Jaakkola, 2020) which brought up conflicting opinions whether CX is an independent variable or dependent one. One study suggests that CX begins from the interactions between the customer and the firm which provoke a personal reaction, thus the quality of the offering can be assessed based on customer's expectations and their stimuli to these interactions (Gentile, Spiller, & Noci, 2007). However, the most prominent definition, which also forms the basis of a lot of researchers, is focused on the customers responses. This definition was proposed by Katherine Lemon and Peter Verhoef who look at CX from a multi-dimensional perspective of customer's cognitive, emotional, behavioural, sensorial, and social responses to the offerings of a firm (Lemon & Verhoef, 2016). Larissa Becker and Elina Jaakola later emphasized that these reactions are non-deliberate thus rejecting the fact that customer satisfaction and perceived service quality play a role in CX. But even though the reactions might not be deliberate, they can certainly be influenced (Becker & Jaakkola, 2020) by customer-centric mindsets of the firm, modification of its CX focused business strategies and leveraging capabilities that emphasize on CX. Thus, giving birth to a firm-wide management approach called customer experience management (CXM) (Homburg, Jozic, & Kuehnl, 2017).

2.3 Development of CXM over CRM

2.3.1. Introduction to CRM

The first step for customer centricity is customer relationship management (CRM) (Fader, 2020), a business strategy to extract more value from its customers by building relationships between them. CRM uses historical data of customers which is then communicated to all customer-facing roles and utilised to drive sales by enhancing the execution of activities of the firm (Meyer & Schwager, 2007). The CRM concept started gaining momentum in the 90s through the works of Gartner, IBM, and Siebel systems, who leveraged the use of technology and introduced the first CRM platform as an app called Siebel Sales Handheld (Compare Camp, 2016). An era of CRM platforms then followed as the 21st century began, Microsoft Dynamics 365 Sales, SugarCRM, HubSpot and Salesforce are some of the popular CRM platforms being used today. Using these software systems, firms could consolidate all historical customer data and provide a single up-to-date point of access to the relevant members of the organization, this was particularly useful when customers interact with multiple people within the same firm (Hubspot, retrieved on 2022).

2.3.2. Drawbacks of CRM

While CRM did allow businesses to understand their customers and accurately estimate their customer lifetime value (CLV) (Fader, 2020), its main purpose was to extract more value by maximizing profits, which is more firm-focused rather than being customer-focused (Klink, Zhang, & Athaide, 2021). In fact, it was reported in 2002 that CRM failed to deliver the expected benefits because of the deterioration of customer's trust due to unacceptable CRM strategies implemented by firms (Palmer , 2010) such as the use of customer loyalty programs to advertise new offerings. Another reason was that CRM evolved into a highly complex and expensive IT system which led to the diminishment of enriching individual customer relationships which CRM was introduced for in the first place. Thus, resulting in a staggering 70% of companies admitting failure to their efforts on CRM systems (Fader, 2020). Finally, when looking at the customer's journey, their interactions with a firm are not just with sales, marketing and customer service activities, but includes the entire experience with the consumption of the product, it's value-in-use and the applicable after-sales phases (Verhoef, et al., 2009; Lemke, Clark, & Wilson, 2011) which is out of the scope of

CRM. These exchanges are elaborated even further in a B2B environment where interactions also include operations, finance, logistics, maintenance team and other relevant business functions. Therefore, the responsibility of providing a good experience should not only be with the customer-facing groups but should be consistent across the entire organization (Lemon & Verhoef, 2016).

2.3.3. CXM to the rescue

The aspects of customer-centricity which CRM lacked were fulfilled with CXM. It focused on enhancing value for the customer by understanding their perceptions and feelings at every interaction (or touchpoint) between them and the firm, which was then leveraged to create offerings across the entire customer journey that not only met the customer's expectations but also exceeded them (Meyer & Schwager, 2007; Dhebar, 2013). A common misconception does arise as a couple of firms consider CXM as an advanced form of CRM, however, the two differ from each other in many aspects. CRM focuses on value extraction while CXM has a strong emphasis on value creation, this also makes it a customer-focused strategy unlike CRM which is firm-focused (Lemon & Verhoef, 2016).

2.3.4. Benefits of Customer Experience

Consumers are willing to pay more for a better experience, in fact 80% of consumers share the same feeling (Klink, Zhang, & Athaide, 2021). CX has a significant influence on the customers interactions and perceptions of a firm. It plays a strong role in customer satisfaction, customer loyalty, word-of-mouth, customer engagement, customer profitability and customer lifetime value (CLV) which collectively lead to long-term gain in financial value (Lemon & Verhoef, 2016; Klink, Zhang, & Athaide, 2021; De Keyser, Lemon, Klaus, & Keiningham, 2015; Kuehnl, Jozic, & Homburg, 2019). In fact, a good CXM further increases the overall financial performance during changes in the environmental conditions such as market turbulence, competitive intensity, and technological turbulence (Klink, Zhang, & Athaide, 2021). For instance, the market turbulence brought by the Covid-19 pandemic forced many businesses to transform their experience offerings to either virtual or hybrid and in many instances, digitise for the first time, which was welcomed by customers as it added more value through convenience, and it allowed businesses to retain customers with improved levels of

satisfaction. (Klink, Zhang, & Athaide, 2021; Feng, Sun, Fang, & Hasan, 2021; De Keyser, Verleye, Lemon, Keiningham, & Klaus, 2020; Kotler, Kartajaya, & Setiawan, 2021).

The traditional way of doing business in B2B firms was customers buying from suppliers that offered the lowest price with acceptable quality. Even though customers then realised that the lowest price didn't always lead to the best outcome and then gave preference to certain suppliers through business relationships and repeat businesses, the deciding factor still revolved around the low-cost supplier with acceptable outcomes (Hadjikhani & LaPlaca, 2013). Today, this strategy does not always work, B2B customers of today follow a rational buying criteria and look for value or more specifically, value-in-use which is defined as their functional and/or hedonic outcome and the objective that is fulfilled by the utilisation of the suppliers' offerings (Lemke, Clark, & Wilson, 2011; Russo, Confente, Gligor, & Cobelli, 2017). A good CX is perceived as a higher value-in-use leading to customer satisfaction and customer loyalty. Satisfied customers show stronger commitment to conducting business with respective suppliers and might even perceive switching costs to be high as the value-in-use provided by those suppliers is a better trade-off between benefits and sacrifices (Russo, Confente, Gligor, & Cobelli, 2017). In addition, a good CX also results in increased levels of brand equity across all four of its dimensions, brand awareness, brand associations, perceived quality, and brand loyalty. Thus, increasing the customer's willingness to pay a premium and allowing firms to create new opportunities for higher revenues (Biedenbach & Marell, 2010).

2.4 Customer Experience in B2C and B2B

Retailers and other B2C companies adopted an experience-based approach quite early on by marketing consumption-as-an-experience using strategic experiential modules such as consumer's sensory, affective, cognitive, behavioural, and social-identity experience. This concept of experiential marketing appealed to the consumers and firms benefited as well. The American motorcycle brand, Harley-Davidson, is one such example who don't just market the product, but rather a lifestyle, and its customers reflected this by considering Harley-Davidson as a part of their identity, beginning from the bikes to the apparel and brand tattoos (Schmitt, 1999). But this type of experience focus was only present in marketing and while it did work for a long period of time,

consumer habits changed and people became relatively immune to such marketing techniques (Gilmore & Pine II, 2002). Customers now search for value, their shopping habits have become more deliberate, and they are more mindful of where they spend (Grewal, Levy, & Kumar, 2009).

Researchers propose that the CX in B2B can be implemented in a similar fashion but with a different focus and approach. B2B customers state that in addition to the value created by their suppliers from the product or service, a personalised solution, good implementation, and post-implementation is given a strong emphasis for CX as well (Lemke, Clark, & Wilson, 2011). However, there are quite a few aspects which differentiate CX in the B2B environment from the B2C environment. In a B2B setting, multiple actors are involved, each with a different set of objectives through completely independent, direct, or indirect interactions which take place across multiple customer journeys (Zolkiewski, et al., 2017; Witell, et al., 2020).

2.4.1. Determinants of CX

CX is constructed around the entire journey of the customer and their interactions with the firm. Therefore, several determinants of CX have been identified these include (Figure 1) (1) *The social environment* - this refers to the social environment of the individuals and customer-to-customer interactions. (2) *The service interface* - everything to do with the interactions between the firm and the customer for specific services, this includes the interactions with the staff, the means of technology used for the delivery of the service and the personalisation factors. (3) *Retail atmosphere* - focuses to the physical properties of the retail environment such as the location, the design and layout of the store and sensory aspects like smell and sounds. (4*) Assortment* – referring to the variety, uniqueness, and the quality of the offerings, (5) *Price* - consumers should perceive that the pricing is justified, this determinant also comprises of the promotions and limited-time deals that the firms have in their offerings. (6) *CX in alternative channels* - firms now provide offerings across multiple channels such as websites, mobile applications, and self-service kiosks, the CX from one channel sets expectations across other channels. (7) *Retail brand* - the perceived brand image and its brand equity reflects this determinant. Finally, (8) the consumer's previous experience with that brand (Verhoef, et al., 2009). These 8 determinants can be understood with quite an accurate estimate and then analysed by firms to improve CX. However,

there are 2 additional factors which cannot be controlled by the firm but they do have a significant effect on a consumers CX and those are (1) *Situation moderators* - these refer to external factors such as the climate, the macroeconomic and political factors and the firms competitors and (2) *Consumer moderators* - factors that are intrinsic and personal to each individual these include a whole range of factors such as their personal goals for purchasing, how an individual processes and retains information in their memory, their involvement in the offerings through engagement, their perceived value of the offering, their attitude towards the firm or offering, the consumer's internal emotional state, their reactions in response to the firm's offerings, atmospherics of the firm's store and the consumer's attributions towards the real-time interactions in the store (Grewal, Levy, & Kumar, 2009; Puccinelli, et al., 2009). All determinants collectively construct an experience for the customer.

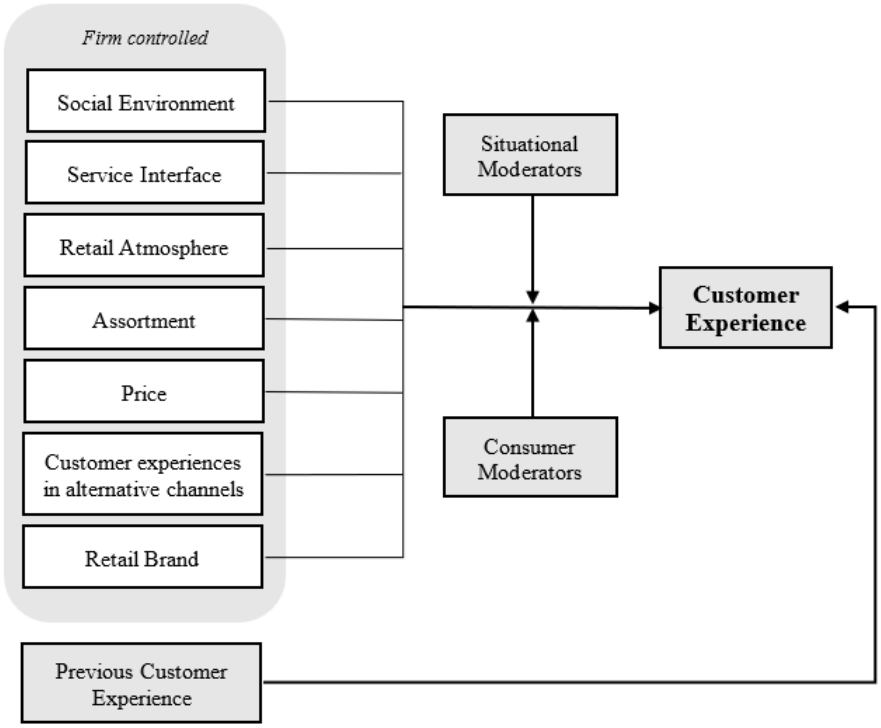

Figure 1: Determinants of customer experience management (Adapted from (Verhoef, et al., 2009))

In the B2B environment, these determinants extend not only to the individuals from the firm but to the enter team or organisation. The difference between the B2B and B2C CX is two-folds, in a B2B environment, firstly, not all determinants contribute equally to the overall experience of the customer, and secondly, some of these determinants might not be relevant at all (Lemke, Clark, & Wilson, 2011). For instance, the retail atmosphere which refers to the physical and sensory properties of the business,

might not be applicable to the B2B environment. On the other hand, the service interface, assortment, price, which directly relate to the value-in-use, and previous experience would play a stronger role in shaping a B2B customer's experience.

2.4.2. Value-in-use for B2B Customers

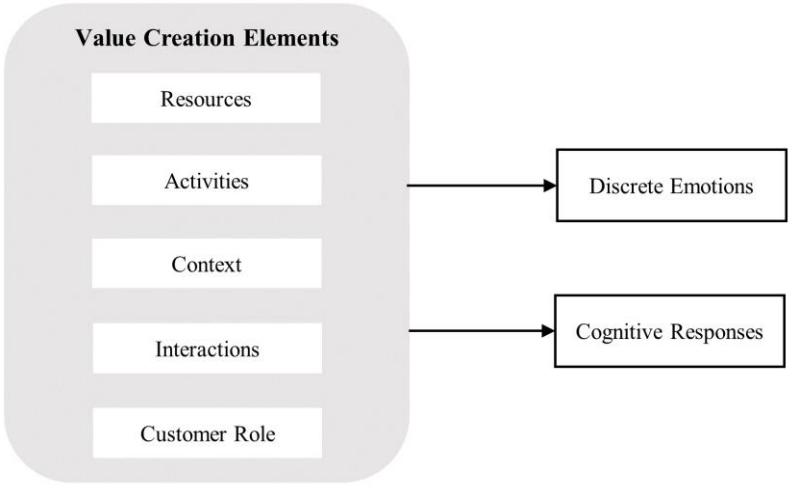

Figure 2: Value creation elements (Adapted from (McColl-Kennedy, Zaki, Lemon, Urmetzer, & Neely, 2019))

B2B customers emphasize on value-in-use, therefore firms need to focus on value creation elements, along with customer discrete emotions (such as joy, love, surprise, anger, sadness and fear) and customer cognitive responses (such as complaints, compliments and suggestions) at every touchpoint which would shape the CX in a B2B context (McColl-Kennedy, Zaki, Lemon, Urmetzer, & Neely, 2019). Value creation elements consist of five different elements (Figure 2) namely, (1) *Resources* – consists of the resources the firm or entity offers, such as core competencies, knowledge, systems, functions, and other skills. This includes its employees and their business functions, its customers and their knowledge of the offerings and experiences, and the competitors who may provide similar offerings. (2) *Activities* – refers to the actual performance of business functions (cognitive or behavioural) such as service planning and service delivery. (3) *Context* – comprises of the situational context of the value creation such service over weekends or requirements for future service visits. This element can also be seen in the Touchpoints, Context, Qualities (TCQ) (De Keyser, Verleye, Lemon, Keiningham, & Klaus, 2020). (4) *Interactions* – relates to the specific interactions carried out between the stakeholders and actors. In a B2B context, these interactions include interactions with individuals, teams, business functions and the firm. (5)

Customer role – part of creating a customer-centric value includes the customer as a value creation element as well. For instance, customer suggestions for improvement of service, joint creation of the offering or personalised solutions are all part of active participation of the customer role (McColl-Kennedy, Zaki, Lemon, Urmetzer, & Neely, 2019). Firms can improve CX by enhancing value created through these value creation elements at every touchpoint across the entire customer journey.

2.4.3. Customer Journey and Touchpoints

CX can be effectively managed by mapping out all interactions (or touchpoints) of a customer over time. These interactions that take place over time are collectively known a customer journey (Parise , Guinan, & Kafka, 2016) and can start from the moment the customer becomes aware of the need of a solution, sometimes even include the realisation of the need as well. This journey can be divided into three major phases, namely the pre-purchase, purchase, and post-purchase (Lemon & Verhoef, 2016) which can then be further broken down into phases that reflect specific stages of the entire customer cycle. Many researchers have proposed their version of the customer journey stages (1) awareness, consideration, purchase, service, and advocacy stages (Parise , Guinan, & Kafka, 2016), (2) problem awareness, identification and definition, problem analysis and definition, options identification, analysis and solution selection which make up the pre-purchase stage; purchase stage and finally the post-purchase was elaborated to delivery, use, supplements, maintenance and disposal, making it a nine-stage CX cycle (Dhebar, 2013) or (3) the 5A's customer path – aware, appeal, ask, act and advocate (Kotler, Kartajaya, & Setiawan, 2021). Each of these stages comprise of multiple touchpoints which contribute to the overall CX.

Touchpoints are quite complex and dynamic and create a unique experience for everyone depending on whether it is a human, physical or digital interactions and at what stage of the customer journey do they take place. They also depend on the context that each interaction is embedded in and what qualities they deliver in that respective phase (De Keyser, Verleye, Lemon, Keiningham, & Klaus, 2020). Therefore, a multi-level analysis across three key contingencies, namely customer, situational and sociocultural, is required for an effective customer journey design (Becker & Jaakkola, 2020). Furthermore, these touchpoints can be either be in direct contact with the firm, through the purchase process, product consumption or service, or it could be indirect

interactions such as customer-to-customer interactions, independent publications, advertising and so on (Meyer & Schwager, 2007). In general, touchpoints fall under four categories (1) *brand owned* – managed and controlled directly by the firm (e.g., advertising, websites, interactions with staff, loyalty programs, mobile applications, and the offering itself) (2) *partner-owned* – managed and controlled by the firm and one or more of its partners (e.g., distributors, multivendor loyalty program partners and communication channel partners) (3) *customer-owned* – not managed or controlled by the firm but refer to the customer actions which form part of the CX (e.g., customer's social media posts, customer reviews, YouTube instructional or review videos) (4) *social/external/independent* – these are neither controlled or managed by the firm nor the customer, but rather refer to touchpoints in the social and external environment of the customer such as peer influences, interactions with other customers, third-party reviews, and other independent information sources (Lemon & Verhoef, 2016). Partner-owned, customer-owned, and social/external/independent touchpoints can also be collectively referred to as 'brand-earned' (Kuehnl, Jozic, & Homburg, 2019).

The customer journeys in a B2B environment are relatively long and might include multiple technical and commercial interactions across a wide range of touchpoints. For instance, the delivery of purchased goods or services in a B2C transaction would involve the firm, the end-customer and maybe a delivery partner, while in a B2B transaction, accurate co-ordination is required between logistic teams of both the customer and the supplier, and includes other actors such as local government authorities, delivery partners and import/export authorities (for international transactions). Moreover, this delivery could span across months. Thus, customer journey mapping in a B2B environment is quite complex and the value created for one actor might be irrelevant for another actor in the same customer journey (Witell, et al., 2020; Zolkiewski, et al., 2017). Nevertheless, mapping out the customer journey would not only help firms create an effective customer-centric journey and but also help them identify moments-of-truth along that journey, thus providing insights from the customer's perspective as well as the firm's perspective (Dhebar, 2013; Homburg, Jozic, & Kuehnl, 2017).

