

The role of service process in customer experience

Kirsi Ylisirniö



Author(s) Kirsi Ylisirniö	
Degree programme International Business	
Report/thesis title The role of service process in customer experience	Number of pages and appendix pages 47 + 0
<p>In this research oriented thesis, the aim is to examine the role of the service process in customer experience. How the service process affects customer experience is examined by describing and analysing a commissioning company's service process and reviewing how customers perceive the company. The purpose of the research is to identify service delivery processes with significant development needs and to recognize which of them are likely to impair the customer experience. In addition, the objective is to conduct a cross-functional flowchart of one service delivery process that requires to be developed. Through a cross-functional flowchart, the bottlenecks of the process can be presented and suggestions for improvement actions can be provided.</p> <p>To examine the research question, secondary data was mainly used. Secondary data was composed by gathering reliable information sources diversely, such as books, formally published documents, survey data and the company's internal information. When secondary data was used to explain the research question based on existing theories, information, and ideas, primary data was used to provide new aspects about the thesis topic. For data collection, both quantitative and qualitative methods were used. Most of the data collection was based on qualitative methods but to complement the research data, the quantitative method was also exploited. A significant part of data collection was carried out in the context of the project, in which the relationship between the company's service process and customer experience was described and analysed.</p> <p>As a conclusion of the research results, it can be stated that the service process affects the customer experience. In order to meet the customer demand, the company needs to match its service delivery processes with the customer's journey with the company. For producing a good customer experience, the company needs to understand its customers' needs and expectations and respond to them. In order to remain competitive, the company should pursue to improve its operations continually and recognize factors constraining the flow of service delivery. These factors, also referred to as bottlenecks, are likely to impair the customer experience and hence they should be treated as critical development needs.</p>	
Keywords Service process, customer experience, process analysis, customer journey, process improvement	

Table of contents

1	Introduction	1
1.1	Purpose of research.....	1
1.2	Research question and investigative questions.....	2
1.3	Thesis structure and delimitation.....	2
1.4	Key concepts and theoretical framework.....	3
2	Describing and analysing a service process.....	5
2.1	Service as a process.....	5
2.1.1	What is a process?.....	5
2.1.2	Process design	6
2.1.3	Process strategies for service operations.....	8
2.1.4	Process classification.....	11
2.1.5	Process map.....	12
2.1.6	Process description.....	14
2.2	Flowchart.....	15
2.2.1	Cross-functional flowchart.....	15
2.2.2	Flowchart symbols	17
2.3	Service blueprinting	18
2.3.1	Levels of activities.....	18
2.3.2	Elements of a service blueprint	19
2.3.3	Constructing a service blueprint	21
2.4	Customer journey map.....	22
2.4.1	Touchpoints	23
2.4.2	Constructing customer journey map.....	23
2.4.3	Difference between customer journey map and process map	26
2.5	Customer experience.....	26
2.5.1	Levels of customer experience.....	27
2.5.2	Designing customer experience	27
3	Improving operations in service delivery.....	29
3.1	Theory of constraints.....	29
3.1.1	Definition.....	29
3.1.2	Five-step process.....	30
3.1.3	Drum, buffer, rope	30
3.2	Concept of lean.....	31
3.2.1	Eliminate waste.....	32
3.2.2	Concept of lean in services	33
3.3	Summary	33
4	Empirical part.....	34

4.1	Research methods.....	34
4.2	Data collection	35
4.2.1	Qualitative methods	35
4.2.2	Quantitative methods	37
4.3	Results.....	37
4.3.1	Results of qualitative research	37
4.3.2	Results of quantitative research	38
4.4	Summary	40
5	Discussion.....	40
5.1	Conclusion of key findings	41
5.2	Development ideas and recommendations	42
5.3	Trustworthiness of the research	43
5.4	Evaluation of thesis process and own learning.....	44
	References	46

1 Introduction

This thesis was conducted for the commissioning company x. Selection of thesis topic based on discussions with the commissioning company's representative and on the author's own interest. Through the discussions, it came out that there is a customer experience project about to start in May 2018 and the thesis topic could be related to it. Customer experience (CX) project was established to understand customer expectations related to the customer interactions throughout the customer journey and to provide common vision and goals for the CX. The CX vision is an essential tool for service design as it guides all customer interactions and forms a base for a customer-centric organization culture.

As a result of mapping thesis topics a few alternative options were discovered. Thus, the thesis topic was chosen by evaluating which of options would benefit the company the most and which one the author finds the most interesting. The chosen topic is about describing and analysing the service process at the commissioning company and identifying the most critical development needs within it, in consideration of how they reflect to customer experience. This thesis is research oriented.

1.1 Purpose of research

As said in the title this research aims to explore the role of the service process in customer experience. The purpose is to examine and analyse the service process at the commissioning company and to recognize those processes in service delivery, which require to be developed in order to enhance the customer experience. In addition, this research aims to study the commissioning company's service delivery processes and to identify which of the processes with development need has a significant relation with the customer satisfaction.

This research aims to identify a single process with critical development needs, which prevents the company from producing better customer experience. Hereby, the objective is to illustrate one specific process, to indicate its bottlenecks and to provide insights for improvement actions.

1.2 Research question and investigative questions

The research question (RQ) was formed so that the aim of the thesis could be fulfilled. Four investigative questions (IQ) were formed to study the research question and to guide the research process.

RQ: How the service process affects customer experience?

IQ 1. What is the service process like at the commissioning company x?

IQ 2. What processes in service delivery need to be developed in order to produce better customer experience?

IQ 3. What are the development needs?

IQ 4. How development needs within the service process reflect to customer experience?

1.3 Thesis structure and delimitation

This thesis is divided into five chapters in order to handle the content of the thesis in a clear and comprehensive way. The first chapter introduces the research topic, purpose and aims of the research, research delimitation and the key concepts. In addition, visualized theoretical framework is presented to clarify the relationship between the key concepts. Theoretical part is divided into two chapters, the first handling how to design and analyse the service process and the second one discussing methods to improve operations in service delivery. After theoretical part research methods, data collection methods and results of research are explained in fourth chapter. Once results of research are discussed, conclusion of results and development ideas for process are presented. Lastly, trustworthiness of the research and thesis process are evaluated.

In order to keep the focus on right topics during the thesis process and to clarify research delimitation, the author has exploited project frame. Project frame is a tool for visualizing the research scope, which identifies topics in and out of the research scope. By project frame, scope content can be presented clearly in form of a picture. (John, Lunau, Meran, Roenpage & Staudter 2013, 31.) Research delimitation is visualized by project frame in the figure 1 below.

IN

- Service process
- Process analysis
- Process improvement
- Development needs
- Customer experience
- Customer satisfaction

OUT

- Competitors
- Internal customer satisfaction
- Systems
- Handling of customer data

Figure 1: Research delimitation, project frame

1.4 Key concepts and theoretical framework

Service process covers all the internal processes that are involved in delivering service to the customers. Service process follows customers' actions to ensure that it can satisfy customer demand. (Laamanen & Tinnilä 2009, 64.)

Flowchart is visualized description of a process. It interprets process phases, sequence of them, performance, responsible parties and their relationship. Flowchart presents rather detailed information that can be used for analysing the performance of the process. (Pesonen 2007, 150.)

Service blueprinting is a technique used for describing and analysing the service process and identifying possible failure points in it. Service blueprinting focuses on customer's actions and on the interaction between the service provider and the customer. (Foster & Ganguly 2013, 224.)

Customer journey describes the path that customer goes with the company when using its services or/and products. It identifies scenes of interaction between the company and the customer, which are referred as touchpoints. Customer journey represents customer's viewpoint of a service process. (Pennington 2016, 83.)

Customer experience describes customers' perception about the company (Pennington 2016, 73).

Theory of constraints is a method for identifying factors in the process constraining process efficiency. It facilitates to recognize process parts that need to be controlled and developed. Theory of constraints is a method that pursues to improve process efficiency. (Slack & al. 2011, 239.)

Lean is a method that pursues to improve the process by reducing and eliminating waste in it (Slack & al. 2011, 250).

In the following figure 2, theoretical framework is visualized to clarify the relationship between the key concepts and their connection to the thesis title.

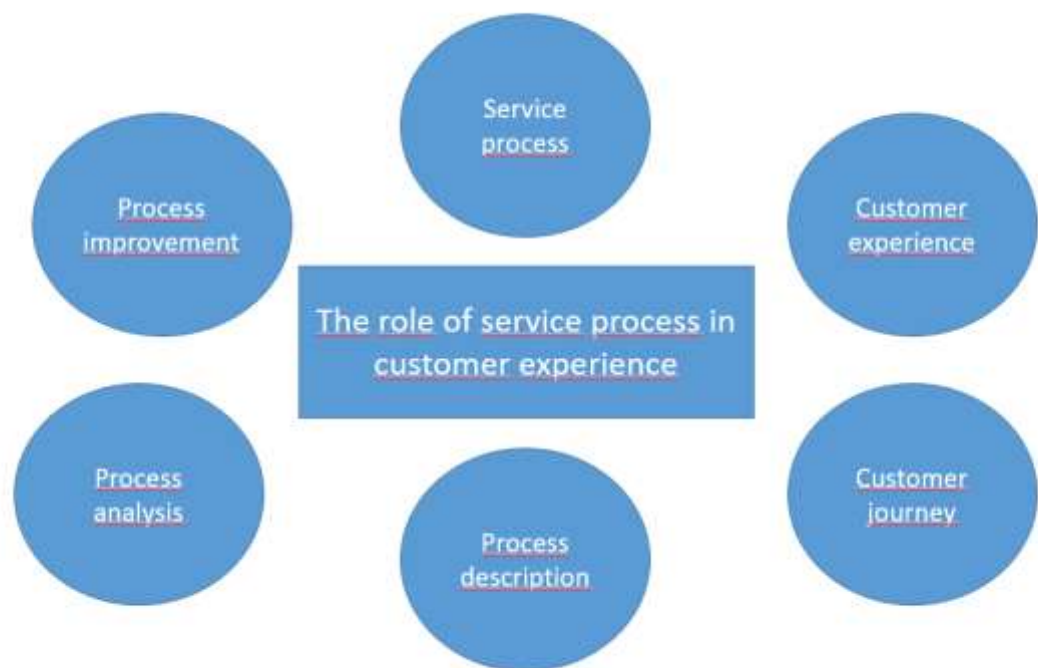


Figure 2: Visualized theoretical framework

2 Describing and analysing a service process

This part of theoretical framework handles describing and analysing the service process. Through its subchapters it explains why service is treated as a process, what are the elements for describing the service process, how to design one, which methods can be used for analysis and what is customer's role in the service process. This part starts with identifying the features of a process and describing how service operations can be converted into a process description taking into account the appropriate process strategy. After that process visualization is explained and tools for analysing the service process are discussed. Lastly, the meaning of customer experience for the company's operations is described.

2.1 Service as a process

All operations can be described as an input-transformation-output process. Regardless of whether the operations are related to service delivery or manufacturing a product, they all have inputs that are transformed into outputs during the process. Inputs are usually divided into categories of "transformed resources" and "transforming resources". "Transformed resources" refer to the set of inputs that are treated or transformed in the process like customers, materials and information. "Transforming resources" includes two types of input resources, which are "facilities" and "staff". These input types handle the transformed resources and form a basis of all operations. Most often, the operations produce a mixture of products and services and few focuses on creating and delivering only another one. (Slack & al. 2011, 9-11.)

2.1.1 What is a process?

As stated by Laamanen and Tinnilä (2009, 121), "A "process" is a set of logically related activities and resources needed to transform input to outputs". Process can be used to describe any action or transformation (Laamanen & Tinnilä 2009, 121). Each process needs to have an "owner" whose duty is to look after the process and actively develop it. Process's owner can be one person or a group of people. The "owner" does not necessarily perform on process's operative level but decides how activities within the process should be operated. Thus, there are two different responsibilities regarding process: responsibility of defining the process and responsibility to proceed the process according to definition. (Pesonen 2007, 131-132.)

To put simply, process is a description of operation, which interprets what phases it includes and in what sequence they are performed. The ultimate goal of a process is to get the work done and simultaneously achieve something. Process's two main purposes are to generate something and to provide benefit for one party, for instance customer, through the outcome of a process. (Pesonen 2007, 129.)

