CHALMERS

Taking IKEA's payment model into the future

- evaluating and developing payment systems from the customers perspective

A Master Thesis in Product Development and Quality and Operations Management

ANNA LETFORS
MATILDA PERSSON

Department of Industrial and Materials Science
Chalmers University of Technology
Gothenburg, Sweden 2019

Master's Thesis IMSX30

Taking IKEA's payment model into the future

- evaluating and developing payment systems from the customers perspective

ANNA LETFORS
MATILDA PERSSON

CHALMERS

Department of Industrial and Materials Science
Chalmers University of Technology
Gothenburg, Sweden 2019

Taking IKEA's payment model into the future
- evaluating and developing payment systems from the customers perspective
ANNA LETFORS
MATILDA PERSSON

Supervisor: Rogier van de Pol, Payment Leader for IKEA Sweden
Supervisor and examiner: Erik Hulthén, Associate Professor at the division of Product Development, Department of Industrial and Materials Science

Master's Thesis IMSX30
Department of Industrial and Materials Science
Chalmers Univerity of Technology
SE-412 96 Gothenburg
Telephone +46 31 772 1000

Written in LaTeX
Gothenburg, Sweden 2019

Abstract

Everyday, people perform transactions of money. To friends, at the grocery store, at the market or online. It happens so regularly that it is done automatically and most people do not even think about it. In a society where everything should be fast and efficient, it is important to have an efficient payment system.

This master thesis aimed at investigating customer satisfaction regarding the payment systems used at IKEA, and generating improvement suggestions for the checkout. The payment online, in the checkout desks, in the restaurant, the Swedish Food Market, and bistro at IKEA was in ground for investigation. Based on surveys conducted in the online payment channel, interviews with customers and employees, and observations in an IKEA store, customer requirements were identified. A total of nine customer needs were found, and some of them were; intuitive flow and payment, quick payment, and few steps in the payment process.

To a greater extent meet the identified customer requirements, four improvement suggestions were developed; streamlining IKEA's online checkout, a single queue system in the checkout desks, implementation of image identification in the restaurant, and an extended checkout system for the bistro. By implementing the suggested improvements, the customer experience at IKEA can be dramatically improved through a higher degree of fulfillment of customer needs. And, since happy customers means higher profitability, this is a clear winning situation for IKEA.

Keywords: IKEA, checkout, payment methods, payment systems, self scanning, online shopping, online payment.

Contents

1

Introduction

1.1 Background

Today's rapid development of technology puts great demands on companies to develop their organization and it affects customers on all levels. Due to a shift towards cash-free stores and online shopping the demands on payment systems increases [1]. The aim of this master's thesis is to investigate and evaluate payment systems at IKEA from a customer perspective. IKEA is a multinational Swedish home decorating company and has a goal to integrate their payment systems so that the customer experience is the same, regardless of whether the customer is shopping in a store, online or over the phone.

IKEA was founded in 1943 by Ingvar Kamprad and started as a mail order company [2]. Kamprad sold what he could get a hold of, mostly household equipment such as pens, wallets and picture frames. Furniture was introduced in the product range in 1948 and in 1956 the first self-designed furniture was sold after competitors had persuaded suppliers to boycott IKEA [3]. Since large packages were hard and expensive to deliver, Kamprad came up with the idea to remove the legs of a table before shipping, and thus the idea of flat packages and self-assembly was born [2].

IKEA is a rarely visited store, but amongst other stores within the furniture section IKEA is many customer's first hand choice [4]. The IKEA brand has a strong position in the market and there are very few people, if any, who do not know what IKEA is. In 2018, IKEA was the world's largest international home decoration company. They had about 200,000 employees worldwide and an annual revenue of 38.8 billion euros [5].

Today, IKEA works a lot towards their goal to create a "seamless experience - online and offline" for their customers. For the payment system this means that IKEA want the payment to be a natural part of the shopping experience and not just something that happens in the end. The focus of this master thesis was to investigate possible ways forward within payment and to identify

concrete solutions for how the payment experience can be improved from a customer's perspective.

1.2 Aim

The aim of this thesis was to develop a status report of the customer perspective of IKEA's payment system. An analysis and comparison between the payment channels, online and in-store (checkout desks, restaurant, Swedish Food Market, and bistro) was conducted to identify improvement areas. Also, this was the basis for evaluation of IKEA's long-term strategy for the payment system.

1.3 Limitations

This master thesis took on both a local and global perspective. Data was limited to be collected from Sweden and the store in Bäckebol, Gothenburg. Since IKEA is a global organization, the global perspective could not be entirely ignored. For example, systems and structures are often developed on a global level, and long-term strategies must be understood from a global point-of-view. An analysis of the payment system on a local level, with influences from the global organization was therefore considered to be a good limitation for this master thesis.

Further, the scope was focused on looking at the payment system for the online and in-store channels. Lastly, IKEA has both private and business customers, this work was primarily limited to investigating private customers.

1.4 Research questions

For the purpose of this master thesis to be fulfilled and IKEA's payment system evaluated from a customer perspective, it was of interest to investigate customer requirements on the payment system. Thus formulating the first research question:

RQ1: What are IKEA customers' experience of each of the payment channels; online and in-store (checkout desks, restaurant, Swedish Food Market and bistro)?

Based on RQ1, it was of interest to investigate possibilities to improve

customer satisfaction by better meeting customer requirements in the payment process. Thus, the second research question being:

RQ2: How can the payment system, online and in-store, be improved to a greater extent meet customers requirements and increase customer satisfaction?

2

Literature Review

In this chapter, facts from literature that are the basis of the work are presented. It begins with historical background of money followed by the history of cash registers, and some information about the current development. Parameters that determine which payment method a customer chooses are presented and finally, three digital payment services are described.

2.1 History of the monetary system

The idea of money is several thousand years old and money has been used in all ages and cultures since its first form was introduced. Since then, money has changed dramatically and today many payment models are even cash-less and digital.

2.1.1 Early history

Money has been around for at least 3000 years, but before that humans practiced barter to come across products [6]. Barter is a direct exchange of products and services and require two parties to accept the exchange. It can be quite time-demanding to find the right person who will accept a product or service in exchange for what you are looking for. Therefore, a sort of pre-historic currency was developed. Salt, weapon and skin, products that were easy to trade, was used as a middle-hand to trade the product you were looking for at a later stage.

Around 1100 BC, Chinese people started using miniature weapons as currency [6]. The miniature weapons were sharp but quickly developed into round, flat objects, similar to today's coins. In 600 BC, the first official currency was introduced in western Turkey. It was round, made of an alloy of gold and silver and had a stamp on it. The establishment of an official currency helped

increase Turkey's internal and external trade. At the same time, China goes from coins to the first paper money.

2.1.2 Modern time

In the mid-17th century, so called banknotes were introduced [7]. This was a sort of representative money that at any time could be exchanged into gold or silver at the bank. The 19th century was characterized by something called "the gold standard". This was a standard where all money was connected to gold that banks hold, i.e. money could be exchanged into materialized value in the form of gold at any time.

The gold standard strictly restricted inflation since all money had to be backed by gold [8]. During the panic of 1907 (a financial crisis in the US), the Federal Reserve (corresponding to Riksbanken in Sweden) had no possibility to stimulate the market to get out of the crisis and so the gold standard was questioned. During World War One, the gold standard was abandoned. Though, during the great depression in the 1930s the new system struggled a great deal. No-one knew how to set prices or determine interest rates.

During the mid-20th century, cash, checks and payment orders were available payment methods [9]. In the 1950s rechargeable cards were introduced followed by credit cards in the 1960s.

In the 1970s ATMs (automated teller machine) were developed, where users could withdraw cash at any time without being expedited by a human banker [10]. Also, at this time, a computerized system for the stock market was introduced. This was the starting point for a new way of dealing with money. Though, the full explosion of electronic money came when the Internet became common among ordinary people in the 1990s. Now it was easy to access money and to perform transactions from your home via your computer.

It was not until 1998 that mobile payments and payment via SMS was possible [9]. In 2005 digital currency, such as bitcoin, was introduced. The NFC function for cards, that is when a user can place the card against the card terminal and does not have to enter the pin, was introduced just about two years ago [11]. Today, only 2% of all transactions in Sweden are made with cash and Sweden might even be the first cash-less country in 2030 [12, 13].

2.1.3 The development in China

In recent years, mobile payment has slowly begun to grow although many merchants still do not accept mobile payments and the technology has not yet been fully accepted by customers [9]. Further problems with mobile payments include high transaction costs and security issues.

In China however, the situation is quite different. Here, payments with different mobile applications has taken over the market and is now the number one payment choice among young Chinese people [14]. Payments via mobile phones or QR-codes has exploded. In 2012, 96% of all payments in China were made by cash [15]. In 2014 mobile payments were introduced and in 2018 85% of all payments in China were made via a mobile phone.

Social media applications, such as Alipay or WeChat, are platforms where customers can handle all their errands. The applications started out as messaging apps but quickly became the secretary for all of China [16]. Today it is possible to book doctor's appointments, order food, handle bank errands or find a date in these applications. Not least, it is an easy way of handling payment and many young Chinese have skipped the use of cards to make room for mobile payments.

There are two ways in which mobile payments via QR-codes can be performed [15]. The first way is to let the customer scan a QR-code in the store, enter the amount and finish the payment. This is a smooth and cheap way for smaller shops and market trading. The second way is for the merchant to scan a QR-code generated in the customers mobile phone, the merchant enters the amount and the payment is drawn from the customer's account.

There is also a new concept of facial recognition payment where customers do not even have to make the actual payment [14]. A camera in the store scans the customers face and, through facial recognition technique, money is automatically drawn from his/her bank account. Through facial recognition technique and access to the camera on customers mobile phone it is possible to add features such as giving a discount if the customer does not check his/her phone during a whole meal. In terms of data collection this might sound scary, but since companies do not use the data on a personal level, but only to analyze trends, the data collection has been accepted.

2.2 History of checkouts

In the end of the 19th century all items in a store were placed behind a desk and an employee picked all items for the customers. In 1917, the first store

where customers collected their products themselves was introduced and in the late 20th century the first scanning devices were developed. Today, checkout solutions are on the way to becoming fully automatic.

2.2.1 The development of cash registers

The first model of cash registers was introduced in the middle of the 19th century, being a place to deposit money in a store [17]. During the industrial revolution in the end of 19th century, the demand for a fast transaction and an ability of record keeping forced the development of cash registers. In many retail stores, cashiers stealing money from the cash register, when the owner was not looking, was a big problem. In 1879, the first cash register was invented with inspiration from a machine used in large ships to count the number of revolutions on an ocean liner propeller. This new cash register had functions that with a metal arm, marked with denominations, recorded the sold amount of each purchase and summarized the total sales in one day. It was a great success because shop owners had full control over whether they made a profit or loss each day. Between 1888 and 1915, almost all retailers used this cash register.

The development continued and by the end of the 19th century more companies sold cash registers, and detailed information about the sold products was printed on a piece of paper for each purchase [17]. Special manufacturing started to be adapted to retail stores with specific needs, for example different denominations. At this time, all items in the store were placed behind the desk and the cashier picked all items the customer wanted and calculated the price [18]. This was very ineffective and in 1917 the first store where customers collected their items by themselves and brought them to the checkout desk, where a cashier calculated the price, was introduced.

2.2.2 More efficient checkout solutions

In the early 1980s, the laser was developed, enabling a more advanced tracking of products [19]. Each product received a bar code that was scanned and data about the product was stored in computers. Among other things, this allowed retailers to get a better overview of their inventory. The use of bar codes and scanning also enabled for a new concept of self-scanning, a technology with many uses that are constantly increasing.

Self checkouts were invented in 1984 with inspiration from the ATM's, and became very popular in the 1990s [20]. Today, it is possible to find self checkouts in a lot of places, such as grocery stores, and in fast food restaurants.

The advantage for the customer is that the queuing time is perceived as shorter. For stores, the main advantage is that they can have one employee that checks a majority of the checkouts, thereby reducing the number of employees and reducing expenses. Studies also show that at McDonalds, an average customer spends 30% more money if he/she orders via a self checkout instead of over a counter.