2.4.4. Lack of CX in the B2B Environment

A study reported that only 14% of B2B companies are even customer-centric, let alone having CX strategies implemented in their business models (Feng, Sun, Fang, &

Hasan, 2021). Business leaders do understand the significance of CX but don't appreciate its relevance to their businesses as they prioritise immediate short-term gains over potential long-term gains which require a larger initial investment (Hadjikhani & LaPlaca, 2013). This creates a mismatch between the firm and its customers, who want to focus on long-term benefits and partnerships. Instead of aligning with customer requirements, most firms attempt to upsell or focus on repeat business by deliberately creating switching barriers for short-term gains (Russo, Confente, Gligor, & Cobelli, 2017). This not only has a negative impact on the CX but also on customer satisfaction and loyalty. Meyer and Schwager identified 3 reasons which might explain why business leaders are hesitant to implement CXM in their business models, financial reasons being the first, companies are reluctant to allocate budget to CXM, especially if they are already spending heavily on CRM as they don't see the distinction between CXM and CRM. Secondly, leaders' lack of reaction to changing customer needs, leaders with a customer-facing background are more likely to give importance to CX rather than those from non-customer facing background, thus reflecting the company culture and its strategies accordingly. Lastly, fear of the results, even though a business might be profitable, there is a possibility its customers are unhappy with the experience, if statistical data proves this, companies would be compelled to act on it (Meyer & Schwager, 2007). However, this traditional way of doing business is changing as more and more firms recognize the need to build long-term relationships through various customer centric strategies such as CXM (Bruhn, Schnebelen, & Schäfer, 2014).

2.5 Customer Experience Strategies

Six strategies, conceptualized by researchers, have been identified in this literature review. Some of which have already been implemented across selected firms.

2.5.1. Co-creation

Traditionally, firms created offerings leveraging the best of their knowledge and resources and then they would target and manage the right customers who would find value in that offering. In other words, they would create an offering and then look for people who they created the offering for. Customers were never involved in the creation of the firm's offerings as they were never seen as a value creation element, however, the customers of today are not the same (Payne, Storbacka, & Frow, 2008; De Keyser, Lemon, Klaus, & Keiningham, 2015; Vargo & Lusch, 2004). They are smart

customers who are well-informed, connected, empowered, and actively look for personalised experiences, thus instead of firms targeting the 'right' customers, customers target the 'right' firms instead. Therefore, as mentioned earlier, customers should be an integral part of the value creation process. This can be done through high-quality interactions and discussions which enable them to co-create a solution which offers them a unique personalised experience and gives the firm a competitive advantage for doing so (Puccinelli, et al., 2009; Zolkiewski, et al., 2017). Other ways firms can provide co-creation opportunities for its customers is using new technological breakthroughs such as the use of online platforms, implementing the changes in industry logics like the shift to self-service technologies or adapting to customer preferences and lifestyles (Payne, Storbacka, & Frow, 2008).

Firms have already been creating offerings in the past two decades which actively involve the customer for a better CX, these include automated teller machines (ATMs), self-checkout counters at the supermarkets or industrial customers co-ordinating with suppliers to create one-of-a-kind projects (Prahalad & Ramaswamy, 2004). In fact, some firms such as Build-A-Bear have created an offering in which customers are willing to pay for an experience that gives them the opportunity to co-create a product (Puccinelli, et al., 2009).

For high value co-creation, four building blocks were identified (1) *Dialogue*, (2) *Transparency*, (3) *Access* and (4) *Risk-benefits*. Therefore, a two-way dialogue through in-depth discussions needs to be established between the firm and the customer with full transparency and access to the same information. This dialogue should address the interest of both entities and should analyse the risks and benefits that accompany the co-created solution. Traditionally, firms have been opposed to such level of transparency and customers have been hesitant to take responsibility of the risks (Prahalad & Ramaswamy, 2004; Payne, Storbacka, & Frow, 2008). For instance, the co-created solution could become so unique and customised that the firm might become the single supplier of that solution and risks putting the customer in a locked-in position which would jeopardise customer loyalty (Biggermann, Kowalkowski, Maley, & Brege, 2013). Therefore, well-informed customers will be better equipped to co-create a unique solution and accept the associated risks, while firms will be more willing to innovate new ways for value creation (Vargo & Lusch, 2004; Nohutlu, Englis, Groen, & Constantinides, 2022).

2.5.2. Big Data Analytics

Technological developments have provided firms the means to capture all sorts of data through various data collection methods including machine generated real-time data, social data, transactional data and so many more. This qualitative and quantitative data when analysed properly can be used to understand the CX and adapt interactions to gain a competitive advantage (McColl-Kennedy, Zaki, Lemon, Urmetzer, & Neely, 2019; Zolkiewski, et al., 2017). Some experts have even predicted that by the year 2025 about 463 exabytes of data will be generated daily (Forbes Business Council, 2021). However, this form of big data has no meaning unless it is properly mined and analysed using advanced data analytical methods to extract valuable insights such as corelations, hidden patterns, trends, and customer preferences. This form of data analysis is known as big data analytics (BDA) and among other benefits, it can improve the CX by providing personalised solutions to the customers, retain customers by aligning offerings with market trends, build loyalty by understanding customer needs and trends through behaviour tracking and provide predictive insights to identify risks and opportunities (Market Trends, 2021; McColl-Kennedy, Zaki, Lemon, Urmetzer, & Neely, 2019).

CXM requires firms to collect data on all touchpoints in the physical, social, and digital realms across the entire customer journey and analyse this data with the primary goal of understanding customers and continuously improving CX (Holmlund, et al., 2020; Bolton, et al., 2018). The collected raw data ranges from highly structured data such as customer satisfaction surveys, NPS surveys, observed behaviour and customer ratings on independent online platforms to highly unstructured data such as survey responses from open-ended questions, social media posts, voice recordings and independent video logs. BDA can analyse this raw data using sophisticated analytical methods and algorithms and classify it into four types, (1) *Descriptive BDA* which analyses historical data to simplify what actions took place, (2) *Inquisitive BDA* that analyses why certain actions were carried out to validate or adjust research hypotheses, (3) *Predictive BDA* identifies future trends and possibilities through predictive analysis, and finally (4) *Prescriptive BDA* which prescribes alternative solutions and the best course of action. These four types of analysis reveal insights which help firms understand the customers attitude, psychographics, behavioural actions, and consequences as well as market insights which firms can then study and design touchpoints

accordingly. Firms have already been using BDA for CXM and are coming up with innovate ways to engage customers for long-term retention and loyalty. For instance, the music streaming giant, Spotify, provided each user a brief statistical report on their listening habits with frequencies of artists and genres as part of their year-ending #2019wrapped campaign (Holmlund, et al., 2020). This not only made customers aware of the collected data but also actively engaged them as they shared those statistics over social media. One big challenge when it comes to collecting data of customers is data privacy, however customers are willing to share some of the personal information if they find value in the way it is being used by the firm (Parise , Guinan, & Kafka, 2016). The key to a good CX is to collect and analyse the right data not just more data, in other words, to gather insights that would align with the firm's as well as the customer's goals.

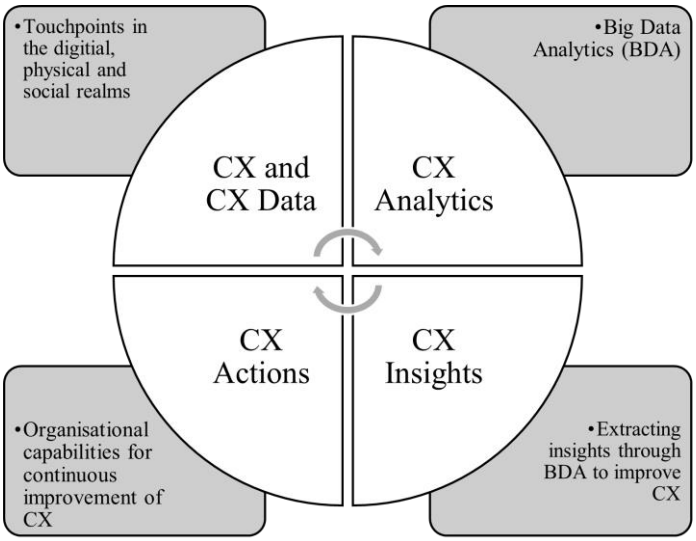

Figure 3: Customer experience management using big data analytics (Adapted from (Holmlund, et al., 2020))

2.5.3. Outcome-based Measures

It was 1962 when the automobile company Rolls Royce launched the 'Power-by-the-Hour' approach for aircraft engines. A move which shifted the business model from selling aircraft engines to selling a complete engine and accessory replacement service on a fixed-cost-per-flying-hour basis, an outcome-based business model innovation. This customer-centric strategy perfectly aligned the needs of the customer as they didn't have to worry about the scheduled and unscheduled maintenance cost or the low quality of products since they only paid based on engines' uptime. Rolls Royce also had the incentive to improve the quality of their products and have real-time

performance information since their financial performance was dependent on the performance of their engines (Keningham, et al., 2020; Rolls-Royce, 2012). This 60-year-old innovation greatly improved customer experience in a B2B context by switching from inputs-outputs measure of selling aircraft engine and maintenance services to outcome-based-measures of selling engine's flying hours through a 'Engine-as-a-Service' model (Zolkiewski, et al., 2017).

Outcome-based measures can be defined as a metric that can be used to measure the effectiveness of an activity and measuring its success from the point-of-view of the customer (RG Perspective, 2017). It is the next step into CX and is the centrepiece to delivering true value-in-use and forms the basis of customer success (Equation 1), which combines CX that is nice-to-have and outcomes that are must-have (Forbes Communications Council, 2021; Hilton, Hajihashemi, Henderson, & Palmatier, 2020). It shifts the focus from the static and operational perspective of 'Did the customers like it?' to a strategic and co-created customer-centric perspective of 'What difference did it make?', with strong emphasis on the ultimate goal. Outcome-based measures are more than just having joint key-performance-indicators, it includes the sharing of risks as well as the benefits, by the firm and by the customer. This requires a continuous exchange of information and development of capabilities to have a better understanding of what is strategically important to both (Zolkiewski, et al., 2017).

$$Customer\ Success = \frac{Employee}{Experience} + \frac{Customer}{Outcomes} \Big/ \frac{Customer}{Experience}$$

Equation 1: Formula for customer success (Adapted from (Salesforce Market Strategy, 2020))

Organisations that prioritize customer-centric strategies such as outcome-based-measures based on co-creation and shared outcomes along with agile actions will be able to successfully deliver what customers really want the most and that is outcomes (Salesforce Market Strategy, 2020).

2.5.4. Omnichannel Strategy

An omnichannel strategy is a combined approach of sales and marketing to provide customers a fully integrated shopping experience across all channels throughout the customer journey. This includes touchpoints across all physical, digital, and social realms such as brick-and-mortar stores, websites, mobile applications, and interactive kiosks (Shopify, 2020). The objective of such a strategy is to blur the lines between the physical and digital worlds and provide a seamless CX in all channels (Kotler, Kartajaya, & Setiawan, 2021). Although physical brick-and-mortar stores and face-to-face meetings are not going to be replaced, firms need to assess and revisit their in-store CX and implement a similar strategy in their digital channels. A big advantage of digital channels is that the customer journey can be statistically recorded and analysed which not only allows firms to understand their customers even better, but also provides an enriched CX through the convenience of multi-channel integration (Parise , Guinan, & Kafka, 2016; Holmlund, et al., 2020).

It was between the years 2005 and 2014 when the need for multichannel integration emerged resulting in selected large retailers like Amazon implementing such strategies to improve their CX, but it was not until the year 2020 when the Covid-19 pandemic pushed majority of the big retailers towards omnichannel strategies. Thanks to e-commerce platforms like Shopify, even small retailers were able to launch an online store for the first time (Gerea, Gonzalez-Lopez, & Herskovic, 2021). This also aligns with the needs of Gen Y and Gen Z customers, which make up majority of the market today. These customers are smart customers who conduct their own online research and educate themselves before deciding to purchase (Kotler, Kartajaya, & Setiawan, 2021). B2B managers need to consider having an omnichannel CX as well, since their customers expect B2B brands to interact in a similar fashion (Gerea, Gonzalez-Lopez, & Herskovic, 2021). Just like the B2C environment, these customers might begin their customer journey by doing their own research through digital channels like the supplier's website, social media channel, reviews and even offline through customer-to-customer interaction. However, when information gets too complicated, customers would like to just open a chat box, start a video call, or schedule a face-to-face meeting within a couple of hours and get personalised expert advice through a real-time two-way human interaction (Harvard Business Review, 2022). Today, B2B customers use at least ten different channels to interact with suppliers, which is double the number of

channels used by B2B customers just 7 years ago in 2016. In fact, 94% of B2B customers say that an omnichannel strategy is as effective or even more when compared to the traditional sales model prior to the Covid-19 pandemic. In a recent study by McKinsey a 'rule of thirds' was observed, which states that B2B customers have adapted to an evenly divided mix of sales channels namely, traditional sales (e.g., in-person meetings), remote human interactions (e.g., video or telephone calls) and self-service channels (e.g., e-commerce). Nevertheless, even though the Covid-19 pandemic accelerated this shift of firms to omnichannel strategies across digital touchpoints, physical touchpoints such as face-to-face meetings are here to stay and play an equally divided one-third role in improving sales by offering an improved CX (McKinsey & Company, 2021).

2.5.5. Artificial Intelligence-based Interaction

This kind of interaction involves an artificial intelligence (AI) based computer program designed to replicate a conversation with a user in natural language over digital platforms such as websites, mobile applications, or messaging platforms such as WhatsApp and Facebook messenger. For instance, chatbots (derived from 'chat robot') are an example of such a program and are used quite prominently utilised in B2C online platforms. Using big data, low-cost processing power and technologies like machine learning and natural language processing (NLP), these programs can improve the quality of interactions through better understanding and decision-making. They can also be programmed in a way which allows them to actively learn from user interactions and improve their performance (Salesforce EMEA, 2022; Entrepreneur, 2022).

While AI-based interactions cannot replace human interactions, they can take over small-scale repetitive tasks such as providing general information like a firm's contact and location details, responding to frequently asked questions, navigating through the website, accessing general product information, tracking orders, surveying customers, and redirecting requests to an employee. Although these tasks provide a better CX when handled by an employee, customers do value the quick response provided by chatbots as it drastically reduces customer waiting times (Salesforce EMEA, 2022; ForbesWomen, 2018). One such example is of the pizza chain, Dominos who were able to benefit from reduced waiting times during peak hours by implementing a chatbot on their website as well as mobile application to assist in the purchase journey of

their customers (Kushwaha, Kumar, & Kar, 2021). AI based interaction can also help in lead generation, in fact, some advanced level AI can also nurture these leads to the middle of the sales funnel by responding to user queries with precise and relevant information (Kotler, Kartajaya, & Setiawan, 2021). Furthermore, researchers have already identified other possible benefits of AI in business planning process such as customer segmentation, positioning and targeting, understanding market situation and sentiments and consumer engagement and AI-based interaction is one just application (Kushwaha, Kumar, & Kar, 2021).

Irrespective of such advanced features, customers still prefer employee-based interactions and get a better CX when dealing with a person. However, when customers have a strong trust in the brand and are used to digital services as part of their daily lives, they are more likely to have a positive CX when interacting with an AI program as long as the information provided by the AI is accurate and relevant to user's request (Kushwaha, Kumar, & Kar, 2021).

2.5.6. Digital Twin

The internet of things (IoT) brought by industry 4.0 allowed the integration of IoT technologies into products and processes by sending information back to the firms which provide in-field performance and insights. This technology brought a plethora of opportunities for businesses such as monitoring processes, detecting malfunctions, analysing performance, and tracking progress, all of which can be leveraged to provide a better customer service, thus improving CX (Hodgkinson, Jackson, & West, 2022). One such technology that emerged with the help of IoT is the digital twin (DT), a dynamic virtual representation of a physical object or process in real-time that is constructed with the help of sensors that send real-time information over the internet (Bolton, et al., 2018). In addition to the IoT benefits mentioned earlier, DT's connection of the digital and physical realms can be leveraged in remote monitoring and performance enhancing through predictive insights. For instance, elevator manufacturers have been leveraging IoT and DTs in the Elevator Monitoring System (EMS). This system collects, transmits, and processes real-time data from elevators which is used by customers for monitoring performance and immediate rescue purposes and by firms to generate reports and diagnose faults for maintenance purposes (Zhou, Wang, & Liu, 2018). Today, B2B companies are implementing DT's in their offerings to add more

value to their offerings such as the *OpenBlue* system by Johnson Controls, the heating-ventilation-air-conditioning company, which aims to make smart buildings by analysing data from its products for performance enhancing and energy-saving (Johnson Controls, retrieved on 2022). Another example is the *Max* system by the elevator manufacturing company, TK Elevator, a real-time cloud-based predictive maintenance solution that is used to increase efficiency and availability of elevators by predicting maintenance issues before they occur through real-time diagnostics (TK Elevator, retrieved on 2022). Such features not only improve the quality of the offerings by firms but also the CX across the post-purchase customer journey.

2.6 Customer Experience Frameworks

After a review of 70 peer-reviewed articles, three frameworks were selected based on their relevance in the B2B environment.

2.6.1. Framework #1 – proposed by Lemon & Verhoef

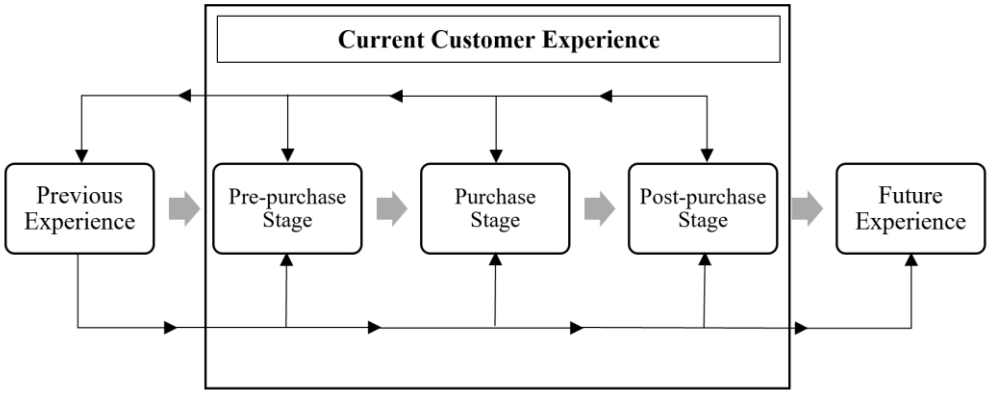

Figure 4: Framework #1 proposed by Lemon & Verhoef (Adapted from (Lemon & Verhoef, 2016))

As mentioned earlier in section 2.4.3, Lemon and Verhoef conceptualised the customer journey as a three-stage iterative process, namely pre-purchase, purchase, and post-purchase phases. These three stages collectively construct the entire CX and would have a direct influence on the pre-purchase process in the next business cycle. This pre-purchase stage comprises of all touchpoints with the firm before any transaction has occurred, therefore, it includes need recognition, search, and consideration. The following stage would then cover all touchpoints between the firm and the customer in the actual purchasing process. Finally, the post-purchase stage refers to all interactions that take place after the purchase transaction and delivery of goods or services is

completed. It includes the consumption of the product or service, after-sales engagements, and maintenance related interactions. Each of these stages will consist of four type of touchpoints, brand owned, partner owned, customer owned and social/external which can be translated for the B2B context to touchpoints controlled by supplier, partner, customer or external actor (Lemon & Verhoef, 2016; Witell, et al., 2020).