2.1.2 Process design

In order to be successful and provide value-adding product or service company needs to design and construct its process to meet the customer demand. Added value is created by first knowing and understanding customer's process and then using the knowledge for identifying customer needs. In case the company cannot internalize what its customers need it can end up with providing a product or a service with no demand. For instance, if the company produces washing machines that no one wants to use and buy, the company has failed in meeting the customer demand. Principally customer's focus is on its own processes and there is no room for being interested in service provider's processes. Therefore company has two different options in order to satisfy customer's need as a provider. The first option is to provide customer with a product or a service that would fulfil customer's need. The second option is to support the customer in improving its own processes. (Laamanen & Tinnilä 2009, 121.)

To meet the customer demand and to find a solution that will fulfil customer's need requires process design. Since "design" as a term is rather broad and there is no universal definition for it, it will be explained what does it stand for in this context. (Slack, Brandon-Jones & Johnston 2011, 90.) As stated by Slack & al. (2011, 90) the term "design" comprises "the process by which some functional requirement of people is satisfied through the shaping or configuration of the resources and/or activities that compose a service, a product, or the transformation process that creates and delivers them". Before designing a process to satisfy customer's need, the shape and the nature of it need to be decided and the design objectives understood. Often this is done by evaluating volume and variety characteristics regarding the process as higher volume requires less variety in process activities and vice versa. In addition, details related to process need to be inspected prior designing the process to ensure that they can fulfil the design objectives. (Slack & al. 2011, 91.)

The purpose of process design is to secure that the operation can achieve its goals through its processes. As an example, if the operation aims to respond to customer requests as quickly as possible, the process design's duty is to ensure that activities within

the operation are capable to deliver fast throughput times. Throughput time means the average elapsed time that is used for moving process inputs through the process and transferring them into outputs. In the given example above the throughput time refers to the elapsed time between the customer request and delivering a requested product or a service. (Slack & al. 2011, 92.)

To make sure that process is designed well and to operate effectively there should be a link between operation's overall goal and its individual processes performance objectives. The process design objectives reflect to process objectives as the performance objectives translate directly to process design objectives. In the table 1 below the links between operations performance objectives and typical process design objectives are illustrated. In addition, some benefits of good process design are listed too. (Slack & al. 2011, 92.)

Table 1. The impact of strategic performance objectives on process design objectives and performance (Slack & al. 2011, 92)

Operations performance objective	Typical process design objectives	Some benefits of good process design
Quality	<ul style="list-style-type: none"> - Provide appropriate resources, capable of achieving the services or product specification - Error-free processing 	<ul style="list-style-type: none"> • Products and services produces 'on-specification' • Less recycling and wasted effort within the process
Speed	<ul style="list-style-type: none"> - Minimum throughput time - Output rate appropriate for demand 	<ul style="list-style-type: none"> • Short customer waiting time • Low in-process inventory
Dependability	<ul style="list-style-type: none"> - Provide dependable process resources - Reliable process output timing and volume 	<ul style="list-style-type: none"> • On-time deliveries of products and services • Less disruption, confusion and rescheduling within the process
Flexibility	<ul style="list-style-type: none"> - Provide resources with an appropriate range of capabilities - Change easily between processing states (what, how, or how much is being processes) 	<ul style="list-style-type: none"> • Ability to process a wide range of products and services • Low cost/fast product and service change • Low cost/fast volume and timing changes • Ability to cope with unexpected events (e.g. supply or a processing failure)

Cost	<ul style="list-style-type: none"> - Appropriate capacity to meet demand - Eliminate process waste in terms of <ul style="list-style-type: none"> o excess capacity o excess process capability o in-process delays o in-process errors o inappropriate process inputs 	<ul style="list-style-type: none"> • Low processing costs • Low resource costs (capital costs) • Low delay and inventory costs (working capital costs)
------	--	---

As shown in table 1, operations performance objectives are described by one word whereas process design objectives are described in more detail. For instance, one performance objective in table 1 is “Speed” that is linked with the process design objective “Minimum throughput time”. This means that the operation aims to please the demand as fast as possible through its processes that aim to handle and progress the units in the most effective way possible. Processes are managed at very operational level, comprising micromanaging, and thus they need to have detailed objectives such as “Minimum throughput time” in the given example above. (Slack & al. 2011, 92.)

An important factor that should bear in mind in process design is customer’s benefit. No matter which operation owns the process or which activity performs the process phase, customer should eventually benefit from process’s outcome. The nature of the customer affects process design significantly as there are two different type of customer groups: external and internal. As discussed in sub-chapter 2.1.2, processes serving these groups differ from another by their classification. (Pesonen 2007, 130.) In addition, the nature of the product or service affects the process design as it defines the shape of selected process strategy (Slack & al. 2011, 91). Process strategies for service operations will be discussed in the following.

2.1.3 Process strategies for service operations

As mentioned in the previous subchapter 2.1.2, deciding the shape and the nature - also referred to deciding the strategy - for operation’s process is affected by volume and variety factors (Slack & al. 2011, 91). Depending on the nature of a product or a service, a process can produce either very high or low volume of products or services and very high or low variety of products or services. Often volume and variety characteristics are linked together so that processes producing low volume have high variety of products or services and the other way around. As different process strategies expect different volume and variety characteristics for the process, the volume-variety relation affects the decision about

the appropriate process strategy. (Slack & al. 2011, 94.) Process strategy is the general approach, which comprises how process activities are managed and how resources are transformed into products and services (Heizer & Render 2011, 284; Slack & al. 2011, 95). In the following paragraphs different process strategies are discussed. As showed in book of Slack & al. (2011, 95), image 1 visualizes differences between strategies in terms of volume and variety characteristics. In this thesis the focus is on strategies that are appropriate for the service operations but for comparison, the production strategies that are comparable with the following service strategies, are also reviewed.

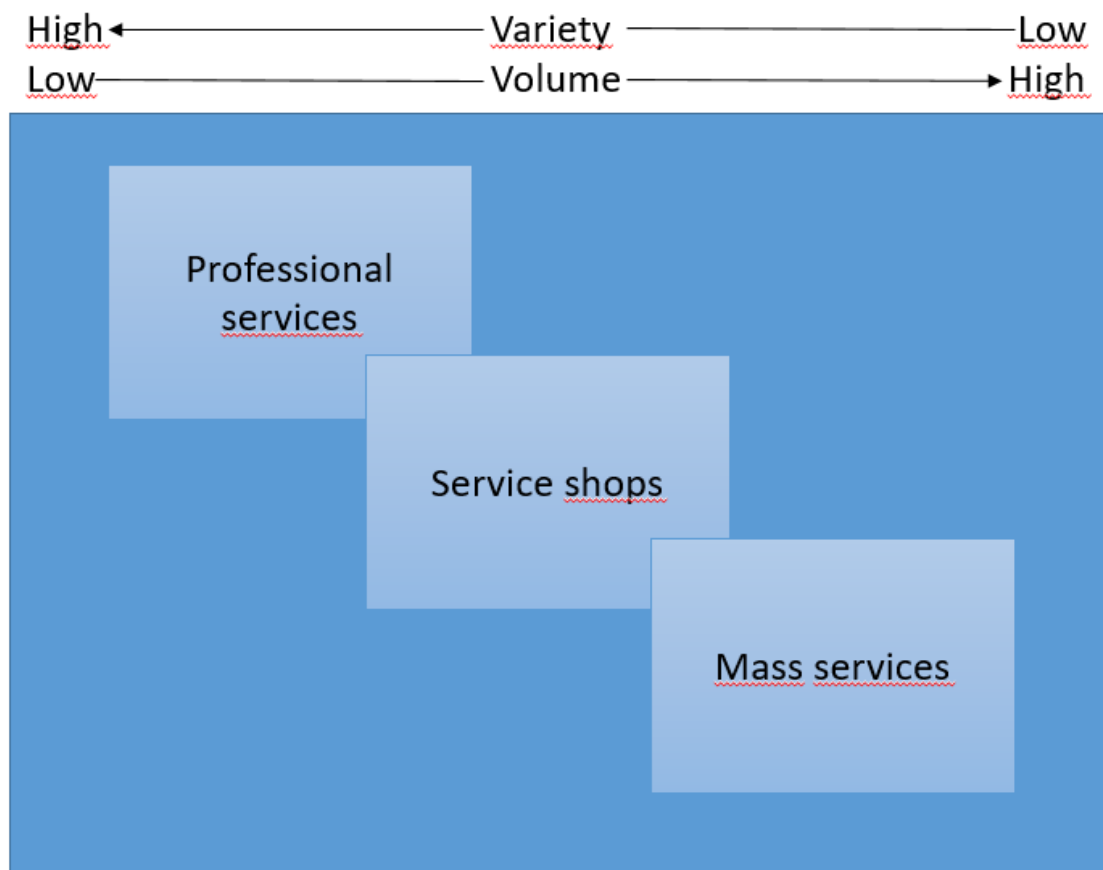


Image 1: Service process types (Slack & al. 2011, 95)

Professional services are services that usually involve very close cooperation with the customer as they produce highly customized services according to individual customer needs. Having a process strategy that focuses on satisfying individual needs, which can range significantly, requires high adaptability from the service process. Producing a customized service also engages company's resources highly since defining the problem and discussing the project scope with the customer takes a remarkable proportion of total work in service delivery. Professional services do not only require high engagement from the company but the customer too as the time spent by the customer in the process is remarkable. Instead of being equipment-based and focusing on what is delivered, professional services are often people-based and focus on how the service is delivered. In the

means of volume-variety relation, professional services deliver low volume and high variety of services. An example of a company providing professional services can be a consultant company that sells problem-solving solutions for customer's specific issue. (Slack & al. 2011, 97.) Strategy of professional services is also applied in production. In production, the process strategy that enables producing low volume and high variety of products, is called process focused process. As professional services, process focused production facilities produce products with high level of customization. High level of customization in the production is enabled by having several processes handling products between which products are moved. Each of these processes is capable to take care of repeated changes in products through its broad assortment of activities. (Heizer & Render 2011, 284.)

Service shops produce services processes, which are affected by the level of collaboration with the customer, number of customers and personnel discretion. Compared to professional services, service shops do not produce highly customized services but rather standardized ones. However, the sales process that is customized according to the individual customer need, affects the services delivered by service shops. Comparison of these two previously described process strategies shows that they expect different kind of staff involvement. When professional services mainly engage front-office staff as they create the most added value for the service, service shops require involvement of both front- and back-office staff. In service shops front-office activities may include advising and training customers and back-office activities may comprise administration. Both these functions have a significant role in delivering the added value. (Slack & al. 2011, 98.)

In production, the process strategy sharing similarities with the strategy of service shops is called a repetitive focused process. It is a process that focuses on the product and uses modules in production. Modules are pre prepared components that are combined when producing the product. Using modules allows little customization in production whilst having a rather standardized product. (Heizer & Render 2011, 284.) As already explained in this chapter, the same applies to the service shops. In the means of volume and variety characteristics, both service shops and repetitive focused processes are positioned in the middle of the scale. This means that they do not provide low volume or variety of services or products nor high volume or variety of services or products, but the medium ones. (Slack & al. 2011, 98.)

Mass services produce services with high volumes but with low variation. Service processes of mass services are structured and designed carefully so that they are able satisfy the need of high volume of service inquiries. To be capable to handle a large amount of customer transactions and simultaneously deliver good service there is only little room

for customization of service process. Compared to professional services that are mainly people-based and focused on how the service is delivered, the mass services are often equipment-based and focused on the product. In mass services, the most added value is created through back office activities and the front-office staff has only little power of making decisions regarding the service delivery. Comparable process strategy exist on production site too. Production process that is organized around the product and delivers low variety products with high volume, such as paper and beer, is called product focused process. Product focused processes are standardized and they allow only little changes, if any, in production since they need to ensure that they are capable to deliver the products to large mass effectively. (Heizer & Render 2011, 286.) Examples of product focused processes are glass, paper and potato chips production facilities and supermarkets and airports are treated as mass services (Heizer & Render 2011, 286; Slack & al. 2011, 98).

2.1.4 Process classification

Processes that deliver value, which covers products and services, directly to external customers are called core processes or business processes. Delivering value is typical for these processes. Examples of core or business processes are customer support, product and service development, customer commitment and order fulfilment. No company cannot succeed in delivering value only through core or business processes. To succeed these processes need to be backed up by supportive activities. These activities are called support processes. (Laamanen & Tinnilä 2009, 122.)