2.2.3 Automated checkout solution

January 22, 2018 the world's first fully automatic checkout store, Amazon Go, opened in Seattle, USA [21]. Using computer vision, deep learning algorithms and sensor fusion, Amazon has designed a store with no lines, no checkouts and no registers [22]. The customer simply enters the store, collects the desired items and exits the store.

Before entering the store the customer must install a special Amazon Go app and log in with his/her usual Amazon account [23]. The application generates a QR-code which the customer scans to log into the store. Using cameras and digitalized shelves that register the weight of the product the store adds all products the customer collects into a virtual cart [21–23]. The store even keeps track if a customer changes his/her mind and puts back a product on the shelf. When finished shopping, the customer just walks out of the store, his/her amazon account is charged, and a receipt is generated in the application [22].

2.3 Factors for the conduction of a purchase

When a customer wants to buy a product or service, he/she goes through some steps in a model called "The Consumer Buying Process", before the product is purchased [24].

1. Problem/Need process: The customer has a problem or a need, and to solve it he/she must buy something.
2. Information search: The customer is looking for information about different products or services that possibly meet their requirements.
3. Evaluation of alternatives: Based on the information search the customer evaluates the alternatives based on what is the best use of the customer's money. It is especially important to be able to compare prices, 54% of all customers shop online because it is easier to compare prices [25].

4. Purchase decision: This is the last consideration if a product is to be bought or not [24].

5. Post purchase behaviour: The customer evaluates whether the product or service meets the requirements as intended.

Other things that affect buying behavior is which generation the buyer belongs to; generation Baby boomers are born between 1946-1965, Gen X are born 1966-1981 and Millennials are born 1982-2001 [1]. Gen X is the generation that shops most online, 20% more than millennials. Baby boomers are more traditional and do not shop as much online, but when shopping online, they make larger purchases. The millennials have a need of customized solutions, and are less willing to wait for delivery. Despite being comfortable with buying without seeing the product first, millennials chose to buy in store to avoid delivery times. However, the other two generations chose to visit the store to decide whether to buy the product or not.

The decision to shop online is based on several factors; the most important is the possibility to shop at all time, followed by the ability to compare prices, better prices, time saving, and convenience of not going to stores [1]. The reasons to shop in a physical store are the will to see and feel the product, ability to try the product, that images online do not give a fair view of how the product looks, and that delivery of online shopping takes too long.

Payment methods are ranked as the fourth most important attribute when customer chooses where goods are bought from [25]. For online shopping, credit card is the most used payment method, it is used even more than the two following payment methods, Paypal[1] and debit card, combined. All generations use computers as their main device for shopping online, followed by smartphones and tablets. Around 20-30% of all customers do not have any preference on which device they are using for online shopping.

2.4 Choice of payment method

In order for a consumer to pay with a certain payment method, a few requirements must be fulfilled. The customer must choose to use a certain payment method and it must be provided by the merchant. It has been found that demographic groups tend to choose payment method differently.

[1]Paypal is an organization that provides payment services to online stores. More information about Paypal in section 2.5.

2.4.1 Use of payment method

A few factors emerged when a customer chooses to use a certain payment method. User friendliness has been identified as the most important parameter for all payment methods [26]. For credit and debit cards, the cost of use and record keeping were especially important. Further, security and speed were identified as increasingly important in a study done over the time period 2006 – 2008.

Customers tend to choose one payment method and stick to it, for example credit or debit card [9]. Customers who choose debit card usually go with one network, for example MasterCard or Visa. On top of this, the value of the transaction affects the choice of payment method. Low-value transactions are to a greater extent carried out by cash or debit cards, but the use of cash as payment method decreases when the value of the transaction increases. Credit cards are used for all sizes of transactions.

2.4.2 Technical factors affect the choice of payment method

The choice of payment method largely comes down to personal preferences. However, a few more factors can be identified as being more important than others [9]. First of all, the technology for performing the transaction must be in place. Technological innovation, such as mobile payments and digital currencies, expands the range of payment methods.

Regulations often affect the customer's choice of payment method indirectly by targeting financial institutions [9]. Cost, in the monetary form or through time and effort also affects consumers choice of payment method. Note though, that cost also affects merchants who might not provide a payment method due to high costs.

2.4.3 Demographics in connection to payment methods

The demographic characteristics for use of payment methods is in line with what was previously presented. Older people tend to use more checks, and younger people use more debit cards [9, 26]. Note that it is not known if the difference in payment due to age is due to physical age or dependent on which time period the customer is born in. That is, if people born in the 1990's will continue to use debit cards when growing older or if they will shift towards cash payments.

People with higher education tend to use more debit and credit card but less online banking bill payment [9, 26]. The lower income the higher tendency to pay with cash [26]. Another characteristic identified in the use of payment methods is the value of the purchase. The higher the value of the purchase, the higher the probability is of using a credit card. For low value transactions, debit cards are more common. Also, gender affects the choice of payment method, men uses more cash than women [9].

2.5 Payment services

There are companies that offer payment services to make it easier for individuals to pay to each other, or to easily pay organizations, primarily during online purchases. Some advantages of using third party payment services are that these companies have put a lot of effort into making user friendly websites and developing high-security systems, which have been identified as a major obstacle in online shopping [27].

Examples of companies that provide payment services to online stores are Klarna and Paypal. Klarna was founded in 2005 in Stockholm, Sweden and is now available in fourteen countries, and handling over 100,000 transactions every day [28]. Their goal is to make payments as simple, safe and smooth as possible. To achieve their goal, they offer two different services online stores can implement; Klarna Checkout and Klarna Payments. The Klarna Checkout includes the entire payment flow while Klarna Payments is integrated in the store's own payment process and only handles the actual transaction [29]. Paypal offers the same functionality as Klarna and has a global presence. PayPal is available in 202 countries around the world, handles 25 different currencies, and 72% of all online transactions in the USA are made through Paypal [30].

Another online payment service is called Swish, which is mainly used between individuals. Through an app, a person can make a payment to another person, a company or an organization, by entering a phone number, Swish number or by scanning a QR-code [31]. Swish was founded in 2012 as a collaboration between Swedish banks and had over three million users in 2015. To use the service, users must be customers of a bank connected to Swish and they must have signed up for a Mobile Bank ID.

3

Methodology

This study consists of three major parts; the history of payments, today's payment market, with a special focus on payment solutions used at IKEA, and a list of suggestions for future improvements at IKEA.

Historical payment methods were studied through literature, as well as the general state of the payment market today. The situation at IKEA was studied by collecting and analyzing data. Finally, a list of suggestions for improvements at IKEA was formed, based on customer requirements that were identified during the field studies. These suggestions were then evaluated using a SWOT analysis. A schematic figure of the process from data collection to evaluation is shown in fig. 3.1.

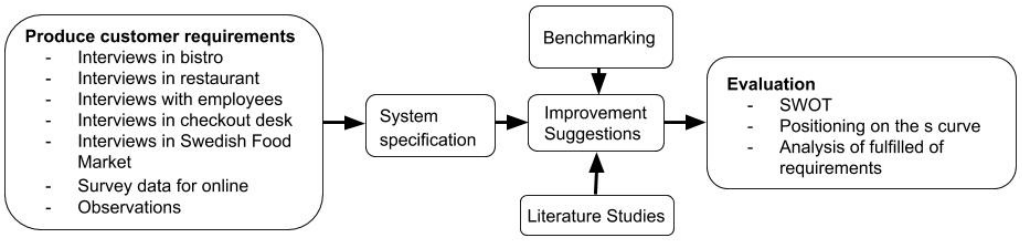


Figure 3.1: Flowchart over the project work

3.1 Literature study

To get a deeper understanding of the topic, a literature review was conducted. Information was gathered through Google, Google Scholar and Chalmers Library. More up-to-date information and new concepts introduced in stores were looked for in newspapers through Google, while research articles were searched for through Google Scholar and Chalmers Library.

Information about behavior in relation to payment and shopping was studied. Furthermore, payment systems and their functionality, reasons for why

customers choose different payment methods and how different demographics affect the choice of payment method was also included in the literature study. In order to understand the development of payment, the history of payment systems and up-to-date information about new payment solutions was included.

The literature review used key-words such as ”payment system”, ”payment system over time”, ”checkouts”, ”mobile payments in China”, ”customer segments payment”, ”buying behavior”, ”Amazon Go” and ”self-scanning cash registers” to find relevant information during the literature search.

3.2 Data collection

In order to evaluate the current status of payment channels data had to be collected. The data collection was primarily done from the customer's perspective. Data was collected at IKEA about the online payment channel and the checkout desks, restaurant, Swedish Food Market and bistro in store.

3.2.1 Online survey

Data from customers who shop online came from a survey that IKEA conducts every month. The survey was two-part and popped up on the customer's screen either during a shopping session (called ”After 301 seconds”), or after payment (called ”Exit poll”). To investigate the payment process, the survey where customers were asked after payment was relevant. In this survey five short questions were asked. Some of the questions were recurring every month while others were replaced or rephrased. The questions aimed at understanding the general experience as well as specific functions, such as delivery options or services.

The data used in this project came from the Exit Poll conducted in October 2018, November 2018, December 2018 and January 2019. The data collected from the online survey was based on the question ”How easy do you think it is to shop at IKEA.se”. All comments relevant to the payment systems were filtered out to be analyzed in an affinity diagram as described in section 3.3.

3.2.2 Interviews

In-store data was collected through short interviews with customers in a store and longer interviews with employees at IKEA. Interviews are a good

way to identify requirements, and by asking people to formulate problems even unknown requirements can be identified [32]. The customer interviews conducted in the IKEA store in Bäckebol, Gothenburg were of structured nature since it is a fast and easy method to use on a large group of people. A structured nature means that both the questions and the order of the questions was determined in advance [33].

The interviews with customers in the store were held in the checkout desks, restaurant, Swedish Food Market and bistro. All interviews consisted of three questions and answers were recorded on flashcards during the interviews. The interviews were held with customers who were shopping in the store. In order to disrupt the customers as little as possible the interviews needed to be short. This is the reason for using three questions and the form of structured interviews. The main goal was to find customer needs and requirements, identify problem areas, and development opportunities.

Three places (checkout desks, restaurant and Swedish Food Market/bistro) had different sets of questions since there are various target groups and functions that are relevant in each location. In order to get enough data to ensure the quality of the study, at least 30 interviews were conducted at each location. The largest channel in store was considered the be the checkout desks, therefore two sets with three questions each were constructed and a total of 67 interviews were held in the checkout desks.

Set 1 of questions for the checkout desk:

1. Why did you choose to pay in the eco checkout[1] alternatively in the traditional checkout[2] today?
2. What do you think was less good with the checkout?
3. How would you like to pay, e.g. cash, card, Klarna, Swish?

Set 2 of questions for the checkout desk:

1. Why did you choose to pay in the eco checkout alternatively in the traditional checkout today?
2. What was good with the checkout?
3. Did you ask the staff for help? If so, with what? // How would you have experienced it if there were only eco checkouts available today?

[1]The self-checkout desks at an IKEA store are called the eco checkout. More details about the checkouts are presented in section 4.2.1.

[2]The manual checkouts are called the traditional checkouts, more information about the checkouts are presented in section 4.2.1

The goal with the first question in both sets was to understand what makes customers choose different checkout desks. By asking about the choice customers made today and not in general, you get a more representative picture of what the customers actually choose and not what they think motivate them to choose one or the other. The second question aims at understanding customers' thoughts about the performance of the checkout as it is today. The third question in set one, asking which type of payment method the customer prefers, aims at understanding which methods are important for customers. Also, the question is used to place the payment method on a S-curve.

The third question in set two is two-part. The question being asked depended on which checkout desk the customer had used. The first question was asked to customers who chose the eco checkout and aimed at collecting information about which problems customers had and how common it was for customers to need help in the eco checkout. The second question was asked to customers who chose the traditional checkout, aiming at determining the traditional and eco checkouts position on the S-curve and customers attitude towards the eco checkout.

Questions for the restaurant:

1. How was it to order and pay?
2. What do you think was less good with the checkouts?
3. How would you like to pay, e.g. cash, card, Klarna, Swish?

