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Master's Thesis

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**EXPLORING THE CUSTOMER JOURNEY AND VALUE PROPOSITION OF A  
SAAS SOLUTION DESIGNED FOR SPACE MANAGEMENT: DIGITALIZATION  
OF THE CONSTRUCTION INDUSTRY**

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## ABSTRACT

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The goal of the study is to examine the customer journey and the value proposition of a SaaS solution designed for space management. These concepts are examined through the digitalization of the construction industry.

Theoretical background discusses these concepts and existing literature regarding them, providing insights of the current knowledge that have been collected from the concepts examined in the thesis.

Empirical part of the study is conducted through semi-structured interviews with employees of the commissioner company, current customers or users of the solution and the potential customers. Findings of the study aim to answer the theoretical concepts connected to the SaaS solution examined for this research.

## TIIVISTELMÄ

<b>Tekijä</b>	Joonas Joutsen
<b>Tutkielman nimi</b>	Asiakaspolun ja arvolupauksen määrittäminen tilanhallintaan luodulle ohjelmistoratkaisulle
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Tutkimuksen tavoitteena on luoda tietoutta rakennusalan digitalisaatiosta tarkastelemalla rakennuksien tilanhallintaan liittyvän ohjelmistoratkaisun asiakaspolkua, ostokäyttäytymistä ja arvolupauksia.

Teoreettinen osuus käsittelee tutkimukseen liittyviä avainkonsepteja olemassa olevan kirjallisuuden ja tutkimuksien kautta, avaten niitä syvällisemmin lukijalle ja luoden tietoa primääridatan analyysia varten.

Empiirinen osuus toteutetaan osittain strukturoitujen haastattelujen kautta toimeksiantajan henkilöstön, ratkaisun nykyisten asiakkaiden sekä käyttäjien ja potentiaalisten asiakkaiden näkökulmasta. Nämä tulokset tuodaan esille avainkonseptien kautta.

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# 1 INTRODUCTION

Digitalization and the effects of it in multiple businesses are visible and they have been so for the past decades. One of the innovations of the phenomenon is the rise of different SaaS solutions that collect the data in to one place, providing the user with the full capability to transform data into concrete knowledge. This is a phenomenon that concerns every industry, some of the industries have adapted these new innovations more rapidly than others. There are still several industries that could have the potential of adapting these information technology systems more effectively, one of the largest industries with the potential of doing this in the near future is the construction industry.

The following thesis focuses on bringing knowledge concerning the phenomenon of digitalization in the construction industry, by examining the concepts of customer journey, organizational buying behavior, customer value proposition and decision-making process. This phenomenon and concepts are examined through the Software as a service (SaaS) solution designed for space management.

Related theories and previous researches are examined to support the eventual goal of the research, this goal is to produce knowledge concerning the digital customer journey, value proposition and digitalization of the construction industry in a way that would support the commissioner company in terms of producing more durable value propositions and creating effective customer journeys in the digital world. The previous researches concerning this topic are discussed and revealed, justifications from different perspectives are opened to give the reader a better understanding concerning the relevancy of the research.

As mentioned, the research is produced for a commissioner company. The company is a small-sized consulting and IT-service provider that operates in the construction industry, currently employing approximately 30 employees. The commissioner company is presented in the Chapter 3.1

## **1.1 Motivation and background for the research**

This research focuses on the digitalization of the construction industry and examines the larger phenomenon through SaaS solution designed for space management in facilities. The research gap for examining this can be found in the GlobalFM (2018) annual report concerning the facility management industry. The research stated that facilities management represented 1,152 billion in global market revenue and the workforce represented 1,7% of the global scale. Providing a reliable insight on the construction industry through this perspective, where the space management solution is closely connected to. In general Schallamo & Williams (2018, 4) & Designing Buildings (2019) & Roland Berger (2018) & Bloomberg (2018) concluded that the construction industry is widely seen as one of the largest industries that have followed the digitalization as fast as other large industries. Demonstrating the need for examining the reasons behind through researches opening the core implications slowing the phenomenon from the industrial perspective.

This phenomenon is examined by defining the customer journey, customer value proposition and organizational buying behavior through existing literature and collecting primary data from different perspectives. Theoretical framework focuses on introducing these terms and the research is narrowed to inspect the customers, potential customers, employees and other stakeholders. This brings knowledge concerning relevant outcomes what can be produced by reflecting the results to the previous data and generating new conclusions based on the insights gathered.

The commissioner company possesses years of expertise in Building Information Modelling (BIM) services and providing SaaS solutions for construction projects. They are seeking to expand towards international markets in the upcoming years, this is taken into consideration especially with their SaaS solutions, as they have more potential for rapid expansion in the upcoming years.

From the managerial perspective, the goal of the research can be divided to two areas. Commissioner company has a high interest towards their potential internationalization therefore the obvious goal of the thesis is to give them knowledge and tools in terms of organizational buying behavior, customer journeys

and overall value proposition from different perspectives from their current domestic market. Providing them knowledge for the future internationalization and also information that could potentially help them to grow domestically in the health care section. By collecting more data and creating a better understanding of the market, they are able to define customer journeys more precisely and determine overall value propositions to answer to the demands of the potential and existing customers.

From the social perspective, the motivation for the study is to understand the phenomenon of digitalization in the construction industry and the organizational buying behavior in the health care section, especially from the perspective of SaaS solutions. This phenomenon is examined through the decision-making process, customer journey and value proposition and implementation. The aim is to provide businesses that are operating in the construction industry more knowledge on how to develop their business the way that it will respond to the demand of the customers, leveraging digital tools. As it can be argued that the construction industry is one of the largest industries that have not implemented the digitalization as rapidly as other industries. Research goal is to make new findings to help service providers to understand the reasons for this. By focusing on bringing new knowledge from the smaller perspective, future researches can be conducted, and the larger outlines can be made more visible to create better understanding of the whole phenomenon of digitalization in the construction industry, and the customer journeys and value propositions that are connected to the transformation of it.

## 1.2 Theoretical Framework

This chapter discloses the relevant key concepts that are used in the research and their relationships to each other. Larger phenomenon is digitalization that is relevant in every concept as they are examined through it. The concept of customer journey is illustrated through construction industry and facility management, which are the delimitations of the research. Based on the industry and phenomenon the concept of consumer journey is examined through organizational buying behavior, decision-making and customer value proposition. Creating a perspective of the digitalization of construction industry through these themes.

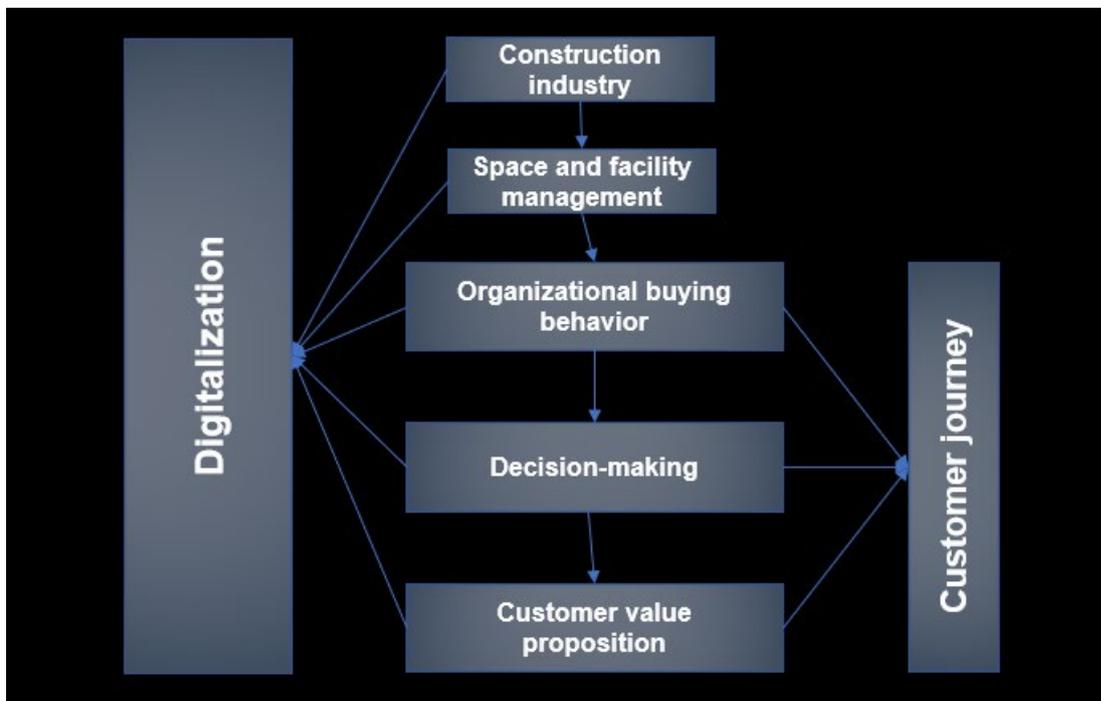


Figure 1. Theoretical Framework

### 1.3 Delimitations

The research emphasizes on providing information from the phenomenon of digitalization, organizational buying behavior, customer journey and value propositions from the general perspective and from a more narrow perspective for the commissioner company, narrowing the information to the health care sector and for their SaaS solution for space management that is commonly a part of the general facility management process in organizations.

Primary data collection is narrowed down to health care section, in terms of potential and current customers. This is explained with the current situation of the SaaS solution in terms of potential and the fact that most of the current customers represent this segment. Providing an accurate comparison when examining the results of the primary data collected.

For making the research more specific, theoretical concepts are limited to the organizational buying behavior and decision-making, customer journey, digitalization and the customer value proposition. These concepts are seen to be connected to one another and are essential to examine for producing more insights of the phenomenon and the subjects examined for this research.

According to Statistic Finland (2019), there are currently 21 hospital districts in Finland. Justification for choosing this segment for the primary data source is the fact that there is a large potential for the space management software, in the domestic but also in the international markets. Abel, Lennerts & Abel & Pfunder (2005) emphasized the importance of efficient facility management processes in hospitals, by making the management of it more efficient, reliable and transparent, it would give the hospitals more time to concentrate to their core business – treating patients.

Hospitals are large facilities that have various spaces that require planning and monitoring during the planning, building and operational phase. With transparent and coordinated facility management and optimized spaces, the hospitals will achieve financial savings and more durable facilities. (Lennerts & Abel & Pfunder 2005; Karim 2016).

The interviews were narrowed down to few representatives per different group, such as stakeholders, customers, potential customers and company employees. The research focuses the results on the information received from these representatives and it is acknowledged that the data does not represent the whole construction industry or the health care section and there are possible divergencies.

The interviewees were selected based on the assumption that they are key professionals regarding this SaaS solution, these persons and their job descriptions were used also to determine the interviewees from the potential customers, who had not adapted the solution yet.

Primary data is collected from domestic sources, as the current customer segment is purely domestic. This is to give perspectives that are comparable to each other. Alterations for further researches are discussed more thoroughly in the end of this paper, in Chapter 5.

### **1.3 Key concepts**

The following chapter will introduce the key concepts of the research. These concepts are discussed in various stages of the research paper, as they represent a large portion of the area, which the research paper is focused on. These concepts are introduced to the reader to ensure that they have understanding of these concepts and the essential meanings of them.

***Building information modelling (BIM)*** stands for the creation of digital asset of example buildings or facilities using Internet of Things (IoT) and artificial intelligence. (Howell, Rezgui 2018; Designing Buildings 2019).

***Customer value proposition*** can be defined as the direct benefit that is communicated through marketing, executed from the company to the customer. Serving as a promise that the company establishes for solving the problems of their customers. It can be for example examined through the individual's motivation and if the needs are met; if your service creates the motivation to buy, there is a value

proposition in the service (Schiffman, Kanuk & Wisenblit 2010, 11: BusinessDictionary 2019; Buttle 2009).

**Digitalization** describes the phenomenon of the digital innovations exceeding the previous product, service or a process. Digitalization has been transforming industries for decades and new disruptive innovations arise from this phenomenon. Early stages of digitalization consisted the creation of telegraph technologies, microprocessors, computers and the internet. (Vogelsang 2010, 7-9). Toivonen & Saari (2019, 6-10) describe that digitalization phases can be illustrated through different phases; it began with the rise of large factories and telecommunications, soon developed to digitalized and non-place attached activities, for example sending contracts through fax machines. After that, it developed to the era of internet and innovations were quickly established through it. Today, almost everything can be accessed online, and the consumer demands have shifted enormously towards efficient services offered through internet. Digitalization forces everyone to develop their services and innovations, as the demand is growing, and the needs are changing constantly as the new digitalization phenomena arise. (Vogelsang 2010, 7-9; Toivonen & Saari 2019; 6-10).

Cotts & Payant (2010, 4) describe **Facility Management** as one part of the construction industry that focuses on building maintenance through different sets of operations. It is a process that combines the characteristics of the building with the people, usability and technology; creating the larger picture of the situation based on these operational aspects. Facility management is executed in both, public and private sectors. **Space Management** is one part of the overall facility management coordination process. McDonald (2019) defines it to consist the operational control and management of the physical spaces.

Rouse (2019) summarizes **Software as a Service (SaaS)** as a software solution that is hosted for the customer through a platform that can be accessed through internet. This creates the possibility of accessing the software when the customer wants, not depending on the time or place. Cloud-based solutions are used widely in organizations and they have made business processes more efficient in multiple areas, such as; business process management, human resources management and financial management. Hardy (2018) define cloud-based software's usually to

involve multiple on-demand services, designed to execute different activities that it is designed to solve. Providing access to multiple persons through online, it provides the organization a way to process information more efficiently, for example if compared to a software operating in non-cloud environment.

Lemon & Verhoef (2016, 69-71) describe **Customer Journey** as a series of different touchpoints that the customer goes through when interacting with the service and the company. These touchpoints play a role on the eventual outcome of customers journey. These touching points are for example first contact, buying experience, using the service and communications after the initial purchase, the after-purchase process.

**Consumer Behavior** is a term that describes individuals' behavior that combines evaluation, emotion, need and a purpose, creating the outcome; set of activities that are described as purchasing behavior of the individual organization or a consumer. Time, place and available resources are important variables that have a direct connection the eventual transaction that is made between the customer and the service provider. (Schiffman, Kanuk & Wisenblit 2010, 23; Solomon 2011, 34-35). Webster & Wind (1972, 13-14) state that **Organizational Buying Behavior** consists multiple persons and purchasing decisions are most commonly executed through buying teams or divisions, creating complexity to the purchasing process, if compared to the more traditional individual consumer behavior.

Schiffman, Kanuk & Wisenblit (2010, 478) describe **Decision-Making** as a concept that is used for describing the problem-solving process of the customer, it usually aims to answer a problem or act as a responsive behavior.

## **1.4 Preliminary literature review and research gap**

This chapter reviews the existing literature connected to the subjects examined in the research. Literature is examined through previous connected researches, articles, written literature and business dictionaries. Literature is presented by pointing out different perspectives concerning the relevant concepts and theories, also illustrating the research gap for this research.

### **Digitalization**

Evans-Greenwood, Hillard, Williams (2019) state digitalization has disrupted multiple industries and the effects of it are visible and that the phenomenon has changed the way industries and businesses operate. Construction industry is seen one of the largest industries in the world and digitalization can be seen to affect to it like it has affected multiple other businesses, offering the opportunity to achieve results that were not possible before by disrupting the old methods and processes (Evans-Greenwood, Hillard, Williams 2019). One of the most notorious effects of digitalization is the rise of high technology innovations. Mohr, Sengupta & Slater (2010, 9) define high technology innovation as a cutting-edge innovation with high technology capabilities, possibly the capability to renew the complete industry.

Construction industry is one of the largest industries in the world that has not taken the similar advantages in terms of digitalization compared to other industries.

There are still multiple processes executed in analogical and out-dated matters, creating a gap between different processes in the construction industry, as some are following digitalization possibilities and at the same time multiple processes have not reached the levels of potential what could be determined to be possible.

(Schallamo & Williams 2018, 4; Designing Buildings 2019; Roland Berger 2018; Bloomberg 2018). One of the most noticeable effects of digitalization in the construction industry is the rise of Building Information Modelling (BIM). It has already begun to appear as standardization in different countries, one example being that UK mandates it to be a part of every government construction project

and other countries are preparing their own regulations concerning it. It can be seen as the future of all construction projects. (Howell, Rezgui 2018: Designing Buildings 2019)

Mirvis (2006) sees the main motivation for companies to start their digitalization process and adapting new technologies simply because they need new solutions because of the rising competition and the business operations have to be more efficient and transparent in as a result of it (Mirvis 2006). Majidfar, Taghva & Mantegi (2013) focused their research to the implementation part of the digitalization process, concluding that implementing a new technology usually requires changes in operations for the company from multiple perspectives; motivation for implementing these technologies can be seen from the support perspective, they are aiming to have positive outcomes to work processes and efficiency. Mirvis (2006) stated that there are two reasons why new technologies are not adapted well in companies; technologies to be implemented are actually insufficient and/or there is no clear strategy established concerning the implementation and usage.

### **Organizational buying behavior and decision-making**

Surbhi (2018) explained the decision-making process in business-to-business (B2B) also known as organizational buying context compared to B2C, to have completely different characteristics and behavior models. One large factor affecting this is the different characteristics of buying; in B2B the quantities are larger, this resulting the lifecycle of the buying process to be much longer. Geiger, Kleinaltenkamp, Plinke & Wilkinson (2015, 171-174) state that in B2B context, marketers need to be aware of the complexity of the buying division.

Organizational buying decisions are crucial part of the process where the goal is to create as much sales or other benefits that their core business is relying to.

Pawloski (2019) emphasizes that businesses need much more information regarding the technical aspects compared to individual customers, as there is competition in the market, and it is essential to find the one that will meet their

demands most efficiently. Webster & Wind (1972, 12-16) still emphasize the fact that even though companies are making their decisions based on multiple other variables and being more rational, there are still multiple individual drivers affecting to the purchasing decision, much like in B2C environment.

SaaS solutions have multiple direct values that can be stated with different return on investment (ROI) statistics and increase the information flow, cost efficiency, effectiveness and mobility. Offering the company a way to process and generate information in larger volumes and more transparently. (Hardy 2018; Kamha 2018) Even though there are direct values to illustrate, there is still much potential in terms of construction industry in terms of marketing these services and the customers process of implementing these high-technology solutions. Pellicer & Yepes (2011) state that marketing strategies are not applied as efficient that they could be in the construction industry guiding that marketing should be examined more as a tool for development not only a necessary business component creating economic growth.

### **Value proposition and customer journey**

Buttle (2009, 191) stated that companies have to invent the benefits for the customers and constantly trying to improve the value created to keep up with the competition. Almquist, Senior & Bloch (2016) concluded that companies have to know the essential value propositions from the customers perspective and focus their actions to fulfill these propositions if business seeks to grow its market share. Lemon & Verhoef (2016) state that by creating multiple value propositions the companies are more likely to succeed, as they are creating value in various points of the customer journey.

Hudadoff (2009) stated that companies often struggle to produce concrete customer value propositions, this is a result of a lack of understanding the customer and the factors that affect their value proposition. Urbach & Röglinger (2019) mentioned that while companies might have superior technologies, it does not create the eventual competitive advantage and value proposition itself.