Support processes are processes that serve company's internal customers (Pesonen 2007, 130). Usually these processes comprise strategic planning, financial planning, yearly planning and follow-up, process improvement, competence development, supplier qualification and information systems maintenance. Sometimes strategic planning and financial planning are also regarded as management processes. (Laamanen & Tinnilä 2009, 122.)

Key processes include all the company's core processes and those support processes that are considered as critical to business (Laamanen & Tinnilä 2009, 122). Processes that are critical to success and hence the most interesting ones for the company, are often described in a process map (Pesonen 2007, 129).

Sometimes one large process needs to be broken into smaller parts. Parts that are extracted of a large process are called subprocesses. (Laamanen & Tinnilä 2009, 122.)

2.1.5 Process map

Process map is a picture describing the key processes in the company and the connections between them. It illustrates company's business model and revenue logic on an upper level and in addition to the company's core and support processes, it can include information about customer's process and company's vision. (Laamanen & Tinnilä 2009, 126.) In process map the ideal would be that both the start and the end point would be the customer. Between these points process phases go through different parts of an organisation. (Pesonen 2007, 129.) The purpose of the process map is not to describe each process in the company but the most important ones that are key processes. In order to keep the amount of described processes reasonable the company needs to recognize its core- and important support processes and describe them. (Pesonen 2007, 131.)

By looking at a process map a viewer gets a good overview of the company's operations since it describes what the key activities are and in what order they are done. Process map is a beneficial tool in matter of developing company's operations because it can be used to view whether the described processes match with the reality or not. In case not, the process map needs to be updated. Planning and developing a single process can also result in making changes in the process map. As single processes and the process map cannot be in conflict it is very likely that the process map need to be changed if there is a conflict between a process and the process map. (Pesonen 2007, 133.)

There are various different ways to do a process map. The most important thing when designing one is that it is drawn clearly so that everyone can understand it and it matches with the reality. In the following figure 3, presented by Pesonen (2007, 136), illustrates the most commonly used process map model that is called waterfall model. In the figure 3 the waterfall model is applied to the service business. (Pesonen 2007, 136.)

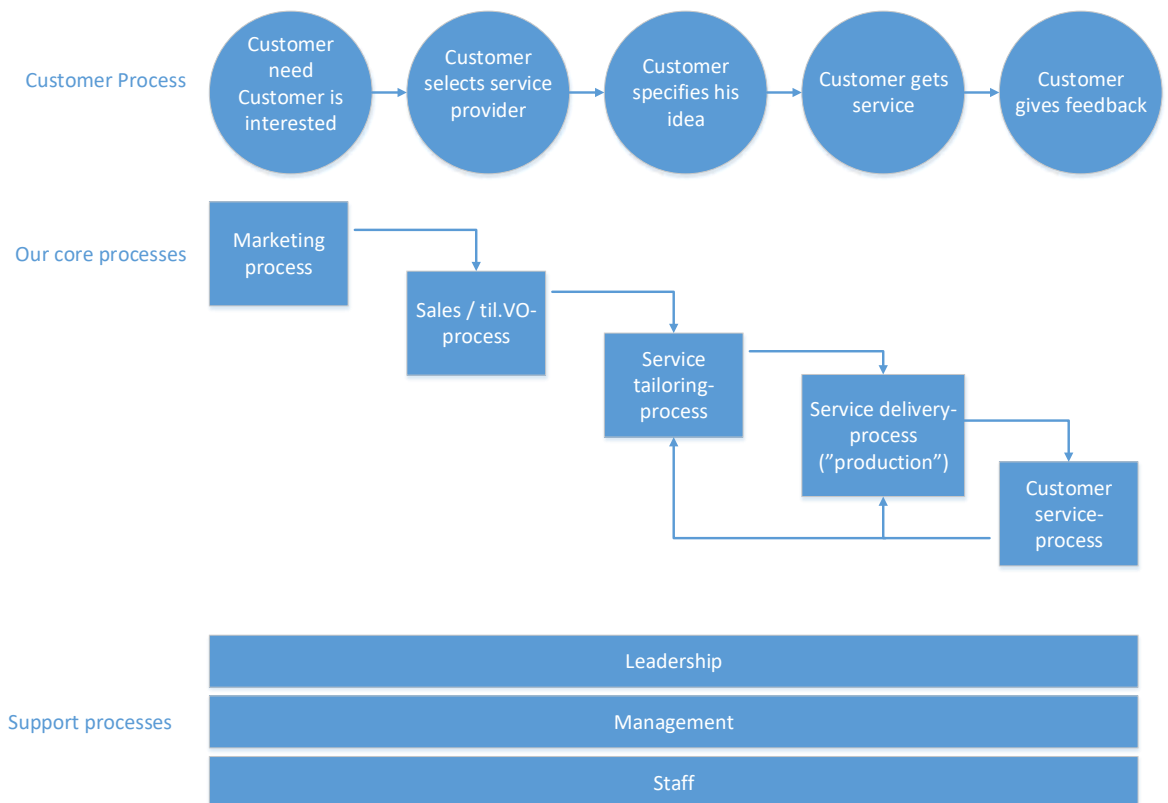


Figure 3. Service business process map (Pesonen 2007, 136)

In waterfall model applied to service business there are three parties marked in the left side of the figure 3: customer process, company's core processes and support processes. The idea of the waterfall model is that customer process guides company's actions and in case the company wants to cooperate with the customer, it needs to match its processes with the customer need. (Pesonen 2007, 135.)

Process starts, when the customer indicates a need and tries to find the solution for it. At the same time the company has a marketing process running and through it the customer recognizes the company and gets interested in it. Once getting interested in, the customer contacts the company and then the connection between the customer and the company has born. After this the sales process gets started, which goal is that the customer selects the company as its service provider. In case the customer ends up with a contract with the company, the customer specifies his idea and the discussion about service tailoring begins. Once service tailoring is specified, the company starts to deliver the service for the customer according to agreed terms. The customer uses company's services and when needed, gives the feedback about the service through customer service. Customer's feedback is used for re-tailoring and developing services and this way the process is a continuous circle. Company's support processes are described in the bottom of the figure 3. They affect core processes on every level and that is why they are drawn as a wide-picture rectangles. Each support process in the figure 3 can include several processes.

Leadership processes include, for instance, process development, follow-up, organization and strategic planning. Management processes can include purchase processes, invoicing and information systems. Recruiting and training can be included in staff processes. (Pesonen 2007, 135.)

2.1.6 Process description

Process description interprets the activities and definitions that are critical and important regarding the process. It contains essential information for understanding the process and information about the factors involved in the process like staff, resources, methods and tools. It also clarifies the output of the process, connections with other processes and an environmental aspect. (Laamanen & Tinnilä 2009, 123.)

A good process description is formed of three following parts: a basic summary of the process, a flowchart and definitions for flowchart phases. Together they shape a proper and clear description of the process, by which a reader understands what is the process, why and how is it performed and who is responsible of executing it. (Pesonen 2007, 144.)

A basic summary can be formed by answering to 11 questions regarding process's basic information, such as what is the meaning of the process, what is the first process phase, what are the requirements and expectations towards the process and who owns it (Pesonen 2007, 145-147).

The 11 questions stated by Pesonen (2007, 145-147) are listed in the following:

1. What is the purpose of the process and why does it exist? What is its goal?
2. What is the first phase of the process? And what is the last phase? What is done first and what last?
3. What is the input and the output in the process?
4. Who are the customer or customer groups of the process?
5. What expectations and requirements different customer groups have?
6. What are success factors of the process? What kind of the process should be and what is it's the most important feature? What must succeed, in order to deliver a good outcome?
7. What resources are needed in the process? Do resources include persons, equipment or information? What resource is needed in order to operate the process?
8. Who or which team is responsible of the process? Who owns the process? Who is responsible of the process outcome and its quality and of the performance of persons involved in the process?
9. What are process's key performance indicators?
10. How the process is controlled?
11. How the process is improved? What factors describe the performance of the process, who analyses the results, where they are handled, who decides about changes and process improvements?

Once these 11 questions are answered they are opened up and converted to a readable text that could be published, if needed, in a newspaper for instance (Pesonen 2007, 148).

After finishing a basic summary it is time to create a flowchart, which is a graphic illustrating the process (Pesonen 2007, 149). As mentioned earlier, a good process description is formed of three parts out of which the first two are already brought up. The last part of forming a proper process description is writing definitions for the flowchart phases. Definitions are written for each process step so that by reading them the reader understands which party does what, how, when, and where in the process. (Pesonen 2007, 151.) Flowchart is a significant part of the process description but it is also used as a process analysis tool (Heizer & Render 2011, 291). Since the flowchart is used for process analysis in the empirical part of this thesis, it will be discussed separately next.

2.2 Flowchart

Flowchart is a graph that describes the movement of the product, people or material (Heizer & Render 2011, 291). By illustrating the sequence of process phases it explains how process proceeds (Pesonen 2007, 149). Flowchart is a part of a proper process description and a tool that is used for analysing and gaining understanding of the process (Heizer & Render 2011, 291). In the book of Pesonen (2007, 149) a simple version of a flowchart is presented like in the figure 4 below. Figure 4 interprets the sequence of process steps from left to right. (Pesonen 2007, 149.)



Figure 4: A simple flowchart (Pesonen 2007, 149)

2.2.1 Cross-functional flowchart

In case the flowchart with more in-depth information is needed, one can benefit from using a cross-functional flowchart. The name “cross-functional flowchart” comes from when process steps cross several organization parts during the process. To illustrate the process diversely and to indicate the performer of each process step, the cross-functional flowchart uses swim lanes. Hereby, it can also be called as a swimlane diagram. (Damelio 2011, 6.) In addition to describing the process steps and the sequence of them, as in the figure 4, the cross-functional flowchart defines the parties that are involved in the process, their relationship and what process step they are dealing with. In the following, presented

by Pesonen (2007, 150), the figure 5 presents an example of a cross-functional flowchart of a procurement process. (Pesonen 2007, 150.)

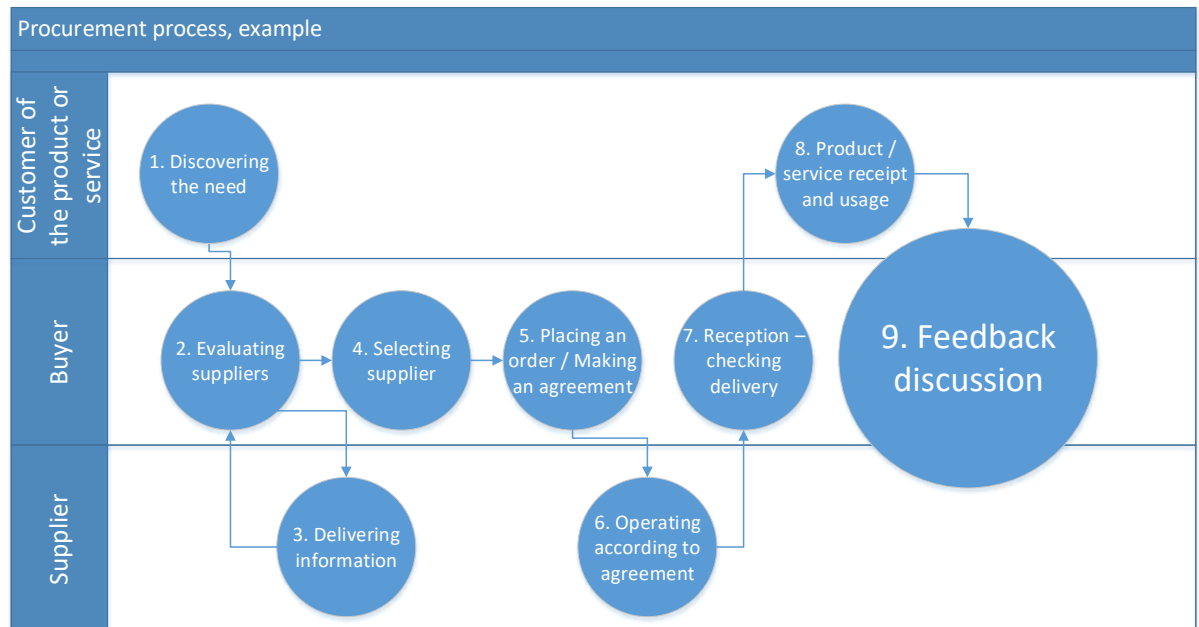


Figure 5: An example of a cross-functional flowchart of a procurement process (Pesonen 2007, 150)

As seen in the figure 5, in cross-functional flowchart parties involved are marked in the left side of the chart and each party has its own horizontal swim lane. On the right side of the parties, process steps are drawn as circles. Each circle represents one process step and is positioned on that party's lane, who is responsible of performing activities related to that process step. In case more than one party is responsible of performing the process step, like step nine in the figure 5, the circle is stretched on all responsible parties' lanes. The sequence of process steps is illustrated by connecting circles with arrows and by numbering them. Process steps are named in circles and it is preferred to write them so that the text is not just a noun but a verb that describes what is done. (Pesonen 2007, 151.)