The first question asked in the restaurant aimed at understanding what customers think of the entire order and payment process, and if they might spontaneously mention that layouts in other restaurants are better. The second question was used to identify priorities and improvement opportunities. The last question was used to map IKEA's performance of payment method. It is also interesting to compare the results from the third question to the findings in the checkout desks.

Questions for the Swedish Food Market[3] and bistro[4]:

1. How was it to order and pay?
2. How would you like to pay, e.g. cash, card, Klarna, Swish?

[3]The Swedish Food Market is the grocery store in the entrance of the IKEA store where typical Swedish goods are sold.

[4]The bistro is located near the checkout desks and is a place where customers can by fast-food such as hot dogs, pizza, ice-cream and coffee.

3. Did you ask the staff for help? If so, with what? // Was there anything less good with your experience in the bistro today?

These questions was used in the Swedish Food Market and bistro and were considered to give a good overall picture about customers experience. The last question depended on which checkout the customer used. The first question was asked to customers in the Swedish Food Market and the second to customers in the bistro.

To give an even more nuanced picture, employees that work in the checkout at IKEA were interviewed. These interviews were of semi-structured nature, enabling the interviewer to be more flexible and ask follow-up questions based on the answer on the question before [32]. During these interviews, one person asked the questions while the other person took notes. This way, the person asking questions could fully focus on an effective interview. In order to make sure that all information was documented, audio recordings of the interviews were also made.

Below are two of the questions that were asked to the employees. The first question is an open question that was asked in the beginning of the interview to let the person talk without being directed by questions. The second question aimed at getting a feeling for what is the most common problem customers have and/or the problem that is most noticeable by the employee. Note that the most noticeable problem can be the problem that is most complicated for the employee to solve and might not be the most important problem from a customer perspective. All questions asked to the employees are presented in appendix B.

- Describe a regular working day for you?
- What do you usually need to help the customers with? What makes the customer need help with this?

3.2.3 Observations

Observations were conducted in the checkout desks, restaurant, Swedish Food Market and bistro, in order to get information about what the customers do when paying and how the environment affects them and their behavior [34]. The main strength of observations is that the researcher can gather tacit, subconscious information that is not possible to receive through interviews. The observations were made both as participant-as-observer and as complete observer. This means that the researchers both tried shopping and using the checkout systems themselves, and observing customers using the systems.

The focus of the observations was to identify environments and how it affects the customer during payment.

The observations were of covert form, meaning the customers being observed did not know research was conducted on them. The advantage of this form is that customer's act as natural as possible and that they are not nervous or behaving differently than normal. Lastly, field notes were taken to remember the observations, these were in the form of scratched notes on a piece of paper.

3.2.4 Benchmarking

Benchmarking was done to check the competition, which features other companies provides, and to get inspiration. Participatory observations were carried out as the primary source of data collection. The goal was to find differences and similarities between companies and/or stores. The observations were made in online stores and focused on companies that were known to be very good or unique in some way.

Two of the companies were of direct benefit to the report, Apotea.se and HM.se. These companies were chosen because there were several people in the online survey who mentioned that it was good websites to order from. HM was also used for the similarity with IKEA; a Swedish company with a large, global market.

3.3 Affinity diagrams

In order to analyze the collected data, Affinity diagrams, also called the KJ method (after Jiro Kawakita), was used [35]. This is a tool to use when large quantities of data are to be analyzed. To use this method, all the collected data were compiled and statements were written on post-it notes. The five channels, online, checkout desks, restaurant, Swedish Food Market, and bistro, were analyzed separately since the requirements may differ between the channels.

When statements had been written on post-it notes they were placed on a wall and statements that were in some way related were grouped together [35]. It was important that the group members did not talk to each other in this step, the members should think for themselves and not be affected by other's thoughts and ideas. Once all post-it notes were grouped a discussion started. The discussion involved the placement of some notes and the shape of the diagram. Once the group had agreed upon groupings, headers for each

group was formulated. Finally the quotas and headers were inserted in an Excel file.

3.4 Identify customer requirements

Based on the results from the affinity diagram, customer requirements were identified. One or several requirements were identified for each statement (post-it note) and written in the excel file. In this process it was important to be aware that requirements could also be latent, that is a need customers are not directly aware of, and hard to find [32]. One area of focus was finding the root requirement.

Many customer requirements were identified for each channel and the next step was to compile the requirements. A file was organized based on the identified requirements, with statements connected to each need. Furthermore, an evaluation of each requirement was done. The evaluation was made both from a customer perspective, that is how important it is for the customer, and from a business perspective, that is how well IKEA fulfills the requirement. Primary needs were marked with "*", secondary needs were marked with "**" and latent needs were marked with "!". Less important needs did not get a mark [32]. Depending on how well IKEA fulfilled the need, they were graded on a scale from one to five. A five indicated that IKEA fulfilled the requirement very well, and a one that the requirement was not met at all.

Based on the evaluation of the requirements the most important customer requirements were selected. The selection was based on how important the need was to the customer in combination with how well IKEA already fulfilled the need. For each payment channel, between one and five requirements were selected.

3.5 Identify improvement suggestions

When all information had been collected, sorted in affinity diagrams, and customer requirements had been identified, possible improvement suggestions were generated to better meet the selected customer requirements. This was done through an individual brainstorming session.

A few improvements suggestions were selected based on how well they fulfilled one or more of the customer requirements. Also, a mix of short-term and long-term suggestions were selected. The selected improvements were researched further and developed into complete solutions.

3.6 Evaluate improvement suggestions

For each of the selected improvement suggestions, SWOT-analysis were performed. A SWOT identifies strengths, weaknesses, opportunities and threats [32]. It focuses both on internal and external factors, thereby making it a very strong and common tool for analysis. Strengths are defined as internal factors that are positive for the organization. Questions like 'what is good in the system' and 'what is the system advantages in the market' are answered. Weaknesses include which internal problems and disadvantages the system has. Opportunities focuses on the external, positive factors that the company cannot directly affect but still benefit from. Is the market developing in such a way that the payment system ceases an opportunity in developing in this way, for example. Finally, threats are defined as external factors that can affect the company negatively, without the company being able to influence the change. For example, competitors' development within an area.

Based on the literature study, benchmarking and all information collected during this project, SWOTs were done for each of the six improvement suggestions. Content and ideas were brainstormed individually before being evaluated and discussed in order to compile a complete SWOT. This allowed each proposal to be analyzed thoroughly while creating awareness about its strengths and weaknesses. It is a good way of compiling data and evaluating which of the proposals is best to proceed with depending on the company's strategy and willingness to take risks.

4

Results

In this chapter, the results of each channel (online, checkout desks, restaurant, Swedish Food Market and bistro) are presented. Each channel begins with a present time description, explaining how the channel works today, and follows by presenting the identified customer requirements. Finally, the results from benchmarking at Apotea and H&M are presented.

4.1 Online

IKEA has a global web page and layout that handles online payment, referred to as the original payment. At IKEA.se, a new payment system is tested in parallel to the original payment, that is payment with Klarna. After the summer of 2018, payment with Klarna was in full production at IKEA.se, both on mobile devices and computers. IKEA have recognized that the conversion rate has increased with 47% in mobile devices and 18% in desktops, when payment was conducted with Klarna.

4.1.1 Present time description

When entering IKEA.se, the site presented in fig. 4.1 is shown. In the top right corner, one can choose to log in (by clicking on the little man), create shopping lists (the symbol with paper and pencil), or go to the shopping cart (the symbol of a basket).

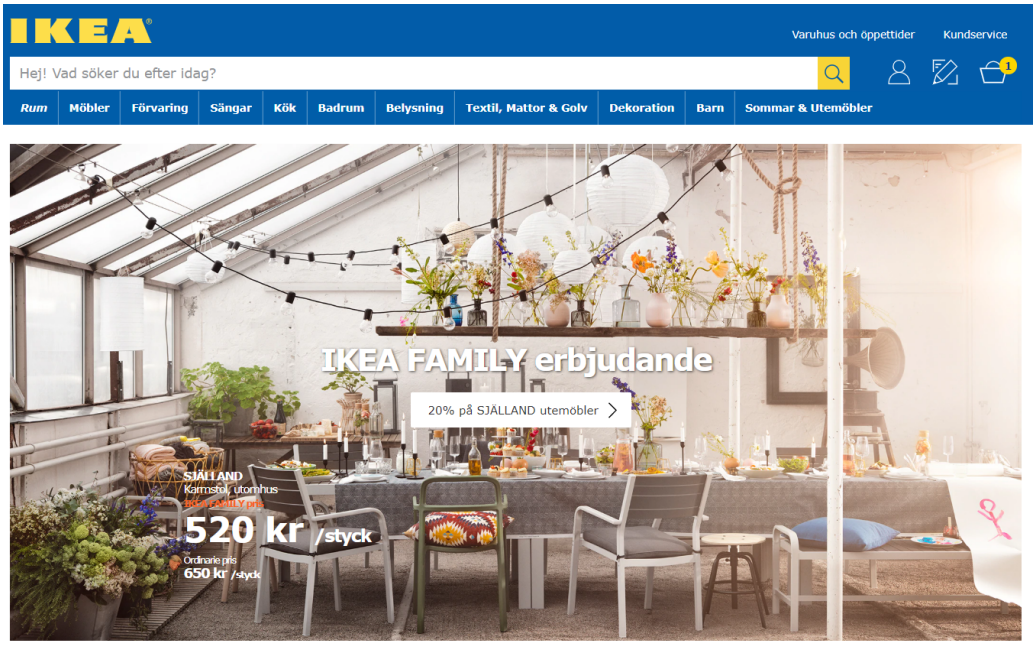


Figure 4.1: Homepage for IKEA.se

Assume a customer has collected a shopping cart and wants to order and pay for his/her products. The customer presses on the shopping cart symbol in the top right corner in fig. 4.1. Then the customer comes to the web page shown in fig. 4.2. Here one can see all selected items under ”Din kundvagn”, and enter zip code to see which delivery options are available. Note that it is possible to change the number of products by entering a new number in the box to the left of the product. It is also possible to delete the product from the shopping cart by using the button below the price.

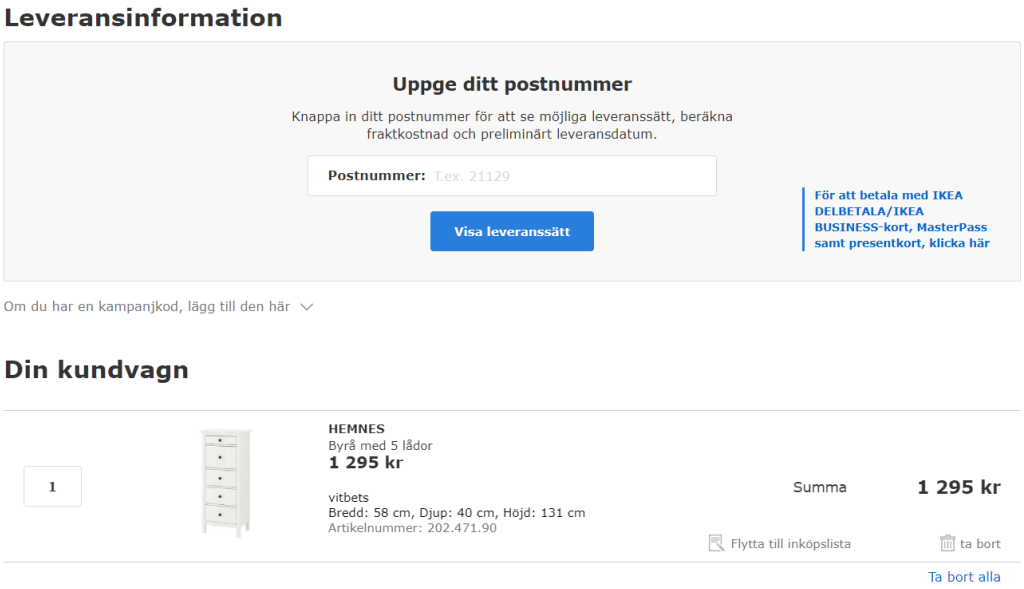


Figure 4.2: IKEA's web page for payment

When a zip code has been entered, delivery options are displayed as in fig. 4.3. The delivery options depend on the products in the basket. If the basket only contains small and light products a parcel service is suggested, while, as in this case if the product is large and heavy, home delivery is suggested instead.