Technology is only making it possible in a more effective manner. Instead to create value proposition the companies have to renew something to a completely new perspective than before, focusing for example to usability or developing the user-centric approach. (Sukrhaj 2015) from HubSpot stated that the best value propositions for SaaS solutions is executed by following few simple strategies and tools. Value proposition is communicated efficiently, when the company is able to communicate their service on informative and visually appealing way and at the same time provide answers to simple questions like; who they are, who they service and how their value proposition is different from the other competitors in the market. (Sukrhaj 2015).

If the value proposition is to be met accordingly, the customer journey needs to be understood. In industrial content the purchasing process is more complex and there are more people affecting to the decision compared to the more traditional consumer markets. (Zolkiweski et al. 2017). Customer journey is used to describe the process and the phases that the individual customer goes through when interacting with the company. Customer journey consists every phase from the start to the end (Følstad, Kvale 2018, p. 2-3). By mapping this process, the service providers are able to determine the blueprint of the journey, by exposing the touching points, acquiring more knowledge towards designing their services and meeting the demands. (Følstad, Kvale 2018, 2-5). Court, Elzinga, Mulder & Vetvik (2009) executed a research to define different elements in the customer journey in more depth dimensions than it had been defined before. One of their key statements based on the results was to emphasize the importance of adopting new methods in measuring the success of different elements during the customer journey, as is becoming more and more complex. Edelman & Singer (2015) mention in their research that companies are proactively trying to create different customer journeys, rather than just trying to fix or understand the existing ones. They also conclude that successful brands are the ones who see the possibilities in this and are investing their resources towards creating these value-added customer journeys.

## **Facility and space management**

Facility management is a large and continuously growing sector of the construction industry with lots of different aspects that need to be taken care of in order to prevent damages or uncertainties (Yassin, Razali 2008). GlobalFM (2018) published an annual report concerning the facility management industry. The research stated that facilities management had 1,152 billion in global market revenue, workforce represented 1,7% of the global workforce and the largest growing market in 2017 was Africa. Global FM (2018) also found that Africa was one of the most growing markets in terms of health care and hospital sectors in facilities management. Razali & Yassin (2008) explained in their article concerning the industry that by managing the facilities, the company has access towards more knowledge that they can use to develop their facility management in general. As the primary data collected and analyzed with the secondary data are limited to primarily focus on to the health care segment, this literature is examined also through the facility management in health care. This segment can be seen as one of the most potential ones in terms of facility management, as they have various desires making their processes more effective and transparent. (Asian Hospital & Healthcare Management 2019).

Lennerts, Abel, Pfründer (2005) published an article concerning the facility management in health care, stating that there is direct value on the effects of improved process flows in terms of financial savings and more resources accomplished that could put to the core business of treating patients. Gustin (2008) stated in a research that examined the industry that different facility related accidents are most common in hospitals. 46% of the total amount of cases (4.2 million) were located in hospitals, this was mainly because of poor facility management.

As space management is an essential part of establishing and managing the facilities, (Prasad 2019) divided the essential components of space management to four perspectives. These perspectives are informative insight data, real-timer

records, space optimization and eventually reducing costs for the planned space for the facility. Together formulating the essential functions and benefits space management coordination for organizations. Calixtro, Celani (2015) introduced space management in their research as a process mainly executed by coordinating planners or architects, combining the resource planning of different elements to a different problems that they need to answer in a single space. Making the space and the elements as responsive and efficient as possible to the essential requirements.

<b>Author &amp; year</b>	<b>Subject/focus</b>	<b>Concept</b>
Afshar (2016)	High advanced marketing capabilities	Customer journey, organizational buying behavior, digitalization
Asian Hospital & Healthcare Management (2019)	Facilities operations in the health care industry	Facility management
Businessdictionary.com (2019)	Defining customer value proposition	Customer value proposition
Buttle, F. (2009)	Customer Relationship Management	Customer value proposition
Celani, G. & Calixto, V (2015)	A literature review for space planning optimization using a evolutionary algorithm approach: 1992-2014.	Facility management, space management
Casey (2019)	Software as a service (SaaS)	SaaS
Cohn (2015)	Differences in selling B2B vs B2C	Organizational buying behavior
Cotts, Roper & Payant (2010)	Facility management handbook	Facility management
Court, Elzinga, Mulder & Vetvik (2009)	The consumer decision journey.	Customer journey
Designing Buildings (2019)	Digital marketing for the construction industry.	Organizational buying behavior, digitalization, customer journey
Dunning (1981)	International production and the multinational enterprise	Internationalization
Edelman & Singer (2015).	Competing on Customer Journeys.	Customer journey
Evans-Greenwood & Hillard & Williams (2019)	Digitalizing the construction industry	Digitalization, customer value proposition

Geiger, Kleinaltenkamp, Plinke, & Wilkinson (2015)	Fundamentals of Business-to-Business Marketing: Mastering Business Markets.	Industrial buying behavior, customer journey
Global FM (2018)	Global facilities management market 2018 report.	Facility Management
Gupta & Davin (2015)	Marketing reading: digital marketing.	Digital Marketing
Gustin (2008)	Safety management: A guide for facility managers.	Facility management
Howell & Rezgui (2018)	Beyond BIM: Knowledge management for smarter built environment	Building information modelling (BIM)
Karim (2016)	JCI 'Facility Management and Safety (FMS)' standards are crafting safest hospital buildings equipment and systems, with disaster readiness	Facility management
Kamha (2018)	Cloud-based Construction Software-as-a-Service (SaaS)	SaaS
Lemon & Verhoef (2016)	Understanding customer experience throughout the customer journey	Customer journey, customer value proposition
Lennerts & Pfunder (2005)	Step-by-step process analysis for hospital facility management: An insight into the OPIK research project.	Facility management
Mirvis (2006)	The implementation and adoption of a new technology in organizations	Digitalization, SaaS, organizational buying behavior, customer journey
Pellicer & Yepes (2011)	Marketing in the construction industry: State of knowledge and current trends	Digitalization, customer journey, value proposition
Majidfar & Taghva & Taghavifard & Mantegi (2013)	Implementing high technology intelligence at national level organizations: an action research study	Digitalization, customer journey, organizational buying behavior
McDonald, J. 2019. What is Space Management?	What is Space Management?	Facility management, space management
Hufadoff (2009)	The customer value proposition – differentiation through the eyes of your customer	Customer value proposition
Følstad & Kvale (2018)	Customer journeys: a systematic literature review.	Customer journey
Pawloski (2019)	B2B Customers Buying Behavior.	Organizational buying behavior
Roland Berger (2016)	Think Act - Digitalization in the Construction Industry	Digitalization

Schallamo, D. R. A. k. & Williams, C. A. k. (2018)	Digital Transformation Now!: Guiding the Successful Digitalization of Your Business Model.	Digitalization, organizational buying behavior
Schiffman & Kanuk & Wisenblit (2010)	Customer behavior	Organizational buying behavior, customer journey
Solomon (2011)	Consumer behavior; buying, having and being.	Consumer behavior, Organizational buying behavior
Sukhraj (2015)	10 Flawless SaaS value propositions you wish you had	Customer value proposition, SaaS
Tilastokeskus (2019)	Tietoa tilastoista - Sairaanhoidopiirit	Health care, hospital districts
Urbach & Röglinger (2019)	Digitalization cases – How organizations rethink their business for the digital age	Digitalization
Vogelsang (2010)	Digitalization in open economies: theory and policy implications	Digitalization
Wind & Mahajan (2001)	Digital marketing: global strategies from the world’s leading experts	Digital marketing
Zolkiewski & Story & Burton, Chan & Gomes de Souza & Hunter-Jones & O'Malley & Peters & Raddats & Robinson (2017).	Strategic B2B customer experience management: the importance of outcomes-based measures.	Customer journey, customer value proposition

*Table 1. Preliminary literature review*

### **1.5 Study goal and research question(s)**

This chapter introduces the study goals and research questions. Goals are discussed from various points-of-views. Main research questions are opened in the chapters as well the sub-questions that define the main ones. Main research questions focus on the value proposition of the service and the digital customer journey that the customers make for acquiring the service. These questions are answered through different perspectives as the aim is to provide the answers from multiple perspectives.

Goal for this research is to create knowledge for the commissioner company about the value proposition and the customer journey regarding their solution for space management. Through acquiring this information through this research, the commissioner company will possess more knowledge regarding their market situation and the essential needs of their current and potential customers. This can be seen to result the commissioner company to have more information that they are able to use to create more durable value propositions and effective customer journeys in the era of digitalization in the construction industry that they are operating in.

The knowledge concerning the topic is gathered first from the primary data, through qualitative semi-structured interviews. This is supported with the secondary data that is examined through theoretical sources connected to the subject. With the knowledge received from this research concerning one of their solutions, potential outcome would be that the commissioner company would be able to use this information in practice, modify and develop it. Eventually they could be able to use the information and experiences from this software solution for their other products and services as well. As the research focuses only for their solution in space management, the guidelines and knowledge are aiming to support all of their services, as the ultimate goal for the commissioner company is have their customers using all of these services as an integrated package solution on different phases of the construction project.

Research is aiming to answer to answers questions concerning the actual value proposition of the SaaS solution, where the decision-makers and the ones effecting the decisions can be reached and what are the real motivations for the company to acquire and implement this solution.

**RQ1:** *How can the value proposition to a SaaS solution for space management in facilities be created?*

**RQ2:** *What drivers affect the customer journey the most?*

Thesis matrix and the hierarchy of the research questions is presented in Tables 2 and 3 below.

<b>Research question</b>	<b>Theory/theories</b>	<b>Concepts</b>	<b>Source of data</b>
Main RQ1: How can the value proposition to a SaaS solution for space management in facilities be created?	Customer value proposition, organizational buying behavior	Digitalization, value proposition, organizational buying behavior, SaaS, corporate decision-making	Primary data, existing literature and previous researches
Main RQ2: What drivers affect the customer journey the most?	Customer journey, decision-making process, digitalization, customer value proposition, digitalization	Customer journey, organizational buying behavior, digitalization, organizational buying behavior, corporate decision-making	Primary data, existing literature and previous researches

*Table 2. Thesis Matrix*

<b>Perspective/perspectives</b>	<b>Research questions</b>	<b>Sub-questions</b>
Product development, management, sales, potential and current customers	Main RQ1: How can the value proposition to a SaaS solution for space management in facilities be created?	<p>What is the value proposition of the SaaS solution for Space Management?</p> <p>What problems does SaaS solutions solve?</p> <p>What problems there are currently in facility and space management?</p>
Sales, management, current and potential new customers	Main RQ2: What drivers affect the customer journey the most?	<p>How the customer journey begins?</p> <p>What are the most influential phases in the journey?</p> <p>How did the customer journey start for this solution examined?</p> <p>How does it start generally, when speaking about SaaS solutions?</p>

*Table 3. Hierarchy of the research questions*

These questions are answered with the primary data collected and the secondary data supporting the larger perspective around the subject. After creating an understanding of the phenomenon in a larger scale, the primary data collection is conducted through different stakeholders. After collecting and analyzing the new

and existing data, conclusions and guidelines based on discussion are generated to answer the research questions.

## **1.6 Research methodology**

Secondary data for the thesis is collected through written literature, academic journals, company data and other trusted sources. These sources are located in academic libraries, websites and different databases. Secondary data is considered to be essential before collecting the primary data, giving the general direction concerning the phenomenon for the research and eventually supporting the primary data, which is collected from stakeholders and potential new customers.

Primary source of the data will be the recordings gathered through qualitative methods. The method used for the data collection will be qualitative thematic semi-structured interviews, which are collected and analyzed for the research. Primary data is collected through stakeholders: employees, current customers, users and also from the potential new customers.

Interviews were conducted through qualitative semi-structured interviews, modified based on which of the three groups the interviewee represented. Questions were modified based on the group the interviewee represents. Interviews were conducted through online and face-to-face meetings. Questions for the research can be found from the Appendix.

## **1.7 Expected contributions**

The research concentrates on producing knowledge for the commissioner company regarding the current and potential situation of their SaaS solution, by examining the customer journey, value propositions and organizational buying behavior. Through the gathered information that is based to the combination of the qualitative data and theory, the commissioner company will have more knowledge concerning their potential and current customers, different value propositions from their perspectives, more defined customer journeys, creating a overall perspective of their current situation. With this information, the company is able to modify and improve their internal processes in a way that these demands are supported with most convinient matter.

As from the general perspective, this thesis is aiming to produce knowledge for managerial perspective concerning the construction industry in terms of organizational buying behavior, what are the value propositions and how the customer journey is formed. Research questions to harvest this knowledge are introduced in the fourth chapter of the thesis. Through collecting secondary and primary data about the subject, these findings are collected, analyzed and then produced as informative knowledge concerning the phenomenon and actionable recommendations for the future can also be implemented.

As for the academic perspective, the research is expected to contribute new information for the phenomenon of digitalization in the construction industry from a perspective of SaaS solution for space management in facilities. Having the goal of creating a path for further researches to be pursued and knowledge that can be used as a secondary data source for the possible researches connected to the subject.

## **1.8 Structure of the thesis**

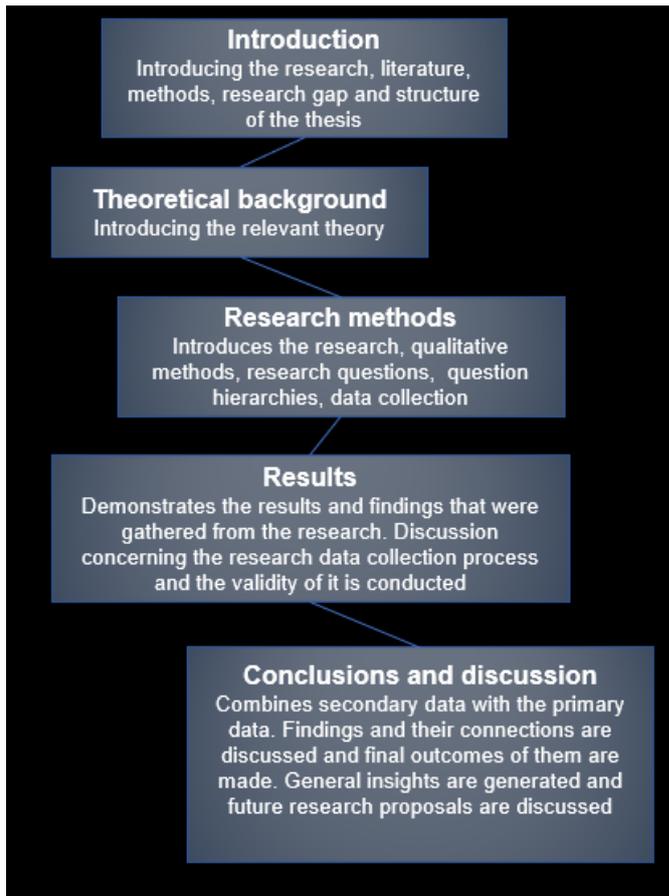
Structure of the thesis is divided to five chapters. Chapter 1 focuses on introducing the thesis. Chapter 1 focuses on introducing the motivation and background for the study, theoretical framework implied to it, delimitations to narrow the research, key concepts and preliminary literature review and research gap. Finally, the chapter introduces the research questions, expected contributions and the overall structure of it.

After the introduction part of the thesis, Chapter 2 focuses on introducing the initial theory; connected theoretical subjects are introduced and examined more thoroughly. This gives the reader an understanding of the phenomenon from a theoretical perspective.

Chapter 3 introduces the research methods. Explaining the research design, data collection methods and discussing the reliability and validity of empirical part. The chapter also introduces the commissioner company of the thesis.

Chapter 4 will demonstrate the findings from the primary data collection. These results are produced from the thematic semi-structured interviews from multiple perspectives that provide answers to the research questions. These results are presented in qualitative form and a table is presented, which contains the summary of the sources of the data, what kind of questions have been asked and what group they represent.

In Chapter 5 the conclusions and discussion chapter focus on analyzing these results and findings based on the insights gathered. Contributions of the research, possible limitations and further research suggestions are also discussed and concluded.



*Figure 2. Structure of the thesis.*

## **2 THEORETICAL BACKGROUND**

This chapter introduces the essential literature and previous researches that are found to be relevant for this research. Previous theoretical publications are examined from the concepts of digitalization, customer journey, organizational buying behavior and decision-making and from the customer value proposition. Theoretical framework is visualized in a generalized way in the chapter 1.1. The more detailed perspective, the refined theoretical framework is presented in the chapter 2.6. Refined theoretical framework is modified based on the insights gathered from examining the secondary data that is relevant for the research.

The following theoretical concepts are selected to familiarize with the existing information concerning these subjects, through examining the existing literature and research findings. By understanding the basic outlines and models, they can be modified based on insights gathered from the existing literature and adapted to the empirical findings. Theoretical framework is also used when analyzing the results of the primary data collection, for connecting the primary data with the existing secondary data examined in this chapter.

### **2.1 Digitalization**

Digitalization can be defined as a transformation process that uses technological capabilities to gain value to the existing business processes (Schallmo & Williams 2018, 6). The early stages of digitalization were introduced through coding Arabic numbers to digital strings. This was established by Gottfried Wilhelm Leibniz. The word digital has been taken from Latin and the direct translation for it is "finger" (Vogelslang 2010).

Soon after the first innovations the next steps of digitalization raised through morsing code and establishment of telegraphic networks in the 1800-century. Matthews (2019) published in his article that the main influencers for the computers and the concepts of artificial intelligence and machine learning were considered to be Charles Babbage and Alan Turing. Babbage established first drafts of a machine that could to various tasks that is was arranged to do, later Turing used

some of these features in practice in the WWII. These ground-breaking innovators and their first ground-breaking steps were essential when the first computers were created in the 1940's. (Matthews 2019). The first users of computers in businesses were lower level employees, as higher-level officials and top management were reluctant to use the devices. In the 1960's the first use of the current internet were established by the military, twenty years later it was launched to the public. After internet was launched to the public, companies and industries began to take giant leaps towards digitalization (Vogelslang 2010).

Digitalization has been changing industries and businesses in different ways for multiple decades. According to Toivonen & Saari (2019) the first phase of digitalization in service economy was mass consumption and mass production possible, illustrating the rise of factories. The second stage being the rise of digitalization in terms of computers and more standardized and accessible services, for example banking services. Everything was becoming more digital and not dependent on physical location. Soon after that the effects of digitalization could be seen everywhere, in service businesses, industrial factories and almost any imaginable situation. Toivonen & Saari (2019, 10-12) describe the phenomenon as the third development phase of the service economy. When the internet was launched, many businesses saw it as a tool for rapid expansion, as there were no limits where you could reach with it. The opportunities for new innovations and business models were limitless. This launched the era of internet revolution in businesses and the society. This revolutionized the service economy, as today almost every service can be found online. (Toivonen & Saari 2019, 10-12).

Demands and expectations for services and the expected value and efficiency of them are growing exponentially all the time. To answer this phenomenon, the companies are forming strategies concerning their digital transformation and hiring professionals in that area for executing it. (Schallmo & Williams 2018, 7). This creates technology intelligence (TI) inside the organization. and can prepare them more efficiently to the future of their business and the complete industry in terms of digitalization and transformation. Businesses are renewing their processes to answer to the demands of digitalization by hiring different professionals, building

teams to create and execute the created digitalization strategies. (Schallamo & Williams 2018, 7; Majidfar, Taghva, Taghavifard & Manteghi 2013).