In the empirical part, the author has used a similar type of cross-functional flowchart than in the figure 5. This type of flowchart was selected to illustrate the process steps and their relationship of one specific internal process at the commissioning company and to indicate parties involved in the process. In the figure 5 the focus is on describing the sequence of process steps, their relationship and the parties involved. In case needed the flowchart can also describe the process steps more in-detail according to their activity by using symbols. Despite the flowchart symbols aren't exploited in this thesis, they are discussed next to provide comprehensive overview about usage of flowcharts.

2.2.2 Flowchart symbols

As explained earlier a flowchart is a tool that is used for process analysis and it describes process's activities and relationship between them. There are many different tools, which can be used for process analysis but what is common for all of them is that they describe activities that are relevant for the process and illustrate how material, people or information flows through the process. It is very likely that activities involved in the process differ from their types. In order to construct a flowchart so that it is easy to understand and a function of each activity is clear, it is beneficial to categorize the activities. This can be done by using symbols. There are various different kinds of symbols to describe the activity worldwide but the set of symbols that is presented in this thesis are commonly used ones. This set of symbols presented by Slack & al. (2011, 100) is illustrated in the following figure 5. (Slack & al. 2011, 100.)

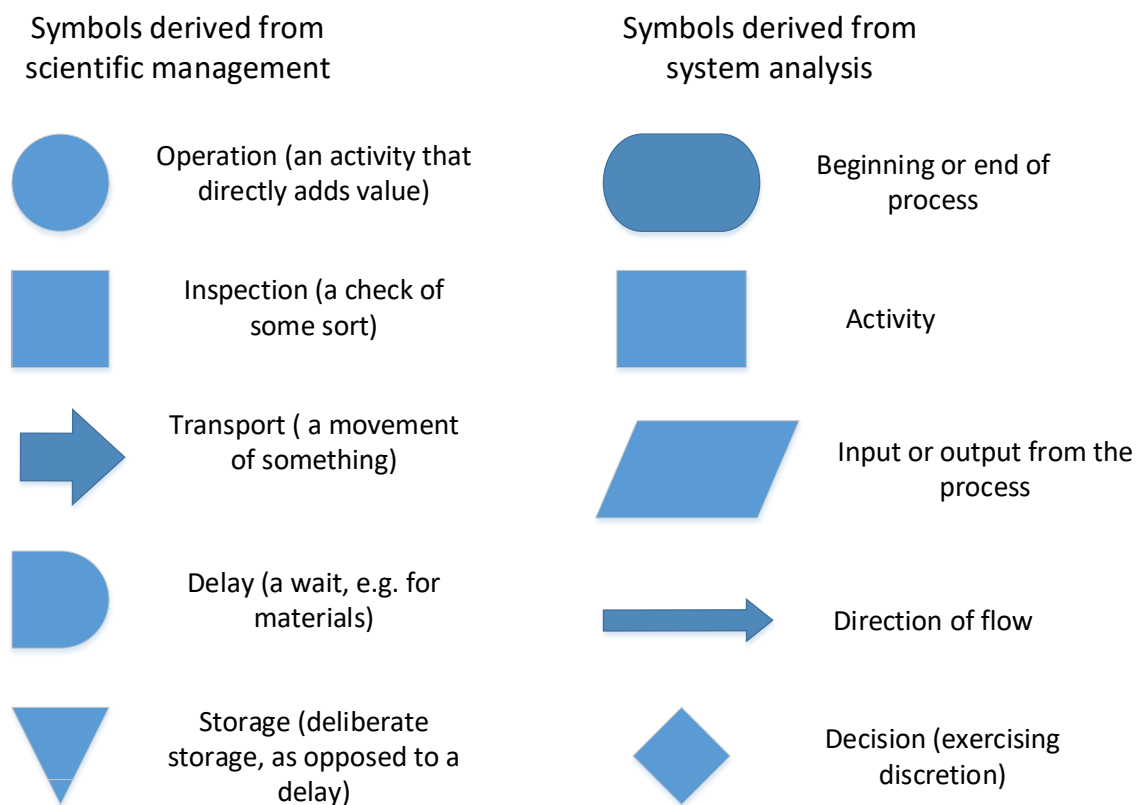


Figure 5: Set of commonly used symbols (Slack & al. 2011, 100)

Depending on the type of the process these symbols can be organized in order, and in series or in parallel. The purpose is that the way they are organized describes the activities of the process and their relationship as informative as possible. Instead of illustrating only the phases of the process, like in the figure 3, the usage of symbols in the flowchart provides a more detailed information about activity's role in the process. (Slack, Brandon-Jones & Johnston 2011, 100-101.)

Flowchart is a good tool for looking at the big picture and understanding the whole system. A process analysis tool that focuses on the customer actions and on their role in the process is called service blueprinting. (Heizer & Render 2011, 294). This customer focused tool will be discussed in the following chapter.

2.3 Service blueprinting

“Service blueprinting is a process analysis technique that focuses on the customer and the provider’s interaction with the customer” (Heizer & Render 2011, 294). It is a tool for analysing and describing the whole service process and distinguishing possible failure points in it. Analysing interaction between the customer and the company enables enhancing the service delivery process and the customer satisfaction (Foster & Ganguly 2013, 224). The developer of service blueprinting, Lynn Shostack, CEO of Joyce International Inc, recommends that blueprints are made of every process in a service and they are made visible for everyone in the company (Foster & Ganguly 2013, 224). There are several different ways and techniques to construct a service blueprint, but what is common and mandatory for every technique is that processes and activities related to the service are defined. Service blueprinting can be used for both developing a new service and improving an existing one. (Lehtinen & Niinimäki 2005, 41.)

2.3.1 Levels of activities

Service blueprint describes activities of three different levels. Each level represents certain type of activities performed by several authors. The first level represents the activities that are under customer’s control. The second level, also referred to as the front office, includes activities related to interaction between the company and the customer. Activities that are invisible for the customers and performed by the company belong to the third level that is also referred to as the back office. (Foster & Ganguly 2013, 225; Heizer & Render 2011, 294.)

Development needs recognized by each level differ from each other. For instance, the first level may propose customer training or adjusting customers’ expectation as a development idea whereas the second level may propose that the company should pay more attention on employee selection and training. The third level’s development idea may be related to process innovation. Often, suggested process improvements come from the third

level activities and enhancing the second level activities are left behind. (Foster & Ganguly 2013, 225; Heizer & Render 2011, 294.)

2.3.2 Elements of a service blueprint

There are five elements, which are usually included in a typical service blueprint. These elements are customer actions, front office (onstage) actions, back office (backstage) actions, support processes and physical evidence. Image 2 below shows a typical form of a service blueprint including these five elements and different type of lines separating them. (Bitner, Morgan & Ostrom 2008, 72.)

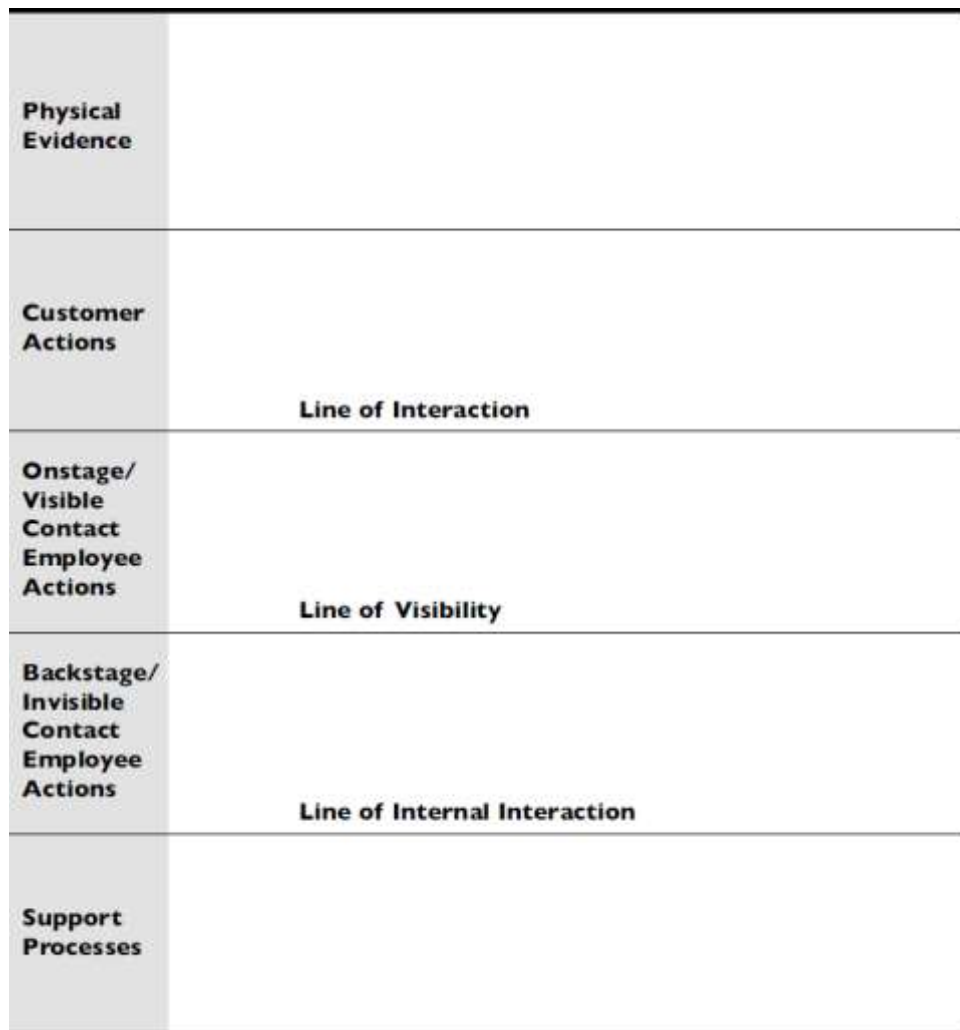


Image 2. Elements of service blueprint (Bitner, Morgan & Ostrom 2008, 72)

All the steps that customer takes as a part of the service, are regarded as customer actions. They represent the customer process and hence are crucial elements in service blueprinting. (Bitner, Morgan & Ostrom 2008, 72.)

Front office actions, also referred to as the onstage actions, comprise actions that are visible for the customer. These actions are performed by frontline contact employees, which means that the interaction between the employee and the customer happens directly, face-to-face. Actions where employees are not interacting with the customers face-to-face but in other ways, such as by phone, are called back office actions. Back office actions, which are also referred to as the backstage actions, involve activities that are done in order to prepare the service delivery. They are invisible for the customer in that sense that the interaction between the customer and the employee does not happen directly but otherwise. Back office actions are carried out by the backstage contact employees. Like the back office actions, support processes is an invisible element for the customer. In contrast with the back office actions, the support processes do not require interaction between the customer and the employee. Support processes represent those activities that are required in order to produce the service. They are not carried out by the frontline nor the backstage contact employees but by the other persons and teams in the company. The last essential element in service blueprinting is the physical evidence. It means all the tangibles that the customers encounter when dealing with the company and which can affect customer's experience of the company. Every physical evidence is described at very top of the service blueprint. (Bitner, Morgan & Ostrom 2008, 72.)