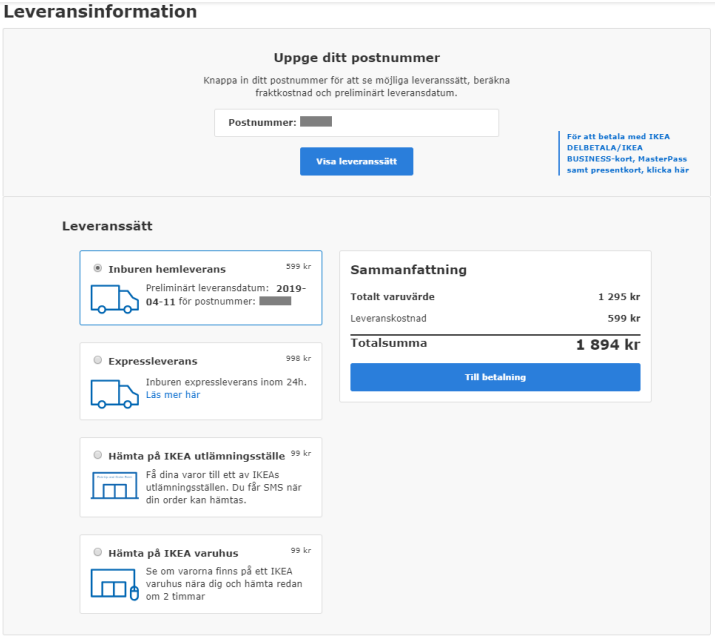


Figure 4.3: Delivery options at IKEA.se

Thereafter, when delivery has been selected and one continues to payment, the Klarna web-page in fig. 4.4 is presented. Here, the customer fills out all necessary information and chooses payment method. It is possible to pay with Klarna invoice or directly by using a debit card, credit card or bank account.

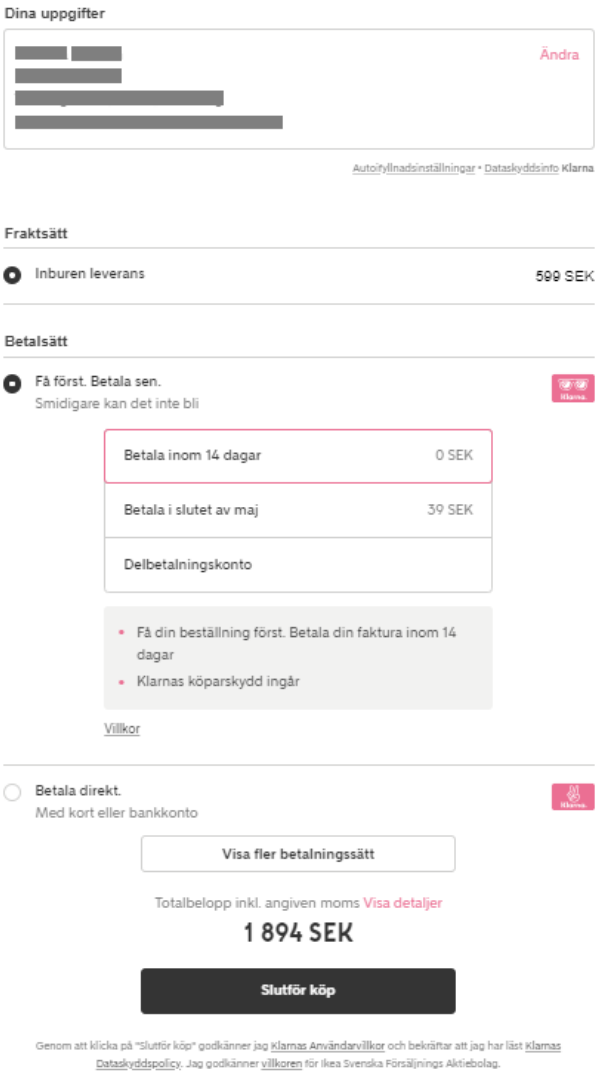


Figure 4.4: Payment with Klarna at IKEA.se

However, if the customer wants to pay with IKEA credit, business card, MasterPass or gift certificate, one has to click on the blue text to the right in the box with delivery information in fig. 4.2. When doing this, one is directed to the original payment page seen in fig. 4.5. It is possible to choose delivery option in the bottom left corner.

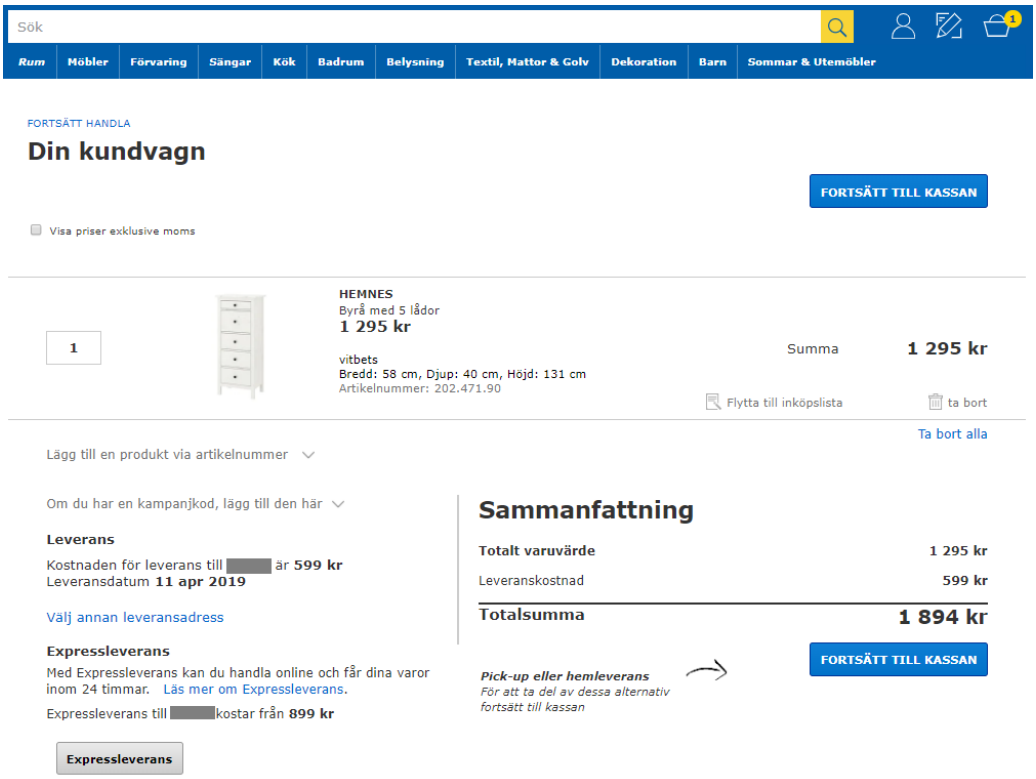


Figure 4.5: First page for the original payment process at IKEA.se

When proceeding to checkout the page in fig. 4.6 is shown. Here all personal information about delivery and billing address is provided. Also, it is possible to choose individual or business customer.

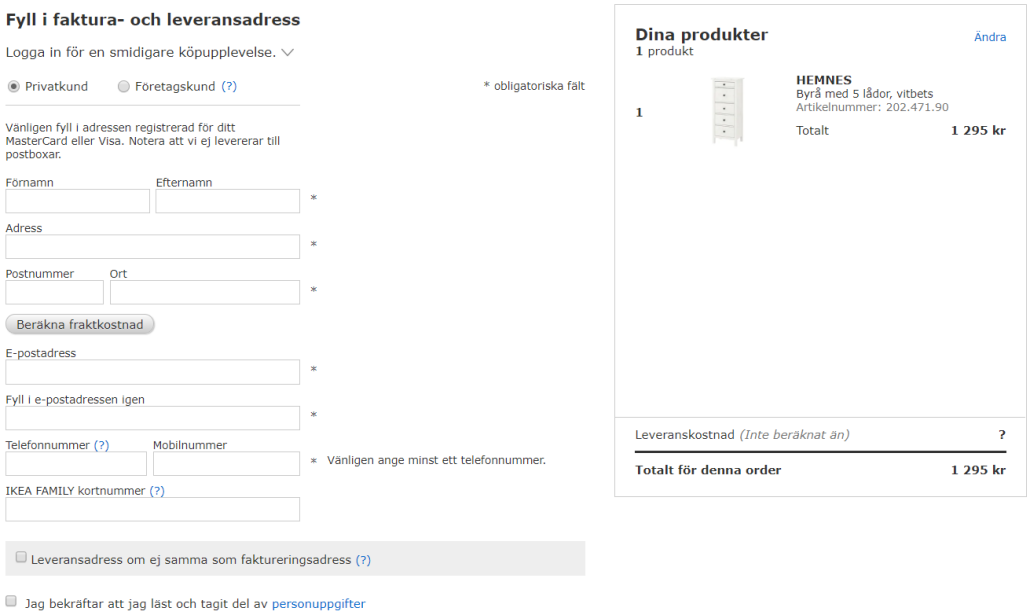


Figure 4.6: Original payment page to add invoice and delivery address at IKEA.se

The next step is to choose delivery and the page in fig. 4.7 is shown. As before the delivery options are adjusted to the products in the shopping cart.

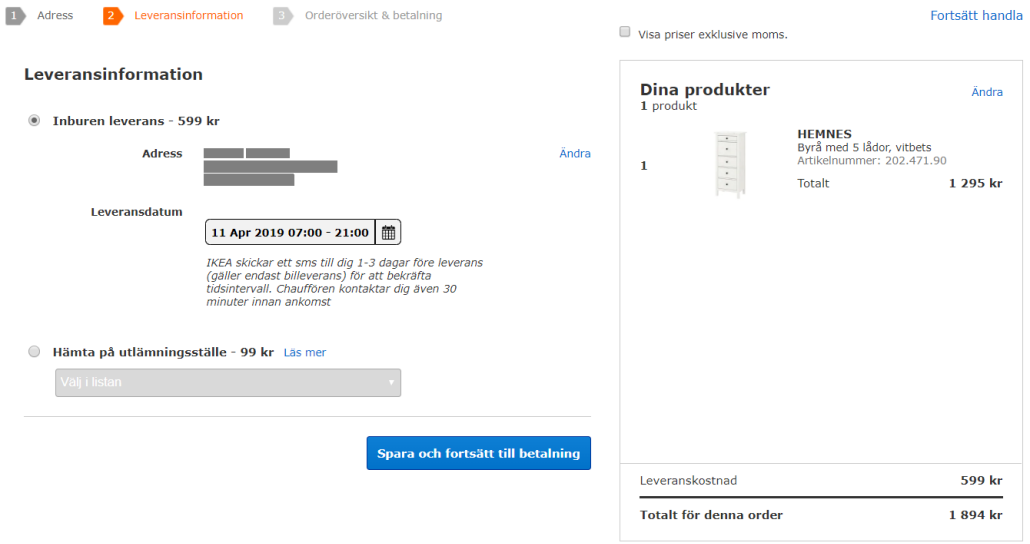


Figure 4.7: Original payment page to choose delivery at IKEA.se

The last step of the payment is the actual transaction. Figure 4.8 is shown and the customer is asked to choose payment options; card, IKEA invoice, IKEA credit or MasterPass. Also, gift certificates are possible to add to the payment. All information is added and the purchase can be completed.