As industries and the way they operate has changed in the past decades as the first stages of digitalization were disrupting them, Agarwal, Chandraskeran & Sridhar (2016) stated that the next industry to adapt the wave of digitalization would be the construction industry, as there is still tremendous amount of potential. Construction industry was one of the least digitalized industries, this can be connected to the complexity of the projects and lack of coordination in their current processes, for example between the office and the construction site. These are creating additional costs and delays in schedule but also standing in the way of disruption, in terms of digitalization. (Agarwal, Chandraskeran & Sridhar 2016). Even though larger portion of the work in the industry is done in the field, there are lots of potential in terms of digital services that can make the information flows more visible, creating more repeatable projects that are not exceeding the budget or the given schedule. (Agarwal, Chandraskeran & Sridhar 2016; Roland Berger 2016).

Roland Berger (2016) presented in their publication concerning digitalization of the construction industry, that in order the digital transformation to happen, the companies need to collect data, make it connected and automate the processes. This requires the data to be accessible, for example through cloud-based software's. In the same publication, research conducted demonstrated the fact that relatively large portion of construction employees still have limited access to internet, smartphone or tablet. Illustrating one of the key reasons for possible communicational problems in the construction site and the back-office. (Roland Berger 2016).

Digitalization has resulted the rise of different digital solutions, these solutions aim to create more efficient processes resulting added value, for example through gained information and time savings. As many parts of construction projects are still executed through analogical tools, there is a significant need for companies to start creating their own digital processes and strategies on how to implement digital software solutions to improve the productivity and keep up with the digitalization phenomenon that has disrupted multiple industries. (Designing Buildings 2019;

Roland Berger 2016; Bloomberg 2018). One key argument for determining why implementation of new technological innovations has not been as rapid in the construction industry was made by Schallamo & Williams (2018, 4) as they stated that digitalization cannot be executed if the companies are not seeing the direct value of it for customers and the business itself. Emphasizing the current problem of the industry.

One of the effects of digitalization in the past ten years is the rise of cloud-computing and the popularity of the services established based on it. Cloud-based software, also known as Software as a Service (SaaS) can be defined as a platform that combines all the tools and characteristics of a traditional software, but the applications can be accessed through internet. (Mahmood & Saed 2013). As there are multiple advantages in the cloud-based software's, the main disadvantages can be stated to be the potential security issues. Everything is accessed and store through internet by multiple users, making it more vulnerable for attacks. This can be prevented more surely in the early stages of development, when the platform is being built. (Mahmood & Saed 2013, 10-11).

Hardy (2018) emphasized that businesses today use multiple cloud-based software's and integrate different business operations under same platforms, to establish more transparent information flows. This is creating an increasing trend in the cloud-computing industry, as there are cloud-based platforms established and modified for the individual needs of a business. Cloud-based software's are more agile; they can be modified, tested and quantified more efficiently than software's that are not based on cloud-computing. Cloud-based software's offer the easy accessibility for multiple departments in businesses, creating higher usage and resulting more information processed internally. (Hardy 2018).

### **2.1.1 Space management in hospital facilities**

Facility management in hospitals, especially the space management, plays a key role when establishing them. When examining the subject from the facility management perspective, hospitals are large facilities that need efficient information management to function. Lennerts, & Abel & Pfründer (2005) stated in their research that in hospitals, one third of the expenses created in hospitals are coming other than the core processes. These costs can be linked to the management of the processes. Space management is a crucial part of the facility management in general. (Supuck & Jensen 2019) mentioned in their research that strategic space planning and lack of integration during the planning phase can result impracticalities that can even create different levels of problems that can result insufficient treatment of the patients.

This creates the emergent need of digitalizing the planning processes more efficiently. By digitizing the existing processes, companies are able to handle more information and make decisions based on this, that eventually will create cost savings for them, if the implementation is successful (Markovitch & Willmott 2014). Managing a successful transition in digitalization requires capabilities and commitment from the organization, processes should be coordinated in the way that the solution will emphasize the manual work, creating the tools to execute it more efficiently than before. (Markovitch & Willmott 2014).

Blöchle & Lennerts (2011) also emphasized the importance of in their research that space management in hospital facilities, as they operate in large scales and information flows are significant in a daily basis. While hospital facilities are struggling with the pressure to be more efficient, it is clear that digital innovations to help them to face these issues are relevant. Space management planning and execution cannot be optimized properly, if the information is not accurate, accessible or time bound. This is the reason it has be managed through software solution that is accessible for everyone who are connected to the planning the functionalities of the spaces in the hospital facilities. (Blöchle & Lennerts 2011).

## 2.2 Customer Journey

Lemon and Verhoef (2016, 69-70) define customer journey as a series of experiences that the customer experiences during the process of interaction with the company offering the product or a service. It is not only the process of using final service, but every touch point that the customer is exposed during the journey, from the first contact to the after-sales process. (Lemon & Verhoef 2016, 69-70).

Kumar & Reinartz (2012, 14-15) stated that companies are focusing too much acquiring possible new clients and providing the lowest price, resulting the added value and the coordination between different marketing channels to be more complex, which creates less commitment from the customers side, resulting unsuccessful sales or short-term relationships. Kumar & Reinartz (2012, 14-15) discussed in their publication that this can be seen as a problem, as there are more channels established in short periods of time and the presence is a requirement to successfully answer to the rising competition and demand. Also creating more complexity for tracking the eventual customer journey and decreasing the efficiency of an individual marketing channel. (Kumar & Reinartz 2012, 14-15).

Also a different study, established by Court, Elzinga, Mulder & Vetvik (2009) noted this phenomenon in their research, stating in their research that these touch points are becoming more and more complex and more difficult to track down completely because of the varieties during the customer journey. In their research, they examined over 20,000 consumers and their purchasing decisions. Their findings were that consumers behavior and the journeys were becoming more communicative, instead of just being exposed to one-way marketing from the company. As Lemon & Verhoef (2016, 75-76) concluded, customer journey can be illustrated and mapped through different touch points, which form the initial service blueprint. These touch points are exposed during pre-purchase process, eventual purchase and process what happens after the purchase.

The eventual journey is established through emotions that lead to different kind of behavior during the mapped journey of the customer. The better the companies

understand these journeys, the better they can alternate their services to succeed during it, especially in the more complex journeys.

While customer journey is combination of actions and emotional perceptions that conclude from them, the role of customer satisfaction can be seen as one of the most relevant factors affecting to the eventual journey and the experience. (Lemon & Verhoef 2016, 71). As the companies are always trying to acquire new customers, it is important to also understand the current ones and also focus their attention to the customer journey of the existing clients.

Lemon & Verhoef (2016, 76-78) determine that different types of products and services create different types of service blueprints, as behavior during the process is also different. There are different kind of touch points 1. Brand-owned touch points, which are the parts of the journey that the firm controls, for example advertisements and websites 2. Customer-owned, representing the decisions that the customer has the most influences on, for example in B2B the service option they choose. 3. External touch points, these can be defined to the social influences from example other customers, discussion panels and peer-to-peer evaluations. These all three touch points are visible in the three stages of purchase: pre-purchase, purchase and the after-purchase stages of the customer journey.

In their research Zolkiewski, et al. (2017, 16-17) mentioned that the customer journey in the B2B sector consists different kind of factors to take into consideration and as there are more people affecting to the purchase decision. Zolkiewski, et al. (2017, 3-4) and McColl-Kennedy, et al. (2015, 3-4) also emphasized that in the B2B sector the companies are acquiring new services differently, using different teams for the process and in most cases the ones who will eventually make the decision of purchase, are not the ones actually using the service.

Acknowledging the possible differences to the process through past experiences and it is possible to map it more precisely. Schwager & Meyer (2007) wrote in their article that even though the triggers for the potential customer are mapped and taken into consideration, previous connections and experiences have a large part to play in the actual journey. As some of the journeys are established by not being

familiar with the company or the product, and some of them have been established already being aware of the service and the provider of it, creating a different scenario for the eventual purchase. Schwager & Meyer (2007) emphasized that it is important for the company to consider the ultimate customer journey through sets of experiences, that even might not be experienced in a certain way. This is not because of the company, but because of the customer and their situation, knowledge and past experiences. Schwager & Meyer (2007) stated that even though there are different touch points during the journey, the value of one point might not be as high as the other, in terms of creating the eventual experience through the customer journey.

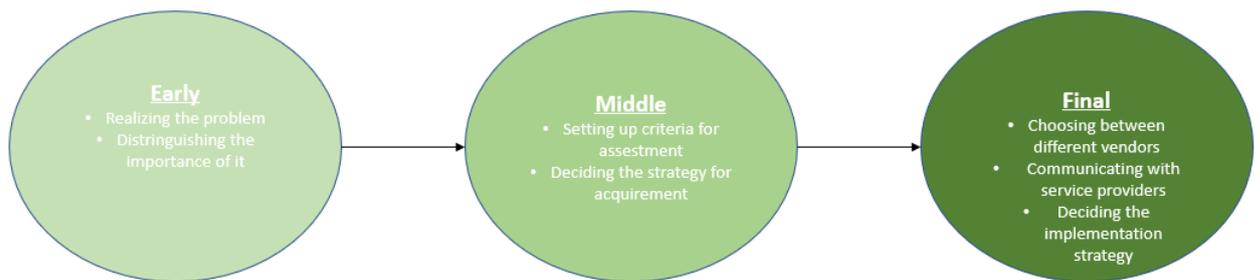
One effects of digitalization in the customer journey, especially in the after-purchasing phase of it, is to make the management of the customer process more effective through customer relationship management. As digitalization has produced different solutions, innovations for this area have been established through Customer Relationship Management (CRM) systems. Storbacka & Lehtinen (2001) state that the purpose of CRM is to create efficient customer relationship through managing the process, resulting added value for the co-operation. Kumar & Reinartz (2012, 4) describe cloud-based services in CRM to be *"Practice of analyzing and using marketing databases and leveraging communication technologies to determine corporate practices and methods that maximize the lifetime value of each customer to the firm"*. It can be argued the services have developed during the years of digitalization, so has the customer behavior and the journey experienced. Customers are more impatient and expect the same service quality from every company, even though the company might not have the resources or the applications for it, such as advanced relationship software. (Storbacka & Lehtinen 2001; Kumar & Reinartz 2012, 4).

Inturact (2019) summarized SaaS marketing journey from the first phase when the potential customer is described as a stranger to the final phase when the sales process is executed successfully, generating a new customer. From their point-of-view the four phases are attract, convert, success and close. These can be seen as steps that the company is executing to attract new customers and closing sales (Inturact 2019). SaaS solutions are marketed through customized advertisement

and supportive material is usually generated to help the potential customer to understand the added value. Then the potential lead is offered a hands-on experience to the solution through illustrative trial demos or demonstrations executed for example by the salesperson. When closing the sales, the company usually generated different strategies or support to help their customers to use the product as effective as possible, also to generate long-term relationships with them that can create potentially sources of income in the near future (Inturact 2019).

Toman, Adamson & Gomez (2017) state that this perspective dividing the process to the four phases is supplier-oriented and does not really tackle all the issues what the customer is facing in the early stages of the journey. Instead they suggest thinking the journey through three phases: early, middle and late. Early stage covering the whole problem recognition process that the company is facing, realizing that they have a problem. Middle-phase is contemplating different options and trying to figure out what would be the best solution for them for solving this problem. As for the final phase, the company has selected their strategy and are open for discussions with different service providers regarding alternative solutions for tackling the current problem. (Toman, Adamson & Gomez 2017). This having connections to the earlier theory established by Lemon & Verhoef (2016, 76-78), where the journey is divided also in to three phases.

It can be argued that even though companies have established basic perspectives of the journey, there are still different factors to take into consideration, as mentioned in the previous chapters and the strategies variate very much depending on the industry, environment and the product. Illustration formed based on the insights of these two perspectives can be examined below.



*Figure 3. Journey phases from the customer perspective (Toman, Adamsson & Gomez 2017).*

One concept to map out the customer journey is the service blueprint. Gibbons (2017) described “service blueprints visualize organizational processes in order to optimize how a business delivers a user experience”. It demonstrates the process and the way how the companies are delivering their service and the value for it. Service blueprint illustrates the customers journey and the activities that are made at the same time inside the organization, to map out the process and make it more visible, for understanding and developing it.

Companies have shifted from just trying to understand the blueprints and the journeys to the mindset where they are trying to alternate these journeys. This is executed to achieve the best possible experience during the journey to create successful and long-term relationships. Emphasis towards being proactive in leading the customer during their journey has increased rapidly. Edelman & Singer (2015) defined that effective customer journeys are built to four different characteristics; 1. Automating different parts of the process to make it more efficient 2. Tailoring different steps in a personalized way by using existing data 3. Understanding the situation and the environment where the customer is currently located in to lead them to the next stage 4. Creating new innovations to the journey to establish added value.

One important part of the customer journey in a cloud-based software is the implementation part of it, the after-sales phase which was referred as the third phase of the journey by Toman, Adamson & Gomez (2017) and Lemon & Verhoef (2016). Biljon (2018) wrote in his article that implementation can be approached

from different perspectives, service provider can be a part of the implementation process or it can be executed internally. The approach is mainly depending on the case and the preferred execution from the customers behalf. Toivonen & Saari (2018, 269-270) point out that more companies are transforming their businesses through implementing new software's, mainly software's that are built through cloud-based surfaces. After the purchase decision, it is usually too demanding for them to execute the implementation successfully only relying on internal capabilities. This creates a service gap for additional value to be sold, also known as the concept of value-based selling (VBS) where the service provider offers services for the full life cycle of the product. Kohtamäki. et al. (2018) Also referred this phenomenon as servization; referring to the transformation of companies offering full-range services instead of just the product, these include the support in different phases and additional features to the product to be sold.

As companies usually tend to focus their attention merely on selling the product, they should be focusing on selling the solution. Customers are acquiring new services to enhance their business and for this to be beneficial, the support in is needed during the after-purchase part of the journey as well. (Toivonen & Saari, 2018, 269-272).

To highlight this phenomenon, Toivonen & Saari (2018, 271) illustrated the differences between product-oriented companies and the companies who invest more towards solution-oriented approach. Companies are struggling to transform their services from product orientation to solution-oriented approach. As the product orientation might create short term benefits, for example lower costs, the solution logic creates more durable customer relationships and new innovations through successful partnerships. The relation of these two is examined in the Table 4. below.

Key dimensions	Product logic	Solution logic
Exchange focus	Transaction	Relationship
Optimization focus	Exchange value (e.g. capex)	Use value (e.g. capex and opex)
Exchange scope	Product	Solution
Temporal focus	Short-term	Long-term
Relationship logic	Independence for value capturing power	Partnership for joint value creation
Initiator	Buyer	Seller
Market phase	Commoditized	Innovation
Solution vision	Buyer's	Jointly created
Value sharing reference	Supplier cost	Customer value

*Table 4. Product logic vs Solution logic. (Toivonen & Saari 2018, 271).*

It can be argued that because of the lack of awareness in the construction industry in general, the implementation processes are very complex. This specifying the need for support from the service provider as well, especially during the implementation part of the journey. Storbacka & Lehtinen (2001) emphasized the fact that companies need to have portfolios established to track down the current situation of their customer; learning their need for support and additional services, creating an opportunity to establish added value through additional services.

Pawlowski, Pastuszek (2017, 26) discussed that the customer journey can be tracked down to accurate touchpoints, if the marketing is executed efficiently, customers might be exposed to the service through multiple digital communication channels. In online, this customization based on the data received through the blueprint is usually collected through cookies, Romanoff Consultants (2018) & Techopedia (2019) define cookie to be a small line of text that is inserted to the website to track down the visitors journey in their website, this helps the service provider to tailor their services to the individual, based on footprint that the visitor has left in the previous visits.

As the customer journeys are established through these multiple touchpoints, Schmitt (2003, 68-69) emphasize the importance of processing these touchpoints as an individual aspects of the process, by modifying the touchpoints based on the experience, the businesses are more likely to create positive customer journeys, through focusing on delivering customized consumer experiences that are based on data, thus making them more effective.

## 2.3 Organizational buying behavior

McColl-Kennedy, J.R. & Gustafsson & E., Jaakkola & E., Klaus, P. & Radnor, Z.J. & Perks, H & Friman, M. (2015) summarize the customer behavior as “holistic in nature involving the customer’s cognitive, affective, emotional, social and physical responses to any direct or indirect contact with the service provider, brand or product across multiple touchpoints during the entire customer journey”. Webster & Wind (1972, 13-14) pointed out that organizational buying behavior usually consists the behavior of multiple persons inside the organization making or affecting to the organizational decision, as a result of this, it creates more alterations to the process. Webster & Wind (1972 14-16) also stated that this creates problems for the sales department who is trying to convince the organization make the final purchasing decision. Geiger, Kleinaltenkamp, Plinke & Wilkinson (2015, 188) concluded in their research that the current situation and environment have a significant role in the behavior of the buying division, creating variables to the resulting behavior.

When businesses are buying professional services, there are many perspectives to analyze and predict the buying behavior, Webster & Wind (1972, 13-14) stated that it can be divided to four classes: organizational, individual, social and environmental. Each of these representing different kind of behavior and motives. Organizations have different people that need to be convinced during the sales process, as these people might work in different departments, the behavior, motives and individual goals usually might differentiate from each other. The actual process of buying a new service consists much more internal personnel than the organization doing the sales are usually exposed to. Companies have to consider their acquisitions from multiple perspectives. Figure 4. illustrates the characteristics of these dimensions affecting to the buying behavior and the relationships of them to each other.

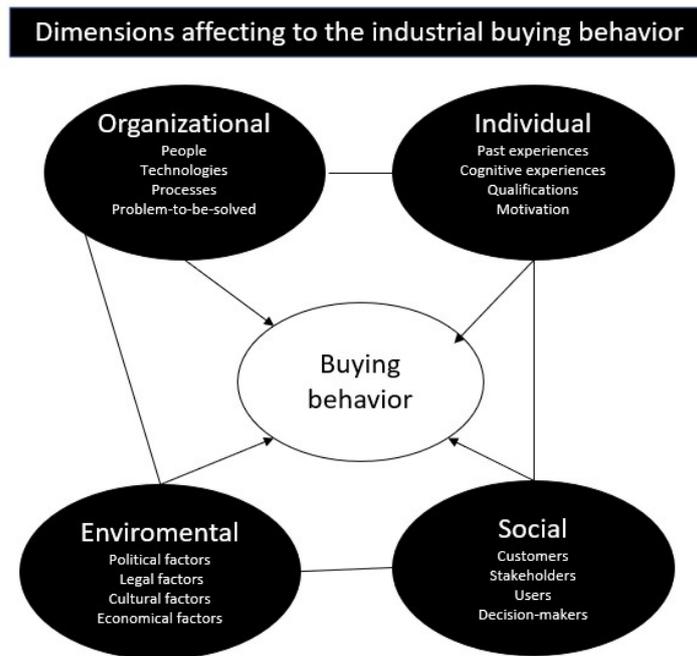


Figure 4. Dimensions affecting to the industrial buying behavior (Webster & Wind 1972, 13-17).