As the image 2 shows four elements describing different type of actions are separated from each other by a defined horizontal line. Customer actions and onstage actions are separated by a line of interaction that represents the stage when the customer and the frontline contact employee encounter. Every time the line of interaction is crossed, a moment of truth has occurred. (Bitner, Morgan & Ostrom 2008, 72.) Moment of truth means those moments when the customer expects something to occur. As it reflects the customers' expectations of the service, it is an important factor in defining customers perceptions of service quality. (Foster & Ganguly 2013, 225). The image 2 shows that the onstage actions and the backstage actions are separated by the line of visibility. This line plays a very important role as the customer can see every action above it but not below it. Line of internal interaction separates elements of the backstage actions and the support processes. As its name predicts it separates elements that involve only those internal activities, which are required in order to produce the service. (Bitner, Morgan & Ostrom 2008, 72.)

In the image 3 below an example of a detailed service blueprint is presented. The example, presented by Johnson & Milton (2012, 608), describes performed actions of each five element in hotel context. (Johnson & Milton 2012, 608.)

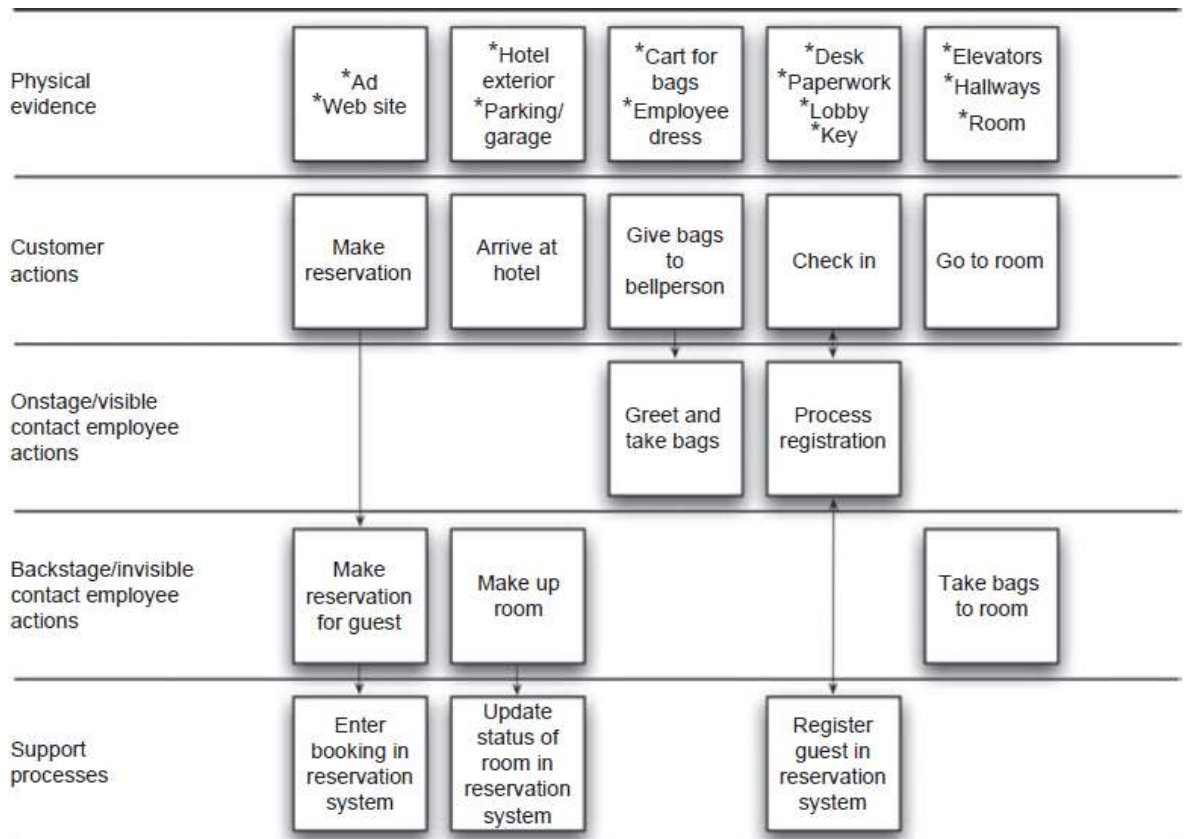


Image 3. Example of a service blueprint in hotel context (Johnson, & Milton 2012, 608)

Service blueprinting is included in the empirical part of this thesis. The type of service blueprint, which is used in this thesis, follows the given example above and therefore this example is used in the theoretical part.

2.3.3 Constructing a service blueprint

As discussed above a customer-oriented service blueprint visualizes the whole service delivery process, customer interactions and activities within it. It breaks down the service process into smaller pieces and thus it facilitates to describe all the activities per process phase, how they are performed and to recognize improvement needs. In addition, the service blueprint presents an outcome of the process. (Lehtinen & Niinimäki 2005, 42.)

There is no one way to form a service blueprint, but in order to form one, processes related to the service and their activities need to be identified (Lehtinen & Niinimäki 2005, 42). In the following two different models for constructing a service blueprint are presented. As customer actions play the key role in service blueprinting, in both models the first phase is state to be identifying and flowcharting customer processes. (Foster & Garguly 2013, 225; Bitner, Morgan & Ostrom 2008, 72.) According to Shostack (Foster &

Ganguly 2013, 225), forming a service blueprint includes four following phases, starting with process identifying:

1. *Identify processes*. This phase involves identifying processes that need to be flowcharted
2. *Isolate fail points*. In this phase, possible failure points are recognized and analysed, how can they affect the service
3. *Establish a time frame*. Each process step requires a certain amount of a time. Steps that waste time, correlate to decreased income. This phase specifies time used per process step
4. *Analyze profits*. The time that customer spends during the process is estimated at this phase. The process owner is responsible of errors occurring during the process

Compared to Shostack's model, Bitner, Morgan & Ostrom (2008, 72) suggest the phases for forming a service blueprint as follows:

1. Identify processes and actions
2. Detailing onstage and backstage actions
3. Describe support processes and to add links between customer actions, onstage and backstage actions and support processes
4. Add physical evidence to the service blueprint

As seen, there are some differences between the models but they also share some similarities. One clear difference between them is the treatment of the time spent during the process. In Shostack's model phases four and five both bring up the time spent during the process whereas none of the phases in the model of Bitner & al. mentions it. The service blueprint that is used as a tool in this thesis is formed according to Bitner & al.'s model. Another tool that is used for analysing the service process at commissioning company will be discussed next.

2.4 Customer journey map

Customer journey is a detailed description of the path that customer goes with the company (Harvard Business Review 2010). By creating a map of customer's journey the company can understand better what its customers want, need and expect at every stage of their experience with the company. Customer journey map (CJM) is a tool in which customers' interactions with the company and the touchpoints through the customer life cycle are visualized. (Pennington 2016, 83.) It is a valuable tool because it forces the company to think its operations from customers' viewpoint. As in everyday life the company operates and thinks from its own perspective, it is easy to forget what the customer wants and needs. CJM brings the thought back to the customer and hereby it helps to analyse the customer journey and to recognize possible development needs within it. In addition to

helping to consider customers' viewpoint, CJM is a tool for identifying different experiences for different customer segments and for sharing information about the customer inside the company. (Pennington 2016, 84.)

2.4.1 Touchpoints

Touchpoints are scenes where customers are in connection with the company. They comprise different sites and situations that enable interaction between the customer and the company such as company's web sites, advertising, products and face-to-face contacts. (Harvard Business Review 2010; Stickdorn & Schneider 2011, 151.) Touchpoints form the base of the customer journey as they describe the service interactions experienced by the customers and hereby, recognizing them is vital. In addition to representing interaction situations, touchpoints include information about the customers' emotions about the service. Touchpoints are identified by analysing the customer journey but also by interviewing customers and by collecting their insights through various channels, for instance through blogs and video diaries. (Stickdorn & Schneider 2011, 151). The more touchpoints exist, the more complicated the CJM will be but simultaneously the more needed it becomes (Harvard Business Review 2010).

2.4.2 Constructing customer journey map

Before creating an actual CJM, company needs to collect both internal and external information about its customers. The company should first explore what kind of information it already has about the customer and gather its internal insights of the customers and their experiences, and then do the customer research in order to gain with external insights from customer's perspective. (Temkin 2010, 3.)

Existing customer database, reports and researches can be used for collecting an internal information but the most valuable source of customer information are likely to be employees with their insights. Bringing the employees from different teams and functions together generates a rich customer information as it is based on different perspectives. Variations between perspectives collected from cross-functional teams are likely to occur since the type of interacting with the customers may differ between the employees due to their different roles. Hence, once the internal data is collected it needs to be analysed and then form a combined and common assumption about the customer processes, their needs and expectations and the customer segments. (Temkin 2010, 3.)

Once the common assumption has been agreed it is time to collect an external customer information. Exploring the external customer information includes actions like exploring customer processes, customer needs and opinions and collecting customer insights through interviews. The purpose of a customer research is to focus on customer's views and practices and this way gain new valuable insights. Conducting the customer research should result in having a clear understanding of customer processes, customer needs and opinions and customer personas. (Temkin 2010, 3.)

Together the internal and the external data sources provide comprehensive information about the customer. By combining and analysing them as a whole company obtains knowledge about how it interacts with its customers, what are the customers' expectations of each interaction situation and how they feel about them. (Temkin 2010, 3.)

Once the data has been collected, explored and analysed it is time to move to the final phase that is creating the customer journey map. Through the phases described above, the company has gained all the needed information for constructing the CJM. CJM is a visualized analysis of customer research, in which customer process works as a framework. Touchpoints, also called interactions, have been identified in the context of research. (Temkin 2010, 4.) They are placed in the right spots around the customer process and connected together (Stickdorn & Schneider 2011, 151). In addition to describing the customer process and the touchpoints, should information about the customer needs at each touchpoint and the company's capability to respond to them be included in the CJM (Temkin 2010, 4). The phases of creating the CMJ and the outputs, the key activities and obstacles to avoid are briefly explained per each phase in the following image 4.

Step 1: Collect Internal Insights	<p>Output</p> <ul style="list-style-type: none"> • A central repository of internal insights about customers • An inventory of customer touchpoints <p>Key activities</p> <ul style="list-style-type: none"> • Collecting siloed views of customers and their experiences • Compiling existing customer research and data sources <p>Obstacles to avoid</p> <ul style="list-style-type: none"> • Failing to include stakeholders across all functions and channels • Failing to include frontline employees
↓	
Step 2: Develop Initial hypotheses	<p>Output</p> <ul style="list-style-type: none"> • An "assumption" customer journey map based on internal insights <p>Key activities</p> <ul style="list-style-type: none"> • Synthesizing internal views of: customer processes, needs, and perceptions; customer experience strengths and opportunities; customer segments • Identifying gaps in existing customer research <p>Obstacles to avoid</p> <ul style="list-style-type: none"> • Assuming stakeholders share unified views of customers and customer experience
↓	
Step 3: Research customer processes, needs, and perceptions	<p>Output</p> <ul style="list-style-type: none"> • A central repository of customer research <p>Key activities</p> <ul style="list-style-type: none"> • Filling gaps in existing research • Using multiple research methods to gain new insights <p>Obstacles to avoid</p> <ul style="list-style-type: none"> • Focusing on demographic and transactional data rather than ethnographic and voice of the customer data
↓	
Step 4: Analyze customer research	<p>Output</p> <ul style="list-style-type: none"> • Clear insights about customer processes, needs, and perceptions • Research-based personas <p>Key activities</p> <ul style="list-style-type: none"> • Synthesizing multiple sources of customer insight • Validating initial hypotheses • Distilling customer segments into personas <p>Obstacles to avoid</p> <ul style="list-style-type: none"> • Getting lost in the academic exercise of segmentation • Dismissing contextual data that doesn't achieve statistical significance
↓	
Step 5: Map the customer journey	<p>Output</p> <ul style="list-style-type: none"> • A document or series of documents illustrating customers' processes, needs, and perceptions throughout their relationships with a company <p>Key activities</p> <ul style="list-style-type: none"> • Visually charting customer processes and touchpoints • Defining customer needs at each touchpoint • Identifying whether current experiences meet customer needs at each touchpoint • Organizing insights by persona <p>Obstacles to avoid</p> <ul style="list-style-type: none"> • Adding too much detail • Ignoring graphic design best practices

Image 4. Five steps to map the customer journey (Temkin 2010, 5)

Personalizing the CJM by adding photographs with customers' personal quotes to it enriches the information about the customer journey. Visualized description provides an overview of the customer journey and enables to recognize both problem areas that require improvements and opportunities. By focusing on particular touchpoints service experience can be broken down into smaller pieces and hence focus on specific area of the

customer journey. Having a visualized graph of the customer journey allows an easy comparison between experiences and it helps to compare the service between the company and competitors. (Stickdorn & Schneider 2011, 151).