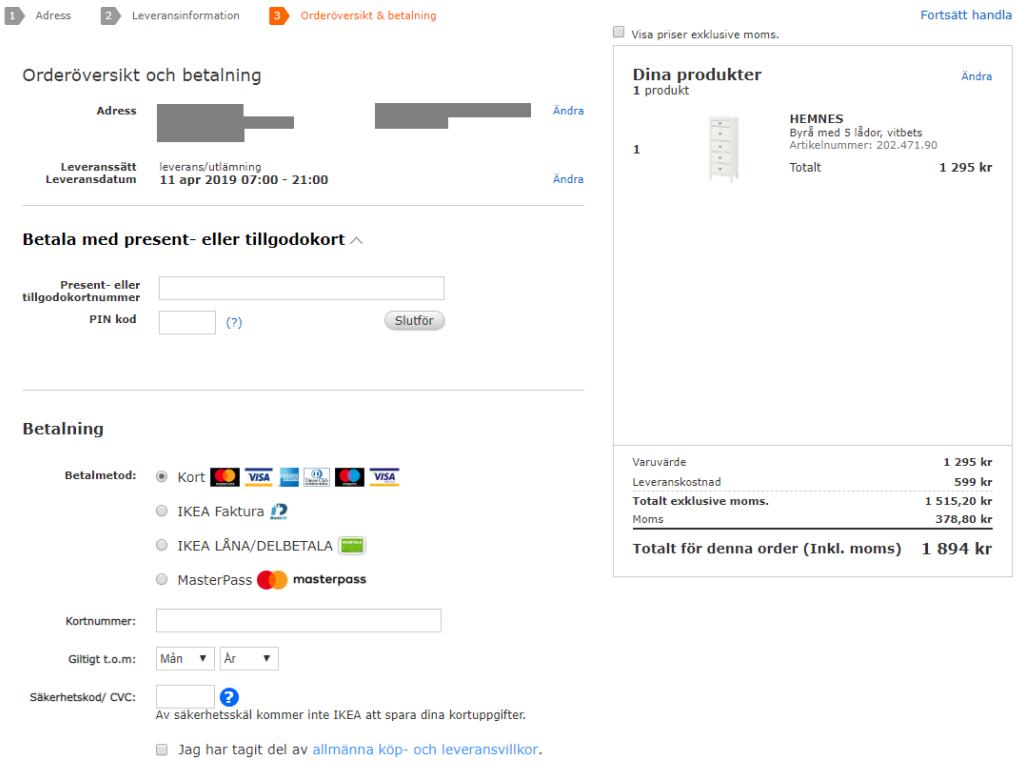


Figure 4.8: Original payment page for order summary and payment at IKEA.se

As a summary, fig. 4.9 shows a schematic picture of the flow and steps in the online checkout. The top flow (marked as 3a. and 4a.) is payment with Klarna, while the lower flow is the original payment process. 70-80% of all customers that shopped online used the Klarna checkout.

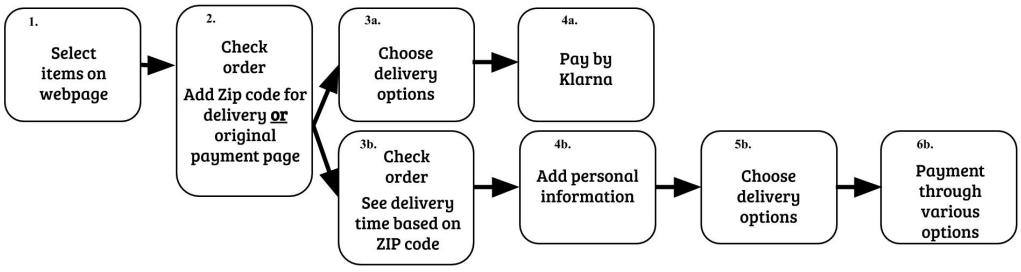


Figure 4.9: Summary of the flow of the checkout at IKEA.se

4.1.2 Customer demands

Based on the data in IKEA's Exit Poll over the period October 2018 to January 2019, 230 customer statements were summarized in an Affinity

diagram and customer requirements identified as described in section 3.3. Primary needs were marked with "*", secondary needs were marked with "**" and latent needs were marked with "!". Each requirement was also rated on a scale from one to five depending on of how well the requirement was fulfilled at IKEA. From the requirements, as described in section 3.4, four were selected for further analysis, these are marked in boldface below. The identified customer demands were:

- **Intuitive flow and payment ***
- **Quick payment ***
- Clear information about delivery **
- **Edit the number of items in the basket ****
- Reliable basket **
- Equivalent performance in all devices and browsers
- Clear information about payment
- **Many different payment options**
- Summation of items and cost in the basket
- Possibility to export items from the planning tool to the basket
- Possibility to see product page from the basket

The underlying comments for each of the identified customer requirements are presented in appendix A.1.

"Intuitive flow and payment" is a broad demand basically about the web-page for payment being user friendly and easy to operate. For example, some customers thought it was hard to find the right payment page and register IKEA family membership. Some even had to call customer support to get help to place their order. It is highly important that a web page is intuitive so that the customer does not have to feel insecure about what to do and how to complete the purchase. Thus, this requirements was marked as an important primary need. The payment at IKEA.se was not considered to be intuitive and only received a 2/5 in grading of fulfillment of this need. The main reason for this was that two payment systems operated simultaneously, making it unclear for the customer which payment page he/she should use and easy to miss attributes that are available in one system but not the other.

The next selected customer demand was ”Quick payment”, since it is very important for the customer that payment is quick and that there are no unnecessary steps or new pages. Many customers commented that the payment was quick and easy, making this an important primary requirement. Since most customers though that the payment was quick and easy (20 out of 23) the requirement was rated 4/5 on fulfillment.

”Many different payment options” is about customers wanting a variety of payment options available when shopping online. For example, a few customers commented that they could not pay with foreign credit card or with a gift certificate. This implies that these payment options, though available, are not visible enough for the customer to find. There were many comments about available payment options, which indicates that this is an important issue for customers. At IKEA.se it is possible to pay with both gift certificate and foreign credit card, but obviously this is not clear enough for customers why the rating of fulfillment of this requirement became 4/5. The requirement was selected due to the fact that so many customers had commented about available payment options.

The last demand was ”Edit the number of items in the payment process”. Customers wrote that it was not possible to change the number and delete items in the payment process and since many competitors provide this feature, the requirement was marked as an important secondary need. According to section 4.1.1, it is possible to change and delete items in the payment process, though since it came up as a customer requirement this is not clear enough. Even though it is possible to edit the number of items at IKEA.se, this feature is not clear enough, this is why IKEA was rated 3/5 in meeting this requirement.

4.2 Checkout desks

The checkout desks are divided into traditional checkouts and eco checkouts. This section will contain a present time description of the checkouts, both the traditional and eco checkouts. Following that, the identified requirements are presented and the selected customer needs more thoroughly described.

4.2.1 Present time description

Today the checkout desks are located at the end of the store and are placed next to each other, creating a physically wide area of checkout. Two traditional checkouts are placed next to four eco checkouts (one section). The

queuing system for the traditional checkout is one queue for one checkout, while in the eco checkout there is one queue for four checkouts. See fig. 4.10.

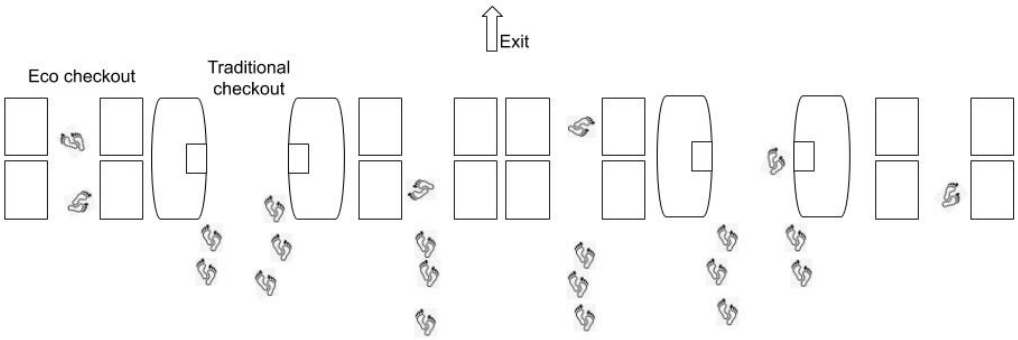
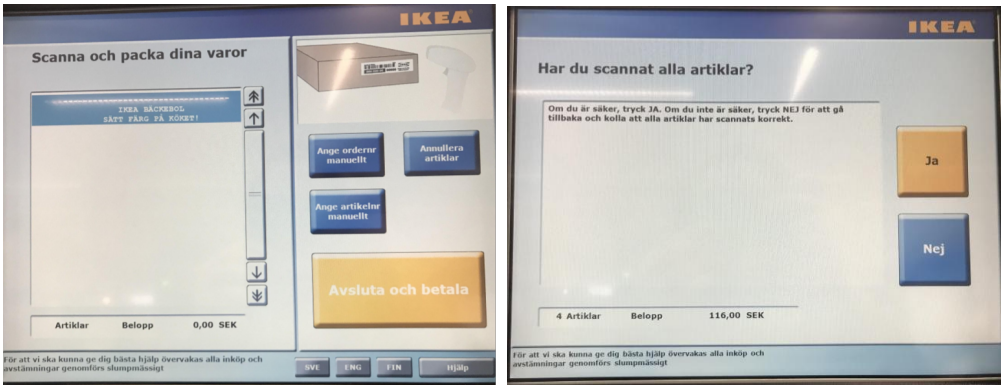


Figure 4.10: Schematic, birds-eye view of the checkout desks

Payment in the traditional checkout is made in direct contact with a cashier. Small items are placed on the conveyor while larger items can be kept on the cart and the cashier scans the items directly from the cart. Questions are asked verbally and payment can be done through cash, card, gift certificate etc.

The eco checkout is a manual, self-checkout. One cashier monitors one section of four eco checkouts. First, the customers have to press ”start”. Then the page in fig. 4.11a is shown. The customer is supposed to scan all items, including goods delivery orders. When moving on to the next step, a control question is displayed to ensure that the customer has scanned all items. This screen in showed in fig. 4.11b.



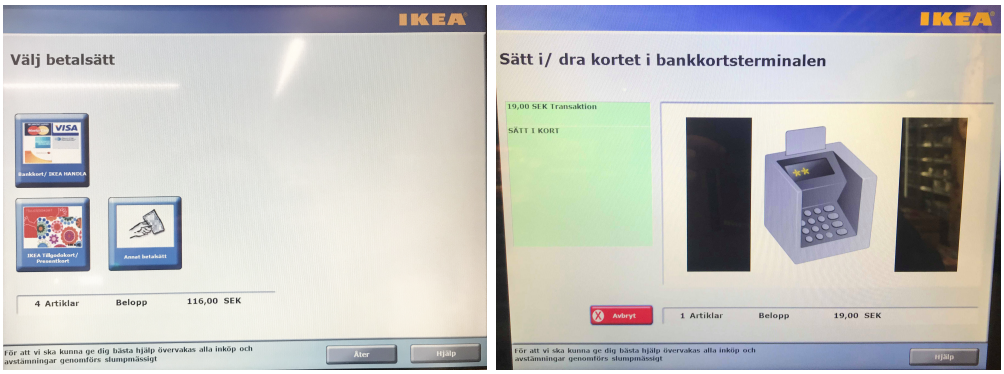
(a) Scan items *(b) Control question*

Figure 4.11: Page to scan items in the eco checkout at IKEA

The next step is to enter IKEA Family membership. If the customer has

not brought the card, it is possible to register trough the mobile application, social security number or mobile phone number.

Finally it is time for payment. First the customer chooses which payment method he/she wants to use; debit card, gift certificate or other, this is shown in fig. 4.12a. If choosing to pay with card, as most customers do, the screen in fig. 4.12b is presented and the purchase is sent to the card terminal.



(a) Payment options *(b) Payment*

Figure 4.12: Pages for payment transaction in the eco checkout at IKEA

Figure 4.13 shows a schematic summary of the flow of different steps in the payment process in the eco checkout.

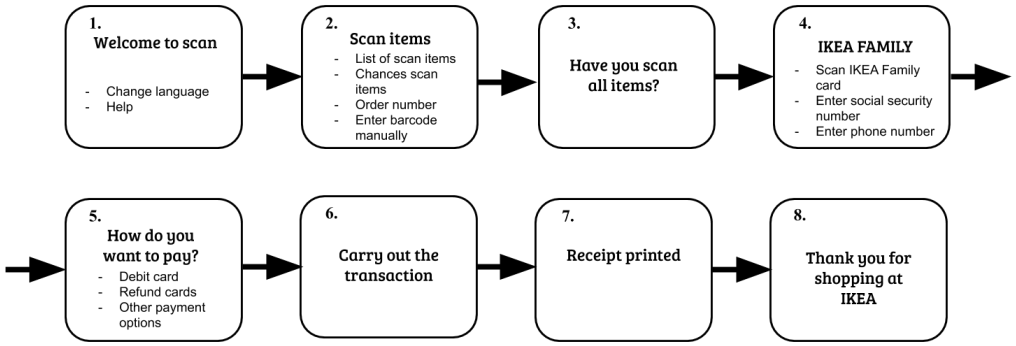


Figure 4.13: Summary of the flow in the eco checkout at IKEA

Customers tend to choose the traditional checkout due to too many items, to get the personal meeting or because they feel more comfortable there. Most customers chose the eco checkout due to habit or by coincidence. Another reason for choosing the eco checkout is because it is more flexible.