This framework (simplified in Figure 4) covers the CX based on a general customer journey which is applicable to both B2C as well as B2B companies without any differentiation between the two. While this framework covers the customer interactions over time, it does not specifically highlight the complexity of the B2B environment and the additional determinants, therefore, a microscopic look at CX in the B2B environment is required.

2.6.2. Framework #2 – proposed by Wittel, Kowalski, Perks, Raddats, Schwabe, Benedettini & Burton

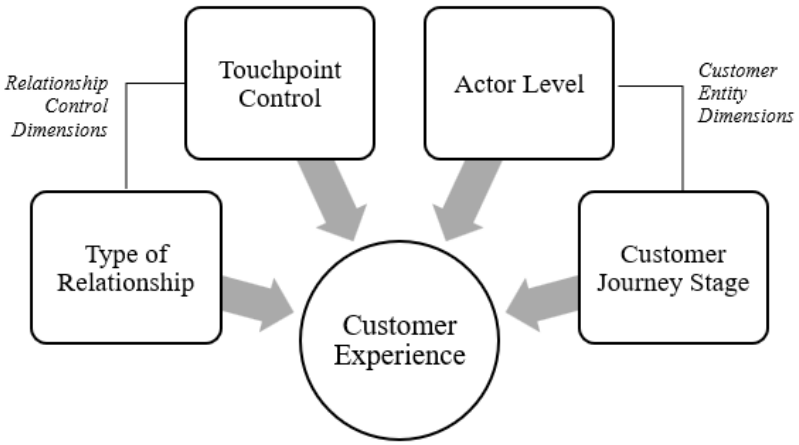

Figure 5: Framework #2 proposed by Wittel, Kowalski, Perks, Raddats, Schwabe, Benedettini & Burton (Adapted from (Witell, et al., 2020))

Researchers agree that while there are quite a few transferrable features of CX from B2C to B2B environments, the CX in B2B cannot be measured in the same way because the focus in these businesses is on value-in-use which shapes the CX. Moreover, the capabilities and interactions of multiple stakeholders such as the supplier, the partner and the customer's organisation are included in creating the experience (Zolkiewski, et al., 2017). This multidimensional framework identifies four dimensions in the B2B environment that can be classified under two aspects, relationship control and customer entity. These aspects are associated with relationship

expectations, actor interactions and temporal challenges. Furthermore, it highlights five challenges that apply to B2B firms across these issues.

Relationship control refers to managing the relationship types between the supplier and the customer. To have a successful CX, both parties should align the outcomes and expectations from their business relationship. First dimension in this aspect refers to the type of business relationship between the two actors, which could either be a transactional relationship, that involve single, short-term exchange events, or a relational relationship, that looks at establishing multiple exchanges over a longer period. The challenge occurs when there is a mismatch with regards to the state of relationship from the point of view of the supplier and the point of view of the customer, in other words, one looks for transactional relationship and the other considers a relational relationship. The second dimension is the control of touchpoints among the different actors involved. In a B2B environment, the interactions take place across multiple actors such as the customer, the supplier, or a partner, and in each of these actors, touchpoints maybe with individuals, organisational units, or functional teams. Therefore, managing touchpoints across such a network of actors is critical for CXM and an actor who has the hold over the touchpoint will contribute towards the overall CX to a greater extent. For instance, when an interaction is carried out between a partner and the customer, the touchpoint is associated with the partner who contributes towards the CX, while the supplier has less or no control over this interaction. This creates a challenge for the supplier as the control of the touchpoint is not with them, thus having a lack of influence on CX, which is created by the partner instead.

The other two dimensions relate to the aspect of customer entity and are outside the control of the supplier, yet they play an influential role in the CX. The third dimension is function and hierarchical level of the customer. CX in the B2B environment is much more dynamic as it needs to be adjusted according to the function and hierarchical level of the individual or team of the customer who interacts with the supplier. This is mostly because different functions and hierarchical levels have different requirements and expectations within the ecosystem of the same project. For instance, the purchasing team would be more cost-focused while the operations manager looks for a smooth execution within the allocated timeframe. While different functions serve a different purpose in the entire eco-system, they also create siloed CXs, thus creating a challenge for the supplier as the CX created is inconsistent across the customer's organisation.

The fourth and final dimension relates to the stage of the customer journey and the actors that are involved in each of its stages from both the customer's as well as the supplier's side. There might be instances where multiple actors participate in one stage of the customer journey, but they might not appear in any other stage which creates a mismatch across the customer journey resulting in an impaired CX (Witell, et al., 2020).

This framework (simplified in Figure 5) takes a closer look at the B2B environment and identifies dimensions that are specific to the B2B firms and how they contribute to the dynamics of CX. However, as highlighted earlier researchers agree that B2B customers look for value-in-use which contributes the most towards the CX. While this framework highlights very valid challenges in the B2B environment, the aspect of value-in-use is missing.

2.6.3. Framework #3 – proposed by Lemke, Clark, and Wilson

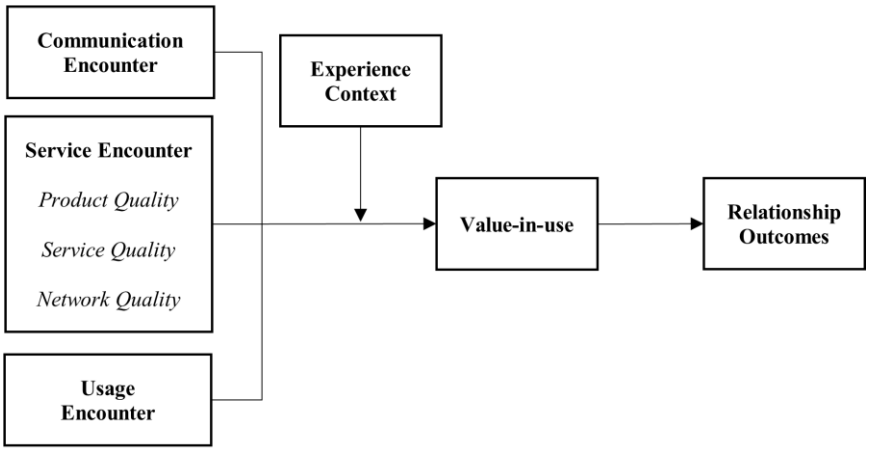

Figure 6: Framework #3 proposed by Lemke, Clark, and Wilson (Adapted from (Lemke, Clark, & Wilson, 2011))

This conceptual framework draws from the service dominant logic on the basis that CX is constructed on the perceived value-in-use. It is a holistic model on customer experience quality, which is defined as the perceived quality or excellence of the CX. In this framework, customer experience quality categories are divided into 3 groups, the communication encounter, the service encounter, and the usage encounter.

The communication encounter is further divided into 2 sub-categories, *communication* which refers to effective, proactive, and transparent communication between the

supplier and the customer throughout the customer journey, and *relationship with company* relates to the relationship between the customer and the supplier over the course of a series of transactions and exchanges.

The service encounter categories attributes to the product and service delivery. There are 3 sub-categories within the service encounter, *product quality* which refers to the selection of products and their value for money, *service quality* describes 8 attributes based on the delivery of service. These eight attributes are accessibility, value for time, caring – attitude, caring – procedures, reliability, atmosphere, application of knowledge and personalization. Finally, the *network quality*, a sub-category which is identified only in the B2B environment and draws attention to the competences provided by the company through its internal and external networks.

The final category of customer experience quality is the usage encounter which talks about encounters based on *relationship with other customers*, their role and involvement in the value creation such as peer-to-peer encounters, and the *social impact* that is created on the customer's image because of the supplier's product or service.

The above 3 categories, communication encounter, service encounter and usage encounter collectively contribute to the value-in-use and the customer experience quality, however, there is one additional category which also plays a significant role which is experience context. This category refers to the external expectations that customers associate with the industry, market or the offerings and is divided across four sub-categories, *hedonism of product category, involvement, product complexity and relationality*.

Customer experience quality in this framework (simplified in Figure 6) leads to outcomes such as commitment, purchase intention, customer retention and word-of-mouth. A microscopic look on value-in-use is discussed in this framework, which as highlighted earlier has a direct influence on the CX in the B2B environment, however, to holistically study the CXM in the B2B context, the customer journey and the touchpoints across its different stages are crucial which were conceptualised in the previous two frameworks quite extensively.

2.7 Construction Sector

Project owners (often referred to as clients), designers, general contractors, sub-contractors, project managers, suppliers, service providers and legal authorities are just some of the stakeholders that need to align and co-ordinate their services. Each of these stakeholders or actors play a vital role in the eco-system of a construction project which can either directly or indirectly influence its progress (Jin, Zhang, Liu, Feng, & Zuo, 2017). The construction sector is one of the most complex B2B setting with multiple customer journeys taking place simultaneously that might span across years which make designing a good CX a challenge.

2.7.1. Organisation Structure

To understand CXM in the context of the construction industry, the organisation structure and its key stakeholders needs to be understood.

2.7.1.1 Client

Each construction project begins with the client who is also referred to as the end-client, owner, project sponsor, owner, or developer. The client, who could be an individual or an organisation, has the highest level of interest as well as influence over the project as they are the ones who finance the entire project and look for long-term value. They hire construction professionals to design and construct the building and pay for the cost of execution of their activities. Therefore, any positive or negative impact on the costs, schedule or quality of the project would directly impact the client and their expectations (Jin, Zhang, Liu, Feng, & Zuo, 2017; Othman, 2014; TacticalProjectManager, retrieved on 2022).

2.7.1.2 Lead Consultant

The lead consultant manages and controls a team of design consultants, sub-consultants and architects who are collectively are responsible for the design of the construction project. They are hired and appointed by the client to compensate for the lack of in-house expertise in construction management. They work in close collaboration with the client to understand their vision and expectations for the project and design it accordingly. Lead consultants might not necessarily have a high influence on the project but are highly interested in the success of the project as it would positively or

negatively impact their business. However, they are hesitant about collaborating with other stakeholders to improve the efficiency of the project as they perceive it as a loss of control (Design Buildings, 2013; Design Buildings, 2015; Jin, Zhang, Liu, Feng, & Zuo, 2017; Black, Akintoye, & Fitzgerald, 2000).

2.7.1.3 Main Contractor

The scope of work of the main contractor, also known as general contractor, is more focused towards the building of the construction project. They are responsible for the management, planning, co-ordination, and execution of all activities required for the completion of the project. Main contractors ensure that projects are carried out according to the required quality standards, specifications, and expectations of the client (Ulubeyli, Manisali, & Kazaz, 2010; TacticalProjectManager, retrieved on 2022). Hence, they carry a strong interest and a high level of influence in the project since its success directly reflects their business.

2.7.1.4 Subcontractor

Subcontractors are hired by the main contractor to undertake the delivery of goods or services which is out of their expertise. They are stakeholders which specialise in a certain aspect of construction, for example, an electric subcontractor is responsible for the delivery and installation of electrical panels, transfer switches, wiring and other related equipment. Likewise, there are many other subcontractors such as excavation, sheet metal work, plumbing, heating ventilation air conditioning (HVAC), carpentry and many more subcontractors who co-ordinate with the main contractor for the delivery of their services. Their level of influence on the project is low since they only work on a small portion of the project, however, their services contribute directly to the main contractor's scope, who in turn has a high influence on the outcome (Andersen, 1999; Levelset, 2021). Therefore, collectively, subcontractors play a crucial role in the success of the project.

2.7.1.5 Other Stakeholders

The above-mentioned stakeholders are the major participants in almost all construction projects, however, there may be other stakeholders involved who might play either a passive or active role in the project. These include facilities management (FM) companies, shareholders, legal authorities, insurance companies, the occupants of the

property and many more, they are identified according to the risks they face and are engaged with accordingly for risk mitigation and a good working relationship (Jin, Zhang, Liu, Feng, & Zuo, 2017).

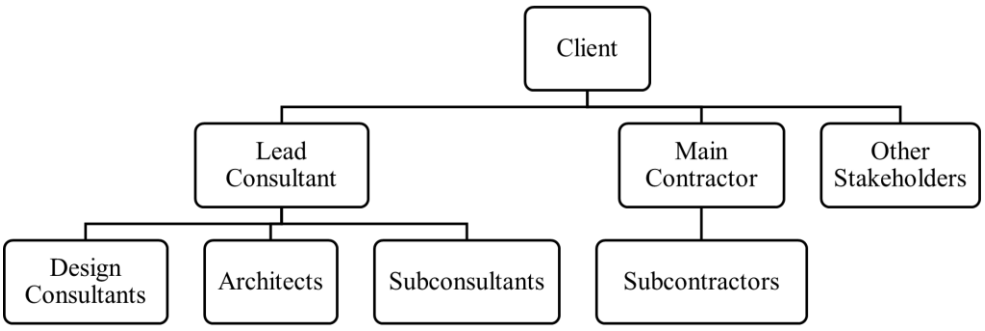

Figure 7: Construction industry's organisation structure (Own figure, 2022)

2.7.2. Customer Experience in the Construction Industry

As identified earlier, CX in the B2B environment has been gaining momentum quite recently as businesses realise its need, which is also emphasized by researchers. However, when it comes to the construction sector, there is a major lack of research in this aspect. One reason for this could be the culture and strategies of conducting construction business relied more on the traditional ways such as counting on manual processes and in-person interactions. This resulted in the industry being technology deficit and hesitant to adapt digitalisation (Construction Week Online, 2021). Another reason could be hesitation due to the complexity of the stakeholders and their different goals from each construction project. Nevertheless, changing sociographic and psychographic factors of customers such as changes in lifestyle, urbanisation and rise of dual-income families has evolved the expectations of not only the client but also other stakeholders in the industry. Furthermore, like many other industries, the Covid-19 pandemic also accelerated this need and caused construction firms to re-think their strategies to meet customer expectations (Construction Week Online, 2021; Contractor Mag, 2021; PBC Today, 2021).

2.7.2.1 Relationships between Stakeholders in Construction

Even though CX is a new topic, the concept of relationship building between the stakeholders and end-client satisfaction in the construction industry has been observed and researched quite extensively, which lead to benefits that also improve CX (Manu, Ankrah, Chinyio, & Proverbs, 2015; Hartmann & Caerteling, 2010; Ulubeyli,

Manisali, & Kazaz, 2010; Black, Akintoye, & Fitzgerald, 2000; Othman, 2014). Therefore, a conclusion can be drawn that CXM among construction companies will result in benefits that are inclusive of the outcomes of maintaining good relationship and client satisfaction strategies.

2.7.2.2 Partnering

Partnering, also known as alliancing, was proposed by researchers to avoid traditional opposing relationships between two businesses, lack of flexibility in specifications, decision making with limited knowledge and focus on only short-term goals and benefits. It is defined as the phenomena of two entities working together in a transparent and trust-based environment to execute a project efficiently and free of conflicts. This strategy mitigates the shortcomings of traditional adversarial relationships by allowing the two firms to meet client expectations in record time, achieve a higher quality of execution, implement a solution-oriented approach with flexible solutions and complete delivery of liabilities with optimised costs, which collectively contribute to higher customer satisfaction (Black, Akintoye, & Fitzgerald, 2000; Othman, 2014). Factors that contribute to successful partnering of two firms are mutual trust, effective and transparent communication, commitment of senior managements, execution that aligns with predefined objectives, existence of a dedicated team, flexibility towards changes and a commitment to regular development (Black, Akintoye, & Fitzgerald, 2000). However, in practice, conflicts do occur between the two entities, mainly because of unethical practices such as passing down risks or perceived opportunistic behaviour such as improving self-profitability are carried out in either or both firms (Manu, Ankrah, Chinyio, & Proverbs, 2015).

2.7.2.3 Trust-based Relationship

Mutual trust was identified as one of the factors for successful partnering and is applicable to all stakeholders in construction industry. Nevertheless, there is one B2B relationship in the ecosystem of the industry that plays a stronger role than others and that is the trust-based relationship between the main contractor and its subcontractors. Traditionally, price has been the basis of deciding subcontractors, after one or more rounds of competitive bidding, as this improves the profitability of the main contractor. However, this strategy of selecting subcontractors gave rise to a whole range of negative outcomes, such as poor quality of work, high number of change orders, unbudgeted

claims, cost overruns and extensive delays which not only had a negative impact on the client satisfaction but also created mistrust and disputes among stakeholders. Main contractors then realised that the lowest-cost might not be the best value-for-money, or in other words, value-in-use (Ulubeyli, Manisali, & Kazaz, 2010). This makes sense since up to 90% of the construction works are carried out by subcontractors and the main contractors' own project success, based on quality, time, and cost, is heavily reliant on the interdependent services of the subcontractors. On the other hand, main contractors find it challenging to accurately evaluate subcontractors based on their priorities, quality, capability, and resources. Thus, they are more confident working with subcontractors who they have had previous experience with as they have more faith in the capabilities of that subcontractor and have a stronger trust-based relationship. In fact, a known subcontractor is 95% likely to be selected over an unknown subcontractor, even if the unknown subcontractor delivers a higher quality of work. Although main contractors rate price as the most dominant selection criteria, trust built on previous experience plays a significant role in the decision-making process (Hartmann & Caerteling, 2010).