2.4.3 Difference between customer journey map and process map

CJM describes the process of service delivery and it is built from customer's perspective (Stickdorn & Schneider 2011, 151). It includes the touchpoints that customers have directly with the company and those to which the company has no full visibility or control. CJM describes customers' behaviour, opinions and emotions whilst a process map describes company's operations and actions regarding a product or a service production and how it treats its customers. (Pennington 2016, 85.)

The process map is described from the company's perspective and it does not take into account the emotional context of an customer interaction. Hence, it fails in defining customer's expectations and feelings about the product or the service. In case the company has constructed only the process map, it may fail in satisfying its customers as the process map does not include the valuable customer information that would enable the company to respond to customers' need. (Pennington 2016, 85-86.)

Sometimes companies believe that they already have constructed the CJM though they only have created the process map. As process maps represent only company's viewpoint, it is required to construct the CJM if the company wants to understand its customers better, have a clear picture about the relation between its product or service and customers and make the best possible profit out of its product or service. (Pennington 2016, 85-86.)

2.5 Customer experience

The key factor for the company's services is how customer experiences them. Customer experience touches all the aspects that the company has to offer such as contacting customers before creating a service contract and the quality of customer service. In order to provide a great customer experience, the company needs to understand the customer demand and be able to meet it. (Tuulaniemi 2011, 74.)

Although the customer experience has become a well-known expression and it is generally used, there is no one specific definition for it. In some occasions it's defined as digital

experiences and interaction whereas in other cases the definition for it is concentrated on customer service, retail or the speed of problem solving in call center. (Harvard Business Review 2010.) Laamanen and Tinnilä (2008, 100) have stated that “Customer experience is the emotional response an individual customer has in an encounter between a customer and vendor”.

Despite the fact that there is no clear definition for the customer experience, improving it is seen as a competitive differentiator in many businesses. In order to improve the customer experience, the expression itself should be opened up first and understand what does it stand for. (Harvard Business Review 2010.) In addition, companies should keep in mind that the customers are their income source, not brands or products (Peppers & Rogers 2016, 3).

2.5.1 Levels of customer experience

According to Tuulaniemi (2011, 74), “Customer experience can be divided into three different levels: activities, emotions and meanings”. The level of activities, which can also be considered as a hygienic level of the service, covers aspects by which customer’s functional need can be fulfilled. The level of activities consists of factors like fluency of processes, usability, efficiency, accessibility and versatility. In order to be present in the market, requirements of this level need to be satisfied. Emotions and personal feelings that customer experiences such as convenience, easiness, interest, enthusiasm and ambience are related to the level of emotions. The highest level of the customer experience is the level of meanings. This level embraces views, meanings, dreams, cultural codes, stories and promises related to the experience and also relation to customer’s own identity. (Tuulaniemi 2011, 74.)

2.5.2 Designing customer experience

When interacting with the customers regardless of whether the company is producing a product or a service, customer experience is always present. The company may not have considered what kind of customer experience it wants to provide but depending on the manner how it interacts with its customers, the result can be beneficial or harmful for the company. Because the customer experience consist of several factors like impression, emotion and behavioural features of the customers, the company cannot have a full control of how its customers perceive it. Thus, the company needs to consider what kind of

customer experience it wants to provide and aim for the ideal performance in consideration of possible obstacles for successful customer experience. (Harvard Business Review 2010.)

To succeed in the customer experience environment, it is critical to challenge company's way of interacting with its customers. Company should never accept the existing condition or the "things have always been done this way" aspect. Instead of being satisfied with the existing condition, the company should challenge itself and in case of failure, to figure out the reason behind it and thus pursue to improve experiences. In real life companies do not often challenge their way of interacting with the customers but experiences happen due to solution that has already been accepted. (Pennington 2016, 4.)

When designing an experience companies often start with thinking about what are their expectation of what the experience should be. The initial stages of designing an experience are likely to be owned by the brand and marketing teams. This is because they are the ones whose job is to create demand pull from the customer, make the product or service attractive and "worth trying" to the customer and ensure that it meets the customer demand. (Pennington 2016, 4.) So before the company is capable to produce an excellent customer service it needs to understand how is it performing now and what it wants to achieve in the future. In addition, in order to achieve better performance in the matter of customer experience the company needs to figure out how its customers perceive it. Tools discussed in previous chapters, customer journey map and service blueprint, are beneficial for exploring and analysing the service process. By using them the company can understand better how its customers perceive it and what actions should be taken in order to provide with a better customer experience. (Pennington 2016, 73.) Once the service process is analysed, the next step is to improve current operations in order to succeed better. In the following, this topic will be discussed.

3 Improving operations in service delivery

In this second part of theoretical framework focus is on discussing topics related to process improvement. In the following subchapters it will be first discussed how process constraints are recognized and how do they affect the service process. After that the concept for enhancing process efficiency will be viewed. Both topics aim to develop the process flow and hence in this thesis they are treated as methods for improving operations in service delivery.

3.1 Theory of constraints

Theory of constraints, TOC, is based on a logic of prioritizing production. The basics of theory of constraints is developed during the 1970's by the Israeli-American physicist and consultant Eliyahu M. Goldratt. Goldratt has stated three priorities on how production should be structured and according to him the top priority is to increase the capacity of production since it is linked directly to additional turnover. Reduction of inventories is the second priority and the third priority is the reduction of operating expenses. TOC is treated as one method to improve the process and hence to meet the market demand. (John, Lunau, Meran, Roenpage & Staudter 2013, 283.)

3.1.1 Definition

Theory of constraints is a method that pursues to improve the management of process objects so that the goals set to the objects can be reached. TOC is a tool for identifying the most significant factor in the process, which constrains the process from achieving its goal and hence it helps to identify what part of the process should be controlled. (Slack & al. 2011, 239.) Once the factor (constraint) has been identified it will be controlled and the process will be improved so that eventually the constraint is overcome. Constraints can be physical, such as raw materials and staff availability or non-physical, such as training and operations. According to the TOC a constraint that should be paid attention the most is referred to as the bottleneck. Hereby, TOC's main goal is to identify the bottleneck of the process and to find a solution for overcoming it. (Heizer & Render 2011, 323.) As stated by Heizer and Render (2011, 320), "A bottleneck in an operation that is the limiting factor or constraint".

The elements that form the basis of the TOC are five-step process and the concept of drum-buffer-rope (Heizer & Render 2011, 323). These elements will be discussed in the following.

3.1.2 Five-step process

A five-step process is used for identifying the constraints in the process and managing them (Heizer & Render 2011, 323). As stated by John & al. (2013, 282), the following five steps act as a procedure for recognizing improvement needs of the process:

1. Identify constraint
 2. Improve constraint
 3. Subordinate everything else (non-constraints) to the constraint
 4. Increase the theoretical capacity of the constraint
 5. Identify further constraints
- (John & al. 2013, 282.)

The first step analyses flow of the process and aims for recognizing bottlenecks. Once the bottlenecks are identified the second step is to develop a plan to enhance and to overcome the constraint so that bottleneck's output is maximized and downtimes in the process are minimalized. Referring to the third step, in order to execute the plan developed in step two there need to be resources that are ordinated to focus on accomplishing the plan. As the fourth step states, overcoming the constraint requires reducing the effect of the constraint by increasing capacity or decreasing work. At this point, it is important to make sure that all who can have an impact on the constraint have recognized it. Once the constraint is overcome the last step of the procedure is to go back to step one and identify new constraints. (Heizer & Render 2011, 323; John & al. 2013, 282.)

3.1.3 Drum, buffer, rope

Drum, buffer, rope, DBR, is a concept coming from the TOC, which helps to identify what part of the process needs specially to be controlled. Usually workload between workstations is not divided evenly, which means that it is likely that some part of the process is operating as a bottleneck that constrains the flow through the process. As the bottleneck constrains the flow of the process, it should be according to Goldratt the control point of the whole process. (Slack & al. 2011, 239.)

In the concept of DBR, each part represents a certain role. Bottleneck can also be called drum since it defines the beat and the pace for the process. As the bottleneck sets the beat and is the slowest part of the process, it should be working constantly. It is good to

keep in mind that the bottleneck has a significant impact on the outcome of the process so it is reasonable to keep it working all the time and thus to avoid any extra time lost. That can be ensured by keeping a buffer of inventory in front of the bottleneck so that there is always something that the bottleneck can work on. Since the pace of the process is set by the bottleneck, it is not sensible to have units before the bottleneck working at their full capacity. (Slack & al. 2011, 239.) Increasing the capacity of a non-bottleneck units does not promote the capacity of the whole process but rather vice versa. In case units before the bottleneck would increase their working capacity remarkably, it would likely to cause extra inventory. (Heizer & Render 2011, 323.) To avoid the extra inventory, the units before the bottleneck should produce reasonable batch sizes, which accumulate to the bottleneck as they progress in the process (Slack & al. 2011, 239). In fact, instead of working at their full capacity they should rather have planned idle time as that does not cause delay for the process (Heizer & Render 2011, 323). In order to avoid extra buffer, there needs to be synchronization and communication between the bottleneck and the input to the process. Communication between these parts, also referred to as the rope, prevents the units before the bottleneck from overproducing. (Slack & al. 2011, 239 - 240.)

The bottleneck is a crucial constraint, which determines performance of the whole process. As already mentioned, increasing the capacity of the non-bottleneck units does not affect the overall performance of the process. Hereby, the focus should be on the bottleneck. In order to improve the whole process the capacity of the bottleneck should be increased. Increasing the capacity of the bottleneck can mean, for instance, rearranging operations between workstations, adding resources and developing alternative routings. Since the bottleneck constrains the process from achieving better performance the improvement needs of the bottleneck should be recognized and the effort should be put on them. Despite overcoming bottlenecks, there is always at least one bottleneck in the process and they cannot be removed totally. Thus, recognizing and managing bottlenecks is an on-going operation that obeys the five-step process, which was discussed in chapter 3.4.2. (Heizer & Render 2011, 323 - 324.)

3.2 Concept of lean

“Lean” is an ideology and method, which is applied for operations planning and control. It has born in Japan, where it was originally called “just-in-time” (JIT). (Slack & al. 2011, 246.) In addition to term “lean”, there are also two other terms to describe the similar phenomena. Those are “JIT” and “lean synchronization”. All these three terms describe the same ideology but with slightly different emphasis. “Lean” focuses on reducing and eliminating waste by focusing on delivering exactly what customer wants and when, whereas

“JIT” stresses to produce components only when they are needed. (Slack & al. 2011, 250.) As stated by Slack & al. (2011, 249), “lean synchronization aims to meet the demand instantaneously, with perfect quality and no waste”. Since these three terms described above are largely overlapping they all are used to express the same ideology despite small differences in their emphasis (Slack & al. 2011, 250). In the empirical part of this thesis the used term is “lean” since its emphasis matches the best with the thesis objective.

3.2.1 Eliminate waste

The lean concept is a philosophy of operations management by which following process can produce high-quality products or services when they are needed and in a lean way (Slack & al. 2011, 250). According to Slack & al. (2011, 250), the next three key points define the lean concept: staff’s involvement in the process, willingness for continuous improvement and the aspiration to eliminate waste in the process. In the context of lean the term “waste” refers to any activity in the process that adds no value from customer’s point of view. Waste is categorized into seven different types, which will be discussed in the following paragraph. (Heizer & Render 2011, 654).

The value of the product or service is defined by the customer so if the customer does not want to pay for the product or service, it is classified as a waste. As mentioned earlier, the lean concept divides waste into seven different categories. Taiichi Ohno, who is known of his career at Toyota Production System, has identified these categories. (Heizer & Render 2011, 654.)

According to Ohno, seven wastes are:

- *Overproduction*: Producing more than the customer orders or producing early (before it is demanded) is waste. Inventory of any kind is usually waste
 - *Queues*: Idle time, storage, and waiting are wastes (they add no value)
 - *Transportation*: Moving material between plants or between work centers and handling more than once is waste
 - *Inventory*: Unnecessary raw material, work-in-process (WIP), finished good, and excess operating supplies add no value and are wastes
 - *Motion*: Movement of equipment or people that adds no value is waste
 - *Overprocessing*: Work performed on the product that adds no value is waste
 - *Defective product*: Returns, warranty claim, rework, and scrap are a waste
- (Heizer & Render 2011, 654-644.)