In the checkout desks 71% of customers want to pay with card and 13% with cash. Other preferred payment options mentioned by customers were

installment plans, Swish and larger use of mobile payment apps.

4.2.2 Customer demands

As described in sections 3.3 and 3.4, based on 67 interviews with customers at the checkout desks in-store, statements were grouped in an Affinity diagram and customer requirements were identified. The identified customer requirements from the checkout desk were the following, remember that "*" marks a primary need, "**" a secondary need and "!" a latent need. The three requirements marked in boldface were selected for further analysis.

- **Feeling of safety ***
- Possibility to pay with card *
- **Quick payment ***
- Clear handling of IKEA family membership, bags, goods delivery etc. **
- Staff available **
- Space to take groceries through the checkout **
- Intuitive payment **
- Possibility to pay with cash **
- Personal meeting **
- **Few steps in the payment process !**
- Sense of individual adaption of work tempo
- Availability of other payment options
- Intuitive queuing system

Customers statements that form the basis of these requirements are presented in appendix A.2.

The requirement "Feeling of safety" is about making the customer feel safe and comfortable. Customers mentioned that they feel insecure in the eco checkout and that they have to learn the procedure. Also, it is important for customers that products do not break and they value cashiers that handle fragile products carefully. This requirement was considered to be a primary

need since many customers brought up factors concerning the safety-aspect. IKEA was graded 4/5 over how well this need was fulfilled. This grading is based on that customers have the possibility to chose checkout depending on what feels most safe for them and that there are many employees available in the checkouts to assist customers. Because this was one of the most important requirement for customers, it was selected for further investigation.

”Quick payment” is another important need for customers. Most customers chose checkout depending on which is quickest, and often this is in correspondence to how long the queue is. One customer also said that it is frustrating with complex errands that takes more time and creates a line. Once again, many customers mentioned the importance of a quick payment process and thereby this demand was considered to be a primary need. Since many customers mentioned the importance of a quick payment it was obvious that the payment process as it is today is not quick enough to meet customers' requirement. Therefore, IKEA was rated 3/5 in fulfillment of this requirement.

The last customer demand was ”Few steps in the payment process”. This is partly connected to the above demand, that the payment process should be quick. Comments that there are many steps and choices in the eco checkout resulted in this latent need. Since it is a latent need it is by definition also an important need for customers. IKEA was graded 3/5 on this need, because there are a few unnecessary steps that mostly take time and interrupt the flow in the payment process.

4.3 Restaurant

The restaurant is the part of an IKEA store where customers go to rest and have a meal or ”fika”. In this section, a present time description of the restaurant at IKEA and the identified customer requirements are presented.

4.3.1 Present time description

The layout of the restaurant is presented in fig. 4.14. Note especially that customers follow the same queuing system regardless of what they want to buy. A customer who only want to buy ”fika” needs to stand in line from the beginning to collect a tray and coffee cups. In addition, cashiers in the checkout can only attest customers on one side of the checkout. Often only one cash register is open on each side, making it unclear for the customer on which side of the checkout the cashier can handle their payment.

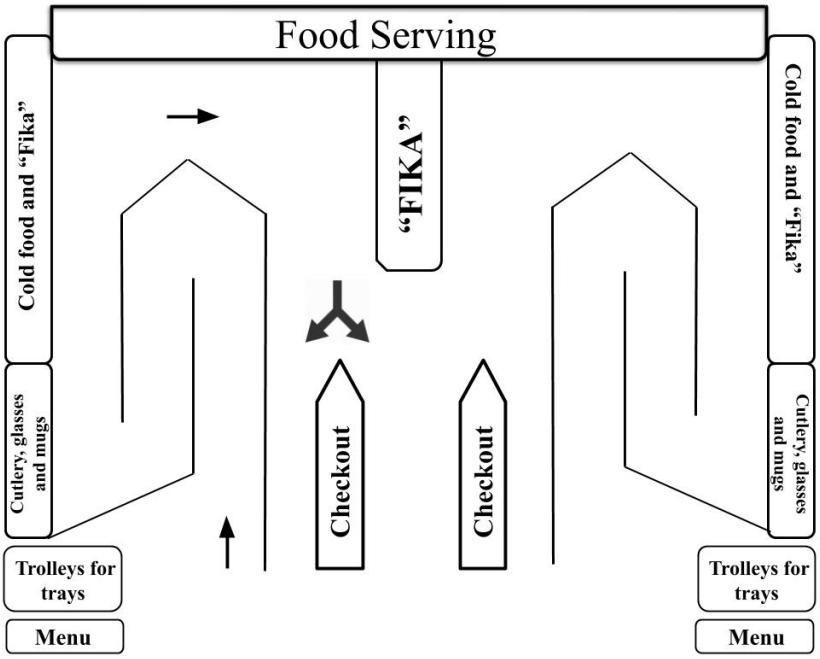


Figure 4.14: Schematic, birds-eye view of the ordering and payment in the restaurant at IKEA

One notable problem in the restaurant was the difficulty of registering IKEA family membership. For most of the customers there were troubles in the registration, resulting in the cashier having to enter the 19-digit card number manually.

Almost all customers thought that payment in the restaurant was good and easy. A majority wants to pay with card (66%), while 18% want to pay with cash. Further, a few customers mentioned the importance of keeping cash as a payment method even though they preferred to pay with card themselves. For the rest, it does not matter how they pay or they think that it is good the way it is.

4.3.2 Customer demands

In accordance with sections 3.3 and 3.4, based on 44 interviews and observations in the restaurant an Affinity diagram was constructed. From the statements, the customer requirements below were identified for the restaurant. Based on how important a need was considered to be for the customer and how well the need was fulfilled, two requirements were selected for further analysis, these are marked in boldface in the list below.

- Possibility to pay with card *

- Possibility to pay with cash *
- Personal meeting **
- Intuitive logistics **
- **Intuitive queuing system !**
- **Clear handling of IKEA family membership**
- Short waiting time
- Quick payment
- Modern system

The underlying customer statements for each requirement are presented in appendix A.3.

The first selected requirement from the restaurant was ”Intuitive queuing system”, which is a latent need identified through observations and interviews with employees. The cashier often had to ask customers to change side since they can only accept customers on one side of the checkout desk. This was confusing for the customer since the design made it look like the cashier could handle customers on both sides. Most customers did not explicitly express that the queuing system was a problem, but it was observed as an unnecessary step and source of confusion for the customer to have to change side. Therefore, this requirement was marked as a latent need. Also, when there are many customers in the restaurant and all four checkout desks are open, the queuing system is not confusing since customers can pay on both sides of the checkout desks. The queuing system is most confusing when only two checkouts are open and payment is only possible on one side. For these reasons, IKEA was rated 3/5 in fulfillment of this requirement. Due to this requirement being a latent need, important for the customer and with fairly low rate of fulfillment it was selected for further investigation.

”Clear handling of IKEA family membership” is focused on the handling of IKEA family membership. It was observed that the registration of IKEA family membership often took time in the payment process and that the card often did not register smoothly. The cashier often had to enter the 19 digit card number into the computer to register the membership. It is important for the customer to register his/her IKEA family card since it gives great discounts on some meals. At the same time it was observed that the registration of the IKEA family card was often troubled, the card was demagnetized and the application did not work as it should. Therefore, IKEA was rated 2/5 of how well the requirement was fulfilled. Besides, it is an important requirement for the customer who want the discounts and for these reasons this requirement was selected for further evaluation.

4.4 Swedish Food Market

The Swedish Food Market is located close to the bistro and is where customers can buy products that are typically Swedish. The payment here is similar to the eco checkout which contributes to the requirements being similar to the checkout desk.

4.4.1 Present time description

The Swedish Food Market is the part of an IKEA store where customers can buy grocery products, such as meat balls, pizza, candy and other food. The Swedish Food Market in Bäckebol is trying out a new concept, having recently installed two self-checkouts to replace the traditional checkout. Note that it is also possible to pay for products from the Swedish Food Market in the checkout for the bistro. In the self-checkout, card is the only accepted payment method, while the checkout in the bistro accepts both cash and card.

The process of paying in the Swedish Food Market was similar to that in the eco checkouts. The customer first had to press ”start” before scanning all items. A control question asking if all items had been scanned correctly was asked before the customer could choose a payment method and complete the purchase. The aesthetics were also very similar to that in the eco checkout, see images above.

In the Swedish Food Market a clear majority wants to pay with card (72%). 10% want to pay with cash and 15% with Swish. For the rest it does not matter how they pay. Most customers also thought that the payment was quick and easy, while a minority found it hard.

4.4.2 Customer demands

As described in sections 3.3 and 3.4, based on 20 interviews in the Swedish Food Market, customer statements and observations were grouped in an Affinity diagram and requirements identified from each statement. The following requirements were identified for the Swedish Food Market, and the requirements marked in boldface were selected for further analysis.

- **Intuitive payment ***
- **Few steps in the payment process !**

- Clear handling of IKEA family membership
- Possibility to pay with card
- Possibility to pay with cash
- Availability of other payment options
- Intuitive queuing system

All the customer statements and observations behind these requirements are presented in appendix A.4.

Some customers said that the payment in the Swedish Food Market was unclear and hard to understand. Hence, it is important that the payment is intuitive so that all customers feel safe using a self-checkout and therefore ”Intuitive payment” was identified as an important requirement. The self-checkout desks in the Swedish Food Market were new and in the middle of a testing phase, therefore customers were not yet used to these systems. IKEA was rated 3/5 on how well this requirement was fulfilled since customers thought the payment was hard to understand, were unsure of how to use the screens and many had to ask for help. Due to this being an important need for customers and the fulfillment rate could increase, this requirement was selected for further analysis.

Secondly, an important latent need identified in the Swedish Food Market was ”Few steps in the payment process”. Comments that there were many steps in the payment process and observations showing that the flow in the payment process was hindered at each new screen where customers are to take in information indicated this need. It is a latent need because customers did not request few steps but fulfilling the requirement would save customers both time and effort. Further, it was considered that the steps in the payment process could be reduced and thus IKEA was rated 3/5 of how well the requirement was satisfied. By fulfilling this need, customer value could be increased, therefore the requirement was selected for further analysis.

4.5 Bistro

The bistro is located outside the checkout desks in IKEA stores and is where customers can buy fast food before or after their visit. This section describes the current situation in the bistro and the identified customer requirements in the same channel.

4.5.1 Present time description

The bistro is the part in the IKEA store where customers can buy sausages, pizza, coffee, ice-cream etc. The bistro is placed right outside the checkout desks and has a small seating area with tables and chairs and stand-up tables. There is also a counter where customers can collect ketchup, mustard, tea or coffee, sugar, napkins etc.

As fig. 4.15 shows we can see that the two checkout desks are placed at the end of each counter and that the line is indicated with aisles of shelves with sweets. Next to the bistro is the Swedish Food Market, though the self-checkout desks in the Swedish Food Market are placed in the other end, i.e. not close to the bistro.

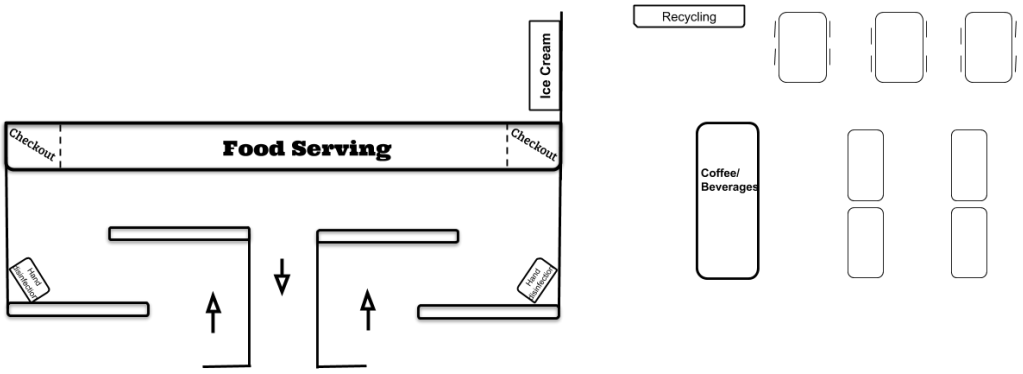


Figure 4.15: Schematic, birds-eye view of the layout in the bistro

In the bistro, customers indicated that they mostly want to pay with card (56%) or cash (12%). The rest said that it does not matter how they pay.