2.7.2.4 Customer Satisfaction and Loyalty

When customers are repeatedly satisfied with multiple exchanges, it leads to long-term customer loyalty. Even though loyal customers are more profitable, less sensitive to price and become advocates through word-of-mouth, client satisfaction has not been prioritised in the construction industry as much as it should be. Partnering and early engagement with the customers have been identified as key drivers for customer satisfaction (Black, Akintoye, & Fitzgerald, 2000; Othman, 2014). It allows firms to proactively understand the customers' requirements through continuous exchange of information and then create personalised offerings instead of reactive feedback when a problem has occurred which also positively influences CX. In his research paper, Othman conceptualised an international index for customer satisfaction in the construction industry and identified five key principles for this index, 1) *Whole project perspective* – that considers the entire lifecycle of the project, from the need recognition in the pre-sales stage to the post-sales activities related to the project, in other words the entire customer journey, 2) *Dynamic and flexible approach* – having the capability to implement an agile approach to customer requirements, 3) *Overall customers involvement* – continuous engagement of the client for better understanding, collaborative problem-

solving and personalised solutions, 4) *Coordination, collaboration and communication* – closely related to the previous two principles, however, in this case the emphasis is on the internal business functions of the company and its efficiency towards an agile environment, 5) *Creativity* – continuous innovation allows firms to develop creative solutions which also have an impact on customer satisfaction. Furthermore, client satisfaction has also been recognised as a factor to measure the success of a construction project (Othman, 2014).

2.8 Summary and Research Gap

The literature review in the previous section clearly reflects that the topic of CX has been heavily researched in the past two decades, however much of the research was focused on the B2C environment and only recently have researchers started looking into the B2B context and they agree that there is a lack of research of CXM in the B2B context. In addition, six CXM strategies were identified and explored in detail that might have an impact on the CX of B2B customers. In the latter part of the section, an understanding of the organisational structure of the construction industry was established along with its dynamics relating to customer centricity.

There is a lack of research on CXM in the construction industry. Even though the dynamics of the relationships between the stakeholders have been explored extensively, it was mostly focused on relationship building for profitability which is not the focus for CXM. Nevertheless, the measures highlighted for relationship building included early engagement of customers to understand their needs, high quality delivery of products and services and a professional and reliable after-sales services which contribute directly to CX in the dimension of value-in-use. However, CXM through the analysis of touchpoint control across the different stages of the customer journey has not been looked at. This research aims to understand the current perception of CXM in the construction industry and fill the gap by understanding the customer journey through empirical inputs from key professionals in the industry, analyse its potential impact and identify the challenges firms face when implementing CXM.

A thorough understanding of CXM in the B2B context was first established, followed by a discussion on three frameworks proposed by researchers. Drawing on the results, transferrable CXM strategies from B2C to B2B environments were identified along

with challenges that B2B companies face to implement a CXM strategy in their business models. This literature review answered the first research question, which was set to identify strategies to improve CX, the remaining three questions will be answered through empirical research carried out in the following chapters.

3. Methodology

This chapter elaborates on the methodology for this master thesis focusing on the research method. A conceptual model based on the frameworks discussed in the literature review has been developed for CXM in the B2B environment, a section of which is studied in this research. The subsequent sections discuss the research method along with its objectives and development, finally ending with its limitations and constraints.

3.1 Conceptual Framework

Drawing on the findings and frameworks discussed earlier in the literature review chapter, a conceptual framework is proposed in Figure 8 that highlights the key dimensions for CX in a B2B environment. This research will analyse the impact of the framework in the construction industry with a strong focus on the customer journey phase.

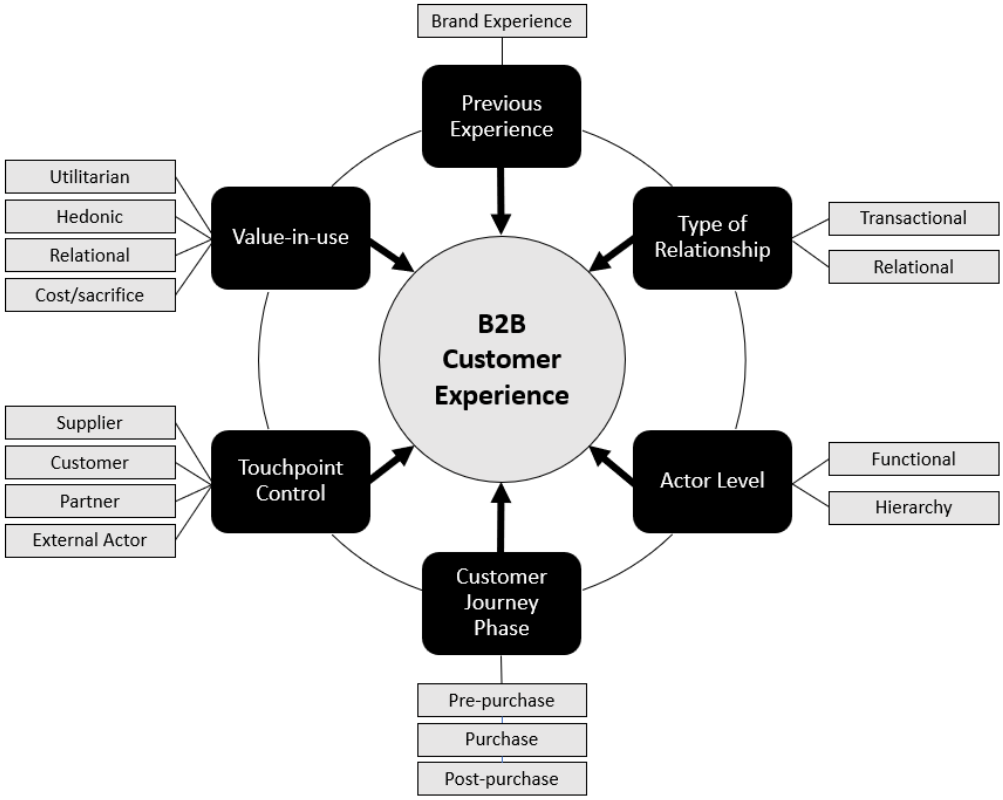

Figure 8: Proposed conceptual framework for B2B customer experience (Own figure, 2022)

3.2 Research Method

To understand the customer journey in the construction industry and validate the six CXM strategies identified on chapter 2, an interpretative qualitative research method

would be adopted. This would allow this research to develop an in-depth understanding of the status quo of the CXM in the construction industry, validate the conceptual framework and gather expert opinions on CXM strategies identified in the previous chapter. Data will be collected and analysed through individuals' experience in the industry and their perception of CXM (Merriam, 2002).

This type of qualitative research focuses on three key areas, using natural language as a means to realise a process or phenomena through communication and interaction, descriptive understanding of topics taking real-world situations and natural settings into consideration, and building theories by identifying patterns and connections in the collected data. By conducting this non-numerical interpretive quantitative study, this research seeks to understand the process and accumulate detailed account of individuals' as well as industry's behaviour and beliefs to identify gaps and propose recommendations accordingly (Fossey, Harvey, Mcdermott, & Davidson, 2002).

3.3 Data Collection and Sample Selection

3.3.1. Semi-structured Interview

An interview is defined as a conversation that is carried out in order to gather descriptive perceptions and ideas of the interviewee, this exchange of information allows the interviewer to attain a comprehensive understanding of a certain topic or subject and interpret a theory with the insights provided by the interviewee (Alshenqeeti, 2014). Since the topic of CXM in the construction industry is relatively new and a continuous exchange of ideas in such a way would contribute extensively to this research with comprehensive insights, a semi-structured interview was opted to conduct this research. Such a type of interview comprises of open-ended questions based on a predetermined thematic framework, however, the questions are not phrased or set in a specific order like a structured interview. They are framed spontaneously, with additional questions emerging during the conversation between the interviewee and the interviewer. Nevertheless, a predetermined structure is followed using a checklist to cover all relevant areas (Scribbr, 2022). The semi-structure nature of the interview also makes the conversation more interactive and provides the interviewer with detailed account of interviewee's worldviews and expert opinions based on past experiences and grants enough flexibility to the interviewer to probe for elaborate and clear

clarifications to attain rich detail on the responses and to uncover undiscovered areas (Alshenqeeti, 2014).

Semi-structured interviews do have limitations which are well worth mentioning. Firstly, they are time-consuming, because the open-ended questions lead to elaborate descriptive responses where the interviewee tends to drift away from what is being asked. This also makes comparison of responses between interviewees challenging, thus reducing its validity. Secondly, misunderstanding of the questions by the interviewee or misinterpretation of the responses by the interviewer, results in a reduction in accuracy. Third, leading or follow-up questions are vulnerable to subconscious bias from either of the two parties. For instance, the interviewer might frame a question looking for a specific answer and the interviewee responds with exactly what the interviewer wants to hear. Nevertheless, the two-way interactive communication of semi-structured interviews are one of the most effective methods to explore and study a topic (Scribbr, 2022; Alshenqeeti, 2014; DiCicco-Bloom & Crabtree, 2006).

3.3.2. Sample Selection and Data Collection

Selecting the right interviewees was key in this research as the topic requires a broad understanding of the construction industry, its relevant business functions, and the role of different stakeholders. Careful criteria was set for the selection of the interviewees in order to collect reliable and high quality data, (1) their role should include responsibility for the overall operations of the business including all its business functions, this would provide responses from all aspects of the business and avoid bias towards a certain function, (2) they should have a considerable background in the construction industry for higher credibility, and (3) participants should be spread across different geographical regions to compare information from different cultural perspectives. Therefore, key professionals in the management positions of construction companies were identified through the professional social network, LinkedIn, and then contacted with a request for interview.

Considering the seniority of the roles, their availabilities and the commitment for an in-depth interview, a total of 89 professionals with roles ranging from the ‘General Manager’ level to the ‘Director’ and ‘Chief Executive Officer’ across various stakeholders in the construction ecosystem were contacted through an iterative process until

a sample size of 10 confirmed interviewees was reached. The only exception was interviewee #5, who was not in the top management level, but this interviewee was the end-client representative for a multi-national corporation (Table 1).

All interviews were conducted on Microsoft Teams and lasted between 30-90 minutes, depending on the availability of the interviewee. They were transcribed using the in-built live transcription feature of Microsoft Teams and audio-recorded with an independent voice recorder. After each interview, the transcription was cross-checked with the audio recording for accuracy. In addition, notes were written down noting any unusual observations and reactions to questions.

#	Position	Experience in Construction Industry	Region of Operations	Stakeholder Role	Interview Duration (hh:mm:ss)
1	*Omitted for discretion*			Subcontractor	00:54:16
2				Consultant	00:58:11
3				Subcontractor	01:22:31
4				Consultant	01:24:26
5				Client	01:01:15
6				Subcontractor	00:26:33
7				Main Contractor	01:00:05
8				Subcontractor	00:48:22
9				Subcontractor	01:13:36
10				Subcontractor	01:01:54

Table 1: List of interviewees (Own table, 2022)

3.4 Interview Objectives and Design

The purpose of conducting interviews is to extend this research with empirical evidence from key professionals in the construction industry and validate the conceptual framework. Keeping this in mind, the objectives for these semi-structure interviews were set in alignment with the research questions defined earlier in the introduction chapter:

- Understand the customer journey of construction companies.
- Identify the status quo of CXM among construction companies.
- Gather opinions on CXM strategies identified earlier in the literature review.

In order to achieve these objectives, an interview was designed which was divided in three parts. The first part focused on building rapport through understanding the

interviewee's background and the firm they are linked to. The second part was associated with the creation of the customer journey which contributed the most to first two objectives of the interview. The last part aimed to test the following hypotheses based on the CXM strategies identified in the literature review, thus serving the final objective.

H1 *B2B Construction companies understand the lack of customer experience management in the industry*

H2 *Co-creation between the two businesses would have a positive influence on the B2B customer experience*

H3 *Shifting to outcome-based measures would have a positive influence on the B2B customer experience*

H4 *Leveraging big data analytics would have a positive influence on the B2B customer experience*

H5 *Implementing an omni-channel strategy would have a positive influence on the B2B customer experience*

H6 *Deploying artificial intelligence-based interactions in the digital medium would have a positive influence on the B2B customer experience*

H7 *Constructing digital twins would have a positive influence on the B2B customer experience*

H8 *Improved CX would have a positive influence on price as a decision-making factor in the subcontractor selection process*

An interview guide was also prepared which consisted of 25 questions and instructions for the interview. Although the interviews were semi-structure, the questions' sole purpose was to serve as a checklist during the interview and to reduce the subconscious bias. They were structured in a way that incorporated the four stages of rapport for qualitative interviews (1) *Apprehension stage* – aims to get the interviewee talking with broad non-threatening ice-breaker type questions which highlight the nature of

the research. Questions 1-4 reflect this phase. (2) *Exploration stage* – during this phase the interviewee is engaged with elaborate responses. Questions 5-8, 11-13, 16-17 form this stage. (3) *Co-operation stage* – in this phase, the interviewee is comfortable enough to engage in slightly sensitive topics without being offended. Questions 9-10, 14-15 and 18-19 which address challenges and shortcomings are included in this stage. Finally, (4) *Participation stage* – the greatest degree of rapport has been established by this stage and it is at this point when the interviewee might guide the conversation and educate the interviewer. Questions 20-24 serve the role of this stage (DiCicco-Bloom & Crabtree, 2006). However, the order and phrasing of these questions were adjusted, according to the flow of conversation and the duration of the interview.

Once the participant accepted the interview request, a mutually agree upon timeslot was set and an email invitation, drafted based on the ethical considerations of conducting interviews, was sent to their email (Alshenqeeti, 2014; DiCicco-Bloom & Crabtree, 2006). This email included a brief introduction to this study, instructions for the interview, the online meeting invitation link, a customer journey template for reference, and a brief disclaimer highlighting their voluntary participation, right of refusal to any of the questions, consent for audio-recording the interview and a confidentiality agreement. The questions were not shared prior to the interview, however only interviewee #6, requested them beforehand. At the beginning of each interview, the interviewee was asked to reconfirm if they had read the project introduction and the disclaimer, if not, it was communicated live before proceeding any further.

3.5 Interview Analysis

The data collected from all 10 interviews was analysed using the 6-step thematic analysis (Figure 9). This method of interview analysis focuses on identifying and analysing patterns and themes within the data. Both the approaches of this method were adopted to study the data, the inductive approach was used in part 1 and 2 of the interview which had a strong emphasis on customer journey creation. This allowed emergence of new theories and themes without any pre-existing framework or perceptions that were developed from previous experiences and knowledge from the literature review. Moreover, since the customer journey of the construction companies will be built from the ground-up, an inductive approach would determine a higher quality outcome. On the contrary, the third part of the interview was analysed using the theoretical approach

(also known as deductive approach). This section of the interview focused on discussing already identified CXM strategies, primarily analysing its impact and feasibility in the context of the construction industry. Therefore, a top-down approach such as the theoretical approach in thematic analysis was more applicable (Braun & Clarke, 2006).

The six steps of this thematic analysis were executed as follows:

Step 1: Get familiar with the data – The transcripts were actively re-read multiple times to search for meanings and patterns within the data. Audio recordings were also listened through, and initial notes were written down as ideas for coding in the subsequent steps.

Step 2: Generate initial codes – This step comprised of coding of the data. In other words, sections of the data were highlighted and were assigned labels, referred to as codes, that describe the content of that section. This can either be automated through a qualitative data analysis software such as Nvivo and MAXQDA (Pat Research, Retrieved in 2022), or done manually. For this study, the interviews were coded manually using highlights and comments feature of Microsoft Word. The codes in parts 1 and 2 of the interview were data-driven and in part 3 were theory-driven reflecting the inductive and theoretical approaches respectively.

Step 3: Search for themes – All codes were then analysed for common patterns and grouped accordingly into themes with extracts of the data from the transcripts. These themes were presented on a spreadsheet on Microsoft Excel to enable a visual representation of the themes and generate ideas for their interconnectivity.

Step 4: Review themes – Having assigned themes in the previous step, they were revisited for further refinement. This step included a thorough review of all the themes and their data extracts to reconfirm for validity and make enhancements such as splitting broad themes, combining similar themes, discarding irrelevant themes, and creating new ones, if necessary. There are two goals in this step, first, to have a solid understanding of all the themes, how they connect to each other and fit into the topic of this research and second, create a thematic map to have a visual representation of the outcome.

Step 5: Define and name themes – All themes finalised in step 4 were thoroughly defined in this step with particular focus on what each theme represents and the essence it captured of the overall research. The naming of the themes was also explored and renamed for simplification if they were complex, long, or unclear.

Step 6: Report findings – Findings of the analysis were discussed in detail including evidence that emphasize the importance and prevalence of the themes.

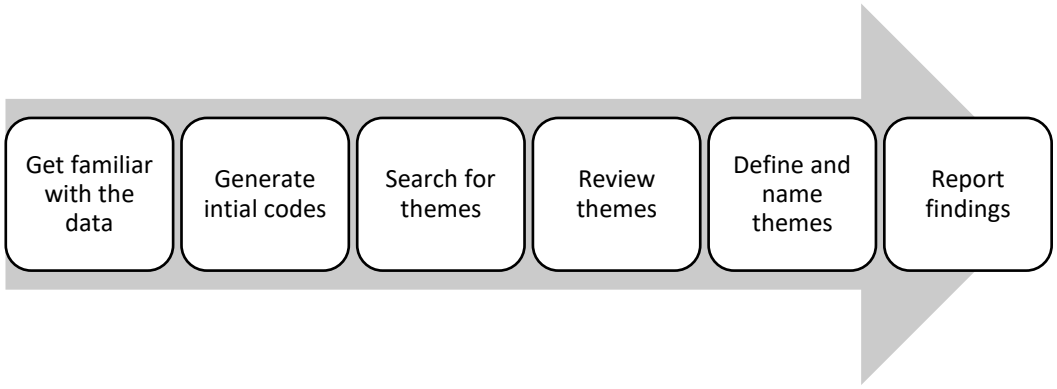

Figure 9: Six steps of thematic analysis (Adapted from (Braun & Clarke, 2006))

4. Empirical Findings

In this chapter, the findings of the thematic analysis conducted across 10 semi-structured interviews will be presented. These results will be divided across 3 sections, first will focus on the themes identified to understand the customer journey and the status quo of CXM in the construction industry, the second section emphasizes on the positive and negative themes which resulted from the interview discussion of the six CXM strategies identified in section 2.5, and the final section puts a spotlight on a generic customer journey map developed for the construction industry.

4.1 Thematic Analysis on CXM in the Construction Industry

The codes identified in the analysis were grouped into four major themes, namely *customer, construction, company/supplier and communication*, these themes were then divided into several subthemes and a mind-map was created as shown in Figure 11. The number of codes associated for each theme and subtheme were plotted on a bar graph, shown in Figure 10. It can be seen that the top 3 themes are 'value', 'regular interaction' and 'awareness' with 176, 171 and 94 codes respectively. The findings of each of these subthemes will be discussed in the following sections.