Bonoma (2006) emphasize that in organizational buying behavior, it is crucial to recognize different roles of the buying division. Based on his insights, there are four different individuals who formulate the team who has to be convinced in order to establish the sales process successfully. Starting from the initiator, who can be seen as the individual who starts the buying process. Then there are the gatekeepers, the organization representatives who are the middlemen between the organization and the service provider. Influencers can be board members, important stakeholders or the end-users who would eventually be the ones using the acquired service. Then there are the deciders, the top management representatives who will make the final decision about the purchase, after the sales process has looped to the final stage of purchasing, the point where the final decision is made.

Bonoma (2006) also emphasized the importance of different kind of hierarchy levels, also referring to the levels of power that the individuals might have to the buying process. Largely depending on their situation and position in the company. In the figure below, this perspective is summarized and adapted.



*Figure 5. Organization members who formulate the buying team.*

Lemon & Verhoef (2016, 76-78) determine that different types of products and services create different types of service blueprints, as behavior during the process is also different. This is widely affected through the external environment, as it has a significant role in how the touch points are seen and delivered.

Forrester (2015) conducted a research concerning the digital transformation of business, from B2B and B2C perspectives. Estimations concerning the future of B2B business were made in 2015, aiming to predict the outcome for 2020. In the research Forrester (2015, 2) stated that B2B purchases made through digital channels would be 29% higher (49%) than it was in 2015 (20%). Referring this phenomenon increasing because of the attention the businesses are making to it, also developing more services that are operating digitally.

Almquist (2018) argued that as younger generations have entered to the B2B markets and have more influence towards decision-making, the role of digital channels will only increase. Because of the large portion of information that is available through digital surfaces, the customers have more knowledge from the service than ever before.

Informa Engage (2018) published a B2B Marketing Trends Report where they analyzed the current trends when marketing to businesses. The research predicted that video will be the most applied form to create more engagement, with 55% of

B2B marketers investing towards it. For content marketing social marketing (57%), articles (50%) and blog posts (45%) were seen as the most beneficial forms of marketing to attract awareness. In-person events (55%), white papers (43%) and webinars (40%) were seen to be the most successful forms of marketing to create more potential new customers for the business. 21% of the respondents saw that lack of quality data was an obstacle when trying to create sales from the generated leads. B2B marketers emphasized that even there are multiple ways to attract new customers through digital medias, the importance of face-to-face communications cannot be set aside when evaluating the effectiveness. The research was conducted through online survey and the analyses were made based on 850 responses from executives, directors, management and contributions from different industries. (Informa Engage 2018).



*Figure 6. Most effective digital marketing methods to attract potential leads and conversions. (Informa Engage 2018).*

Palmatier, et al. (2018) as solution-based selling has become more standardized way of executing business, it has changed the way the businesses operate. As companies are attracting new customers, they are engaging more productive customer relationships. This is illustrated through different loyalty programs, where the service provider uses different value adding methods, also at the same time increasing the overall value of the customer financially. Palmatier, et al. (2018) stated that customers engagement can be executed in four different perspectives: instrumental benefits, symbolic benefits, emotional benefits and cognitive benefits. As the value of different engagement methods is understood differently depending

on the nature of the company and the customer. It can be argued that this model can be applied to both, customer relationships in B2C but as well in B2B.

### **2.3.1 Corporate decision-making**

Decision-making as a concept that is used for describing the problem-solving process of the customer, it usually aims to answer a problem or act as a responsive behavior. Decision-making variables are the level of understanding the service; do they have none or some experiences of the service, are they experts in the field with wide variety of knowledge from the environment on where the service is offered in. (Schiffman, Kanuk & Wisenblit 2010, 478-479). Almquist & Cleghorn & Sherer (2018) emphasized that even though B2C purchases are considered to be more attached to emotions and B2B customers are more rational, the gap between the two is not as deep as some consider it to be. Information is a crucial part of the rational decision process, but there are also the emotional factors to take into consideration as well. Almquist & Cleghorn & Sherer (2018) also mentioned the importance of reliability in the process, as companies are making larger investments, the reliability plays a significant role in making the purchasing decisions.

Samuelson & Zeckhauser (1988, 8) research mentioned that is common for the decision-makers in businesses to be reluctant on new acquisitions, as they are more likely to have status quo biases, referring to the tendency of following the same patterns and behavior models that are familiar and considered to be non-risky alternatives. Samuelson & Zeckhauer (1988, 8) also state that decision-makers tend to follow the same decision pattern especially when they have uncertainties concerning the service.

The non-risky alternatives are chosen usually based on the biases. Lu & Jain & Zhang (2012, 3) state in their publication concerning risk management in decision making that even though every decision is made through the assumption that it will create benefits for the company, there are sometimes risks being evaluated before making the decision. It is easy for the business to make these decisions based on the past experiences, as the risk has been evaluated before.

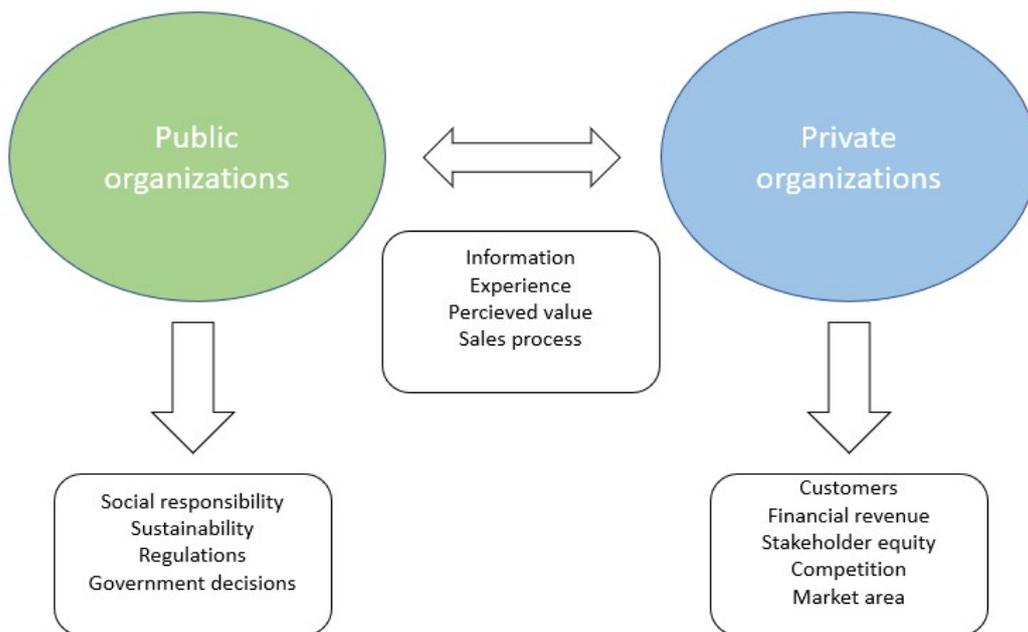
As the research focuses on the health care section, especially the hospital districts, owned by the Finnish government, it is important to know the key characteristics of a public organization, especially in terms of decision-making. Rainey & Ronquillo & Avellaneda (2010, 10) emphasized when comparing public organizations with the private ones, that public organizations are more obligated to be socially visible, in terms of reporting and contracting. As public organizations are regulated by the government and the decision-making process contains much more variables than in the private organizations. Companies operating in the public sector are partially or fully owned by the government and receive funding from them. It makes the public sector companies more exposed to public and it can be argued that their decisions are evaluated more critically. (Rainey, Ronquillo & Avellaneda 2010, 350-352).

It can be argued that the companies in the public sector have to behave more like citizens of the society, as they have much more regulations and social expectations, compared to the privately-owned businesses. Hayes (2019) defined corporate citizenship involving responsibility from economical, legal and ethical perspectives. Corporate citizenship places these factors to more crucial position, compared to the e.g. financial revenue gained, having more emphasis towards being more socially responsible and proactive. This differs from privately owned companies that emphasize the importance of customers; creating more sales volume and having pressure of offering the services based on the customer needs. (Hayes 2019; Rainey et. al. 2010, 352-353). For the future, the differences are not so obvious; Almquist (2018) revealing some insights in his article, concerning the fact that these two are coming more connected, as digital natives emphasize more social responsibility in their purchasing decisions. It can be argued that even though there are similarities, the main differences and characteristics have to be taken into account when trying to affect the decision-makers.

For both types of businesses, the information for making the decision is crucial. Almquist (2018) highlights that the service provider has to have all the information essential to the buyer, as multi-dimensional and informative necessary for making purchasing decision. Internal and external information sources are both relevant, as the decision is based on multiple information sources. Almquist (2018) also

argues this to be a common mistake for businesses, while sales process is important, companies emphasize investments towards sales over information presence in digital medias. Even though this can be considered potentially creating sales, if executed correctly.

To summarize the chapter, Figure 7. defines the key differences based on the sources examined in private and public organizations, also discussing the similarities that have an effect to the final decision.



*Figure 7. Drivers affecting to the decision making, public organizations versus private organizations.*

## 2.4 Customer value proposition

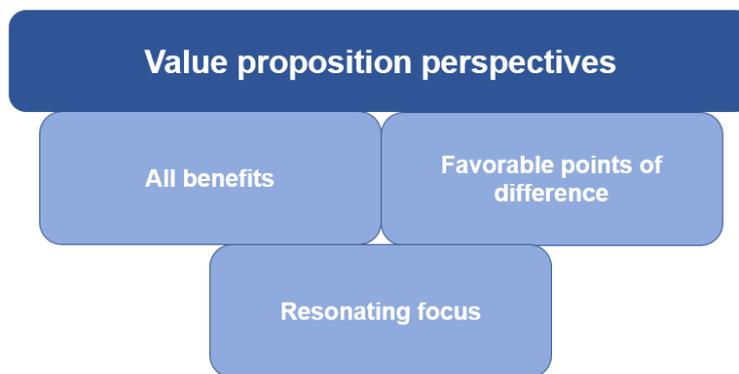
Hudadoff (2009) generalized customer value proposition to be the key benefit that the consumer experiences and receives from the service. It can be a feature in a product, price compared to the competitors or a significant benefit that the customer is experiencing through the service, which the other competitors are incapable establishing. It can be argued that the value proposition can also be defined from multiple perspectives. Porter (1980, 7-11) state concerning competitive strategies that companies can create stronger market position through trough offering the more attractive price or to differentiate from the current competition by offering a unique value proposition that establishes new dimensions compared the existing offerings in the market. Tjan (2009) argues that the value proposition can be divided to four categories. Companies can try to create value through offering the best quality, creating a trustworthy product or a service that has a certain standard to live by. Second dimension is offering the most compelling price-benefit ratio, so that the customers can clearly see the benefits of their investment. Third aspect is the luxury; inspiring customers to go beyond best quality. It can be argued that this is more relevant in the B2C segment, compared to industries. Fourth dimension is the essentiality, some services are so crucial that the company has to have them, for example software's that the professionals cannot do their jobs without. (Tjan 2009).

Other perspective is to focus on even larger amount of value propositions. (Lemon & Verhoef 2016, 75-78) mention that by focusing towards creating larger portfolio of added value, it also creates a positive opportunity for the company to gain more financial benefits from the overall process, as there are multiple value propositions to be met. With a larger portfolio of value propositions, the full life cycle value is captured, resulting long-term customer relationships and potentially creating new purchases.

To continue the perspective of multiple value propositions, Almquist, Senior & Bloch (2016) define that the overall value proposition can be divided to more in-depth portion of elements, as "elements of value". These elements are divided into emotional, life changing, functional and social dimensions. These propositions

were established through previous researches and as they state that some of these propositions are more significant than others, companies who deliver the most essential ones for their customers, usually thrive and succeed. Concluding that it is not about who can succeed in all of the elements, but instead the service provider who can detect the most essential ones and deliver them more successfully than others. (Almquist, Senior & Bloch 2016).

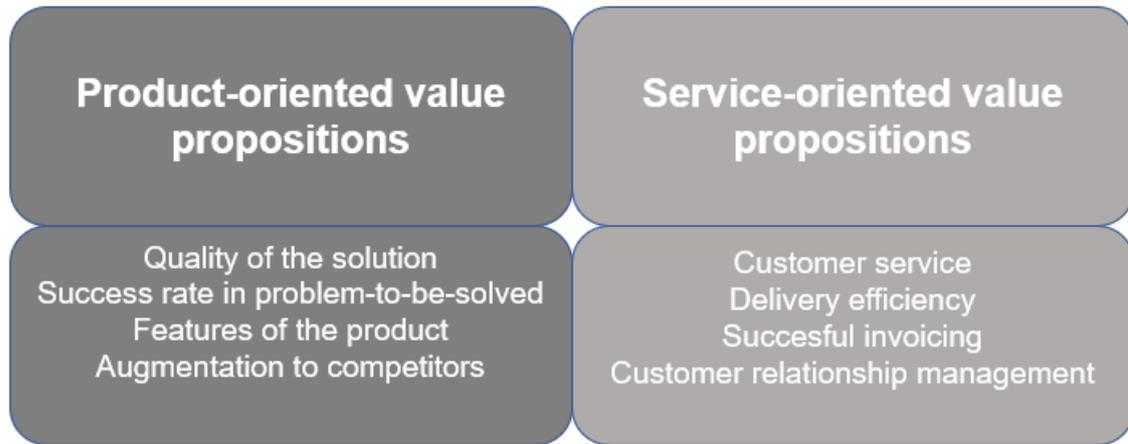
Anderson, Narus & Rossum (2006) emphasize the importance of acquiring knowledge concerning the customers and their journey. By having knowledge about the customers, companies can develop their activities based on this knowledge to execute their activities in most effective way and capture the value proposition. Anderson, Narus & Rossum (2006) also concluded in their research that suppliers define value proposition usually in three different perspectives; 1. All benefits; focused on the core benefits that the product or a service provides for the customer 2. Favorable points of difference; focused on relying that differences compared to the competitors are more suitable for needs of the end-customer. 3. Resonating focus; suppliers are able to provide few key value propositions better than their competitors, even if the overall service might not have superior advantages. Value can be communicated in various ways, for example demonstrating the differences between competitors or communicating the clear value created through essential key performance indicators (KPI's) concerning time, money and effectiveness. (Anderson, Narus & Rossum 2006).



*Figure 8. Value proposition perspectives. (Anderson, Narus & Rossum 2006).*

It can be argued that value propositions can be connected to the corporate values, the core benefits of a service might reflect the values that companies represent. Lencioni (2002) stated that as the corporate values can change over time periods and are connected to the current market situation, it is obvious that these are also connected to the value propositions of the actual products and services that the company is providing. Some corporate values might even be the core value propositions that influence the buying behavior. (Twin 2019; Lencioni 2002).

As there are various perspectives on how to determine and establish value propositions, Buttle (2009) defines that they can be examined through two perspectives: product value and service value. Product value concentrating to the more tangible assets, for example core benefits that the customer gets from the product and focus on building new innovations to the existing solutions, to answer the demand more efficiently. Service value on the other hand focuses on the intangible assets, such as fast delivery, customer service and various portfolio of customized, value added services. (Buttle 2009). Kenyon & Sen (2015, 27) argue that service-oriented value propositions are generated when the company is facing the customer as an individual, understanding the needs and desires of them and focusing on building long-term relationships with them. (Buttle 2009; Kenyon & Sen 2015, 27). The product-oriented and service-oriented value propositions are summarized and adapted in the Figure 9 below.



*Figure 9. Product and service-oriented value propositions*

As value can be examined through multiple perspectives, Kenyon & Sen (2015, 24-26) found in their research that individual perceptions, for example motivation or satisfaction can have a significant connection to the eventual value experienced. In their research, they also argue that the activities of the top management have a wide effect to the eventual value proposition that the customer is experiencing, as the company vision and values are usually visible to the end-customer. To successfully transfer the desired value proposition to the end-customer, the top managements has to have value-creating strategies, which include core activities on how to truly capture the intended value proposition in a way that it is clear for the management itself but as well to the employees and eventually transferred the end-customer.

## 2.5 Summary

To summarize the theoretical background, it is obvious that digitalization has transformed the way businesses operate in different industries and the complexity of customer journeys have increased. It can still be argued that even though the tools, environments and capabilities have changed during the centuries, the organizational buying behavior characteristics that Webster & Wind (1972) introduced 48 years ago are still quite relevant. Newer researches, such as Geiger, Kleinaltenkamp, Plinke & Wilkinson (2015), Schwager & Meyer (2007) and Lemon & Verhoef (2016) still emphasize the similar characteristics, such as the importance of the external environment and past experiences affecting to the buying behavior.

Zolkiewski, et al. (2017), McColl-Kennedy, et al. (2015) and Bonoma (2006) recognize that organizations make purchases in teams or divisions who gather multiple individuals who are working in different roles in the company to the buying-process. This creates more variables to the service provider, as they need to recognize these individuals and their motivations.

While for example Lemon & Verhoef (2016) emphasize understanding these journeys. Schmitt (2003) and Edelman & Singer (2016) focus on introducing the phenomenon of companies proactively creating and affecting these customer journeys is more relevant than ever, as the possibilities that arise through digitalization are expanding and creating more tailored journeys than ever before.

Lemon & Verhoef (2016, 76-78) defined that the customer journey consist brand, customer-owned and external touch points. These points shift matters in different stages of purchase. Simply it can be examined through pre-purchase, purchase and after-purchase. Pre-purchase is usually considered to be the brand-owned touch point, as the customer is only realizing the core problem and the need for a solution. Customer can be considered to have most control during the purchasing phase, where the evaluation between different suppliers is made.

Pre-purchasing process is when the customer is realizing the need for a solution, searching information and possibly being exposed to advertisements or direct contacts from the service providers.

Purchasing process is the phase when the customer can be seen to have the most significant control. They are evaluating the best options between different service providers and searching information from different sources, such as websites. Also, at the same time being exposed to external touch points, such as peer reviews from other customers. Customer tends to choose the service provider with the most suitable value proposition, the suitability of the value proposition measures the level of understanding from the service provider, as they need to be familiar with their potential customers and the problems they are facing, to create effective value proposition.

After the purchasing decision is made, the value of customer relationship management and value-based selling comes relevant as the process enters to the after-purchase phase. (Mirvis 2006) and Majidfar, Taghva & Mantegi (2013) discussed implementation being one of the first stages of after-purchase and it is usually the point where companies are usually facing different levels of problems and need support from the service providers behalf. This being perhaps the most crucial stage of creating the long-term relationship, as it can determine the overall usage and adaption for future years from the customers behalf. By focusing on to the solution-based logic of offering larger portfolio of services, the more likely it is that the relationship is long-term. Schallamo & Williams (2018, 3) emphasized that in order the implementation to be successful, the value proposition has to be clear from the customers point-of-view and it has to be communicated internally to make the after-purchase process successful.

As for the value propositions usually variate during the customer journey, it is important to know that what is the current focus of the customer in different phases of the journey. Buttle (2009) categorized value proposition to two different perspectives; value that comes from the core product and value that comes from the service. As value proposition is the core value that the customer experiences, the importance and role of these two categories of value propositions variate during the journey. It can be argued that first it is more product-oriented, as the customer is evaluating the service through core benefits. In the after-purchase phase, Buttle (2009) and Kenyon & Sen (2015, 27) determined that the focus resonates more towards to the service-oriented value propositions as the

implementation and the successful usage is highly depending on the support from the service provider.