4.5.2 Customer demands

As for the other channels, in accordance with sections 3.3 and 3.4, an Affinity diagram was constructed with all statements from customers, based on the 16 interviews conducted with customers in the bistro. Based on the statements and groupings, requirements were identified. The requirements were marked as primary, secondary, latent or no mark and graded on a scale 1–5 of how well the requirement was fulfilled. Based on how important the requirements were for customers and how well the requirement was fulfilled, one requirement was selected for further analysis. This requirement is marked in boldface below. The identified customer requirements for the Bistro were:

- Possibility to pay with card *

- Possibility to pay with cash *
- **Flexible queuing system !**
- Availability of other payment options
- Intuitive payment
- Quick order and payment
- Provision of a receipt

The underlying customer comments for each of the customer requirements are presented in appendix A.5. For the selected customer need ”Flexible queuing system”, it was observed that is was hard for customers to exit the queue once they had entered it, especially if there was a line behind them. For example, if one checkout was open and the staff opens the other checkout and tells customers to change queue, customers were ”locked in” the aisles preventing them from changing queue to the other checkout. This need was rated to be fulfilled 4/5. Since customers did not explicitly request this requirement but fulfilling it would increase customer satisfaction, not at least by shortening the queuing time, it was selected for further investigation.

Finally, fig. 4.16 shows a summary of the selected customer requirements for all of the payment channels. Note that some requirements were identified in multiple channels. For example, ”Intuitive flow and payment” was identified and selected in the online payment channel and in the Swedish Food Market. Remember also that some requirements were identified in more channels but not selected there, thereby not indicated in this figure.

	Online	Checkout desks	Restaurant	Swedish Food Market	Bistro	App
Intuitive flow and payment	X			X		
Quick payment	X	X				
Edit number of items in basket	X					
Many different payment options	X					
Feeling of safety		X				
Few steps in payment process		X		X		
Clear handling of IKEA family membership, etc		X	X			
Intuitive queuing system			X			
Flexible queuing system					X	

Figure 4.16: Summary of the selected customer requirements

4.6 Benchmarking online stores

In accordance with section 3.2.4, benchmarking of Apotea.se and HM.se has been conducted. The findings are presented below.

4.6.1 The pharmaceutical company Apotea

Apotea is an online pharmacy with a strong focus on low prices and fast delivery. They have received several awards for being an excellent online shopping company since the relaunch in 2012 [36]. At a first glance, their ordering page is not well organized. There are many different colors and it is difficult to determine what is advertising and what is relevant to the actual purchase, see fig. 4.17.

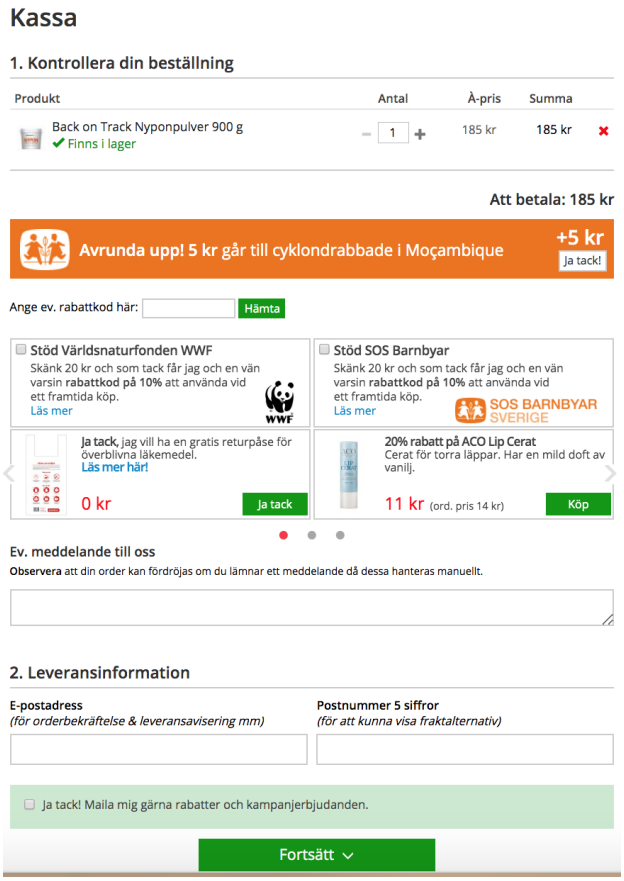
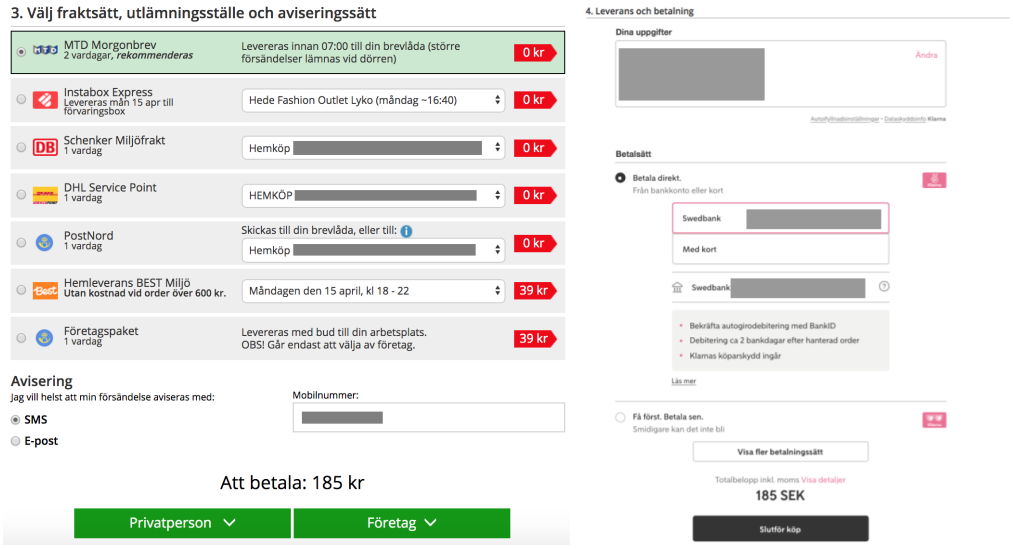


Figure 4.17: Apotea's web page for payment

When ordering, the first step is to check the order, add possible vouchers and enter e-mail and post code. Also, there is an opportunity for the customer give 5 SEK to charity. The next step is to choose delivery options, based on the zip code entered in the previous step (see figure 4.18a). To proceed, the buyer chooses whether he/she wants to make the purchase as an individual or as a company. The last step is the transaction which for individuals is done through Klarna, see fig. 4.18b.



(a) Delivery options *(b) Payment*

Figure 4.18: Layout of delivery and payment options at apotea.se

In fig. 4.19 the flow and steps in the checkout at apotea.se are summarized to give an overview of the payment process.

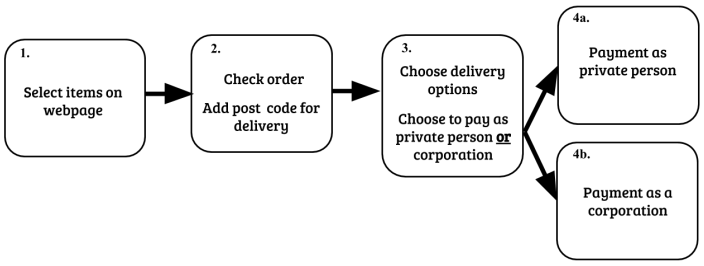


Figure 4.19: Summary of the flow and steps in Apotea.se's checkout

The good things with Apotea.se are the flow and order of the payment process and that all the different steps are visible all the time. For example, when step 2 "Choose the delivery option" is the current step, the previous step is visible above and there is a clear return-to-the-last-step button, as can be seen in fig. 4.20.

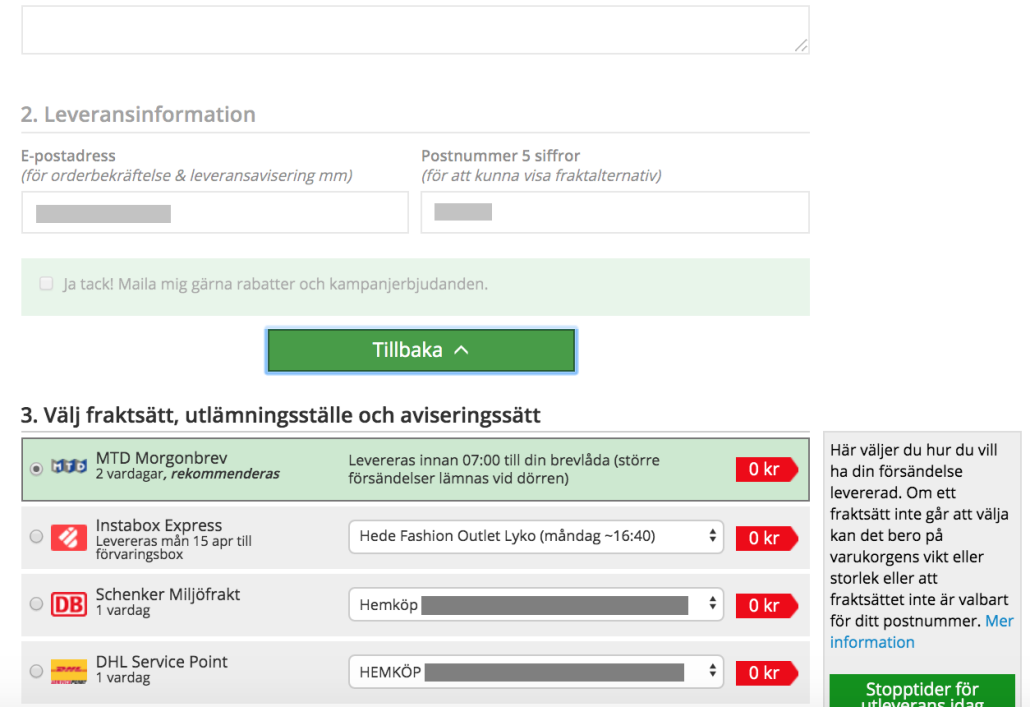


Figure 4.20: Previous steps are visible at apotea.se

4.6.2 The clothing company H&M

H&M is a global company with a net turnover of 210 billion SEK in 2018, present in 47 online markets [37]. In 1998, H&M introduced online shopping on the Swedish market, and today online sales make up of 14.5% of H&M's total sales [38, 39]. Their ordering page is stylish and there are few unnecessary features that steals the user's attention. Generally, the layout is the same as IKEA's original payment, as described in section 4.1.1. On H&M's website, in the same way as on Apotea's, it is easy and clear to switch between the different steps.

The first step is to check the shopping bag, see figure 4.21. The total price (including price of delivery) is shown and it is possible to add a discount code.