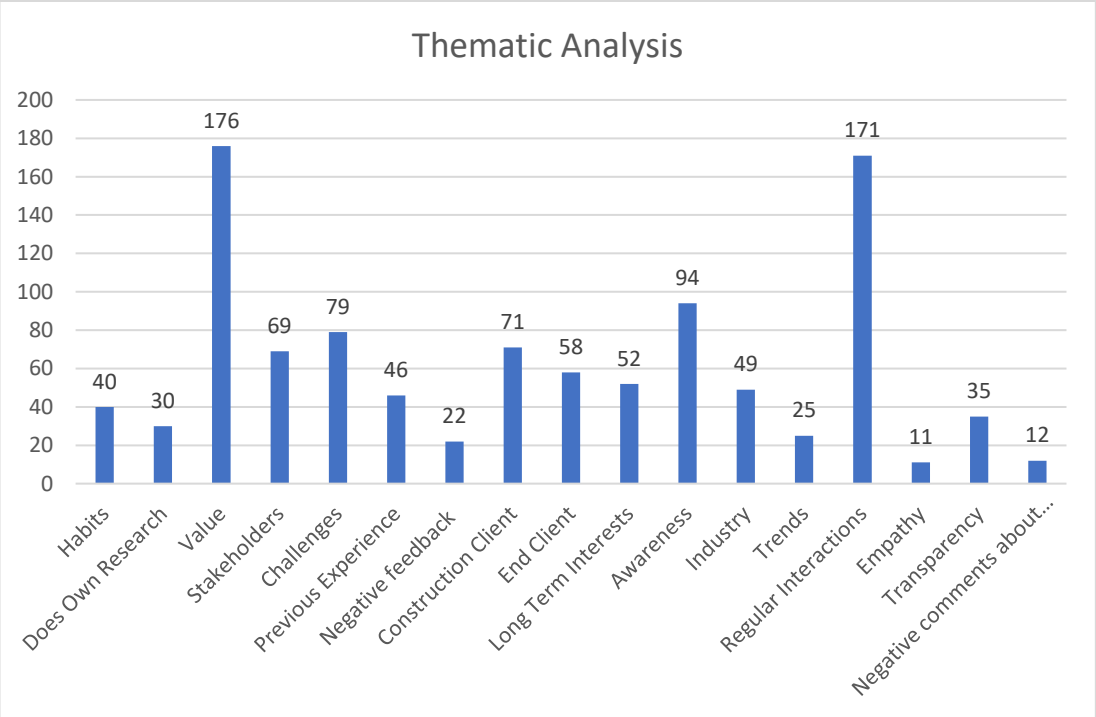

Figure 10: Results for thematic analysis on CXM in the construction industry bar graph (Own figure, 2022)

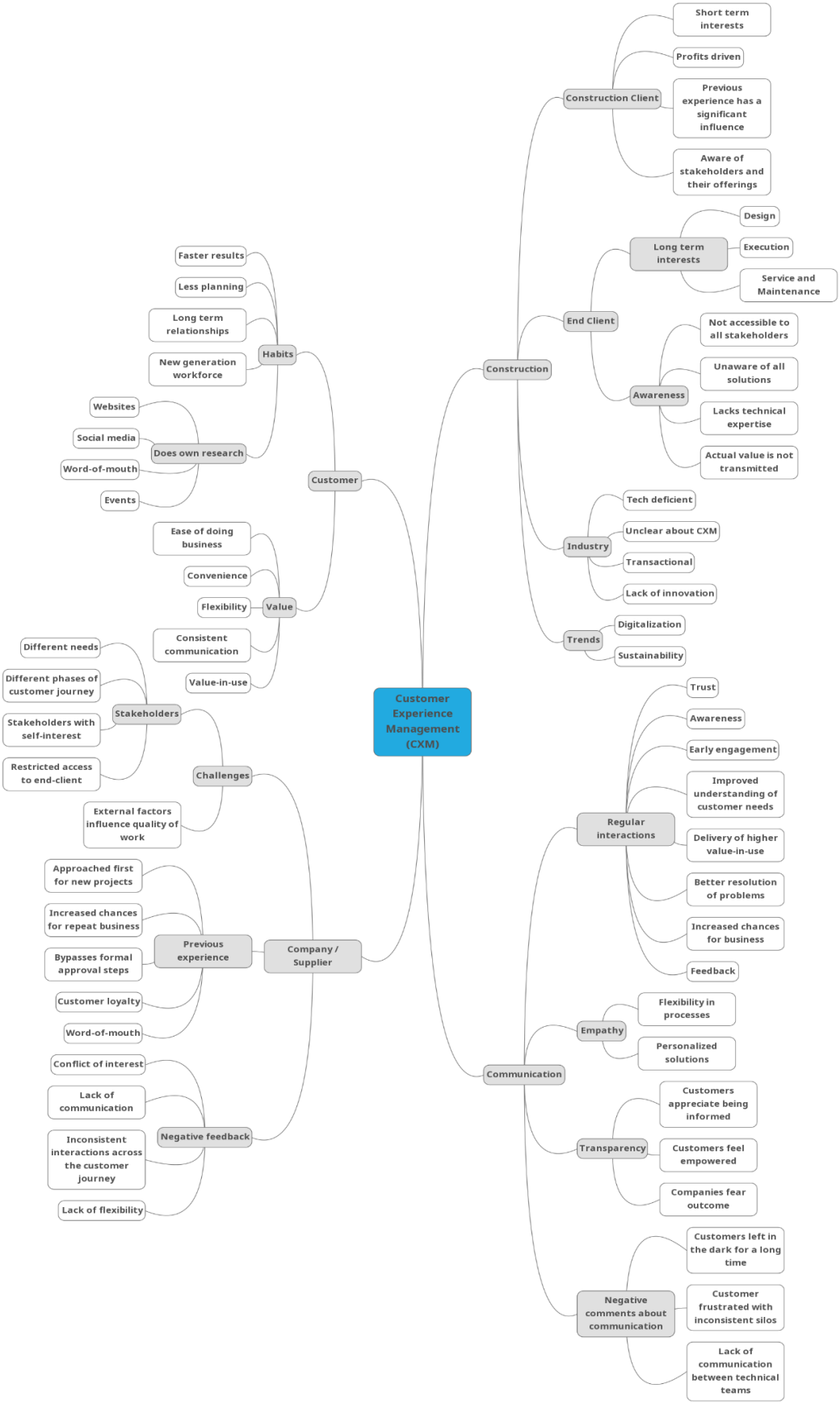

Figure 11: Mind map from thematic Analysis on CXM in the construction industry (Own figure, 2022)

4.1.1. Customer

4.1.1.1 Habits

The customer base of today consists of a new generation of individuals who have embraced the digital world as part of their normal lives, use social media for personal as well as professional purposes and have a different perception of CX as highlighted in interviews #1, #2 and #3. Interviewee #3 also adds that all around the world, customers are exposed to e-commerce platforms where you can place an order at 23:00 and receive it the following morning at 08:00, therefore, *"They get used to that level of service" and* expect the same in the B2B environment. Such level of CX puts a lot of pressure on businesses as they are expected to provide rapid results in restricted (or in some cases negligible) amount of time to plan the best course-of-action irrespective of the magnitude of the request. This was highlighted by interviewee #7, whose business deals with highly customised and exclusive projects, and also by interviewee #4, whose team covers a large geographical area in the United States. Both these participants, along with interviewee #3, mentioned lack of planning before execution which adds further complications to their execution process resulting in last-minute change requests by the customer.

In addition, interviewee #6 from a subcontracting company claimed that their clients prefer to lock a deal with long-term after-sales contracts which was also reflected in responses from interviewee #5 who plays the role of the end-client and signs deals through framework agreements allowing easier repeat business.

4.1.1.2 Does Own Research

The habits of new customers also extend to the extent that clients do a pre-selection of companies they are interested in based on the information available online, so it is crucial to have digital touchpoints with customers, emphasizes a lead consultant in interview #2. There is a vast amount of stakeholders in the market who claim to provide high-quality services so, *"You need to check them out very well before you start working with each other",* said a general contractor in interview #7. Along with these two interviewees, interviewee #4 also mentioned that quite often they are approached by customers through online channels after online research or a recommendation by a previous client, thus having an online presence is vital.

When talking about awareness, interviewee #1 highlighted that customers leverage multiple tools that are available to them and educate themselves, they then attend business events like trade shows, not to learn about a new solution but to seek an opportunity to interact with companies and get deeper insights through active two-way conversations on solutions they have already made themselves aware of.

4.1.1.3 Value

This subtheme which comprises of 176 codes, outranked all others for having the highest number of codes across all 10 interviews as shown in Figure 10. Taking a closer look at these codes, it's observed that B2B customers perceive value not only through value-in-use but multiple facets when doing business with companies. When asked about measures to holistically improve CX in the construction industry, interviewee #3's response included, having solutions readily available at short notice, and interviewee #9 responded with simplification of processes and reduction of complexity created by multiple stakeholders. These responses indicated that customers value convenience and ease of doing business respectively. To the very same question, interviewee #2 stated that they are revisiting their contractual terms and conditions to be more customer centric in order to make their customer's life easier, so customers want to work with them. This is further emphasized by a regional market leader in interview #8, who stated that they are easier to do business with due to their lean structure and reduced bureaucracy.

Another aspect of perceived value to customers is flexibility. As mentioned in section 4.1.1.1, the lack of planning leads to changes, and these changes can occur at any point of the customer journey as confirmed by interviewee #6, who also highlighted situations where a project originally designed for one application was converted to serve another one, during the construction process. Having flexibility at both sides in a B2B environment also reduces the number of unforeseen problems that occur during the execution of a construction project by allowing them to place preventive measures at the right time, especially in projects that span across multiple regions, states the end-client in interview #5. *"You can't expect the customer to adapt to your way of doing things. That's the wrong way around. It's got to be the other way, to have an adaptable company with a fluid approach to customer service"*, expresses interviewee #3.

The final subtheme classified under value is having consistent communication between the two companies in a B2B transaction. Construction projects span over months and in some cases, years and keeping track of multiple stakeholders during that duration is overwhelming, therefore *"What the customer wants is for you to communicate from the very start all the way through to the very end"*, asserts a subcontractor in interview #10. Another subcontractor's response in interview #8, coincided with this statement and they further added that not only does the customer want to know what's going on in their project at any point in time, they also value having such information at their own convenience without having to call somebody.

4.1.2. Construction

4.1.2.1 Construction Client

A subcontractor in interview #10 explains, when it comes to construction, two types of clients need to be looked at from two completely different perspectives because both clients have radically different needs. There is the construction client, which could be either the main contractor, the consultant, or a project management company, and the end-client who could be an investor or a developer. Interviewees #1 and #3 explain that construction clients are usually experienced, have strong knowledge about the industry and except for very new companies, they are well-aware of the major players and their offerings in the market. In addition, all participants except the consultant in interview #2 and the end-client in #5 reiterated more than once the fact that the construction client seeks only short-term results and prioritizes their own profitability over the needs of the end-client. However, participants in interviews #3, #4, #8 and #10 also added that such customers also consider the capability of businesses to deliver services in a timely manner, *"If you make schedule, they will pay extra for you"*, claims interviewee #8. Therefore, a good previous experience has a significant influence on their decision-making process and quite often, interviewee #4 observes, the contractor would select the second or even the third cheapest bid since they would rather work with a reliable firm than the one with the lowest bid as the lowest might not bring the most value.

4.1.2.2 End-client

On the other hand, the end-client has a vested interest in the selection of businesses involved in their project, they look at true long-term value since their involvement with

the construction project starts from the initial design and extends far beyond its completion, says interviewee #8 along with interviewees #1, #5, #6, #7 and #9. However, unlike the construction client, the end-client lacks market knowledge and technical expertise and is usually unaware of the latest developments in the industry, as expressed in the responses from all interviewees except #5 and #8. For that reason, adds interviewee #1, businesses prefer working directly with the end-client because it gives them a chance to deliver true value directly to the end user. Referring to the main contractor who is a construction client, interviewee #9 says *"...they remove a lot of things that the client expects. So, if you leave the decision-making process in the contractor's hand. You might lose out on a lot of value. Because the contractor is not somebody who's going to live or use that building"*.

4.1.2.3 Industry

Over the discussion about the use of technology and digital tools in the constructional industry, interviewee #9 expresses *"Construction tends to be one of the lagging industries"*, interviewee #3 says *"It's a bit backwards, given that today technology is obviously driving things forward, we're almost stuck in the dark ages",* and interviewee #8 states *"Construction has always been very traditional in our business".* Adding to that, interviewee #5 indicates that the construction industry is not evolving and that nothing much has changed in the past five decades. Moreover, both interviewees #3 and #8 mentioned the industry being very transactional, which was also reflected in multiple responses from interviewees #9 and #10, where the primary goal of CXM was often referred to increasing number of sales through lead generation, *"So when you look at the value chain, all the pieces that come together to support the salesperson in providing that customer service for that organisation to its client"*, explains interviewee #9 referring to CX. When speaking about making information readily available to the customer through digital tools for an improved CX, interviewee #10 responds, *"...all you did was hand out what they will need, but you didn't extract any information out of them"*. On the contrary, interviewee #8 responded, *"It's really the whole experience from front to end"*, and continues further, *"The salesperson gets your foot in the door. But if you don't execute on the back end, there is nothing a salesperson could do. You know, that might happen once, might happen twice, but at the end of the day, if your operational team doesn't execute, the salesperson can only do so much at that point"*.

4.1.2.4 Trends

Just like all other industries, construction is also moving towards digitalization, claim interviewees #1, #2, #6, #7, #8 and #10. In fact, 5 of those participants also believe that digitalization would contribute positively to CX by improving processes and communications with customers. *"Staying closer to the clients and trying to automize as many interfaces to the clients as possible but on the other side, to use the resources which are freed up by that in order to intensify the relationship with the client"*, was the response in interview #2 to ways for holistically improving CX in the construction industry. Nevertheless, interviewee #10 was sceptical about the success of digitalization as it would require a synergy across multiple stakeholders, which is already a challenge.

The other trend that interviewees #1 and #6 highlighted was sustainability as they notice an increase in demand for solutions that are sustainable. On the contrary, although the organisation of the end-client in interview #5 gives preference to firms that conduct business through sustainable practices, the participant implies that it still has a long way to go in the construction industry because the materials used in construction are metals that are extracted from ores, a process that is fundamentally not sustainable, but organisations try to compensate it by utilizing renewable energy.

4.1.3. Company / Supplier

4.1.3.1 Challenges

Despite the efforts carried out by construction companies to stay customer centric and provide a good experience to their customers, the complex nature of the industry brought by the network of stakeholders involved brings challenges unlike other industries, expressed interviewees #7 and #9. In fact, all interviewees except the consultant in interview #2 and the end-client in interview #5 share the same view and expressed that each stakeholder needs to be looked at from a different perspective. As quoted by interviewee #1, *"You have to have different strategies because they all have different interests, different needs and different requirements. So, you have to have different strategies"*, interviewee #10 reiterates whilst referring to the construction client and the end-client as stakeholders, *"...I think it's really important to be very mindful that both of them have slightly different needs and both of them are very, very important and both of them you got to satisfy in slightly different ways"*. Interviewee #1 also

clarifies the risk of not considering all stakeholders in the business strategy, *"If you're not aware of all the players in the system and you only focus on the customer, you might have issues which the customer perceives as being yours, but they are because of the other players"*, where herein the customer is the end-client.

Adding to this complexity, implies interviewees #1, #6, #8 and #9 is the fact that different stakeholders enter different phases of the customer journey, therefore transferring from one stakeholder to the other leads to mishaps such as the transition from execution of the project to the operations team for maintenance, highlighted by interviewees #6 and #8, or the transition from the design phase to the bidding phase, mentioned by interviewee #9.

Another aspect that came to light in interview #3 was that when problems arise, which always do, stakeholders point fingers at their supply chain. This was also reflected in the responses in interview #4, *"...well, the architect is responsible because he didn't draw right to begin with, the contractor is responsible because they're the professional and they should've known what the right installation was, sorry, the developer is responsible because you're the last one that signed all the checks, and you approved it when you signed the check. So, who's really responsible, you know?"*. Therefore, having a complicated network of interested parties in a construction project, all claiming to add value, creates delays because firms must engage all these organisations, states interviewee #7. It also creates a distance between the companies and the end-client, adds interviewees #8, #9 and #10. Interviewee #3 expresses *"...we can only control really the service and the items that we have in stock. So, if they buy a product from us not in stock, or again if it's a bespoke one, we are exposed to the level of service provided by our suppliers"*, and continues saying that in addition to manufacturers they are also exposed to the level of service provided by the logistics companies, who might not provide the same level of service as they do, thus impacting the CX negatively.

4.1.3.2 Previous Experience

As highlighted in section 4.1.2.1, previous experience has a significant impact on the construction client. This was reiterated several times in all interviews other than interview #9. And the benefits stated were as follows:

Benefit	Interview	Data extracts (consolidated due to overlapping benefits)[1]
First entry into the project	#2 and #6	• *"…they see what we are working on and keep us on top of the staple of papers of their table. And so that somehow increases the possibility that they send us an RFI when it comes to a project."* • *"…in addition to getting the inroads and the relationship which we maintain another thing which it also helps sometimes is the first right of refusal"* • *"If you know how the client is acting from past collaboration, it's much easier to really price what the client has expected…that would lead to the fact that you as a [company] can come up with a smaller price and thus you might win the bid then"* • *"……we deal with a lot of repeat business genuinely on a daily basis…Just make sure that what we did was right, everything went well and make sure that they are happy with the whole experience and just ask them, please consider us for the future, for your next project."* • *"…when you can deliver, and you've got a repeatable history of on-schedule and you've got a strong service reputation to support the product following the warranty maintenance period. I think that's really what makes the big difference in terms of us versus our competition."* • *"It happens sometimes that we have customers that have worked with us before and they don't go through this process, right. They know from the start this is what they want and then they just want us to build the solution."* • *"We have a lot of repeat customers. They're used to us. They're used to the way we do the business. And I don't know if they get bids…"* • *"…we have a central procurement who actually likes to sign framework contracts. So, all that what is invested, it might look like one project in the beginning, but then we are actually drawing in or procuring the material for various projects"* • *"…they say I want [your products]. And if they do that, it's because they have other buildings where they have our products…"* • *"…you can show that to other potential clients that look what they've got a cool app from this company"* • *"I have a vendor who's an excellent vendor. They're on the job. They're on time. They communicate well. You know, I need you guys to meet"* • *"…there are a few customers that find us through recommendations from other customers, other clients, or companies that we work with…"*
Increases chances for repeat business	#2, #3, #4 and #8	
Bypasses formal approval steps	#1, #4 and #5	
Leads to customer loyalty	#1 and #3	
Improves recommendations through word-of-mouth	#2, #4, #7, #10	

Table 2: Benefits from previous experience, result of thematic analysis (Own table, 2022)

[1] Some words of the data extracts were replaced with generic terms to hide the identities of the participants

4.1.3.3 Negative Feedback

Interviewees also provided their negative experience that influence the CX. Conflicts of interest being one of them as reported by interviewees #4, #6 and #7. Mismatch in interests and ways of doing business is perceived negatively by the customer and has a direct impact on their experience. Interviewee #7 who deals with special construction projects explains that they struggle with making their customers understand that the solutions are all custom-made which cannot be related to any standard norms, yet the customers compare them with standard offerings of other companies. Interviewee #6 also quoted a recurring scenario where customers want to delay the order to manage their cashflows which compromises their co-ordination with the construction site, resulting in a project delay, thus affecting the CX. In addition, Interviewee #3 identified flexibility as a conflict of interest, even though it was identified as value perceived by the customers in section 4.1.1.3, construction companies are reluctant to do so, *"...if it looks a little bit too difficult now, not interested, let them have this. And if they don't like it, they can go elsewhere"*.