The overall process is captured in Figure 9. Visualizing the general perspective of the customer journey and the value propositions in different stages, starting from the pre-purchase phase and ending to the after-purchase phase of the journey, also demonstrating different blueprints that occur during the journey. These are presented through the perspectives of the customer, in this case the buying division and also from the perspective of the company offering the service. Also, the previous theories have been applied in illustrating which one of them can be considered to be more in control of the situation and from the successfulness of that phase. This picture visualizes the customer journey when a completely new relationship is being established, without previous contact.

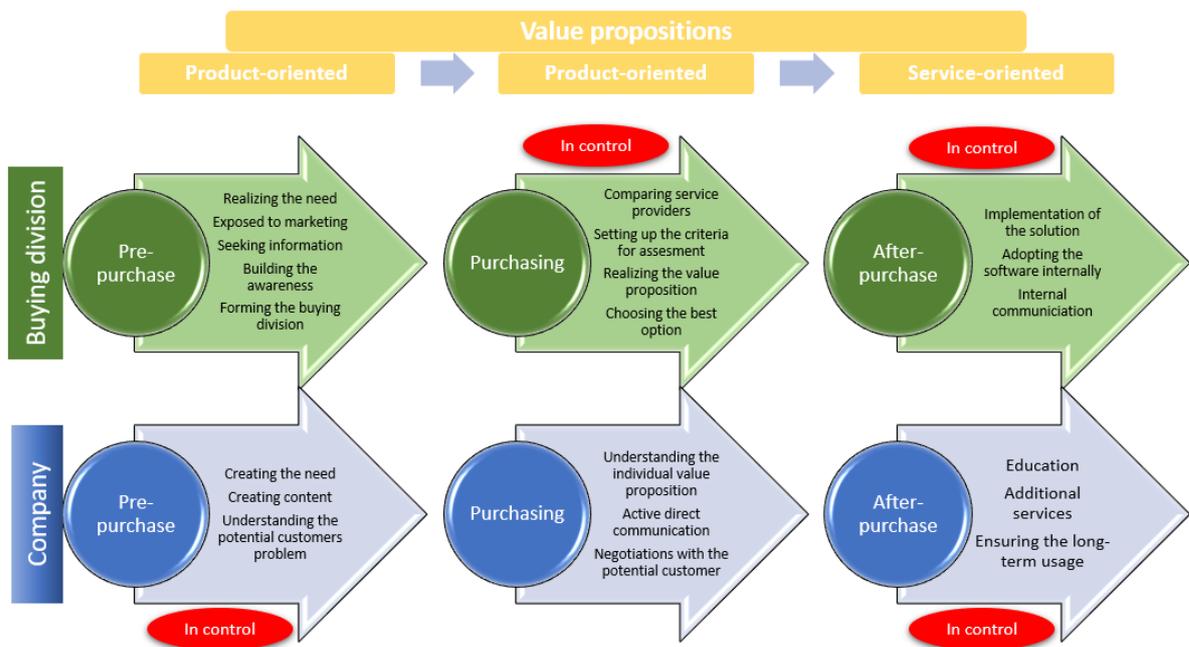


Figure 10. Customer journey generalized.

## 2.6 Refined theoretical framework

In this sub-chapter, the theoretical framework is redesigned based on the observations conducted in the Chapter 2.

Digitalization is still considered to be the larger phenomenon affecting to the each one of the theory concepts, while the field is construction industry in general, the research is narrowed down to more specific area, space management. Space management can be seen as a part of facility management, which is one of the most essential parts of construction projects. While facility management in general focuses on the after building phase of the facility, the space management is more directed towards to the planning phase, before the facility has been even built.

Customer journey is impacted by the organizational buying behavior and vice versa. It was found during the theory examination, that the environmental and characteristics for example the service and the buying team itself have a clear connection to the how the customer journey is proceeding. This is also connected to the space management operations in hospital facilities, as they have different ways of acquiring new services, depending on what is the organizational structure and how large the investment is. Decision-making from the buyer's behalf is also seen to be connected to the previous concepts. While the organizational buying behavior is more rational compared to the consumer behavior, the individuals and their attitudes and opinions still play a key role when examining the decision-making process. Also largely depending on the environmental situation.

These two aspects play a significant role to how the value proposition is seen, as the value proposition can be argued to be different in different stages and time periods. True value propositions are the ones that are not created by the service provider but seen directly from the buyers perspective. It takes knowledge from the service providers behalf to realize these value propositions and how they can leverage them when reaching out to the potential customers.

Based on these insights, the theoretical framework is illustrated in the figure below.



Figure 10. Refined theoretical framework.

### **3 RESEARCH DESIGN AND METHODS**

This research aims to provide knowledge concerning the customer journey and the overall value propositions of the SaaS solution designed for space management. These subjects have been disclosed from general perspective in the theory chapter, to illustrate the current situation and the existing theories around the subjects. In this chapter, the research conducted to provide answers following these theoretical frameworks is presented.

The following research is conducted through qualitative methods, producing data from 13 different semi-structured thematic interviews. This data is analyzed through the theoretical chapters, to provide connection the theoretical chapters and secondary data examined earlier, also at the same time pointing out possible connections with the primary data and the secondary data.

The persons interviewed can be divided to three different categories; 1. employees and stakeholders 2. current customers and users of the solution 3. potential new customers. Internal perspectives are represented by the top management, product development and sales. Current and potential customers are represented by different hospital districts in Finland. One interviewee from the current customer perspective is an architect, current user of the solution, using it because their agency has a customer who has bought the solution to be used in their planning projects.

In this chapter, the commissioner company will be briefly introduced, the overall design is presented, collection and analysis methods are examined and finally the reliability and validity is examined more precisely.

Miles & Hubermann (1994, 1) describe qualitative data to be a research data collection method, that is illustrated through words and explanations that provide meaningful insights to a various types of questions. Qualitative data requires processing so that it can be concluded to real concrete observations concerning the research problem.

Coding and sorting the qualitative raw data provides the opportunity for the researcher to observe different relationships and patterns, eventually having the opportunity to generalize some of the insights gathered from the raw data that has been sorted for the analysis. (Miles & Huberman 1994, 8-9).

### **3.1 Description of the commissioner company**

Commissioner company for this research has expertise in Building Information Modelling (BIM) services, also providing different SaaS solutions for the construction industry. The company has been founded in 1990, but did not have active operations for multiple years, they have had active presence in their market area for the past 10 years. As mentioned, they currently provide BIM services and SaaS solutions for space, project and investment management.

They have established operations in different regions across Finland. Currently they are employing approximately 30 people. Organizational structure can be divided to different types of professionals; management, architects, IT-developers, sales department and the supporting staff.

Currently their focus towards marketing related activities can be viewed as relevantly non-existent as there is no team behind their marketing. Considering the future, the company is hoping to start executing marketing activities in a more active scale. This research is one of key information sources to plan these activities in the future and start to resonate focus more towards marketing and building lasting processes around it.

In the near future they are hoping to expand their market also to potential foreign markets. This being one of the area of operations that this research is aiming to provide useful information regarding the customer journey and the value proposition of their software solution in space management, which can be

considered to be one of their most potential products to establish these activities with.

As their main emphasis in the beginning of their operations was in BIM services, they have now started to resonate their focus more towards their SaaS solutions. This being the situation, simultaneously the goal in the near future is that these two operations would co-operate with each other more systematically through integrated products and service models.

Currently the main emphasis can be considered to be on attracting new customers, also at the same time focusing on building long-lasting and beneficial co-operations. But as they are seeking to establish larger presence domestically, it is clear that they have resonated their focus more towards attracting new key accounts.

Motivation for to conduct this particular research was, that the commissioner company is a part of a Business Finland project, which focuses on the sales effects of artificial intelligence and robotics. This following research provides essential information regarding the customer journeys and value proposition to start implementing smart artificial platforms as an everyday tool to execute successful sales and marketing in the B2B sector.

## 3.2 Research design

The research is executed through qualitative research methods. Qualitative data provides answers to more complex questions that aim to answer larger phenomenon and actions behind them. Huberman & Miles (1994, 10-11) explain that qualitative data brings out the reasons how and why something is happening the way it does, potentially exposing new areas and providing the opportunity to develop new hypotheses for further research.

Huberman & Miles (1994) also describe qualitative data as “raw data“, that needs processing through transcriptions and coding. Brinkmann (2013, 3-5) states that the most common mistake that can be made is underestimating the time needed to analyze the data produced through the qualitative interviews, as the amounts of data can be massive.

Qualitative data is collected from three different perspectives; 1. employees and stakeholders 2. current customers and users of the SaaS solution 3. potential new customers for the solution.

For understanding the how and why it is important to take into consideration the possible differences between these groups and reflect their background concerning the SaaS solution to be examined in this research.

Current customers of the solution have a lot of different aspects affecting to their perspectives; some have been developing it, some have been involved in the buying process and some portion of interviewees use the solution more actively than others. Depending on the situation of their project, as the solution is mainly used in the planning phase of new projects.

Internal perspectives are mainly from top management and sales. The difference between these two can be seen to be not significant, as the company has a low hierarchy level and the top management representatives have been actively involved in executing the sales.

Potential customer interviewees are two different hospital districts that are familiar with the solution but have not implemented it to their use at this stage. These two potential customers are examined from the top management perspective, there

were no planning coordinators interviewed, who represent the most active end-user. This was taken into consideration during the interview and the questions were modified based on it. Planning coordinators are the personnel with a nursing background who are executing the functional space planning process when new hospital facilities are in the planning phase, before they are built.

Brinkmann (2013, 49-50) also mentioned that research questions in a qualitative interview should always be developed by five broader questions: what, why, how, who and how many. The questions should provide answers to these questions, if the essentiality of them are to be tested.

### 3.3 Data collection and analysis

The interviews were conducted through semi-structured thematic interviews. These interviews were designed individually to provide answers for the main research questions and the concepts around them, through enclosing the subject from various perspectives that the interviewees represented. Interviewees for the primary data collection can be examined from Table 5. below.

Organization	Title	Amount of interviewees	Perspective	Data gathering method	Date	Duration of the interview
Commissioner company	Product Manager	One	Internal, product development and management	Face-to-face	14.11.2019	15min 07sec
Commissioner company	BIM Specialists	Three	Internal, BIM specialist and users of the SaaS solution	Face-to-face	19.11.2019	34min 38sec
Commissioner company	CEO	One	Top management	Face-to-face	20.11.2019	44min 55sec
Commissioner company	Assistant	One	Internal, Product support	Face-to-face	20.11.2019	11min 33sec
Kuopio University Hospital	Planning coordinator	One	Current customer, user of the SaaS solution	Skype	26.11.2019	20min 28sec
Aihio Arkkitehdit Oy	Architect	One	User of SaaS solution	Skype	26.11.2019	17min 37sec
The South Savo Social and Health Care Authority (ESSOTE)	Logistics/Technical Manager and the Director of Space and Support Services	Two	Potential customer	Skype	2.12.2019	37min 01sec
Lapland Hospital District / Lapland Central Hospital	Project Manager	One	Potential customer	Skype	4.12.2019	26min 12sec
Turku University Hospital	Planning Coordinator	One	Current customer, user of the SaaS solution	Skype	5.12.2019	21min 32sec
Commissioner company	Customer Success Manager and Account Manager	Two	Internal, sales	Skype	5.12.2019	53min 15sec
ARK Consulting	Founder	One	Stakeholder, product development and sales	Skype	12.12.2019	50min 59sec
Tampere University Hospital	Planning Coordinators and the Project Manager	Three	Current customer, users of the SaaS solution	Skype	13.12.2019	36min 09sec
Commissioner company	Customer Success Manager and Account Manager	Two	Internal, sales	Skype	5.12.2019	53min 15sec
Commissioner company	Chief Innovation Officer (CINO)	One	Internal, top management	Skype	12.12.2019	46min 12sec

Table 5. Information from the qualitative semi-structured interviews.

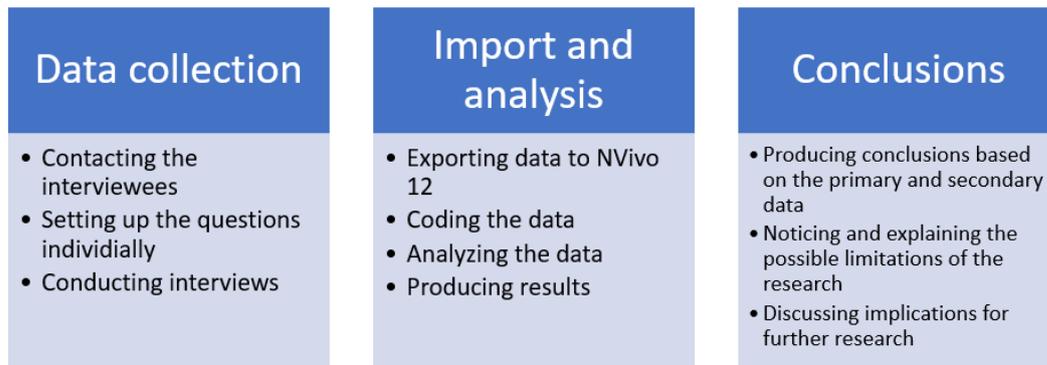
For this research, the data is collected through online and face-to-face interviews. These interviews were recorded and transcribed individually. After the interviews were transcribed, they were imported to NVivo 12, coded in it based on the theoretical framework and finally analyzed through the framework. Additional chapters were made to provide more in-depth understanding of the phenomenon; history of the commissioner company, to provide information concerning the background of the solution. Secondly, the future of the company, capturing their vision for the future that is connected to the solution and digitalization of the construction industry. These findings are presented with the theoretical framework findings in the Chapter 4.

The interviews were conducted during one month from November to December 2019. The commissioner company assisted on providing contact information for multiple interviewees, some of them were found through online search from open sources.

While data was analyzed after collecting it, the different patterns and regularities were taken into notice during the interviews and these are taken into account in the conclusions in Chapter 5. Huberman & Miles (1994, 11) describe this as a third stream of analysis activity, the conclusion drawing and verification part, which starts in the beginning of the data collection and is taken into consideration in the latter stages of research when concluding the findings.

In the conclusions the primary data findings and the knowledge gathered from the secondary data were combined to provide meaningful thoughts and discoveries for the research. In the conclusions the overall suggestions and thoughts are gathered, they are supported with different visualizations supporting the knowledge based on the primary findings and theoretical background. Also the possible limitations of the research and future research implications are discussed to give suggestions for research topics that could reveal more findings that are

connectable to this research. The phases of this research are visualized in the Figure 11 below.



*Figure 11. Data collection and analysis.*

### **3.4 Reliability and validity**

When introducing a scientific research, reliability and validity of it should be discussed and examined. Huberman & Miles (1994, 278-279) define reliability referring to the consistency of the research, is the data collected in reliable manners and is the data itself consistent across researchers and different methods.

Validity on the other hand reflecting the value of the findings, are they credible enough in a way that they can be seen as a valid outcome to the research and answering to the questions by eliminating any possible blind spots in the process. (Huberman & Miles 1994, 278-279). Validity can be divided to internal validity and to external validity. Internal validity seeks to provide valid outcomes and truthful results, as the external validity seeks to provide meaningful results that can be linked to previous researches and theoretical frameworks, implicating the level of generalization to existing knowledge of the findings produced in the research. (Huberman & Miles 1994, 278-279).

The interviews were conducted in a discussion-type of manner. For ensuring that the possible blind spots could be avoided, different smaller sub-questions were asked additionally, depending the case and if the questions were not thoroughly

answered in the first time. For some cases, the questions had to be explained more throughout, because the context was not understood correctly, this can be argued to be connected to the background of the interviewee or if the question was formulated in an unclear matter.

To ensure that the perspectives would be represented properly there are more than one representative of each of the three perspectives on where the phenomenon is examined. This is essential, as while the current and potential customers are public organizations, their organizational structure, decision-making, and processes might have several differences that need to be acknowledged when analyzing the data and producing conclusions about it. Secondly, multiple interviewees from each segment can for example illustrate also differences from internal perspectives.

## **4 FINDINGS**

The following chapter will focus on introducing the key findings of the research. These findings are presented through theoretical framework introduced in Chapter 2.

For this chapter, two additional codes have been created for creating a more in-depth knowledge concerning the research, history and the future perspectives from internal and external perspectives, regarding the SaaS solution, operations of the company and potential scenarios in the construction industry.

Findings are examined from multiple perspectives and the larger frameworks have been divided to sub-categories to establish more informative examination from the perspective of producing relevant and informative findings concerning these subjects.

Based on these findings, the conclusions, end-results, limitations of the research and potential new future research implications are introduced in Chapter 5.

## 4.1 History of the commissioner company and the solution

The commissioner company was established in 1990 but has operated with their current name and business actively since 2001. The idea for the SaaS solution examined in this research came through a scientific publication that predicted the first stages of this solution designed for space management. In 2008 a large public organization in the industry gained interest towards a solution designed to solve problems in space management in facilities. In the early stages the operator expressed their desire to implement a ready solution, instead of a co-creational project.

After a while, the operator launched an internal project to create this solution, even though their first desire was to implement a ready solution for their purposes. Even though this process created one of the main competitors of this solution, it also created the first steps of the solution.

*“The company has been established in 1990. I arrived as an employee to the company in 1994, then I became the owner in 1996. After a while I went to work to another company and the company was put on hold. Then in 2001, when I left my previous company, I took the already formulated business and re-launched in again.” (Chief Innovation Officer, commissioner company).*

*“In between 2008 and 2009 a large public organization expressed interest towards a solution designed for planning the facility space management in hospitals. They said that they are not willing to go and establish the solution through co-operation, they need a fixed and ready solution to use as soon as possible. Well then after few months we were ready with the first version, by then the organization had started a software development project of their own, and it resulted to be one of our main competitors afterwards”. (Chief Innovation Officer, commissioner company).*

After this unsuccessful project, interest towards the solution raised from another large public industry operator. Soon afterwards the solution was implemented to multiple projects and became a standard solution of their processes. This was the first step in the history of this solution. In 2013, it was branded with the current name and design, the form that it is known today.

While the commissioner company has established implementations of their solution to the customers who had the competitive solution in use, they still have not

established co-operations with this first potential client that launched the first steps of the solution.

*“Then another large public organization implemented our solution to one of their planning projects. The facility was never built, but it was planned until the end. After that project, they were impressed and wanted to use our solution in multiple other projects as well, today they are using it in all of their projects concerning planning the spaces to large hospital district facilities. They are our oldest client to this date. Our solution established the current form and name in 2013, when it was integrated with our main solution. This resulted the form that it is in today, now we are starting to make implications to it again.” (Chief Innovation Officer, commissioner company)*

As being a solution that was established by architects and designed for space coordinators in hospital facilities, the software needed to be commercialized to attract larger volume of new customers and possibly even new markets. In 2013, new talents were acquired to solve this problem. Through acquiring new clients, the commissioner company was able to transform the product to a more user-friendly output. Few answers emphasized this and implied that the transformation is in progress.