The most central idea of the lean concept is elimination of all waste in all forms. Thus, any activity that does not add value to the process is considered as a waste. Despite the difference between industries, the same idea applies both to the service processes and manufacturing ones. (Slack & al. 2011, 252.)

3.2.2 Concept of lean in services

As can be noted, the lean concept has originally been implemented in manufacturing operations. However, today it is also used in services to improve service delivery. For instance, restaurants receive their orders from food suppliers following the JIT method because otherwise ingredients could be spoiled and that would result in bad customer experience in the restaurant. Or as another example, hospitals keep their inventory low or even empty by having a well-organized network where suppliers provide surgical supplies on the JIT basis. (Heizer & Render 2011, 670.)

Whether there is an inventory due to a queue of material in a factory or a queue of customers or information in a supermarket, the principle is the same. Since the concept of lean focuses to improve the quality and the process flow and this way it pursues to meet the customer demand, it can be applied to both production and service operations. (Slack & al. 2011, 263.)

3.3 Summary

In the theoretical part all the key concepts described in the first chapter have been explained. The purpose is that through describing the key concepts, trustworthy theoretical base for explaining the thesis title can be formed. To ensure the reliability of the theoretical part, examining the key concepts was carried out through using various academic information sources. Credibility of information sources was confirmed by using them diversely and comparing them with each other. After forming a comprehensive theoretical part the next step is to examine the research question in order to gain practical information about the title. This will be covered in the next chapter that handles the empirical part of the thesis.

4 Empirical part

In this chapter, research and data collection methods are described first. After that results of the research are presented and lastly, the chapter is summarized with a conclusion part. The four investigative questions that were defined in the first chapter, have guided the structure of both theoretical and empirical parts so that the research question could eventually be fulfilled.

4.1 Research methods

The purpose of the research was to examine and analyse the service process and also to identify one of the service delivery processes whose development needs are the most relevant to the customer experience. As an action research the aim was to explore what is the role of the service process in customer experience and to indicate the points through which operations could be developed.

In this thesis both secondary and primary data were utilized to examine the research question. Secondary data comprises formally published documents like books and journals (Pearson Education UK 2015, 83). Data can be documented in written or non-written form. In addition, survey data can be considered as a secondary data when it is treated as a statistical information. Every research require secondary data as a background information. Secondary data provides information about existing theories and ideas and it is conducted by researchers and experts. Hereby, it can be treated as a reliable source of information. (Walliman, N. S. R. 2010, 78-79.) When using primary data for the research, data is collected to create new information that can explain the research question. Some basic techniques to collect primary data are, for instance, conducting interviews, asking questions and getting involved in a situation. (Walliman, N. S. R. 2010, 80.) In this thesis examining the research questions was mainly based on secondary data such as books and statistical survey data. Primary data, which basically comprises author's findings on the secondary data, was used to provide new aspects explaining the research question.

Both qualitative and quantitative methods were utilized in this research-oriented thesis in order to internalize commissioning company's service process properly and to understand customer's viewpoint about the service. Qualitative methods comprise various kinds of research methods and approaches, which are used to explain and understand a phenomena. Qualitative methods aim to answer the questions like what, why and how. (Haaga-Helia 2018, 17.) In this thesis the qualitative research plays a remarkable role but it has

been completed with a quantitative method. The quantitative approach is used in situations where data is collected from big sample and the result can be presented in numbers. Examples of quantitative methods are longitudinal studies, sampling, surveys and census studies. In this research a customer satisfaction survey was used as the quantitative method. (Haaga-Helia 2018, 18.)

4.2 Data collection

As mentioned earlier both qualitative and quantitative methods were used to ensure the versatility of used research data. Due to the difference in a way they handle the data and to keep it clear, qualitative and quantitative methods are described in their own subchapters in the following.

4.2.1 Qualitative methods

In this research, qualitative methods were used to understand the service process better, to recognize improvement needs within it and to provide suggestions for process improvements. In the following, phases of data collection are described.

The first part of data collection was done during the customer experience (CX) project, to which author participated during the summer of 2018. Examining and analysing the service process were carried out in the context of this project. The project involved several employees from different departments so that the insights gathered from employees would be as diverse as possible. In the CX project, the data collection began with defining the journey that customers go through when using company's services. As described in the theoretical part, also in this project customer journey mapping included recognizing the touchpoints during the journey and identifying their types. For recognizing the touchpoints and constructing the customer journey map the information was collected from both internal and external sources. During the project the information about the current service process was formed by gathering insights from the participants in the project team and by using company's internal information about the operations. In addition, as an external information, information about customers' typical process was exploited. Combining these data sources generated a detailed and visualized description about the customer journey at the commissioning company.

After the customer journey map was constructed the next phase was to transfer the collected data to a service blueprint. Putting the data in the service blueprint visualized the

amount of activities along the journey and the parties responsible of them. Through the service blueprint processes within the customer journey were illustrated, which helped to recognize the bottlenecks and unclear phases in the service process and to identify development needs. Based on the information gained through the customer journey map and the service blueprint, the project team created an assumption about which of the recognized issues in the service process are likely to impair the customer experience.

Out of qualitative methods applied in this research, the customer journey map and the service blueprint collected data of current the service process. These methods described matters such as how does the service process look like from customer's perspective, what are the activities related to it, how they are performed, what factors constrain the service delivery and what needs to be developed.

In the second part of the data collection, methods suitable for the process improvement were applied. To provide suggestions for the process improvement, the following methods were used: theory of constraints (TOC), a cross-functional flowchart and the concept of lean. The idea of TOC, recognizing the bottlenecks constraining the process, was mainly covered in the context of service blueprinting. Thus, the author was able to exploit the data collected during the project when considering improving operations in service delivery. As the author has worked for the company for many years, she is very familiar with company's service delivery processes. Hereby constructing the cross-functional flowchart of selected process was based on author's knowledge and company's internal information. The concept of lean was applied in the context of constructing the flowchart and forming suggestions for improvement. Hence, the same source of information was used both for both methods.

To gain insights about the service process from customers' viewpoint, a few customers were interviewed face-to-face. Interviewing is an important method of data collection through which interviewer obtains information not only from conversation but also from respondent's facial expressions, gestures and environment. Interviews are conducted by face-to-face or over telephone. (Krishnaswami & Satyaprasad 2010, 99.) Author did not herself conduct interviews but the third party. Data gathered through interviews was reported to the company and the author used it as a research data for the thesis.

4.2.2 Quantitative methods

As this thesis aims to explain how the customer experience is affected by the service process, information about the customers' perception was crucial. This information was collected through the customer satisfaction survey. By measuring customer satisfaction, a company gains information about customer's perception of the company and its particular product or service (Pennington 2016, 145). The results of the survey were used first to analyse customer's opinion about the service and to indicate the most critical development needs from customer's perspective. Then the author linked this information with findings made in the CX project and this way processes with critical improvement needs were identified. In this thesis, the survey results were used as a statistical information and for this reason the information was treated as a secondary data. This was due to that the author didn't participate in designing the survey but had a possibility to view the results of the survey and use them as a confidential information source. Hereby phases of designing and constructing the survey are not described in this thesis. However, a basic information about the survey such as how and when the survey was conducted, sample size, the response rate and the key results are discussed.

4.3 Results

In this chapter the results of the research are presented. As in the previous chapter they are discussed in two subchapters separately so that the findings gained through qualitative and quantitative research can be presented separately and clearly.

4.3.1 Results of qualitative research

Mapping the customer experience at the commissioning company started with describing the customer journey from customer's perspective. As a result, five phases that customer goes through with the commissioning when interacting with it were defined. Goals were set for each phase and together they formed a common goal of the success on the journey from the commissioning company's point of view. After defining the phases of customer journey, customer's actions related to them were recognized. In total, 15 different kind of customer's actions were identified which all linked to some phase of the customer journey. To understand and describe customer interaction with the company, the touchpoints during the customer journey were sorted out. Touchpoints are considered as contact points where customer interacts with the company. In total, 71 touchpoints were recognized, including both physical and digital touchpoints. Physical touchpoints such as face-to-face interaction, phone, mail and brochure, are human assisted or tangible,

whereas digital touchpoints are regarded as automated or self-service interaction events like, website, customer portal mobile app, blog and community. Out of all recognized touchpoints, 28 were defined as critical to the customer experience and with developments needs. A significant part of touchpoints with development needs was linked to two customer journey phases.

Once the customer journey was studied the next step was to transfer the collected data to the service blueprint. The service blueprint was constructed to visualize the relationships between different service components, people, physical or digital evidence and processes, which are directly tied to the touchpoints. The constructed service blueprint included all the key elements that were discussed in the theoretical part, in chapter 2.3.2 Elements of the service blueprint. Elements of the service blueprint at the commissioning company were defined as follows:

- Evidence: visible things (tangibles) and places that customer comes in contact on the way to service journey
- Frontstage: this is the point at which customers and the service interact
- Backstage, the line of visibility: this is the point at which actions happening are invisible for customer
- Support processes: this is the point at which the commissioning company actions stop and partners step in

In the constructed service blueprint, internal processes matching with the customer actions were visualized. In total, eight internal processes matching with the customer actions were recognized. Visualization of processes enabled to recognize the bottlenecks and the future needs of internal processes per each customer action. Through the service blueprint, it became apparent that two customer journey phases included processes with the bottlenecks that are critical to the customer experience.

The last qualitative research method was face-to-face interviews with long-term customers. Based on the interviews, customers are rather satisfied with the company's services currently but they hope for more proactivity and advanced reporting from the company. These matters have been recognized in the company before the interviews and thus the summary drawn from interviews is aligned with the company's own perceptions too.

4.3.2 Results of quantitative research

The aim of the survey was to chart the customer satisfaction at the commissioning company. For the thesis, the author got to review the report that included the key results of the customer satisfaction survey. In this chapter, the key results of the survey are presented at the top level but not discussed in-depth due the confidentiality of the content.

The survey was conducted as an e-mail survey between April and May 2018 by a third party and it was supplemented by phone interviews. The survey was directed to the customers of the commissioning company and it was sent to 2372 customers. The results of the survey are based on 229 customers’ evaluations, so the response rate was 10. Both closed and open questions were included in the survey. As a summary from results, the majority of the respondents stated that the commissioning company performs above average compared to the other service providers.

The loyalty of the customers was measured by calculating company’s net promoter score (NPS). It is a ratio of promoters to detractors, which answers statistically to the question: “On a scale 0 to 10, how likely would you recommend the company to a friend or colleague?” (Reichheld 2003, 1.) Customers can be grouped into “promoters”, “passives” or “detractors” according to their responses on a scale 0 to 10. “Promoters” (score 9-10) are loyal enthusiasts who will keep buying and are very likely to recommend the company to the others. “Passives” (score 7-8) are satisfied but unenthusiastic customers who are vulnerable to competitive offerings. “Detractors” (score 0-6) are unhappy customers who can damage company’s brand and impede growth through negative word-of-mouth. (Company x 2018.)

As mentioned earlier, the survey included both open and closed questions. To the closed questions customers answered on a scale 1 to 5, where 1 represents the most unimportant or unsuccessful factor and 5 represents the opposite. The report summarized responses to the closed questions and presented their key results in three categories, each highlighting important factors. These factors are presented in the following table 2 by category.

Table 2 Summarized key results of the survey

Important factors for company operations	Successful factors	Weak factors
<ul style="list-style-type: none"> – keeping promises – reliability as a business partner – easiness of co-operation – ability to handle problems and changes 	<ul style="list-style-type: none"> – keeping promises – reliability as a business partner – contact person’s expertise 	<ul style="list-style-type: none"> - Company x’s services enable savings in overall costs - activity in developing co-operation - speed of service - contact person’s reachability

	<ul style="list-style-type: none"> – contact person's service mindness 	
--	---	--

As seen earlier from the results of interviews, survey's key results also points out the need to clarify the contact persons and improve proactivity. In addition to the previously presented key results, which are based on the closed questions, responses to the open questions were viewed too. Results from the qualitative research showed that the main development needs concern the two customer journey phases. Hereby the author focused on studying answers to the question that relates to these phases.