Lack of communication is one major aspect which interviewees asserted. When speaking about feedback from customers, interviewee #10 stated that the negative feedback they receive is never about their products but rather about poor communication. However, this communication deficiency is also observed at the customer's side, interviewee #4 states, *"There's a lot of clients that will not give us a schedule because they feel like we're holding them accountable. So, they only call us when they need us"*. When such communication is looked from a broader perspective across the entire customer journey, inconsistent interactions are often observed. When explaining the customer journey of their business, interviewee #9 says, *"...you might have a really good onboarding process of the customer, but once it goes to execution, maybe you don't have that very well..."*, similar point of view was shared by interviewees #4 and #8.

4.1.4. Communication

The final theme that emerged from the thematic analysis is communication, a topic which every interviewee emphasized repeatedly. *"Communication is the number one reason businesses fail. Number one over everything. So, no matter what level you're on and no matter what position you're at or what part of the industry you're in, if*

there's a lack of communication, there's lack of successful delivery", expresses interviewee #4.

4.1.4.1 Regular Interactions

The second highest position in the entire thematic analysis is held by 'regular interactions' with 171 codes associated with it (Figure 10). Early engagement of organisations and actively interacting on a regular basis is about building trust without a commercial agenda. Such touchpoints also help raise awareness about the latest solutions in the market and how different companies can add value to the customer. When interviewee #4, a consultant, reaches out to clients who don't know them, their firm first finds a way to build trust through multiple interactions which allows them to understand client needs better and provide solutions accordingly because many times, *"They don't know what to ask if they never thought they needed it"*. A similar strategy is carried out by a subcontractor in interview #10, they build trust in the design phase of projects with the stakeholders who form the design team, by providing them with the best engineered solution of their products that could be incorporated in the design. They believe that even if they don't win the project, the design team can be sure that their design is accurate. Constant engagement to build trust was also mentioned by interviewee #2, when asked about ways for holistically improving CX in the construction industry. Interviewee #7 explains that customer discussions based on long term trust-based relationships are more emotional conversations and customers can really express their needs and the feeling they want to create in their project. Moreover, adds interviewee #7, commercial discussions are significantly influenced since the customer trusts that the company will really provide a good outcome based on previous experiences, thus leading to increased financial outcome as a biproduct. Subcontractors in interviews #6, #8 and #9 also stated that main contractors, who they have a relationship with and interact regularly, tend to voluntarily share inside information regarding the selection process and provide feedback on the proposal which assists the sub-contractors to either resubmit their offer incorporating the feedback which further improves their chances for selection, or decide to regret the project if they are unable to meet the customer's demands. This type of feedback, continues interviewee #10, is vitally important as it increases their chances for future business with those customers since they perceive their feedback was valued and implemented, *"…that becomes a really important element because even if that customer is a detractor, what their last impression*

of you is that you actually care about their feedback. And that leaves a little impression in their mind about maybe I just struck them on a bad day. And they actually do care about my feedback. And if we can then give him one more chance. Let's see what we can do after that".

Every construction project encounters a plethora of problems along its journey. In the words of interviewee #6, *"…in the project there is never, I would say an easy walk, I have never seen even a single project which is on time, on budget…"*. By having an on-going relationship and regular communication with the other stakeholders, a collaborative environment is created, and such problems can be easily resolved with a joint approach, as mentioned in both interviews #2 and #10. *"…the project can have problems. You can have delivery issues, you can have, you know, defects and alike and you can still have a very satisfied customer"*.

4.1.4.2 Empathy

Effective communication can have a strong influence on CX when it is done by empathizing with customers. Interviewee #2 states that when business professionals can put themselves in the customer's shoes, they would get a deeper understanding of their needs and pain points and then the conversations that take place provoke feelings of happiness in the end-client. Interviewee #10 adds that companies tend to create unnecessary anxiety and confrontation when dealing with customers, so the interviewee spends time speaking to operational teams about situational awareness and emotional intelligence so they can understand that business professionals are also human and can have emotional reactions to disappointment faced in projects, interviewee further explains *"I think if we start to talk about that and understand what it means to our customers, those resolutions become quite obvious and you come to them quickly"*, another evidence that regular interactions also leads to better resolution to problems. In interview #3, a real scenario was highlighted as an example, where the customer organisation was in a high security facility which made deliveries an ongoing problem for them, so the construction company adjusted their logistics and co-ordinated the deliveries with the customer utilising their own resources instead of their regular external logistics partner, *"…just those small little efforts helps with the customer experience…"*. Therefore, flexibility in processes creates personalised solutions for the

customer and has a high positive contribution to CX, interviewee #4 also shared the same point of view.

4.1.4.3 Transparency

A final aspect of communication strongly emphasized by interviewees was transparency. Customers like to be always informed, which was highlighted earlier in section 4.1.1.3 as an aspect of what customers value. However, in reality, it was common practice in the industry to withhold certain information, expresses interviewee #3, because of fear of the negative impact to the business. In fact, interviewees #1 and #6 say that in the execution phase, they only contact the customer on an as-needed basis, interviewee #10 gives an explanation to this that this is because the customer is overwhelmed whilst dealing with multiple stakeholders, so too many transactions might be perceived negatively. Interviewee #3 however, decided to proceed in a different direction, *"But I said no, we got to be open and transparent"*, they believe in keeping the customer informed at all times and giving them the chance to communicate and express their concerns. Interviewee #3 does admit that it hurts the business to a small extent, but customers value that level of transparency and return for repeat business because of it. A similar strategy was adopted in a past project by interviewee #7, who used transparent communication to justify their costs and even though it had a minor negative impact on their margins, it convinced the customer that the company aren't just driven by profits but also care about delivering the best value to the project. When speaking about further improvements to CX in construction industry, interviewee #6 states, *"So I think that is very important that we create a digital experience for the client. So that they are always informed about the planning procedures, about the manpower deployment, about the progress of the job sites and so on."*, highlighting that digitalisation would assist in transparent communication between the company and the customer, a point of view also shared by interviewee #8.

4.1.4.4 Negative comments about communication

Some of the negative aspects that the interviewees perceived or observed about communication were mentioned. Interviewees #3 and #10 both admitted that the customer is kept in the dark for a significant amount of time in the post-purchase stage, mostly because companies didn't want the customer to be aware of their challenges and shortcomings, however, this lack of communication frustrated the customers. Interviewee

#8 highlighted another recurring scenario, the customer's negative experience due to lack of communication between different silos within the same company, in their case it was between sales and the billing department. Another similar scenario was also mentioned by interviewee #5, who spoke about lack of alignment between sales and technical teams, *"...so many times it happens that this sales team has sold a product, but there were minor ifs and buts missing"*.

4.2 Thematic Analysis on CXM Strategies

Each strategy was explained to the interviewee and then asked if that strategy would work in the construction industry. The codes identified for the six CXM strategies were grouped into positive and negative themes, a mind map and a bar graph were then created for each of them. However, interview #6 was excluded from this part of the analysis due to the restricted timeslot provided for the interview. The findings of this analysis will be discussed in the following sections.

4.2.1. Co-creation

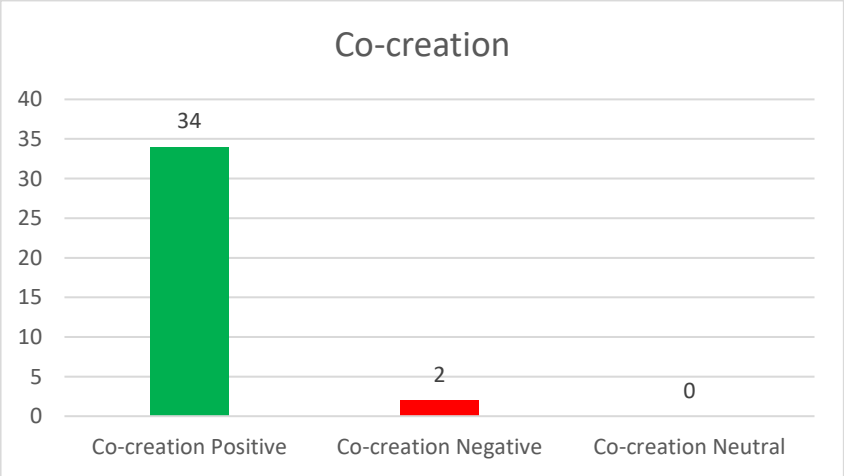

Figure 12: Bar graph for thematic analysis responses on co-creation in the construction industry (Own figure, 2022)

As shown in Figure 12, out of 36 codes under this theme, 34 were in favour of this strategy. In fact, all participants agreed that co-creation based on early engagement would have a positive impact on CX. Interviewees #2 and #8 reported that this was already done for a limited number of projects, as it is often demanded by the customer, adds interviewee #1. Moreover, interviewees #5 and #10 state that this strategy works in the construction industry more than anything else. It was observed in all interviews that even before this strategy was introduced in the third part of the interview, the

interviewee started talking about it, implying its importance in the industry. Interviewees highlighted that co-creation of solutions in such a way would lead to creating relationships which would allow companies to further understand the needs of the customer, co-create valuable personalised solutions which gave them an additional advantage in winning the project. When discussing co-creation, interviewee #4 described a recent project's scenario where the customer had a clear requirement but after intensive discussions, their company was able to engineer an alternate solution which not only reduced costs dramatically but also aligned with the customer's requirement, in fact the new solution which the customer was then made aware of, was also sustainable than what the earlier one proposed by the customer. In the words of interviewee #4, *"And just literally the whole nine yards was communicated thought through, you know, all of that was like, wow, you guys really have a value here. They didn't even want to talk to anybody else"*. As reported by an end-client in interviewee #5, *"If you can really come into the project at the right phase at the right time and there is enough time available to customize your product and then there is time for alignment between the different stakeholders. This can really work, and it will be really really helpful also"*.

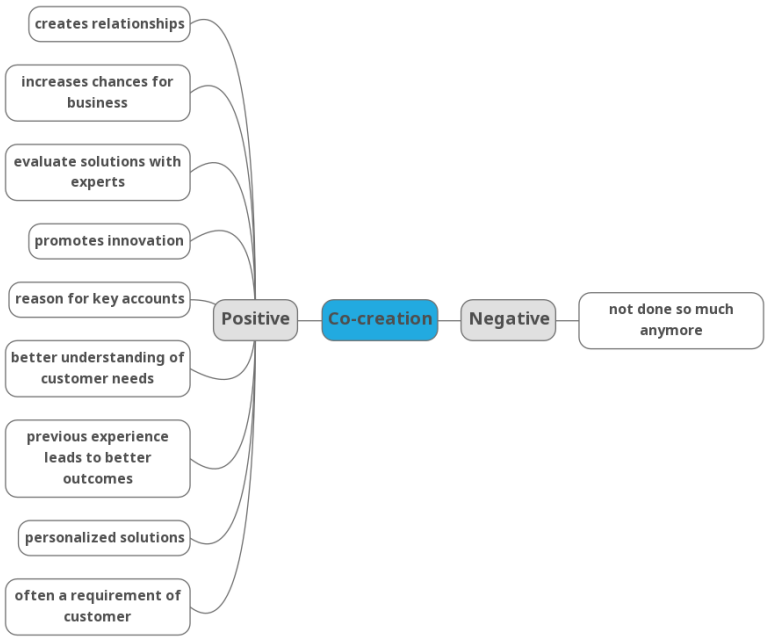

Figure 13: Mind map for thematic analysis on co-creation in the construction industry (Own figure, 2022)

Even though interviewees #3 and #4 strongly supported this strategy and stated that it would create the best solutions for the customer, both reported that such type of collaboration does not take place as much as it used to before. Interviewee #8 also claimed

that this strategy would not work in commodity type solutions where solutions are standard, and the requirement is strictly functional. These two responses were the only 2 codes that fell under the negative theme of co-creation.

4.2.2. Outcome-based Measures

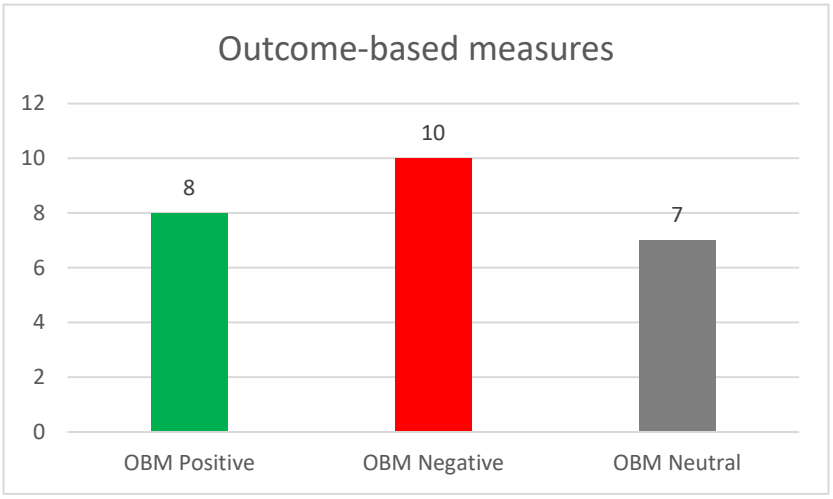

Figure 14: Bar graph for thematic analysis responses on outcome-based measures in the construction industry (Own figure, 2022)

From the figure above, it can be seen that majority of the codes related to a negative response for outcome-based measures. 10 out of 25 codes for outcome-based measures were not in support of this strategy, 8 had a positive response, the rest 7 were neutral. Interviewees do believe that assessing a project based on the outcome is a good strategy, like interviewee #10, but it couldn't be converted as a key-performance-indicator with a tangible outcome of the customer. Interviewee #9 believes it might work if you have access to the end-client like in a B2C environment, whereas in the construction industry, many times the access to the end-client is restricted so creating outcomes would not be feasible. In addition to that, interviewee #8 adds that it would also be a challenge to decide who is that outcome for, since the customer could be any of the stakeholders. On the other hand, it would work for the design team, explains interviewee #7, which consists of architects and design consultants who design the project based on projected outcomes that align with end-client's requirements.

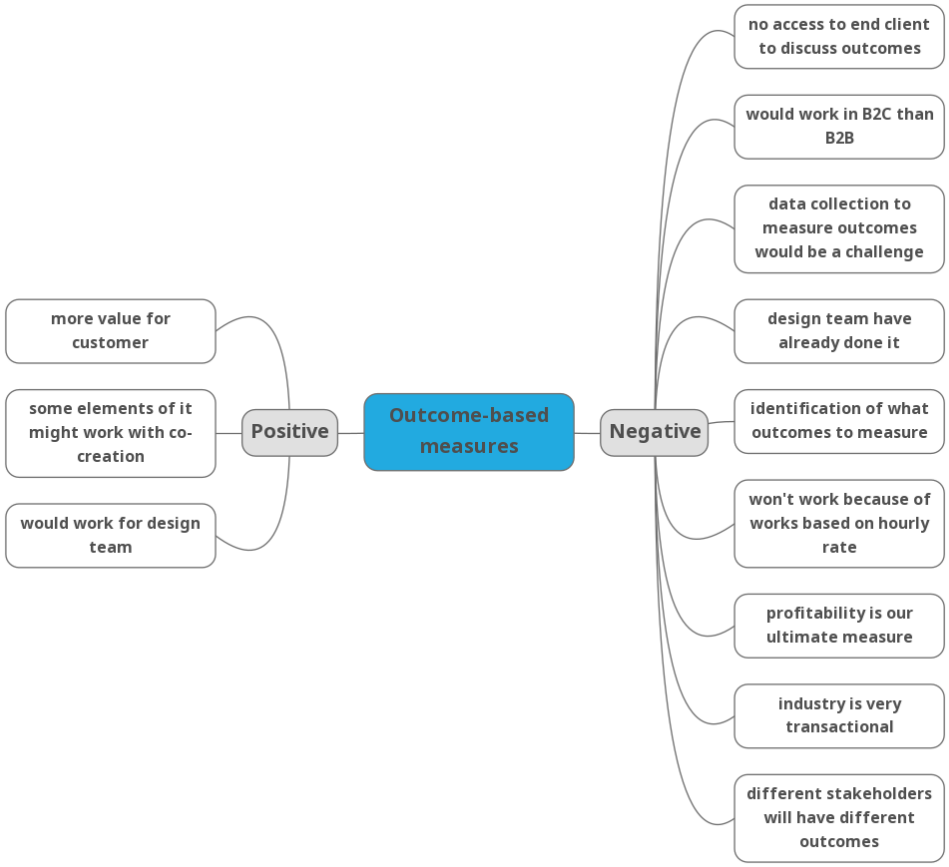

Figure 15: Mind map for thematic analysis on outcome-based measures in the construction industry (Own figure, 2022)

Apart from the feasibility of outcome-based measures, interviewee #4 claimed that it would lead to a conflict of interest in an industry that works on billable hours. Therefore, profit margins are the outcome they would look at, which was also expressed by interviewee #1. However, interviewees #2, #3 and #9 were keen on internal measures related to the customers such as the NPS scores and surveys.

4.2.3. Big Data Analytics

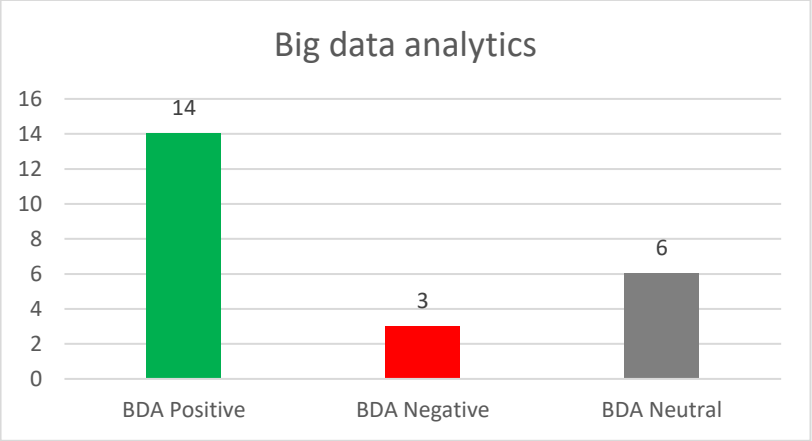

Figure 16: Bar graph for thematic analysis responses on big data analytics in the construction industry (Own figure, 2022)

Out of 23 codes related to big data analytics, 14 had a positive response, 3 inclined towards a negative response and 6 were neutral.