*“There was a sales element missing from the solution. That was the problem that we started to solve in 2013. After we got new real projects, we have been able to develop the solution to be more customer-centric. Now we are able to produce more durable product to our customers and it is thriven through the drive of our sales force. Of course, we still could still intend the customer more to it. It is important to keep in mind that is there a value to the company through quick implications to the software“ (Stakeholder, commissioner company)*

*“We are only in the beginning. In 2014 we made the first presentation what this software should be. We need to produce more of these commercialized additional services. We should simplify the customer need much more efficiently; we should have professionals doing this.” (CEO, commissioner company)*

## 4.2 Customer journey

These findings are examined through the general model of pre-purchase, purchase and post-purchase, which were discussed in the theoretical background, where the phases were introduced in general, based on the existing literature.

### Pre-purchase

From the internal perspective, the customer journey starts with the commissioner company recognizing the potential lead and starting communications to them.

Crucial part of the journey is being able to communicate the value and generate the demand. Sometimes this need has been recognized before the sales process starts, for example through word-of-mouth from professional networks.

While this being the situation, the emphasis from the sales and the management is to change this process in a way that the commissioner company would not have to contact every potential lead themselves.

*“We recognize the starting project and start the sales process. Our key account manager takes care of this, he recognizes these potential leads and contacts them. Now we would like to shift the current situation so that our marketing would generate these contacts. We have 12 hospitals districts as our customers, all of them having at least one active project. But yeah, the customer journey starts from our contact, then we do the sales and generate a deal from it.” (CEO, Commissioner company)*

*“Well 99% of the cases start from our contact, the customer never starts the journey. These social and health care centers and old health care centers are the leads that we have been able to generate into sales most successfully. This is happening through past references and communicating the possibility of co-operations with our current customers.” (Key Account Manager, commissioner company).*

*“It might be that I do not have the right answer to this, but I would say that is important to contact the customer in a way that they will see the value of the solution, then order it and implement to it use.” (Assistant, commissioner company)*

*“Mainly our contacts are cold, in a way that we have to explain about our solution and co-operation possibilities from the scratch. We give references, some of them will call to each other and some of them are past acquaintances and then they recommend our solution to each other” (Key Account Manager, commissioner company).*

*“Every phone call comes from us. There are no customers demanding that we want to buy your*

*solution. If speaking about future, our phone should start ringing. Currently, we have to create the demand ourselves.” (Key Account Manager, commissioner company).*

If there is a contact concerning the solution, it is usually coming from an existing client, who is hoping to implement it to be a part of the project.

*“Sometimes we get these contacts. Customers who say that we would like to have your solution in one of our projects. But these cases are existing customers. That taken into consideration, there are only individual cases that have arrived at our lap from some unknown route, there are just few, I would describe them as pleasant surprises”. (Customer Success Manager, commissioner company).*

From the current customer perspective, the customer journey was seen to start first from hearing from the solution through professional networks, emphasizing that this was actually the first time they built awareness concerning the solution, not from the sales contact. This can be considered to differentiate from the internal perspective, which emphasized that during the contacting phase the potential customers usually do not possess any previous knowledge concerning the solution.

*“Well we had this other solution in use first, it did not have as much qualities that in this current solution. It started when one of our colleagues from Turku demonstrated it in use. This is the way it starts usually, through word-of-mouth. They praised that it has many good qualities and then after a while we received a contact concerning the solution.” (Planning coordinator, Tampere University Hospital).*

*“We exchange information inside in our professional network. I must say, for example when thinking about other users of this solution. For example, in Kuopio, they are now building a hospital facility, we have good relationships with them, and I can even check their space information cards. It might not answer directly to this question, but just wanted to say this when thinking about good practices” (Planning coordinator, Turku University Hospital)*

For one of the current customers, interviewees from Tampere University Hospital got the first information regarding this software in a fair. Already having the need for a solution for space management and being aware of the competitors, they saw the value of the solution and began the journey through ordering introductions from the commissioner company

*“I remember that we heard about the solution in some fair. Then we thought that what would be the best solution for managing the space information in our facilities. We knew that there were some*

*other options as well. I was part of the project that created the most relevant competitors of this solution, in the early stages of it. I think it was too complicated for us and I was against it. My colleagues agreed and we researched other possibilities; then this solution came, and we grabbed it. We ordered some introduction sessions concerning it, sales team came to our facilities personally.” (Project Manager, Tampere University Hospital).*

As mentioned earlier in Chapter 3, not every user and a representative of the current customer were present in the sales process. For example, the architect interviewed for the research, who represented Aihio Arkkitehdit, a representative of a consulting company that was using the solution as a tool assigned from another organization, which had implemented the solution for each of their projects.

From the perspective of the potential customers, the interviewees emphasized that the need had to be realized, understanding that there is a problem to solve. If there is no problem to be realized, there is no direct value from the solution from their perspective. As the organizations have low resources, they can be argued to be less proactive to take contact concerning different solutions, especially if they are not hearing any recommendations through word-of-mouth.

*“Well of course the need has to be realized, knowing that there is a problem to be solved. Different persons come here and try to sell something, but if you think you do not have a problem, it is hard for the salesman to sell the solution. Other aspect is, which we receive information regarding these is the network of facility space managers, we meet few times in a year with this group”. (Logistics and Technical Manager, The South Savo Social and Health Care Authority).*

*“Usually someone tells that they have found something. This demonstrates the resource problem that many organizations are facing. We do not have time to search these kinds of solutions, usually a member of a larger company comes and tells us that this solution is good, that is the way it usually goes”. (Logistics and Technical Manager, The South Savo Social and Health Care Authority”*

*“Well of course you have to realize that you have the need for something. It might come from own observations or we might see some presentation, for example in sales fair or something.” (Project Manager, Lapland Hospital District)*

As hospital districts are public organizations, large investments need publicly asking for bids concerning the solution that is intended to acquire. This creates problems and consists multiple things to take into notice before starting the process.

*“Well the first and the most important thing is understanding the need. First of all, that we have a*

*need for this service and that we have a problem. (...) other thing is that the need has to be explained correctly when publicly asking for bids concerning the solution. If it goes to that phase and not through direct acquisition, it needs the communication to be precise. If the public bid request does not explain the problem correctly, it might result us with the wrong service provider, or does not fix our problem. That is an important factor to take into consideration". (Project Manager, Lapland Hospital District)*

Even though in some cases, the need for a solution has been recognized, there has been no initial decision on acquiring the service. Few potential customers said that currently they have large portion of their processes under one professional and many of these would stop or information would be lost, if this person would be absent or leave the organization.

*"Well if something would happen to me and I would be absent for three months, I think there would be no one to replace me directly for that time period. These processes are so tightly in my control, this is because I have a strong background from planning. The simple reason is that I am the only one who has planned and used these systems. Of course, I know that nothing should be depended on one individual" (Technical Manager, The South Savo Social and Health Care Authority)*

*"Well, let's say if our planning coordinator would get into an accident and something would happen, the amount of information lost would be significant." (Project Manager, Lapland Hospital District)*

## Purchase

After the need has been created and first discussions concerning the solution have been implemented, the process consists multiple meetings and the life-cycle of these sales processes can be considered to be lengthy from the internal perspective, also demanding a lot of resources from the commissioner company.

*“They are long, that is the short answer. For example, only the sales process can be very long. In this solution, it might be still the shortest, compared to our other products.” (Product Manager, commissioner company).*

*“We heard presentations for two years before making the final decision. There was one potential project, but it was too large in scale. Then we launched a new project, perfect for this experiment”. (Project Manager, Tampere University Hospital).*

*“Life-cycle of a sales process can be even six months. You need to apply different permissions from ministries etc. There are so many decision-makers who are not perhaps even sitting on the money. Then there are new demos and other meetings, of course we try to simplify this.” (Key Account Manager, commissioner company).*

*“I think we should bring more people to the sales negotiations, if it would automatically lead to purchase. We use one or two hours for these meetings. We do not prepare for the meetings that much; we focus on bringing our expertise. (CEO, commissioner company)*

During the sales process, companies usually tend to rely on the materials that the companies provide, sometimes visiting on the website to look more information but they can be considered to depend more to the materials provided. Also, in the decision-making stage the professional network has a large role to play, as the companies tend to ask the opinion of their colleagues from other organizations. This was emphasized from the potential but as well from the current customer perspective.

*“Well we have good networks to other hospitals, because we are not competitors. I can for example call to my colleague in Oulu and ask how they have handled some matter and they tell us. (...) Sometimes we make direct request for offers”. (Project Manager, Lapland Hospital District)*

*“I think it has a large effect, when talking about experts in the same industry. It plays a large role. I think for example that others would contact me from this solution. I think it has a large connection to the overall success what we tell here about it.” (Turku University Hospital, Planning Coordinator)*

*"Well I think many of the top management representatives and others ask a friend or a colleague. They call someone and ask how this solution has worked in your organization. Sometimes they might check something from online, for example case references. But I would say that that is also kind of trying to find peer support from those materials, trying to see how other companies have done their jobs. This is a very common phenomenon in general. For example, they called from Kuopio to Pori to acquire this solution and they would help them with the content, kind of trying to convince them to join and co-operate with the implementation of this solution." (Consultant, commissioner company)*

If the sales process is efficient and the organization acquiring the software demonstrated interest towards it and are ready for acquiring, it. The sales-cycle might be even considered to be efficient, requiring few meetings, executed fully through online. Not requiring the buying organization and the commissioner company representatives physically in the same space.

*"I would say that two to three meetings is the traditional sales cycle. I think the success is not about meeting directly face-to-face. Same knowledge is being shared, not depending on the physical space of the meeting." (Consultant, commissioner company.)*

*"It depends who is responsible of the project, who will make the official decision. It might be that we never see that person face-to-face." (Key Account Manager, commissioner company).*

Also, from a potential customer perspective, there has to be some level of using experience or valuable insight to buy the idea from a new solution. This was mentioned by the Technical Manager, who had experiences about similar situations in purchasing phases.

*"I think the most essential thing is to see it for yourself and realize that the solution works. That is the biggest thing. (...) There are lots of salespersons who offer this and that. When you see that something is working, there is no need for additional information. One example was when I saw one service during my visit in Denmark, it directly impressed me". (Technical Manager, The South Savo Social and Health Care Authority).*

## **After-purchase and implementation**

After the decision-making phase has ended and the sales process is successful, it is time for the implementation phase of the journey. This can be considered as the most demanding phase of the customer journey, as long-term relationship is very highly depending on the success of it.

The organization acquiring the solution can also be considered to need the most focused attention during this phase, compared to earlier and later stages after the initial implementation. One aspect of determining the implementation process is the fact that is there some already created content that has be transferred to the solution or are they able to start from point zero to create source information for the solution.

*“It requires scheduling and sending content. The customer has to be involved in decision-making and creating the starting information databases. One question is do we start from scratch or do we transfer some source material. Also, we need answers to questions like; what the project schedules are, schedules for collecting the source information, who are the key participants from the customers behalf and who need to be educated to use our solution. It has to be clear from the start, we need to support our clients during implementation closely and with determination. You cannot go to the client and suddenly start doubting that is this correct or no, if we start showing signs of doubt, the whole thing starts to crumble”. (Consultant, commissioner company)*

*“It is the implementation. We really need to get the information out there and motivate them to start using it. We are doing a fine product from a digital perspective in an old-fashioned industry. (...) There are fine technical aspects to our solution. I emphasize the beginning; it is the point when the customer takes and starts caring about the solution”. (CEO, commissioner company)*

As mentioned, based on the interviews the implementation was seen to be the most challenging part of the journey, from the internal perspective but as well from the external. This is because of variety of different reasons; learning a new way of working, technical issues or lack of management control implementing the new way of executing processes. It requires motivation and dedication from everyone, from management to the end-user but as well from the service providers behalf. From internal perspective, the commissioner company representatives emphasized the commitment and willingness for making efforts in the early stages to succeed in the transformation.

*“It is always a process change, our solution is an information management tool, which requires understanding, taking more time in the beginning than using the old tools. After the painful beginning, the transformation is visible, and it starts to show.” (BIM-specialist, commissioner company)*

*“It requires commitment from the management to get the end-users starting to use the solution actively. If the management fails to commit these users for this, the barrier for negative response is low”. (BIM-specialist, commissioner company)*

*“Sales can be executed through online surfaces, but the using process, it requires presence. I have done years of these things, but I would not have this experience, it would be very hard to do these things without active presence. The intensity is not as high in a online environment as it would be in being physically present. Also, at the same time it shows that we have the interest towards them” (Consultant, commissioner company).*

*“You have to realize from the customers behalf that is this person a individual who needs more assistance. There are people who understand things quickly and are progressing fast, then there are people who need more support and assistance. It requires understanding and modification based on the needs of the customer. (...) Anyone can see the limitations of someone, only smart people can see the hidden talent and the characteristics that solves these problems and create results” (Consultant, commissioner company).*

From the current customer perspective, planning coordinator from Kuopio University Hospital was pleased with the implementation process, having a contact person who was present during the process. Also showing proactive attitude towards the solution by using and learning it individually.

*“I received good service. We had implementation support and there was a named person for this, who I could contact directly. (...) I always received answers, if I had any. The solution itself, well when you start using it, you will learn.” (Planning Coordinator, Kuopio University Hospital)*

For the interviewee from Aihio Arkkitehdit, the process was different, as the interviewee had not been involved with the project when it was first implemented. This was not seen as a significant problem, but the interviewee emphasized that the solution itself could need more clarifications, especially to how the information is visualized and through this make the solution as easy to use as possible for the end-user.

*“I must say that I did not attend any of the training sessions. It was a clear scheduling mistake from our behalf. I have learned to use this software through other applications. I think the most essential information for this solution would be the way how the information is visible, clarification in general” (Architect, Aihio Arkkitehdit).*

Interviewee from Turku University Hospital, also an active user of the solution experienced the implementation process differently. As the first using period was in 2015, the solution was developed through the end-users and their needs for it. It was more communicative process compared to other interviewees who were involved in the implementation.

*“Yeah we were involved actively in the development of the solution. It was not only that I would ask for help about something; it was changing thoughts, testing them and giving feedback about them. Now after two years, when I am starting to use the solution again, I expect it to be more ready-to-use and as a customer, I expect that I will only need help when there is a problem in it” (Planning Coordinator, Turku University Hospital).*

Implementation process in general was explained from the potential customer perspective to be depending much on the complexity of the solution. When there are solutions that affect the everyday tasks of multiple individuals, more extensive training periods and sessions are required. If the early stage of training is executed successfully, there is no extensive need for training after it.

*“It depends on the solution and the complexity of it. If it is a simple solution, we do not need that much support to it, other than if it is not working properly. Then if we are talking about more comprehensive solution (...) there is a need for extra training sessions and some expanded things. It is widely depending on the situation (...) If it is learned in the early stages, there is no need for guiding afterwards, it is what it is”*

	Pre-purchase	Purchasing	Post-purchase
Internal	<ul style="list-style-type: none"> <li>• Contacts the customer</li> <li>• Provides materials</li> <li>• Creating the demand</li> </ul>	<ul style="list-style-type: none"> <li>• Demo meetings are organized</li> <li>• Multiple professionals attend internally</li> <li>• Mainly organized remotely</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation begins</li> <li>• Materials are formed</li> <li>• Educational meetings</li> <li>• Determining the level of support needed</li> </ul>
Current customers	<ul style="list-style-type: none"> <li>• Information from colleagues</li> <li>• Recieved contact</li> <li>• Own demand began was discovered</li> </ul>	<ul style="list-style-type: none"> <li>• Buying team is formed</li> <li>• Consulting colleagues who use the solution</li> <li>• Looking for additional information online</li> </ul>	<ul style="list-style-type: none"> <li>• Processes are created <ul style="list-style-type: none"> <li>• Using starts</li> </ul> </li> <li>• Development ideas and support requests are communicated</li> </ul>
Potential customers	<ul style="list-style-type: none"> <li>• Demand need to be visible</li> <li>• Strong reliance on word-to-mouth feedback or insights</li> <li>• Defined the specific need for public bidding</li> </ul>	<ul style="list-style-type: none"> <li>• Colleagues are consulted</li> <li>• Direct requests for offers</li> <li>• Core benefits are realized</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation and training begins <ul style="list-style-type: none"> <li>• Level of training depending on the complexity of the solution</li> </ul> </li> </ul>

*Figure 12. Summary of the customer journey and activities during it from different perspectives.*

### 4.3 Organizational buying behavior

As discussed earlier, the buying process starts when the company realizes that they have a problem and they need a solution to fix it. When the buying process has started the companies usually tend to formulate buying teams that consists project managers, technical support and the end-users. This is taken into consideration from the internal perspective, as multiple individuals emphasized the multiple perspectives they have to take into consideration when trying to convince the potential customer.

*“Then there are the negotiations, in big picture it can be divided to experts and the one who will make the order. Those who make the order will trust to their experts in the final decision. As I have mentioned, it is no rarity that the one making the order are not necessarily understanding the solution.” (CEO, commissioner company).*

*“(...) You have different types of customers; you have the facility manager, who has the business or technical degree. Then there is the nurse who is doing the technical planning. Then there is the construction consultant or manager who comes from your organization. There are so many types of people and at the same time you have speak to them individually and get them to speak to each other too“ (Consultant, commissioner company)*

*“We went to visit them; they had the planning coordinator and project manager in the meeting. Then they spread the word internally and the actual order came from a individual that we had never seen. (...) Basically the fact is that we have to sell it to the users and they will sell it inside the organization“ (Account Manager, commissioner company).*

When examining the data, it could be found that there is still some different opinions concerning the who is actually the most important persons to convince during the process. Internal perspective emphasized top management personnel as the potential individuals to contact first.

*“It should go through the management. First you have to get the management on your side, show the reasons why you need this solution and through them to the rest of the organization. We do not have any authority to tell the whole organization that this is how you do it” (BIM-specialist, commissioner company)*

*“You should always contact the top management. In Finland the organizations are usually quite flat, so the one making the decisions and the one affecting to it are two different persons. (...) Knowing who is the main individual behind the decisions, well if we would know that, selling would be pretty easy” (CINO, commissioner company).*

*“(...) Does the customer buy because they have a problem? Or is it because it is in their strategy? What is the real reason behind this, makes it hard for the sales team. (...) It is very hard and long road to push the solution from the end-user to the management, just if the reason is to make the work more enjoyable and effective. (...) They want a solution to their problems, but what is their problem? These two might not be the same thing” (Customer Success Manager, commissioner company).*

*“It is the property manager, the one who signs the paper. He or she is the most important individual, everyone else is agreeing. If the property manager is not ordering it, the value is not visible. Planning coordinators do not make negotiate deals; project managers do. Of course, if these two say no, then the deal will not happen. Property manager is the most influential individual in this case” (Consultant, commissioner company).*

As this is the internal perspective from multiple individuals, current and potential new customers can be seen to have different perspective on the most influential individual for the overall decision-making. Most of the interviewees shared the opinion that the planning coordinator or the project manager, depending on who was the end-user. That individual was seen as the most influential individual to affect in order the sales process to be successful.

For example, project manager from Tampere University Hospital had a very clear opinion that the management rarely offers any suggestions to the end-users.

*“It is the end-user who the service provider should approach. Those who make the final decision are never active. They do not offer proactively us something.” (Project Manager, Tampere University Hospital)*

This was also seen to be the case from the perspective of Lapland Hospital District, where the facility manager was seen to be the most important influencer, because they were considered to be the end-users.