4.4 Summary

As a result of the qualitative research, five customer journey phases were defined. Out of these two phases were recognized to be critical ones as they can impair the customer experience. Both phases include processes with the significant bottlenecks and thus they need to be evolved in order to improve the service process as a whole. In addition, they affect reaching high service usability and the service quality in all products and services. Findings of the CX project defined them as a development sector for the commissioning company and also as a sector where there is a lot to gain.

During the customer journey mapping 15 customer actions were identified in total. Through the service blueprinting it was recognized that eight of the company's internal processes match with the customer actions. Out of these eight internal processes four were recognized to include remarkable improvement needs, the bottlenecks.

In addition to causing confusion internally, the recognized bottlenecks reflect to the customer experience too. This can be deduced from the customer interviews and the survey results. Conclusion on the research results, development ideas and suggestions for further research will be discussed next.

5 Discussion

In this chapter, conclusion on the research results will be discussed and development ideas presented. In addition, suggestions for the further research will be provided. After discussing above-mentioned matters, reliability of the research will be examined and lastly, the author will evaluate the thesis process and her own learning during the process.

5.1 Conclusion of key findings

In the beginning of the thesis four investigative questions (IQ) were formulated to guide the thesis structure so that the research question (RQ) could be answered eventually. The purpose was that by investigating and answering the matters presented by IQs, the needed information for answering the RQ could be compiled. The RQ and IQs were formulated as follows in the first chapter:

RQ: How the service process affects customer experience?

IQ 1. What is the service process like at the commissioning company x?

IQ 2. What processes in service delivery need to be developed in order to produce better customer experience?

IQ 3. What are the development needs?

IQ 4. How development needs within the service process reflect to customer experience?

Through the customer journey mapping and the service blueprinting, which were conducted in the context of the CX project, the whole service process was described visually and analysed. This enabled to identify customers' activities linked to the service process and to recognize critical development needs within it. In addition to identifying phases of the customer journey, also the touchpoints, the internal processes related to the customer journey and their bottlenecks were identified. Analysis of the service process revealed that out of all recognized 71 touchpoints, 28 are critical to the customer experience. Analysis also pointed out that the majority of all 71 touchpoints are physical. As stated in the previous chapter presenting results of the research, two customer journey phases were identified to be the most critical ones to the customer experience as they include the most significant bottlenecks affecting the service process. Out of eight internal processes matching with the customer actions of these phases, four were recognized to be critical ones in terms of the development needs.

These previously mentioned findings support author's personal opinion that the activities within the service process should be evaluated and improved in order to succeed better in providing value-adding service. In addition, through the findings the first three IQs can be answered as in the context of the CX project the service process was described, internal processes reflecting to customer experience were identified and crucial development needs (bottlenecks) were presented.

What can be deduced from the results of the customer interviews and the survey is that customers are mainly satisfied with the company and think that it performs above the average compared to the other service providers. Despite customers´ are rather satisfied currently, they expect the company to improve its services. Conclusion from the customer interviews and the survey support the findings gained through analysing the service process. Hereby, through the findings deduced from the company´s and customers´ perception it can be presented that the development needs within the service process reflect to the customer experience and thus IQ 4. can be answered.

As can be seen from the above-described conclusions of the key findings, the service process clearly affects the customer experience. Though not all the activities within the service delivery processes are directly visible to the customer, they are, however, reflected at least indirectly in the service the customer is buying. Especially, in case the service process contain critical bottlenecks, also referred to as development needs, they are very likely to impair the customer experience as they constrain the fluency of service delivery. As mentioned in the theoretical part handling theory of constraints, processes always contain bottlenecks and they cannot be totally eliminated. Because of this, the company should continually re-evaluate its processes and identify new bottlenecks in order to improve its operations and provide better service to its customers. Based on the research and its key findings, it can be concluded that the service process has a clear connection with the customer experience. In case the performance of the service process declines it will likely impair the customer experience and vice versa. Hereby, it can be stated that as a result of the research, the research question can be answered and the ultimate aim of the research has been reached.

5.2 Development ideas and recommendations

In order to enhance its operations, the company should pay attention to its internal processes linking to the two customer journey phases with development needs and develop internal tools and practices.

To improve efficiency in internal processes, findings of the CX project suggested that the customer data should be more centered as now. Fragmented customer data causes inefficiency in processes and increases time spent for decision-making.

A recommendation based on the CX project´s conclusion is that the company manages by facts, increases quality of internal interaction, visualizes work and plans resources needed for customer cases. Investing in these matters would improve productivity.

Author's personal opinions about development needs in internal processes are very similar with the project findings. Based on the results, the author would recommend to clarify and improve the internal processes of service delivery. By having more structured way to operate, resources could be released to serve customers better.

Based on the research results, the author would suggest the company to visualize internal processes with the bottlenecks by a cross-functional flowchart. Visualizing them would likely to clarify process activities and especially, their responsible parties. Conducting a cross-functional flowchart of the internal processes would facilitate identifying the process bottlenecks, the responsible parties and brainstorming when finding the ways to improve the process. In addition, the cross-functional flowchart could be shared internally easily and thus spread the knowledge about the internal processes inside the company.

For the further research author would suggest that the company would pursue to have its service process as lean as possible and hereby improve effectiveness of operations. Improving internal processes of service delivery may mean making changes in current ways of operating. Possible changes should be considered carefully keeping in mind that executing them should result in improved customer experience. Sure not all required changes would reflect directly to the customer experience despite the fact that they would improve effectiveness in company's operations and hereby changes need to be prioritized. Author suggest that the company explores how performing internal processes containing bottlenecks should possibly be changed and set them in order of priority. Author finds that operative employees should be involved in developing operations since they have the best understanding of the practice. The company could form a group of employees from different departments and arrange a forum for brainstorming development ideas. In addition to collecting important insights from the employees working on the client interface, forming such a group would improve internal co-operation and promote sharing internal knowledge. In author's opinion, the focus should be on serving customers better through improved operations and as a result, the possibilities to produce better customer experience would be facilitated.

5.3 Trustworthiness of the research

In order to ensure the trustworthiness of the research, the author pursued to use only trusted and reliable information sources in examining thesis topic. To study existing ideas and theories related to the thesis topic, the author used academic sources such as books, formally published documents and journals conducted by experts. To ensure the reliability

of the information used for thesis the author pursued to use sources as diverse as possible. By using various sources presenting the idea or theory similarly the author confirmed the validity of used literature sources.

In addition to literature sources, commissioning company's internal information was also used to study the background of the research topic. This information was used to examine and analyse the service process at the commissioning company and customers' perception about the company. As a team of professionals at the company have conducted the information it can be treated as a valid and reliable information source.

Due to uniqueness of the service process at the commissioning company, this research cannot be repeated in that sense that similar results could be expected from another research. The same structure and methods for examining the service process can be used but the results are likely to vary a lot due to differences, for instance, in industries and service models.

5.4 Evaluation of thesis process and own learning

The beginning of thesis process was a bit hard due to difficulties in topic selection. Author wanted to conduct the thesis for her employer to ensure that she experiences the thesis topic meaningful and motivating. When author was ready to start the thesis process in the spring 2018, the company wasn't ready to start the project yet and thus the author needed to postpone starting the process by two months. The time used for waiting was exploited for planning the thesis topic and searching information sources. Once the project started, the author was able to finalize research delimitation and to design the structure for the thesis. Though the author pursued to delimit the thesis topic well and thinks that she managed to do so, she noticed during the thesis process that it is quite easy to slip examining topics outside the research scope. This was due to that the author found out that there is a lot of interesting information available around the topic and because of that, it was sometimes hard to concentrate only on topics in the research scope. Despite at times the author found it a bit challenging to keep the focus on right things, she feels that she succeeded in conducting the research according to the planned delimitation. As a result of the process the author experiences that she developed during the thesis process, both academically and professionally.

Academically the author learned about different theories and methods related to the thesis topic and developed her ability to select appropriate theories in consideration of the thesis topic and apply them into the practice. As some of the exploited theories and methods are

originally applied in manufacturing, the author learned during the thesis process how service industry can benefit from them too. Internalizing this helped the author to understand that the knowledge gained through her specialisation studies, which is global supply chain management, can be exploited in other industries too.

What has benefited the author the most in the thesis process is her professional development. Participating in the CX project allowed her to dig into describing and analysing the whole service process of the company together with professionals. Working with the employees from other functions provided author new interesting insights about the service process and she learned to perceive the whole better. Through the project, author was able to apply studied theories in practice, to comprise what are the challenges in the service process and to internalize what matters should be developed. Author feels that through the thesis process she has been able to deliver beneficial information for the company that can be processed further in order to improve the current operations. Hereby the author finds that she has succeed in her thesis and the purpose and aim of the research have been reached.

References

Bitner, M. J., Morgan, F. N. & Ostrom, A. L. 2008. Service Blueprinting: A Practical Technique for Service Innovation. *California Management Review*, 50, 3, pp. 66-94.

Foster, S. T. 2017. *Managing quality: Integrating the supply chain*. Sixth edition. Pearson Education Limited. Harlow.

Foster, S. T. & Ganguly, K. K. 2013. *Managing quality: Integrating the supply chain*. 5th ed. Pearson education. Harlow.

Haaga-Helia 2018. Writing reports and theses at Haaga-Helia. URL: <https://student.home.haaga-helia.fi/en/group/pakki/reporting-guidelines>. Accessed: 15 October 2018.

Harvard Business Review 2010. Understanding Customer Experience. URL: <https://hbr.org/2010/10/understanding-customer-experie>. Accessed: 2 July 2018.

Harvard Business Review 2010. Using Customer Journey Maps to Improve Customer Experience. URL: <https://hbr.org/2010/11/using-customer-journey-maps-to>. Accessed: 28 July 2018.

Heizer, J. & Render, B. 2011. *Operations Management*. 10th ed. Pearson education. Boston.

Company x 2018. Customer satisfaction survey 2018. Report.

John, A., Lunau, S, Meran, R., Roenpage O. & Staudter C. 2013. *Six Sigma+Lean toolset: Mindset for successful implementation of improvement projects*. 2nd ed. Springer. Berlin.

Johnson, L. W. & Milton, S. K. 2012. Service blueprinting and BPMN: a comparison. *Managing Service Quality: An International Journal*, 22, 6, pp. 606-621. URL: <https://doi.org/10.1108/09604521211287570>. Accessed: 2 August 2018.

Krishnaswami, O. R. & Satyaprasad, B. G. 2010. *Business Research Methods*. Himalaya Publishing House. New Delhi.

Laamanen, K. & Tinnilä, M. 2009. Terms and concepts in business process management. Teknologiateollisuus Oy. Espoo.

Lehtinen, U. & Niinimäki, S. 2005. Asiantuntijapalvelut: Tuotteistamisen ja markkinoinnin suunnittelu. WSOY. Helsinki.

Pearson Education UK 2015. Research Methods for Business Students. ProQuest Ebook Central. URL: <https://ebookcentral.proquest.com/lib/haaga/detail.action?docID=5138717>. Accessed: 18 October 2018.

Peppers, D. & Rogers, M. 2016. Managing Customer Relationships : A Strategic Framework. John Wiley & Sons, Incorporated. URL: <https://ebookcentral.proquest.com/lib/haaga/detail.action?docID=4729311>. Accessed: 4 July 2018.

Pennington, A. 2016. The Customer Experience Book: how to design, measure and improve customer experience in your business. Pearson Education limited. Harlow.

Reichheld, F. F. 2003. The One Number You Need to Grow. Harvard Business School publishing corporation. URL: <https://marketinglowcost.typepad.com/files/the-one-number-you-need-to-grow-1.pdf>. Accessed: 29 October 2018.

Slack, N., Brandon-Jones, A. & Johnston, R. 2011. Essentials of operations management. Pearson Education. Harlow.

Stickdorn, M. & Schneider, J. 2011. This is service design thinking: Basics - tools - cases. BIS Publishers. Amsterdam.

Temkin, B. 2010. Mapping The Customer Journey. Forrester research. Inc. Cambridge. URL: http://crowdsynergy.wdfiles.com/local--files/customer-journey-mapping/mapping_customer_journey.pdf. Accessed: 31 July 2018.

Tuulaniemi, J. 2011. Palvelumuotoilu. Talentum. Helsinki.

Walliman, N. S. R. 2010. Research methods: The basics. Routledge. London.