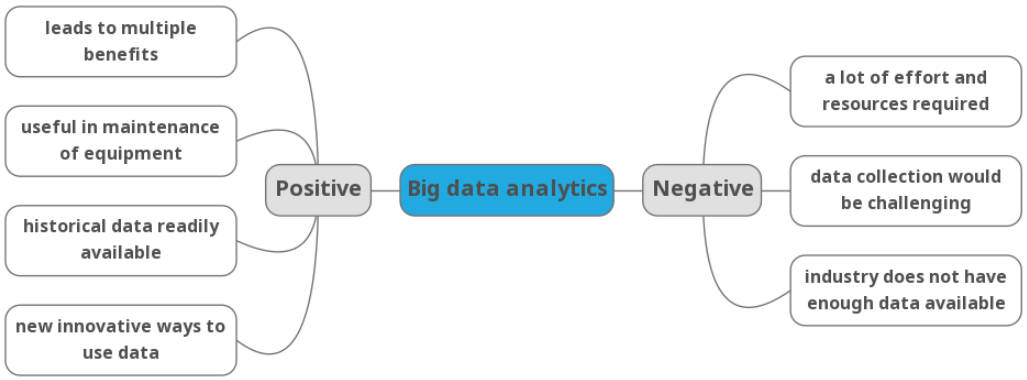

Figure 17: Mind map for thematic analysis on big data analytics in the construction industry (Own figure, 2022)

As identified in section 4.1.2.4, the next big trend for the construction industry is digitalisation which would make big data analytics a viable application. Interviewee #3 states that it will be very useful in the usage of products to monitor its quality and operation and that some companies have already rolled out such services like remote monitoring and predictive analytics. However, the interviewee wasn't so sure about its feasibility in the construction process, as collection of data would be a huge challenge and it would require a lot of resources and people. This doubt about data collection was also reiterated by interviewees #4, #8, and #10. Nevertheless, interviewee #5 gave strong support for big data analytics and in fact quoted a scenario from their past

experience where the team wanted to keep track of materials going up the high-rise project using QR codes and a simple mobile application, this application took about a month to develop but once it was up and running, they could easily track which materials were on the top and which weren't. A similar scenario was quoted by interviewee #7, who explained a live tracking system that they implemented to understand the flow of people in a certain area and used that data to design their project, the interviewee continued saying that they believe big data is opening a lot of new opportunities and rethinking of ways of doing business, and construction industry would see the same.

4.2.4. Omnichannel Strategy

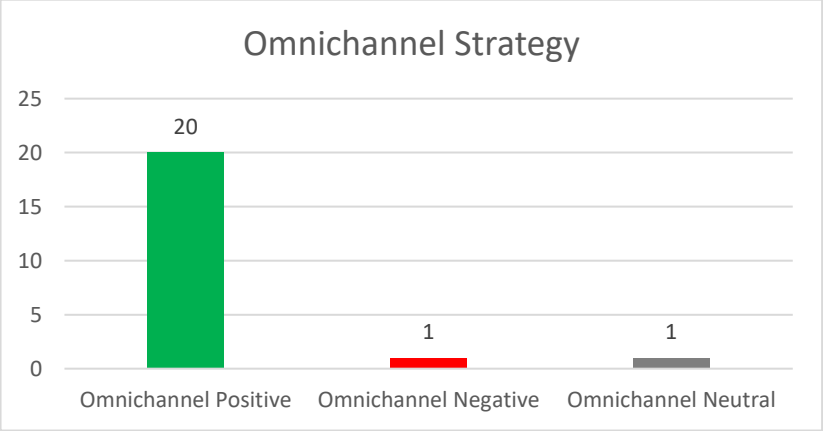

Figure 18: Bar graph for thematic analysis responses on omnichannel strategy in the construction industry (Own figure, 2022)

Very strong support for this strategy, 20 out of 22 codes with positive responses from interviewees, 1 negative and 1 neutral response was also noted. Interviewees #2 and #7 claimed they themselves do online research on companies before interacting with the customer, because you can learn a lot about the company from their online presence before conducting business with them. Interviewee #7 also adds that this strategy helps in pre-selection of customers since there are a plethora of companies and solutions in the market and online research would help filter out the good ones, a practice that is quite prevalent in the market. Therefore, companies can leverage digital media to increase awareness and communicate a consistent message about the company and its values which they want their customers to know, concludes interviewee #2 in their response. Apart from acquiring general knowledge about the company, interviewee #10 says that there are already companies who are providing online architectural and design tools which can be used by designers. Interviewee #8 iterated a similar point of view and added that approval process, tracking the progress of projects and basic

estimation tools would also increase a significant number of touchpoints eventually improving the experience of the customer. An omnichannel strategy creates channels that help reach out to customers of all personality types. In the discussion about omnichannel strategy, interviewee #3 responds, *"…that's got to help because every customer is different. Some people are more comfortable with sitting behind an app or a website. Others are more confident to give us a call and have a chat and some like coming into the shop"*. However, interviewee #7 continues, many aspects of the digital media would need to align so it can be beneficial to different types of stakeholders and their interests.

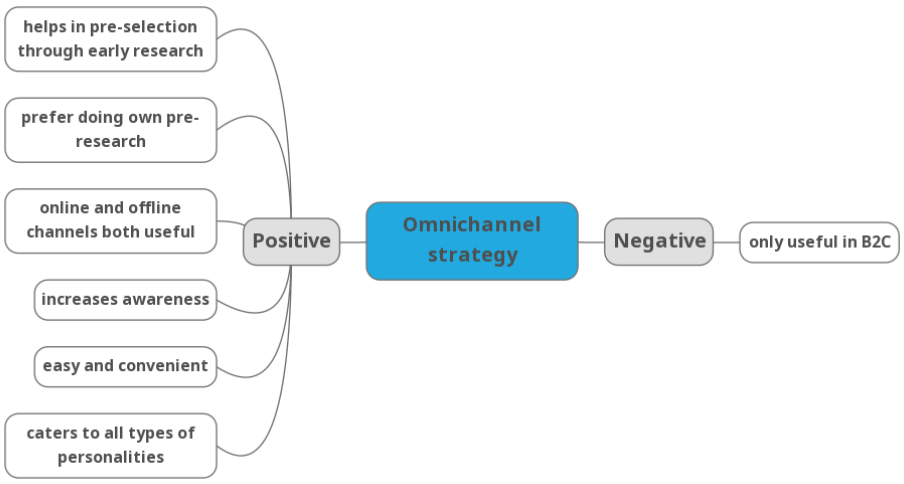

Figure 19: Mind map for thematic analysis on omnichannel strategy in the construction industry (Own figure, 2022)

On the flip side, interviewee #9 believes that this strategy would only cater to a small portion of the customer base, which are the end-clients who are also the users or occupants of the construction project. They would be much more interested in doing research about solutions and using online configurators because for them it is an emotional purchase, whereas the construction companies are usually aware of the other stakeholders and their solutions.

4.2.5. Artificial Intelligence-based Interaction

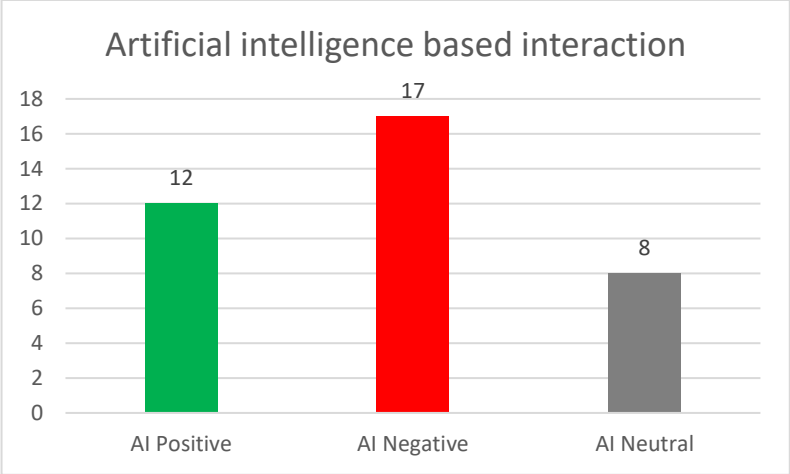

Figure 20: Bar graph for thematic analysis responses on artificial intelligence-based interaction in the construction industry (Own figure, 2022)

The 37 codes for AI-based interaction were the most diversified across positive, negative, and neutral responses with 12, 17 and 8 codes respectively. When the strategy was first explained to the participants, apart from interviewees #2 and #8, all other interviewees had a negative reaction, resulting in an increase in negative codes. However, after highlighting some of the possible applications, benefits, and scenarios where AI-based interaction could be used, such as quick retrieval of technical documents or request for contact details of a certain region, interviewees #3, #5, #7 and #9 had a change of opinion and reacted positively to it, *"This would be very practical. Yes, that would be very good. And I totally could see that work. This would be very practical"*, responded interviewee #7. In fact, interviewees #2 and #8, came up with more applications for AI-based interactions such as monitoring project progress and tracking deliveries. Such type of programs could be used for navigation to the information, agreed interviewees #2 and #5, customers will get a quick response, claimed interviewee #8, *"...I think a lot of designers, owners can get frustrated searching for things..."*, and it would be very useful in after-sales interactions expressed interviewees #1, #2 and #9.

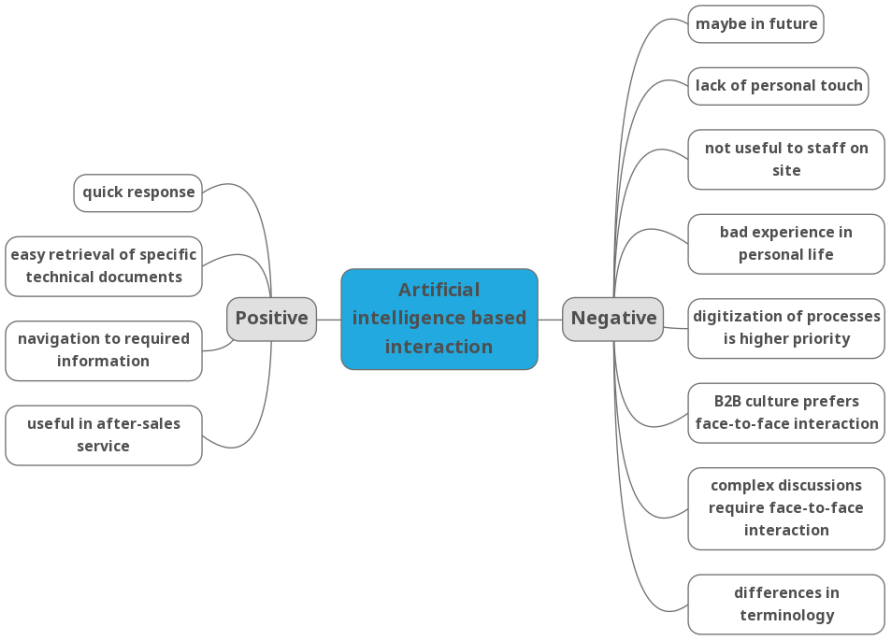

Figure 21: Mind map for thematic analysis on artificial intelligence-based interaction in the construction industry (Own figure, 2022)

On the contrary, interviewees #4 and #10 were not convinced that AI-based interactions would work in the construction industry, mostly because interactions with customers in the construction industry are quite technical and require a dynamic conversation with a personal touch which AI will not be able to provide. Similar responses were also given by interviewees #2, #3, #8 and #9, who even though support this strategy, expressed strongly that it should be implemented alongside real face-to-face interactions and not replace them, so AI- based interactions would complement person interactions. Interviewees #9 and #10 also added that it would limit the company's ability to generate leads. In addition, interviewees #3 and #9, both expressed that they've had bad past experiences with AI-based interactions in their daily lives, *"I'm not a big fan of chat bots, I've never found a chat bot that actually helped me. You know, I might use a different term to describe something that I need. Then the chat bot is familiar with. It ends up wasting a lot of time"*, explains interviewee #9. Nevertheless, interviewees #2, #7 and #8 agree that this strategy would probably work after a couple of years, the construction industry is not ready for such level of interactions yet. Moreover, continues interviewee #8, digitalisation of processes is a higher priority in the industry at this point in time.

4.2.6. Digital Twin

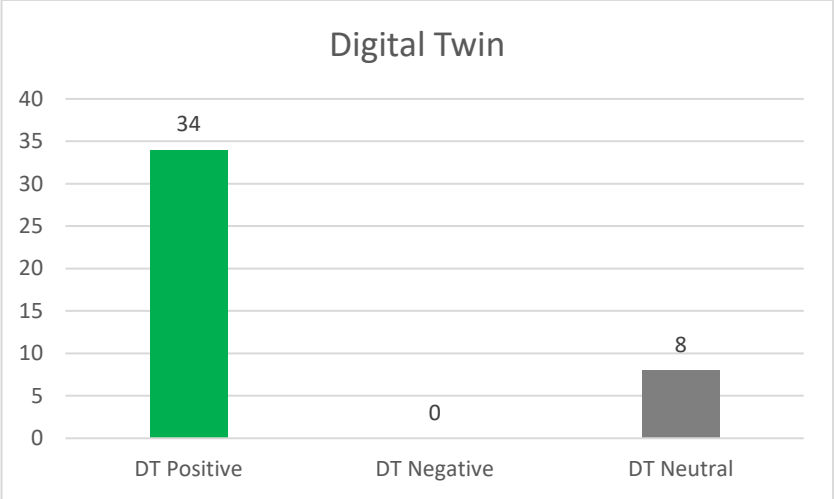

Figure 22: Bar graph for thematic analysis responses on digital twin in the construction industry (Own figure, 2022)

A landside support for digital twin as a CXM strategy with 34 out of 42 positive codes and none for negative. In fact, interviewee #1 explained that their company have already implemented such a system in their products and their customers value its benefits. Interviewees #4, #7 and #10 also expressed that they are already working on a digital twin concept through vector mapping or building information modelling (BIM) system, however, it comes with challenges such as being extremely expensive, also agreed by interviewee #3, providing a level a transparency which companies might not want the customers to have, and not being utilized rather just provided to comply with contractual obligations. Interviewee #9 also reiterates the problem with data collection which was also mentioned in section 4.2.3 for big data analytics.

Despite its imperfections and pitfalls, interviewees #2, #7 and #10 believe that the industry is heading in that direction anyway, because it provides customers that access to transparent information at their convenience that they value, leading to customer satisfaction. In the words of interviewee #2, *"So the client really always has access to the latest data and can access that in a very understandable and easy to understand way by whichever device he wants to use"*.

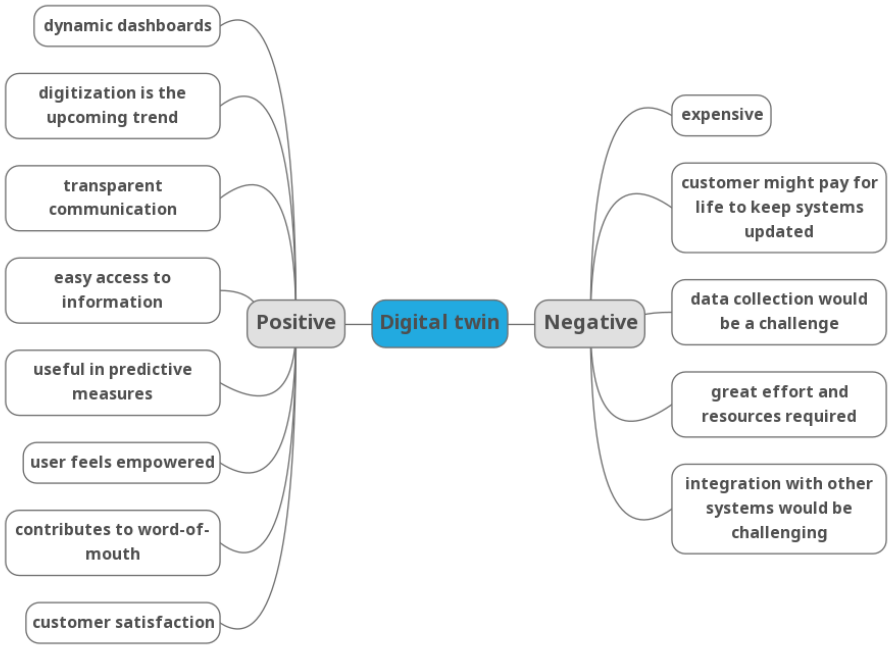

Figure 23: Mind map for thematic analysis on digital twin in the construction industry (Own figure, 2022)

4.3 Customer Journey Map of the Construction Industry

Based on input from all 10 interviews a generic customer journey map was developed, shown in Figure 24. This map highlights the key actions, touchpoints and challenges that take place among construction stakeholders. The customer journey is carried out across the three phases identified earlier in section 2.4.3, the pre-purchase, purchase, and post-purchase phase for a generic customer journey. These phases are then further divided into stages of the construction process, identified across the 10 interviews.

4.3.1. Pre-purchase Phase of the Construction Industry

The customer journey in the construction industry starts with the awareness stage where the end-client, who could be an individual or a developer, would contact architects and consultants to design the project. The next design stage is where these architects and consultants construct and finalise a detailed design based on the requirements of the end-client and conclude the pre-purchase phase.

4.3.2. Purchase Phase of the Construction Industry

The purchase phase begins with the finalised design being sent to contractors and a formal bidding process takes place where main contractors submit their bids to the

end-client, the lead consultant or the project management company hired by the end-client. Simultaneously, subcontractors are submitting their bids to the main contractor who is selecting subcontractor bids to incorporate into their bid for the project. These bids are then evaluated by the consultants in collaboration with the end-client and after several rounds of submission of documents and clarifications, the contractors are selected, ending the bidding stage. The contractual formalities stage involves finalizing the scope of works and agreement of contractual terms and conditions between the stakeholders. The purchase phase moves on to the post-purchase phase once the contract is signed and all formalities are cleared.

4.3.3. Post-purchase Phase of the Construction Industry

This phase begins with an engineering stage where all the technical details are finalised, and the project is transferred from the commercial teams of the contractors to the site teams. This stage also includes kick-off meetings where this transfer is formalised. The execution stage which might range from few weeks to few years, is then entered where all construction activities are carried out. Once all site activities for each contractor is completed, the handover stage begins where the final activities are conducted to prepare the project for regular operation. The project is formally handed over to either the end-client or the FM team of the project. A challenge in this phase is, different subcontractors reach at this stage at different periods in time, depending on their scope of work, but the operational team is not yet ready or assigned to takeover. The final stage of the post-purchase phase consists of periodic service and maintenance activities executed over time, by either the original equipment manufacturers (OEMs) or third-party service providers.