*“It is the end-user. Basically, in our case the facility manager. The decision-making is usually coming through a suggestion from our facility manager and then our information services make the contract, taking care of the issues around it.” (Project Manager, Lapland Hospital District).*

While the internal perspective said that is very hard to the end-user to sell the solution to the management, there is a clear disagreement from the current customers behalf on this. For example, the planning coordinator representing Turku University Hospital had a different perspective to this. The interviewee saw that her opinion had a large effect to a new solution being acquired.

*“Well, I think the end-user matters. When I am thinking about our next project where we will use this solution, it is clear that this is purely my tool. Overall use of this solution comes when I start to use it and take care that the source information is filled correctly. I have a large role in the process, of course my superior could say no. But in our organization my superior understands that it is more efficient to invest time to more important things, this solution saving time to do other things.” (Planning Coordinator, Turku University Hospital).*

For making decisions, the current and potential customers mentioned the importance of professional networks and word-of-mouth. These networks are used especially when the customer journey is in the purchasing phase, where different comparisons are made and professionals familiar with the solution are consulted. Also, one reason for these strong networks that share information can be argued to be that there is no direct competition between the public organizations, creating a different perspective compared to the companies operating in private sector.

*“It has a large effect when talking about the professionals in the same area. (...) I think that other would contact me from example this solution. I think what we say here concerning it has a significant value to the overall decision” (Planning Coordinator, Turku University Hospital).*

*“We have good networks with the other hospitals, because we are not direct competitors. If I would pick up my phone and call to Oulu, asking how they have handled this situation, they would tell me how they have handled it. Sometimes we make information requests to databases, describing our need and problem, then we hope someone picks it up and reacts to it. Sometimes we send out requests directly” (Project Manager, Lapland Hospital District)*

Director of Space and Support Services from The South Savo Social and Health Care Authority mentioned that he usually does not have time resources to search out the solutions through professional networks proactively. Mentioning that new innovations arise if a colleague from the professional networks proactively suggests something. This can be viewed as a difference compared to the planning coordinators, who are more proactively searching solutions. Also referring to the statement from the interviewee from Tampere University Hospital, who said that directors and decision-makers rarely have the time to be proactive in these acquisitions, compared to the end-users, who are significant influencers in the purchasing decision.

*“I must admit that I am not actively looking usually looking for a solution through my network. Usually someone will come out and tell that they have found this solution to fix their problems. This lack of time is representing our current situation. Usually someone from a larger organization tells us that this is good, that is how it usually goes.” (Director of Space and Support Services, The South Savo Social and Health Care Authority).*

As hospital districts are public, government-owned organizations, potential customers emphasized the fact that they have to publicly ask for bids for larger acquisitions, this creates barriers in terms of choosing the service provider. These processes need to have the needs and the criteria assessment done precisely and it requires resources and time from the organization. Technical Manager in The South Savo Social and Health Care Authority and Project Manager from Lapland University Hospital mentioned that this can sometimes be seen as a barrier for new acquisitions.

*“(...) There are several acquisition laws to take into consideration. Maybe a solution that we would not have to bid every three years.” (Technical Manager, The South Savo Social and Health Care Authority)*

*“(...) And the other thing is that it has to be determined correctly. If it goes for public bidding and not through straight acquisition. The market communication has to be done, if it is not done properly, the terms on the bid might not actually describe the need or the problem. Then it might be too complex or misleading, so that the best ones are not even able to offer to it. So, the offer should be made through the communication. That is the other relevant thing.” (Project Manager, Lapland Hospital District)*

When asking in general from current customer, why they need different SaaS solutions. Project Manager from Tampere University Hospital, representing the current customer segment had a clear opinion that they are seeking to improve existing processes and tools with them.

*“Usually we are trying to erase Excel. The amount of knowledge is becoming so significant that it is hard to handle it.” (Project Manager, Tampere University Hospital)*

Planning coordinator from Turku University Hospital saw that the similar things are possible with basic tools, but it would take so much time and effort. Having the information in real-time and easy to access, was the main solution to make existing processes more efficient through SaaS solutions in general.

*“(...) Yeah sure you can do the same things with other applications, but the savings in time and effort are important. The fact that everything works, and people can use it simultaneously, in real time. If I make some modifications, I do not have send a separate e-mail regarding it or do extra efforts for it. It is visible directly, if the planner goes and views it. Of course, this requires active use.” (Planning Coordinator, Turku University Hospital)*

When asked about the motivation to implement SaaS solutions from the planning coordinator from Kuopio University Hospital, she saw that the main reason is the fact that everything is cloud-based and members outside the organization are able to save and transfer information.

*“With SaaS solutions the main thing is that everything is in cloud. You don’t have to be a member of the organization to access the information. (...) Now everyone has an account and can access the information whenever they want, through cloud. (...) I think the biggest motivation is that everyone can access the information through their own cycle, not depended on others.” (Planning Coordinator, Kuopio University Hospital)*

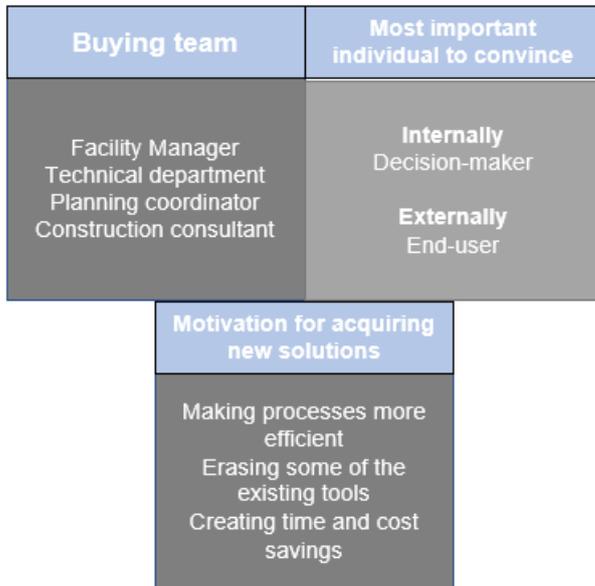


Figure 13. Summary from the insights regarding organizational buying behavior.

#### 4.4 Customer value proposition

When customer value proposition being determined from the internal perspective, all the interviewees were asked how they would summarize the value proposition of the solution examined in this research. As the potential customers were not familiar with the solution, the question was asked from a general perspective, in a similar way that the motivation behind acquiring different SaaS solutions was asked in the Chapter 4.3 from the existing customers.

From the internal perspective, it was clear that the overall value proposition of the solution designed for space management was found to be in saving time, resources and having all the information in one place, visible to everyone. Also emphasizing the fact that the user is able to see the individual space in a facility, helping to create full perspective of the facility that was being planned.

*“(…) Now we are able to get crucial information with our solution on what is changing, when it will change and when it has changed. Other products cannot determine where the space is in a facility that is being built. (…) We are able to concretely see where the space is and how it affects to the whole facility“ (Product Manager, commissioner company)*

*"In my opinion, the fact is that processes are more efficient. (...) The time saving is actually possible with this solution. In one large project the customer was able to save multiple months of work with this. That is a remarkable amount of money. Other value proposition is that the information is machine-readable, and it is easy to modify it, also leaving a history information regarding it. Then the third dimension is that it supports all the stakeholders in a project" (Consultant, commissioner company)*

*"Well if thinking about these hospital facilities, there is no other solution similar to this. Information is divided to multiple places, e.g. to Excel and e-mail. The information is hard to use and sustain. If the information is needed afterwards, it might be very difficult to search it afterwards. That is our value proposition; information gathered to one place" (Key Account Manager, commissioner company).*

*"The most significant value proposition is the fact that we have information in one place and the latest information. We are able to see how the information has developed" (CEO, commissioner company).*

*"It is obvious that when you have a single document somewhere, for example in desktop or project bank and then comparing when you have it in a cloud, it kind of improves the information management and reduces risks" (BIM Specialist, commissioner company)*

*"Facilities have a lot of money invested in them, no doubt it is the facility owners' interest to know what information there is and how to manage it" (BIM-specialist, commissioner company)*

*"I believe the reason is that they want to clarify their operations. Save time own time and resources. Get the information as many people as it is possible in the future, so that the information regarding current processes would not vanish when some individuals leave the company" (Assistant, commissioner company)*

From the current customer perspective, the value proposition was emphasized towards to the similar elements. From the user perspective the main thing was that by using the solution, the user was receiving a full image of the facility spaces, assessing information and generally creating more efficient work processes. As hospitals are always large facilities that have large portion of different kind of spaces, the information management is essential. From this perspective, it can be argued that the overall value proposition is maximized because the facilities are in this scale, generating large portions of information that is difficult to handle without a solution designed for it.

In Kuopio University Hospital the value proposition was seen to be in that the solution offers a quick tool to check-up current situation and make modifications based on the requirements received.

*“Full reports are easy to get from the solution. For example, we got a request that every space should have a glove box, where is room for four boxes. Then I just checked out the report from the solution and selected glove box. Then I saw the spaces that had the glove box with four boxes and the spaces with three. It was easy to change it to four in every space. The solution serves as a quick check-up and assembly list tool excellently.” (Planning coordinator, Turku University Hospital).*

Architect interviewed from Aihio Arkkitehdit emphasized the data usability and openness in different projects as a value proposition of the solution. Data could be used as a tool to produce decisions that are based on it. He also said that the solution could only bring the maximum capacity, if the users are using it correctly. Reason for this being that the platform could have more user-friendly design.

*“Well how it responds to the value proposition, in my opinion it connects to the data openness and usability in construction projects. In general, that data controls the projects and decisions are made through knowledge harvested from the data. As a platform, this solution answers to those questions in a good way. But when examining usability and project management, I would describe it to be average. The solution answers to the problems, if it is used in a right way.” (Architect, Aihio Arkkitehdit Oy).*

In Turku University Hospital, the value proposition was described in a simple way; having the information in one place and the possibility to access is when needed. This was emphasized to be extremely important, because in a hospital facility there are hundreds of spaces to manage.

*“When talking about hundreds of different spaces. The information management in a way, that the information is in the right place, in right time and quickly accessible. This is problem what this solution answers to.” (Planning coordinator, Turku University Hospital).*

Representing the current customers and users of the solution, Tampere University Hospital emphasized the workload that was causing a lot of work for the professionals, before this solution was implemented in use. They especially mentioned that the solution offered history information about things that had been done before, eliminating the possibility to doubt if something had been agreed to. Resulting more effective information flows and decisions that could be based on actual knowledge concerning the history.

*“I think the main thing is the fact that the history information stays in there. We had a huge difficulty finding the information from Excel-files etc. They were not updating, we kept meetings, wrote memos and nobody never knew what was discussed and on which memo the information was. With this solution, we were able to get the history information and see when it was agreed to. It did not*

*require any activities after it was checked from there. I think that is a really good thing” (Planning coordinator, Tampere University Hospital.)*

When asked in general from the potential customers, what would be the value proposition of different SaaS solution. Asking them to describe the most significant value to the organization, the answers were quite simply understandable; the need had been realized, it is to make the information more transparent and not have the processes depending on one person.

*“It should make our work easier and make the information transfer more efficient. So that we could get the information accessed to multiple individuals. If our planning coordinator would now be absent for a long time, significant amount of information would be lost” (Project Manager, Lapland University Hospital).*

*“Well when we have formed here these social and health care co-operations regionally, the facility management and other solutions have been noticed. We have discussed these matters with other organizations years ago.” (Director of Space and Support Services, The South Savo Social and Health Care Authority).*

Technical Manager from The South Savo Social and Health Care Authority explained that it is not usually that the organization just wants to implement a new solution, the emphasis is on the fact that the organization needs a solution to fix a problem that they are having.

*“I don’t know what right word would be, but when thinking about why different software solutions are being acquired the reason is that it helps us to do our jobs. It might be the efficiency or to simplify things, those are the things that are provided for the professionals through acquiring these. (...) It might not be that we want to implement a new solution, it might be that we need to implement it. It comes from the need” (Technical Manager, The South Savo Social and Health Care Authority).*

When asking about what could be done better to answer to this value proposition for this solution examined, the internal perspective from the top management representative was that there is still work to be done in producing these service-based value propositions. Especially the ones that would create more value to both, customer and the commissioner company.

*“We are only in the beginning. In 2014 we did first drafts about our additional services. We should have a few services as a product. We should define our customer needs more efficiently and we should have professionals doing it. We are in so early steps of this that I still think we have been too modest in that section. (...) I want us to produce additional value through service, I think if we could get to this point, the industry would figure these concepts too. (...) There is a huge potential to it. (CEO, commissioner company)*

Current user of the solution, architect from Aihio Arkkitehdit Oy saw that the solution could bring more value if the platform would be designed to be more user-friendly. He suggested that the commissioner company could guide the users what they should fill in the application and how. Also emphasizing the fact that the formation should be clear and understandable.

*“The most essential additional thing to this solution is on the platform itself, how the information is demonstrated and generally to clarify it. This connects to the fact that you should be able to tell the customer what kind of information needs to be filled and also at the same time focus on the readability of the information in the solution” (Architect, Aihio Arkkitehdit Oy).*

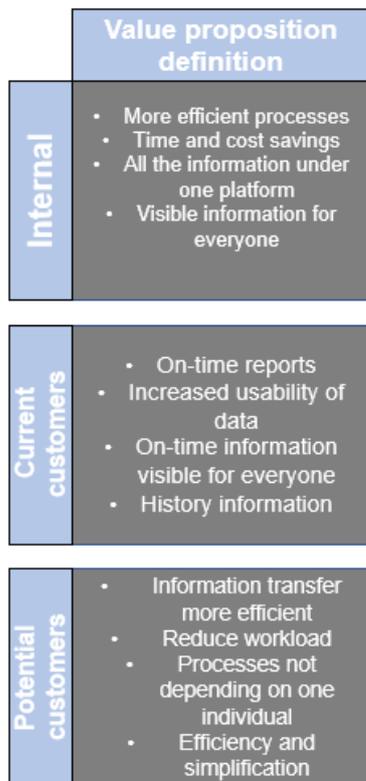


Figure 14. Value propositions from different perspectives.

## 4.5 Digitalization of the construction industry

As the digitalization of the construction industry, the interviewees were asked about what they think about the current situation and the future of the construction industry in terms of digitalization. From the internal perspective, the conservativeness of the industry had been noticed from the commissioner company representatives.

Top management perspective internally described digitalization as a phenomenon that happens through individual moments where the project and the professionals behind it have a courage to try new things. New innovations coming out of rapid actions, instead of systematically planning them.

*“Construction industry is known to be conservative (...) The to the question, has construction industry achieved the required level of digitalization; I would say no. Many people are protecting themselves with their individual knowledge and are non-motivated to progress the whole industry and productivity of it. Digitalization usually comes from quite random situations. If we are able to bring one technical factor to a project that solves a problem, we might be able to convince the decision-maker. (...) Digitalization comes through random spikes of innovation, but as a whole, it has not achieved it yet.” (CEO, commissioner company).*

Secondly from the internal perspective, the potential was seen, but multiple interviewees stated that there are lots of differences inside the industry and this is of the most limiting factors at the moment.

*“It is not a thing that in our industry that things are done in a certain way just because they have been done in that way also before. It is unjustified, because there are multiple individuals who understand the possibilities of digitalization. Then there are the individuals who do not want to try anything new. Everyone are technically skilled and sometimes these professionals might take a digital leap of faith. It is not systematic (...) I have a large personal interest towards developing our industry” (CEO, commissioner company).*

*“I have no reason to hide from it. Construction industry is lacking behind in digitalization. It is sometimes hard to understand how traditional this industry is. (...) Some things have been following digitalization and then some things are not. It brings a weird vibe to whole thing. We have these fine systems that are synchronizing with each other. Then at the same time someone might print an image, do some notes with a pen and then scan it again. Then repeat this process again. It is constantly jumping between the analog and the digital environment. (...) The purpose of*

*digitalization is not to confuse things, but to make them more efficient. It might be that the industry will never be fully digitalized“ (Customer Success Manager, commissioner company).*

Internal BIM Specialist stated that the confusion and lack of digitalization is because there are no standard ways of doing these projects. Resulting the fact that each project is started from scratch. This was seen to change during time, especially in hospital projects.

*“It shows in the information, the structure is not standard. Information does not fit automatically, and it has to be modified individually to projects. (...) There are no standard procedures. The group is put together from zero for each project, resulting that there are always people who are confused about many things. But of course, in hospitals, there are the same people, the situation is not as bad. Maybe there is or will be standard procedures in the near future.” (BIM Specialist, commissioner company)*

The standardization was seen as an element that is developing in the future from the Chief Innovation Officer’s perspective.

*“I think the construction industry in on some route, not sure if it is the right route. There are signs that organizational development is on the table. They have invented that there is no point in creating organizational content, rather the emphasis should be to focus on the industrial standards” (CINO, commissioner company)*

Also, from an internal perspective, there are people who see the value in digitalization, but the people might be in a position where they cannot affect to the organizational behavior in a way that it would follow the possibilities of digitalization.

*“(...) You can be surprised that the systems are old, but there is usually no room to complain. It might be that the new generations will make changes, but it might be that they are just satisfied to get a job. Only time will show this. (...) If you have done something always in the same way, it is hard to change it. If you try to teach them another way of doing things, you are at the same time asking for the individual and the organization to change. The software solution is the tool to do this. For example, it is not about drinking coffee black or white (...) It is more like you would have grown the beans and then made the coffee and suddenly you are able to just buy the coffee from a store, ready to be used. So, it makes the process more efficient, cutting phases and time out of it.” (Customer Success Manager, commissioner company).*

It could be concluded that the digitalization or elements of it were seen to be happening from the internal perspective as well. Consultant representing the stakeholders of the commissioner company stated that in order it to be successful, it needs more concrete actions and time investments.

*“It is on the right path. I think we are still too conservative; we are progressing slowly. (...) Nothing happens if someone does not make concrete actions to it. Speaking and visualizing it is not enough. (...) Then there is the time investment, you cannot say in autumn that the next time I am available is in during Christmas. It is not reliable answer to anyone.” (Consultant, commissioner company)*

Customer Success Manager saw that it will affect to the industry more drastically, perhaps not all of the companies but the industry in general.

*“(...) The industry will digitalize. It is not an island, digitalization that is affecting to the whole community will affect to the construction industry as well. Perhaps not all of the companies, must most of them.” (Customer Success Manager, commissioner company).*

End-user of the solution, architect from Aihio Arkkitehdit Oy saw that there are main professionals who are on a good pace in terms of digitalization. He highlighted that the differences between different groups are quite significant.

*“The way I see it in the construction industry, the main professionals, for example in design offices, the digitalization process is in a good pace. If we compare the most progressive ones with the most conservative individuals, the distance is quite high. (...) Maybe to summarize this; the most progressive ones are following the pace of the digitalization, but in no circumstances the whole industry is moving at the same time with this phenomenon” (Architect, Aihio Arkkitehdit Oy)*

From the current and potential customer perspective, the analyzation of the digitalization was also executed by asking them how they are using digital platforms to search out new innovations and what kind of content they are seeking to find in different medias.

Planning coordinator from Kuopio University Hospital said that she follows digital content mainly through social media. She described that the planning coordinators should be alert of what is happening, because their line of work can be considered to be future oriented, as they are responsible of the functional planning of the spaces in future hospitals that are being built.

*“Well I belong to the generation who still uses Facebook. Sometimes I get sponsored content and other news. Then of course Instagram. (...) I don’t know, but there are no printed magazines today or I don’t read them. (...) In this job you have to be alert, because this is so future oriented, when we are making spaces for future facilities. It is good to follow things that are happening in the industry” (Planning Coordinator, Kuopio University Hospital).*

Director of Space and Support Services in The South Savo Social and Health Care Authority stated that he rarely has the time to be exposed to content in digital medias. Usually the information is coming out from colleagues.

*“Very little, I do not have the energy after work. (...) Of course, sometimes we hear news from our colleagues. (...) Unfortunately, that is the case. There is no time to do everything, or no resources and of course sometimes there is no point in trying to do everything“ (Director of Space and Support Services, The South Savo Social and Health Care Authority).*

Planning coordinator from Turku University Hospital had a clear opinion about that e-mail marketing is not effective and the companies should invest time to the content on their website. Generally, the content should be short and dynamic, not trying to explain everything right away.

*“E-Mail is the most annoying. I usually seek out the information from the websites or somewhere else. There is so much traffic in E-Mail, so I rarely read non-relevant things in there. (...) Or if it comes through E-Mail it should have a good headline, so I can determine whether to click it or not. (...) If it is a video, it should be short. (...) 3-5 sentences should describe the thing. Then after that I will decide if I will look for more information“ (Planning coordinator, Turku University Hospital).*

## 4.6 Future of the commissioner company

The future of the commissioner company is important to examine to receive more precise image on how the future of the SaaS solution examined in this research is seen from internal perspectives. This information brings depth to the research, as the internal goals play a key role when determining the conclusions based on the findings.

Currently the emphasis is heavily on acquiring new customers and gaining more stronger market share. But for the future, the top management representative saw that this could change in the near future. The current growth is seen to be satisfying but the vision is to expand to new market areas with the solution.

*“In the future I would hope that our situation in terms of focusing on existing customers and acquiring new ones would be the opposite. Our growth numbers are in a way fantastic, last year we grew 49% and now we will grow approximately 25%. (...) The growth is possible if we focus on the SaaS business even more. (...) Of course, we want to grow our both business units, but from our perspective, the potential in SaaS business is limitless. (...) The potential is enormous” (CEO, commissioner company).*

The importance of starting the internationalization process in the near future was seen to be essential, if the current growth wanted to ensure. Customer Success Manager saw that the company is on a verge of reforming its activities, as the domestic market might have reached the peak.

*“I think that in the current form, we will face difficulties in terms of keeping the same growth in our domestic market with this solution. I think we need to refigure the solution again; it might be the way we sell it, who we target it to or how we price it. This is required if we want to get to the segments we aim to. Of course, building new facilities will not stop, but it has slowed down a bit. (...) In a way the hospital projects this far have been easy for us, now in the future we need to refigure how to sustain our growth numbers” (Customer Success Manager, commissioner company).*

Consultant of the commissioner company also emphasized the importance of capturing new international market areas, this should be taken into consideration when developing the solution. One potential market for the future that she mentioned was Germany, also noting that the solution needs market responsiveness before this could be possible.

*“I hope that in the future we will be in international markets. I hope that different actions have been noticed in our software development. (...) It requires software development. To us, Germany is a hot market at the moment. Currently our solution does not have German language support, it is a basic thing we should have, but currently we do not have it. (...) Generally different language versions are lacking at the moment“ (Consultant, commissioner company).*

Germany was also noticed as a potential market to enter in by Customer Success Manager of the commissioner company. He noted that the commissioner company has to know how the processes are executed in the market to define if there is a true value proposition for the software in that market. Realizing the risk that there might not be as strong value proposition in Germany compared to Finland, because the processes are different.

*“I am not sure if our solution is even ready for the international markets, for example to Germany. This has been established for a Finnish need and the way of building facilities. (...) If some architect would for example do the whole process based on individual insights, then it might be that simple Excel could handle the task. Then our value proposition would not be as strong. (...) I would like to clarify this.” (Customer Success Manager, commissioner company)*

To finalize the future of the company, when asking where do you see the SaaS solution designed for space management in five years? Chief Innovation Officer saw that the solution would have expanded the using purpose of it, to upkeeping and using phases of the facility processes, as the current use is focused mainly to the planning phase only. He also mentioned that the solution could have more characteristics than only the space management and information regarding them.

*“We have to have more using purposes for the upkeeping and using phases. Of course, with this comes the using surfaces that are designed to serve these different types of using it. So, handling the same data but from a different angle. Then the space information will expand, even to component level. It might mean that with space information there will be something completely else.” (Chief Innovation Officer, commissioner company)*

## **5 CONCLUSIONS AND DISCUSSION**

This chapter summarizes the primary data findings and the existing literature to a meaningful conclusions for the main research questions that are examined from the theoretical perspective in discussion chapter 5.1. This chapter focuses on the connections and new findings between the primary and secondary data. Secondly, the results will be examined from the managerial perspective in chapter 5.2, where to focus is more on providing insights concerning the current situation and the potential future for the commissioner company. Finally, the limitations and further research implications are discussed in chapter 5.3. Discussing the noticed limitations of this research and the suggestions for future research topics.

## 5.1 Discussion

In this chapter, the research questions are answered based on the insights gathered from the primary data findings. After that the existing theory and findings are examined from theoretical perspectives. From a general perspective, many aspects from the existing literature can be seen to have direct connection to the findings of the primary data. Connections between these are examined and new findings that variate from the existing literature are discussed.

**RQ1:** *How can the value proposition to a SaaS solution for space management in facilities be created?*

In general, the current customers saw the essential value of the SaaS solution examined for this research, this is because they had used it and implemented it successfully in their previous projects. Based on the answers, the solution provided essential help for efficient information flows and as a database for hospital districts to exchange space information as well. This is clearly connected to the statement of Markovitch & Willmott (2014) where the digitalization of different processes was seen to create more efficient processes and cost savings. This being the case for this solution as well, as it saves time and eventually costs for organization. Even though this was highlighted in the primary data findings, value was not seen in the same levels from the potential customer perspective, creating the assumption that the value has not been communicated efficiently enough, or can it be connected to unwillingness to change existing operations, because of the time investments and changing the existing mindset to a new one.

Based on the insights, it was clear that the commissioner company had already established some level of reputation in the health care segment. Their solution was in some levels familiar to the current customers before they acquired it and the potential customers were aware of the solution. The barriers why the potential customers had not implemented the solution could be seen to be connected to the fact mentioned by Rainey & Ronquillo & Avellaneda (2010, 10) that the public organizations are regulated by the government, making their current purchasing

process more complicated, as they have different government regulations that they have to take into consideration.

Porter (1980) theory focused on to the fact that in order to create competitive advantages, the value proposition of a product has to be unique. Based on the primary data, the value proposition can be argued to be general, as it mainly solves the information management issues. Resulting the customer to have more efficient information flows, resulting direct time savings. On the other hand, the uniqueness can be seen to be in the area on where the solution is set to be used in, the space management in the facilities. The value proposition in that sector can be seen to be connected to the fourth dimension of (Tjan 2009) value proposition model, offering the essentiality in the solution, meaning that it would be essential for the users in order to do execute their jobs. There are also clear connections to the functionality value proposition, introduced by Almquist, Senior & Bloch (2016) in their publication concerning the different elements of value. As hospitals have planning coordinators that are in charge of the space planning and management, it can be argued that the solution offers value propositions that are connected to the essentiality and functionality. Based on these insights this the connection to the current position in the hospital district is clear, as they have end-users who main task is to solve problems connected to the core value propositions of the solution.

**RQ2:** *What drivers affect the customer journey the most?*

As for the early stages of the customer journey, in the pre-purchasing phase the current customers and the potential new ones stated to have some level of knowledge concerning the solution. The purchasing process began with the commissioner company establishing connections to them. But the key problem that caused the sales process to be long with the existing customers and the potential customers could be seen to have connections to the Lemon & Verhoef (2016) emphasis on the external environment affecting to the customer journey. For example, the current situation of the project where the solution could be implemented to or the lack of resources that the potential customers had in terms of devoting time for acquiring new solutions.

Lemon & Verhoef (2016) general model of the customer journey focusing on the three stages; pre-purchase, purchase and post-purchase can be seen to describe the journey for this solution in general terms. As referred earlier, the external environment is mostly connected to the success and duration of the purchasing process. As it was mentioned in the primary data findings, the process can be quick, but if the projects and the customers internal processes are not in the stage, the middle phase of the customer journey extends. This is also connected to the external environment on which hospital districts are operating in. Large investments need to be processed based on the government regulations, creating more length to the sales process.

The current state of digitalization of the construction industry based on the primary data insights could be seen to have various connection points in the existing literature and the findings from the primary data. For example, Agarwal, Chanderskeran & Sridhar (2016) and Roland Berger (2016) discussed that multiple processes are inefficient in the construction industry and the information should be more transparent. This can be connected to the primary data findings where the potential customers explained that large portion of their processes are still depending on one individual, rather than being transparent and repeatable.

This can be in some levels be connected to statement of Schallamo & Williams (2018), as they mentioned that the industry is not as progressed as others in terms of digitalization, mainly because the true value behind it is not seen as it should be. This statement was seen to have multiple connections to the findings in primary data, As there are still many professionals relying on more traditional methods and processes are depending on one individuals. This was noticed from each of the interviewee perspectives in the findings.

One perspective to the fact why some of the hospital districts had not implemented the solution, can see to be connected to the Hayes (2019) statement concerning the mindset of public organizations and the buying behavior related to it.

Organizations belonging to that segment focus more on being socially responsible, the effectiveness can be argued to have lower emphasis than compared to privately-owned companies, that have more aggressive competition and no support from the government. As Almquist (2018) mentioned, these two types of

organizations are becoming more connected and the organizational value propositions are becoming more connected to each other. This can be explained with the current customer perspectives, as the overall value for their every day activities was obvious.

Purchasing processes and decision-making were connected to the models presented by Zolkiewski, et al. (2017), McColl-Kennedy, et al. (2015) and Bonoma (2006). Companies had teams formulated for the buying processes and their roles were connected to the Bonoma (2006) model that presented the four common roles of the buying division, which included the initiator, influencer, gatekeeper and decision-maker. As in this case the buying divisions were largely connected to this model the primary data also showcased that these roles can be integrated with each other, one individual possibly being for example the influencer and the initiator at the same time. In this case, the planning coordinators and project managers were seen to be the most important individuals to accept the idea of the solution, in order to create sales. This and the different opinions of the most influential individual during the customer journey is more thoroughly discussed in the chapter 5.2, where the focus is on the managerial implications.

## **5.2 Managerial implications**

When examining the results from a practical view, the research provided valuable information regarding the current state of their solution from multiple perspectives, strengthening the existing information and providing new valuable insights for further development, especially for sales and marketing, but also for the product development.

The value proposition of the solution was seen to be very closely connected to the general value propositions that SaaS are recognized to solve. It can be argued that in order to create value proposition that is different from the existing environment, it needs more differentiation and specific examples of how it solves the current problems. These insights came up especially when interviewing the current customers. Overall, from the end-user perspective, there were generalized value propositions but also the more specific ones were mentioned. Currently the most

influential value was seen when the software had been used for some time and it had established its position as a tool for planning processes, especially used by the planning coordinators but also the project managers were using the solution on a weekly basis, mainly to check-up project or task situations. The most active users were the planning coordinators.

This opens up the second implication from a managerial perspective. Multiple internal perspectives emphasized the decision-maker, for example the project manager or director to be the most influential individual to be convinced in the pre-purchase or purchase phases, the opinion differentiated widely from the external view. Current customers and potential new ones saw that the most active end-users are the most important individuals, as the project managers and directors usually depend on their opinion about different acquisitions, especially if it has a direct effect on their work. This is one of the most noticeable findings from a practical view; based on this insight, the sales and marketing should emphasize the most active end-users, the planning coordinators.

Also, as it was mentioned on multiple occasions, the co-operation between the hospital districts and different professionals was active and the interviewees saw that as the most reliable channel. This should be emphasized more when marketing the product or selling it. Hospital districts that are current customers should be more involved in the marketing and sales processes, to increase the understandability of the core value propositions from the more relatable point-of-view, an colleague or organization with similarities. As the planning coordinators were seen to be the most important individuals, the materials should be emphasizing this perspective more actively in the future. This information is valuable in terms of tailoring the supportive content for the future. The commissioner company is focusing more attention towards digital marketing and expanding their operations to foreign market areas. This information creates insights on what kind of content could support the sales process.

As for the future, there was one similarity seen in the value proposition from multiple perspectives: the usability of the solution. As the commissioner company is hoping to achieve growth and more leads in the future, this is one of the most crucial tasks to focus the attention on. As the general value propositions of the

solution aimed to make the processes more efficient and create cost savings because of this, the more user-friendly output can be seen only to support this and eventually make the core value propositions more durable.

Customer journey was seen to be affected by the current situation of the potential customer, is there a demand for the solution currently and are they willing to test it. The solution was mainly used in the planning phase of the projects and if the sales process did start during the right time, there was no motivation in acquiring it. This was one of the reasons why for example the sales process with one of the current customers was eventually two years long, before the implementation began. This brings insights for the future; how these situations could be discovered more efficiently, and could the future be in offering value propositions for other phases of the project, besides planning? One solution to build up more awareness could be to take current customers and the end-users more proactively involved with the product development. By having a customer perspective in the product development this could improve the usability but at the same time as the word-of-mouth in the professional networks is strong, could potentially reveal opportunities for the commissioner company from the potential gaps where the solution could be needed for potential customers.

Digitalization of the construction industry was seen to progress, but not as efficiently as it could be. This was seen to be affected by the current environment and individuals, as there was no significant or crucial need to take these giant digitalization leaps, organizations tend to rely on their existing processes, even though the vulnerability and problems had been discovered. The industry was seen to be lacking behind but also the potential in it was emphasized. This is seen as one of the potential communication and social responsibilities of the commissioner company, not only to solve solutions for the industry, but also at the same time renew the mindsets and working methods what are currently slowing the progress of the industry in general.

### **5.3 Limitations and further research proposals**

While contributions from theoretical and managerial perspectives were made, there was still some limitations that were noticed. In general, qualitative method was seen to be most suitable for this kind of a research. The interviewee groups were divided accordingly, but the most noticeable limitation was that the internal perspective had a large emphasis over the external perspective, when comparing the number of interviewees from different groups.

Also at the same time while the research brought information and knowledge concerning various topics like value proposition, customer journey, organizational buying behavior and digitalization of the construction industry, the number of topics was seen as a limiting factor for the research, as it has many topics to discuss and this effected the depth of the analysis when looking the topics individually. One of the reasons supporting this was the fact that the research itself was focused on a SaaS product designed for space management and the external perspectives were narrowed down to the hospital districts. This increased the comparability of the findings.

This research provided a useful insight on the larger phenomenon of the digitalization of the construction industry through the SaaS solution used in hospital facility projects for space management domestically. But as the topics are large and the phenomenon of digitalization is global, the external perspectives could have been discussed from international perspectives as well.

For the future, this kind of research could be executed from other SaaS solutions, solving different issues in the construction industry. This is to bring more insights about the current problems that the industry is facing and what kind of solutions it is demanding, to get insights about the factors limiting the digitalization from different perspectives. As the primary data for this research was domestic, the future research proposal could also be to examine this particular solution in the potential foreign markets, as there are multiple environmental factors taken into consideration, these can be argued to create differences in the customer journeys and value propositions for the solution.

## **ATTACHMENTS**

### *Appendix 1. Interview structure, internal perspective*

Primary data was collected in Finnish through semi-structured interviews. The Appendix 1 is the general structure of the interviews conducted from the internal perspective.

#### **Internal perspective, commissioner company**

Interviewees from this perspective were employees of the commissioner company. The individuals were representing top management, BIM specialists, product development and sales.

#### **Background**

- Short introduction about yourself and your position in the organization
- Brief history of the organization and the solution
- How the solution was born? Where and how the original idea for it was established?

#### **Value proposition**

- Why do you think hospital districts and organizations operating in the construction industry usually acquire SaaS solutions for Space Management?
- How would you summarize the value proposition of your solution? What are the core benefits for the organization?
- Is the value proposition communicated right at the moment?
- Is there a room for additional, value-adding services for the solution?

#### **Customer journey, organizational buying behavior and decision-making**

- How would you describe the customer journey of the solution, from the beginning to the post-purchase stage?
- What are the most essential phases during the journey in order it to be successful?
- Who is the most important influencer, individual affecting to the decision?
- What is essential in the post-purchase phase, when the customer has made the purchase decision and begins the implementation?

#### **Digitalization**

- Has the construction industry achieved the level of digitalization where it should be?

- Where do you see the most essential changes in the future in terms of digitalization?

## *Appendix 2. Interview structure, current customers*

Primary data was collected in Finnish through semi-structured interviews. The Appendix 2 is the general structure of the interviews conducted from the current customer and user perspectives.

### **Current customers and users**

These questions were focused to the current customers and users of the solution. The interviewees in this group were project managers, directors, planning coordinators and architects.

#### **Background**

- Short introduction about yourself, your current position and organization
- How often do you use this solution?

#### **Value proposition**

- What kind of a problems does the solution solve in your job or for your organization in general?
- Why does your organization acquire different SaaS solutions?
- How would you summarize the value proposition of this solution? What is the core value it has brought to your organization?
- What kind of additional services would be beneficial for this solution to have more stronger value proposition?

#### **Customer Journey, organizational buying behavior and decision-making**

- Can you describe your customer journey from the beginning to this point, regarding this solution?
- What were the most significant phases of this customer journey that defined the success of it? And from a general perspective?
- How much did you search for information during the sales process?
- How much you did this proactively and how much the sales provided this information for you during the process?
- Who were involved in the buying process from your organization?
- Who was the main influencer, the most important individual from your behalf in this process?
- How much do you follow professional content through digital medias? What medias do you prefer?
- What kind of a content would you like to see in digital medias?

### *Appendix 3. Interview structure, potential customers.*

Primary data was collected in Finnish through semi-structured interviews. The Appendix 3 is the general structure of the interviews conducted from the potential customer perspective.

## **Potential customers**

### **Background**

- Short introduction about yourself, your position and the organization?
- Are you familiar with the solution examined in this research?

### **Value proposition**

- How would you describe the current problems that hospital districts have in terms of space management in facilities?
- How do you manage space information? Is it under one platform or in multiple places?
- Have you considered acquiring a SaaS solution for solving the current problems? If you have, what kind of solutions?
- Why does your organization acquire SaaS solutions in general? What are the problems that these solutions aim to solve?

### **Customer journey, organizational buying behavior and decision-making**

- How would you describe your customer journey when acquiring new SaaS solutions?
- What are the most crucial phases of this journey from your behalf?
- How do you see the additional value services, is there room for value adding services for these solutions after they have been purchased?
- How are you usually searching information during the sales process? Do you search it yourselves, or does the service provider provide this information?
- Who do you have in your buying team, when acquiring new SaaS solutions?
- Do you follow professional content through digital medias?
- What kind of medias do you prefer?
- What kind of content would you like to see in these medias?

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