GENERIC CUSTOMER JOURNEY MAP OF THE CONSTRUCTION INDUSTRY								
	Pre-purchase		**Purchase**		**Post-purchase**			
	Awareness	**Design**	**Bidding**	**Contractual Formalities**	**Engineering**	**Execution**	**Handover**	**Service and Maintenance**
What is the customer's action?	End-client educates himself through own research and contacts architects and consultants	End-client, design team and specialist subcontractors collaborate to create a solution	Main contractors and subcontractors bid for the project. End-client, consultant, and design team review bids.	Customer drafts contract based on own terms and conditions	Stakeholders are transitioning from commercial and technical teams to site teams	Main contractor and subcontractors co-ordinate and carry out site works and resolve problems as they occur	Finalisation activities are carried out with formal handover procedures by all site teams	The end-client along with the facilities management team is monitoring the operation of the project
What is the customer's touchpoint with the business?	End-client seeks out architects and consultants through own research and reaches out to them via email, social media, or phone	Repeated interactions through all online and offline mediums	Interactions are mostly through documentation via prequalification process, tender bids, and clarifications	Multiple interactions to reach a mutually agreed set of contractual terms and conditions	Multiple online and offline interactions with technical and commercial teams including kick-off meetings	Customers are in-touch with multiple stakeholders for delivery of products and monitoring the progress of the project	End-client and facilities management teams are interacting with site-teams and consultants for quality checks	Interactions with businesses for maintenance and troubleshooting services of the building
What can the business do for the customer?	Understand end-client needs	Create solutions based on specific needs and requirements of the customer	Deliver high quality bids with reasonable pricing	Increase flexibility in contractual terms to provide a smooth purchase phase	Create smooth transition to the site team and align technical aspects	Co-ordinate and prepare site for arrival of materials and execution of services	Resolve all problems and carry out internal quality checks on their equipment to match expectations	Carry out maintenance activities with minimum disruption to regular operation
What are the challenges the business faces?	Many stakeholders don't have access to end-client	Subcontractors are on the mercy of the design team to deliver value to the end-client	True value-in-use is not delivered to end-client due to interference of profits-driven construction clients	Prolonged purchase phase compromises the duration of the post-purchase phase, thus adding time pressure on site teams	Misalignment of technical and commercial teams result in an inefficient transition process.	Site is not prepared for the products/services	The organisation that takes over the project is not always clear so transitional to operational activities is compromised	End-clients distant from maintenance teams and unaware of activities when carried out. Facilities management focuses only on profitability and compromises quality of service

Figure 24: Generic customer journey map of the construction industry (Own figure, 2022)

5. Discussion

The objective of this research was to contribute to the current literature on CXM with findings focused on the B2B environment of the construction industry. Four research questions were set to achieve this object. A literature review was carried out to understand the current research on CXM and the dynamics of the construction industry, and to answer the first research question which was to identify a set of strategies to improve CX. This resulted in a proposed framework (Figure 8) and the identification of 6 strategies namely, co-creation, outcome-based measures, big data analytics, omnichannel strategy, AI-based interaction, and digital twin. The identification of these six strategies answered the first research question and lead to the first set of hypotheses being drawn (see H2-H7 on page 52). The second and third question aimed to understand the customer journey and the status quo of CXM in the construction industry, forming hypotheses H1 and H8 (see page 52). This was achieved through a qualitative analysis that analysed 10 semi-structured interviews using the method of thematic analysis. This analysis also helped to answer the third and fourth research question which aimed to validate the six strategies in the construction industry context. The findings will be analysed and discussed in the following sections.

5.1 CXM in the Construction Industry

5.1.1. Perception of CXM

The results indicate that there is a major lack of awareness of CXM in the construction industry, in fact, even the idea of customer centricity is blur. Construction companies consider themselves customer centric but don't seem to be willing to do anything without getting something in return, which in most cases is acquiring more sales. Thus, reflecting the transactional nature of the industry. This contradicting result suggests that construction companies are not well aware of the ideologies behind CXM and often confuse it with CRM, whose primary goal is in fact increasing sales. CXM is about giving the customer a better experience, without any financial agenda, so they stay loyal to the business, to the point that they actually want to work with the firm. The thematic analysis results support that this kind of customer retention and loyalty will bring repeat business on a regular basis not only from the same customer but also new ones through word-of-mouth, which will eventually lead to much higher financial returns than single transaction gains. This result has been proven repeatedly in the B2C

environment, the B2B environment and also in the construction industry, yet the data suggests that construction companies are still after short-term gains. Therefore, *H1* is not supported.

5.1.2. Complexity of Stakeholders

Construction industry comprises of a wide network of stakeholders, this was seen in the literature review in chapter 2, and it was also emphasized by every interviewee in the qualitative analysis. Each stakeholder plays a vital role in the construction project and not every stakeholder has access to the end-client. The research suggests that all companies want to add value to the end-client but when the decision maker is another construction company with short term interests, doing business gets complicated. The further away a firm is from the end-client, the more challenging it is for firms to control touchpoints and design the experience of the end-client. The consultants and architects who deal directly with the end-client can provide a better CX to them by designing touchpoints accordingly. However, the main contractors and subcontractors who have restricted access to the end-client can only design a CX for their direct customers, who are usually other construction firms. Even though main contractors are profits-driven, the analysis suggests that they also value capabilities of the companies they do business with, reason being they hold a keen interest in the outcome of the project. Therefore, it makes sense why companies who have worked with contractors before have a better chance for repeat business. They already know the company and its people, they are aware of their problem-solving capabilities, and if the firm delivers as per expectations, then companies would prefer working with them on a regular basis. This study suggests that providing quality work in a timely manner repeatedly develops a trust-based relationship between the two companies which also has a positive influence on price as a decision-making factor, thus providing support for *H8*. In addition, subcontractors can also build similar relationships with the architects and consultants by assisting them in preparation of the design with technical expertise of the subcontractor's domain. This subcontractor-design team relationship should not have a financial agenda and focus only on collaboration for the best-engineered solutions to build trust, thus, increasing the subcontractor's chances for winning the project later on in the customer journey.

5.1.3. The New Customer

The customer of today is radically different, their everyday habits, socioeconomic environment, and their ways of doing business are not the same as a traditional construction customer. This mismatch was explained based on the generational and environmental changes in chapter 2, and interviewees provided evidence supporting it as well. The analysis suggests that customers do their own research, want to get involved, want to be empowered with information, don't want to spend a lot of time planning, and expect quick results. Most of all, above everything else, they look for value or rather value-in use which is the set of benefits generated by the business transaction. This study suggests that the new customer has similar expectations in B2C as well as B2B transactions. In fact, value-in-use seems to provide the highest positive contribution to the CX among B2B customers. However, these new habits conflict with the traditional ways of conducting business in the construction industry, thus contributing negatively to the CX.

5.1.4. Communication

The topic of communication is emphasized repeatedly when discussing about the CX in the construction industry, which makes sense considering the fact the entire network needs to align for a construction project. However, construction companies are so focused on fulfilling their obligations and increasing their profitability that the level of communication is compromised, sometimes even deliberately. Results of this study imply that increasing transparency and communicating with empathy contributes to a positive CX. It allows companies to truly understand the customer's needs and points of concern and address them accordingly. Although such open communication with the customer increases vulnerability to the company's profitability, it results in a very positive CX, leading to customer satisfaction, loyalty and thus, long term financial gain.

5.1.5. The Future of Construction Industry

The construction industry is actively working on digitalisation of processes which would bring new opportunities to improve CX by enhancing processes and increasing transparency with the client. Even though data collection requires a lot of resources, it is going to happen. The challenge is going to be creating technical synergies between

different stakeholders to leverage the maximum potential of digitalisation, another reason for stakeholders to focus on long-term relationships.

5.2 Customer Journey Map of the Construction Industry

A generic customer journey of the construction industry was mapped out in Figure 24 which identified 8 stages in the entire journey. These stages will be analysed and discussed in the following sections.

5.2.1. Awareness

In this stage, the end-client is doing their own research to familiar themselves of the various solutions in the market, before contacting architects and consultants to discuss further. During this stage, the end-client already establishes a basic level of expectations based on their previous knowledge and the newly acquired information from the research, majority of which is done on the internet. Construction companies can leverage this habit of customers and design touchpoints using online mediums to create awareness of their solutions directly to the client. Passive awareness can be created through regular social media postings or newsletters, which would increase visibility over-time and contribute to their previous knowledge, or active awareness, by reaching the client when they are doing this online research.

5.2.2. Design

The end-client is actively interacting with architects and consultants to construct the most optimum design for their project. This design team has direct access to the end-client and has all the means necessary to improve the CX such as understanding the customer's needs, building a vision, and then engineering that vision to a tangible design. The subcontractors can add value here by making sure that the design team is aware of their solutions and capabilities, and then supporting them with technical expertise and evaluations required to improve the design, with no commercial agenda. In this way, the subcontractors add value to the design team who in-turn add value to the end-client, thus improving CX for all stakeholders in this stage.

5.2.3. Bidding

All the effort put in the previous two stages is put to work in this stage, as the contractors are invited for a tender bid, evaluated and then selected via a thorough formal

bidding process. The only value that can be added in this stage by contractors is a competitive price, however, contractors who engaged with stakeholders in the previous stage have a competitive advantage. These contractors have, by this point, established a relationship with the design team and might have also influenced the design of the project according to the best value they can deliver.

5.2.4. Contractual Formalities

By this stage, the contractors have been selected and are agreeing upon the exact scope of work and contractual terms amongst each other. Conflicts occur due to disagreements in the terms and conditions as each stakeholder has strict pre-set terms that mostly benefit their own firm, thus prolonging the stage. Construction companies can revisit their own terms to be more flexible which are mutually beneficial and communicate the most crucial and the no-go terms as early as possible with full transparency, this would allow both parties enough time to align internally to reach a mutual agreement without compromising the timeline of the project.

5.2.5. Engineering

This stage signals the entry into the post-purchase phase where stakeholders are finalising technical details before execution and are also transitioning from commercial teams to on-site execution teams. The lead consultant, main contractor and subcontractor can improve each other's experience by making sure that the offer that was presented in the bid was technically compatible with the design, the on-site conditions, and the expectations of stakeholders, and address any technical concerns with full transparency. For this to happen seamlessly, technical teams of all stakeholders need to be engaged earlier on in the journey, so they have been provided with enough time to evaluate all parameters and co-engineer resolutions for any technical challenges before moving into commercial discussions.

5.2.6. Execution

This stage involves the maximum number of stakeholders, therefore open communication is key for a good CX. All stakeholders have to co-ordinate daily to carry out their activities. Subcontractors, main contractors, and the lead consultant can improve this co-ordination through transparent communication with empathy and actively informing each other of their activities. This establishes a collaborative environment and

a relationship which allows teams to resolve day-to-day problems quickly and still achieve customer satisfaction. To improve the CX for the end-client, all stakeholders who have access to the end-client should keep them updated with the current progress of execution activities, proactively.

5.2.7. Handover

The construction is near completion and final activities are taking place for a formal handover to either the end-client organisation or the FM team who will be handling the regular operations of the building. Improving the efficiency of this phase can be done by contractors identifying and engaging the operational team early on so the transition is smooth. In case this stakeholder has not been defined yet, the related stakeholders need to be informed in advance and an alternative solution should be in place before reaching the handover stage.

5.2.8. Service and Maintenance

This phase is reached after full completion. While the project is up and running. Most of the stakeholders, by this point have completed their obligations. The stakeholders left are the OEMs who supplied equipment in the building and are maintaining it, the end-client and sometimes the facilities management teams. OEMs can improve the CX here by keeping the end-client regularly informed of their maintenance activities and leverage digitisation of their products to enhance its operation and provide the end-client with a digital experience of smart products and sustainable services.

5.3 The Six CXM Strategies

5.3.1. Co-creation

This study provides maximum positive support for this strategy with evidence based on real-life situations. Co-creation has been a strategy that has been existing for quite some time and produces the best outcome of the construction project, thus providing support for *H2*. It allows companies to establish a better understanding of the requirements and provide personalised solutions which leads to a better CX. Even though construction companies don’t implement this strategy as much as they used it, this study suggests that it leads to the best value-in-use, thus contributing to the CX.

5.3.2. Outcome-based Measures

The analysis suggests this strategy will not work in the construction industry mostly because of the structure of its eco-system. Outcomes for each stakeholder are different and since many stakeholders don't have access to the end-client, co-engineering outcomes would not be feasible. Moreover, the design consultants and architects involved in the design stage take such outcomes into account in their design, which makes this strategy feasible only to them. Overall, the negative aspects out way the positive ones, therefore, this strategy would not improve the CX in the construction industry. It also opposes the strategic CXM framework proposed by Zolkiewski, et al., 2017 in the context of the construction industry (Zolkiewski, et al., 2017), thus not providing support for *H3*.

5.3.3. Big Data Analytics

Even though the data provides strong support, there are viable challenges that need to be addressed before leveraging this strategy to improve CX. There are many applications of this strategy which have a strong potential for improved experience, such as predictive maintenance, performance analytics, sustainability insights and more. However, data collection is a major challenge, the industry is predominantly traditional in terms of business, therefore, gathering enough data to leverage big data analytics would require a lot of resources. Nevertheless, the industry is moving rapidly towards digitalisation regardless, and once it does, implementation of big data analytics would be fairly easy. Therefore, *H4* is supported, provided data collection is feasible.

5.3.4. Omnichannel Strategy

Very strong support suggests that this strategy would improve CX to a great extent, thus supporting *H5*. Customers have many tools at their disposal today and they use them as per their convenience to do their own research before engaging with companies. Therefore, it makes sense for construction companies to have a strong digital presence that is consistent with their face-to-face experience. Omnichannel strategy also contributes to awareness of new solutions by providing visibility to stakeholders and allowing companies to reach personality types in the new generation of workforce, who prefer using digital tools over face-to-face interaction.

5.3.5. Artificial Intelligence-based Interaction

The analysis in this study identified a lot of applications where AI-based interaction could be leveraged to provide benefits such as quick response and easier retrieval of information. These benefits are not only practical but also much needed in the construction industry. However, AI-based interaction faces two major setbacks, firstly, its negative impression on individuals, who don't believe that such interactions would help them since they've never had good experiences with such kind of interactions. Secondly, the construction industry has been so tech deficit for such a long time that construction professionals just prefer contacting someone via phone or email. The study suggests that at this moment in time, this strategy might not work but as the industry becomes more accepting of technology, it has future potential. Therefore, extending the study from Kushwaha, Kumar and Kar, 2021 (Kushwaha, Kumar, & Kar, 2021) and implying that CX is also influenced by previous experience with chatbots in addition to its design, customer's ability to use technology and trust in the brand, as suggested. Thus, for now, *H6* is not supported.

5.3.6. Digital Twin

The research provided only positive support for this strategy, suggesting that this strategy would be a very feasible strategy to improve CX, emphasizing support for *H7*. Even though construction companies have already started implementing this strategy, it is currently not being used to its full potential because of two reasons, (1) the industry still lacks the technical capabilities to leverage such systems, and (2) the industry is hesitant to adapt such level of technologies. Moreover, the current digital twin solutions are extremely expensive, and the perceived value isn't justified by these high costs. In addition, data collection is still a tedious task. However, with the trend of digitalisation of processes in the industry, it seems that digital twin would be a reality soon.

6. Conclusion and Recommendations

6.1 Conclusion

The generic customer journey mapped in this study highlights key aspects and touch-points which the construction industry could leverage to improve CX by designing business strategies suggested in the discussions chapter. However, before CXM is implemented, the construction industry needs more awareness about customer centricity and customer experience. CX is a firm-wide approach to customer centricity and comprises of the experience contributed by all functions of the business, not just customer-facing roles. This conclusion was also reiterated in the study by Gerea, Gonzalez-Lopez and Herskovic, 2021 (Gerea, Gonzalez-Lopez, & Herskovic, 2021) and is supported by this research. To truly benefit from CXM, construction companies need to step away from the traditional transactional culture and focus on appreciating the customer more for being their customer rather than a means to generate profit. In addition, the study also aligns with McKinsey's study that B2B customers expect a similar experience like they do in B2C (McKinsey & Company, 2016). Therefore, it is vital for construction companies to align with the requirements of the new customer which implies being more agile and transparent with consistent communication to build long-term trust-based relationships.

6.2 Recommendations

In the short term, construction companies should start by an internal audit of CXM in the company. The second step should be educating their employees on the concepts of CX. Once enough awareness is established, key results of the internal audit should be communicated firm-wide and workshops to be conducted to brainstorm and identify specific strategies in each business function to improve the experience of the customer. These companies should also leverage the digital tools available such as remote meetings and social media platforms to build relationships based on mutual goals and understandings and begin implementing new tools as they are developed. This would allow the industry to leverage digitalisation to its full potential and innovate new ways to enhance processes and improve CX. Along with digitalisation comes transparency, therefore companies need to embrace the culture of transparent communication from now onwards with a top-down approach. This would keep customers informed and incentivize companies to deliver high quality products and/or services.

For long term, business models need to be revised to allow flexibility in business processes and create a firm-wide customer centric culture. The conceptual framework proposed in Figure 8 was strongly supported by the results of this study, previous relationship, value-in-use, phase of the customer journey, actor level which in the construction industry's case would suggest end-client or customer client and touchpoint control which corelates to stakeholder, all contribute to the B2B customer experience of the construction industry. Therefore, firms should build long-term strategies focusing on these 6 factors to improve the CX. In addition, construction companies should work on building trust- based relationships with all types of stakeholders by interacting on a regular basis for the sole purpose of building relationships. This would result in an improved customer experience and provide consistent long-term financial return.

6.3 Limitations of this Research

Even though the study aimed to cover as many aspects of the topic as possible within reason, it does have some limitations. The sample size of 10 might not be enough to provide accurate results. Moreover, the insights provided by the interviewees are subjective and might not be the true representation of the entire construction industry. There is also the possibility that the participants of the interview might have misinterpreted the questions. Lastly, the researcher's own experience in the industry might also make this research vulnerable to subconscious bias.

6.4 Further Research

This study covered the topic of CXM in the construction industry holistically and there are many possibilities for further research which would extend this study and/or investigate the results. The geographical and cultural aspects of different regions could be analysed for differences and similarities. The six CXM strategies identified and analysed are not exclusive, other strategies should also be investigated. Data collection, which was highlighted as a setback for digitalisation of the construction process, could also be studied for each stakeholder separately. Each stage of the customer journey could be analysed further which might identify specific opportunities and weaknesses. Implementation of a customer centric culture in the industry is also a topic that experts and other researchers could benefit from gravely.

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