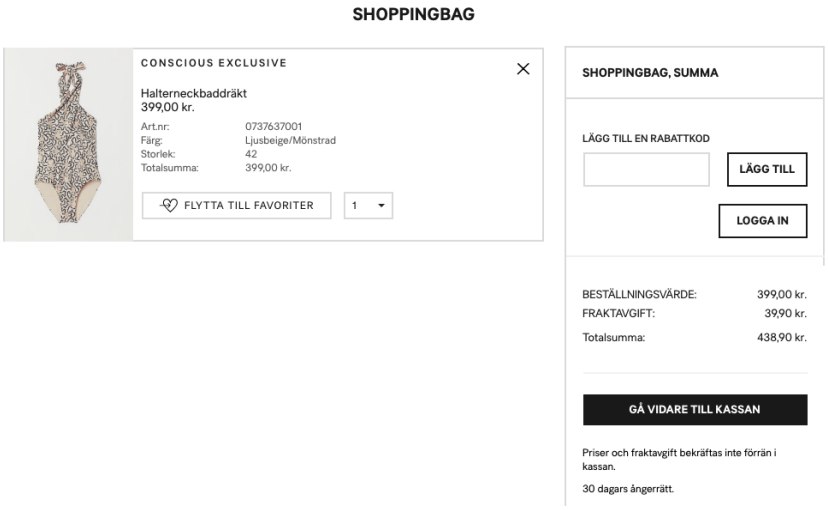


Figure 4.21: Home page for payment

In the next step, three options are available; log in as a member, join to be a member or shop as a guest, see figure 4.22. If one chooses to log in personal data has been saved in your account, while if choosing to register membership or shop as a guest personal data has to be filled in.

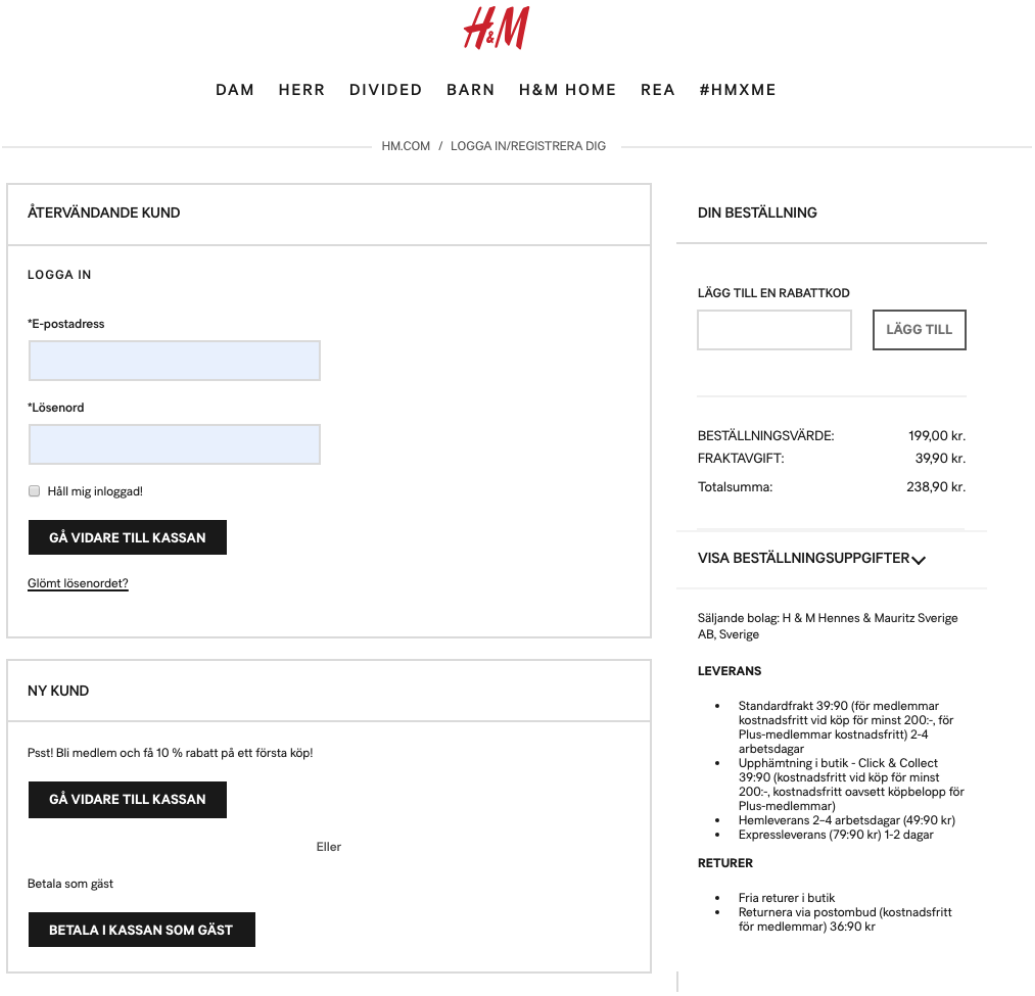


Figure 4.22: Delivery options

After personal data has been registered it is time to choose delivery option. The pre-determined delivery option is to collect at a post office as seen in fig. 4.23. Note that it is also possible to choose which post office to collect the package from.

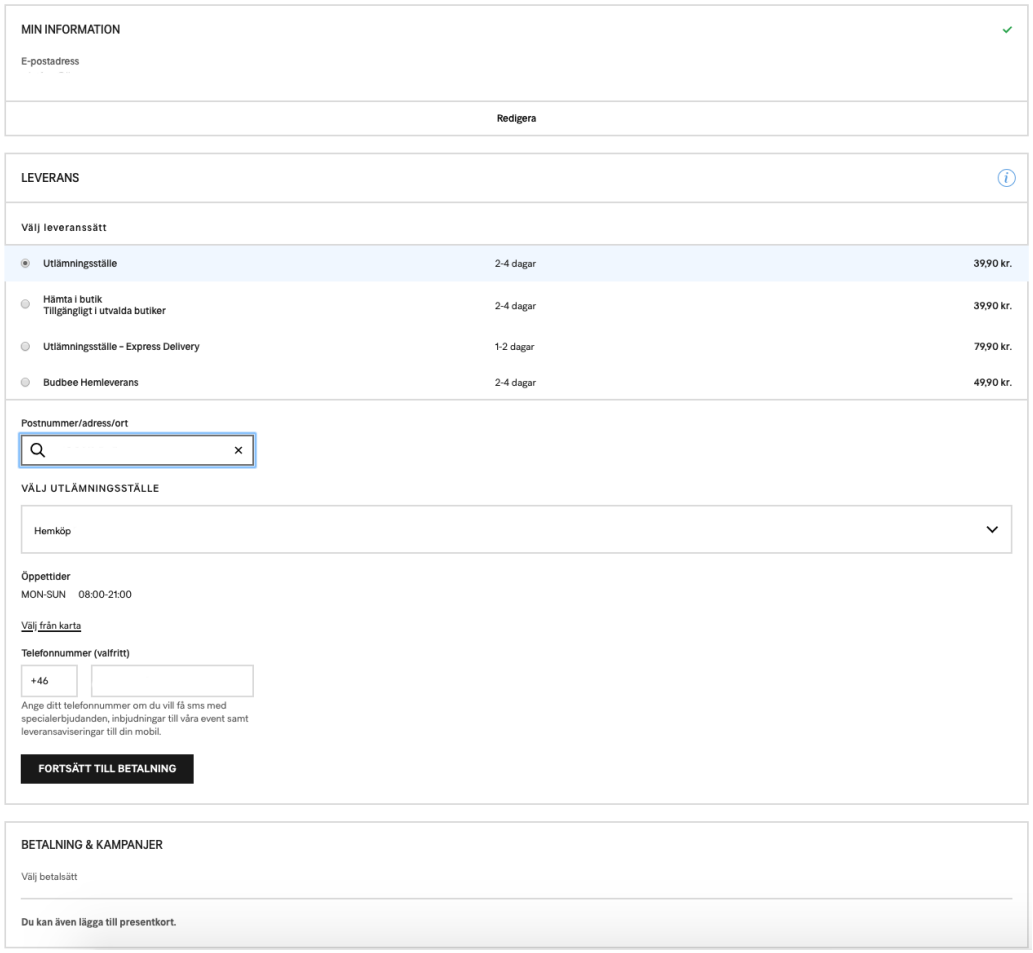


Figure 4.23: Chose delivery on H&M's web-site

The last step is payment, see figure 4.24. Payment is possible through credit card or PayPal.

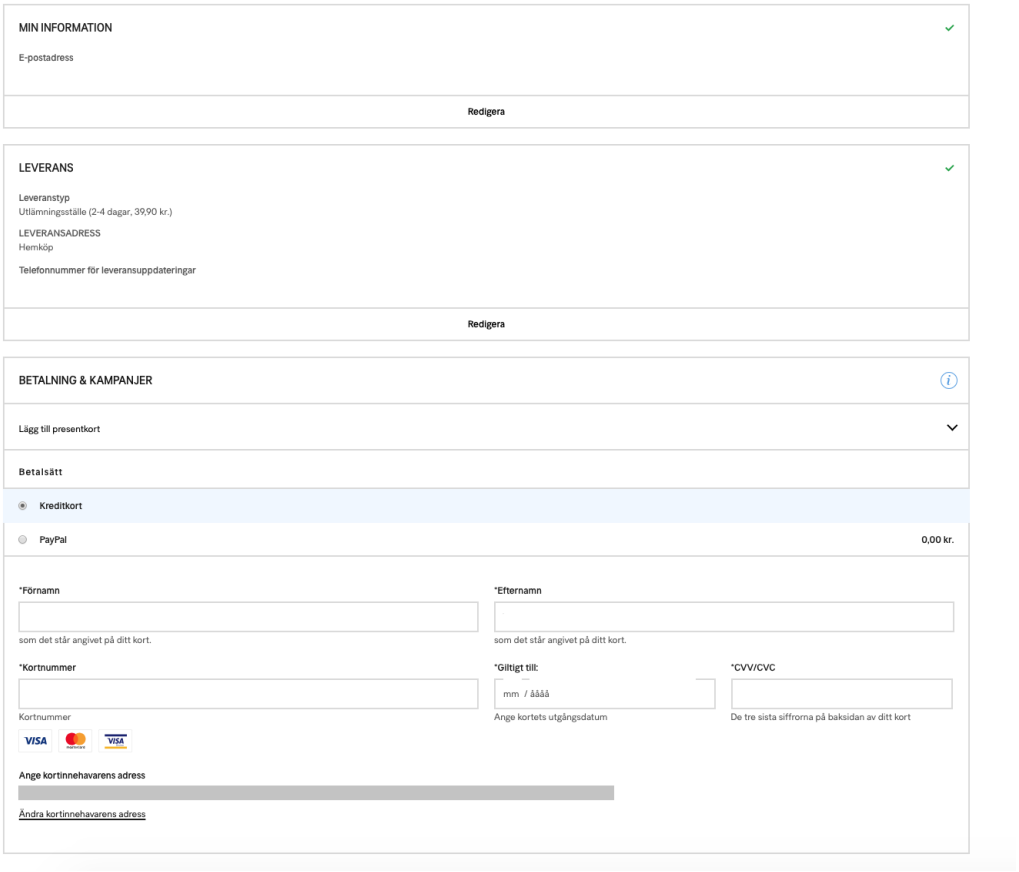


Figure 4.24: Payment at H&M's web-page

Figure 4.25 shows a schematic summary of the flow and steps for HM.se's checkout process.

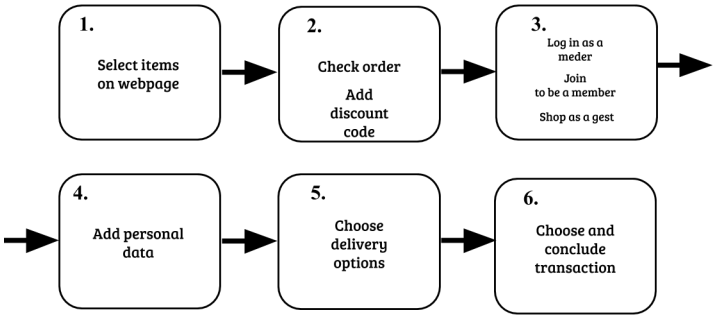


Figure 4.25: Summary of the flow and steps in HM.se's checkout

On H&M's web-page all previous steps in the payment process are visible above the current step. There is a summary of the most important attributes in each step and a button "edit" if the customer wants to change some

information in the step. This can be seen in fig. 4.24. In other words, it is easy for the customer to get an overview of the payment process and make changes if any information is wrong.

5

Analysis

This chapter begins with an analysis of payment methods and checkout systems placement on a S-curve. Thereafter, based on the identified customer requirements as described in section 3.5, four improvement suggestions are suggested. The proposals were investigated in terms of how well they suit IKEA, and each suggestion was analyzed in a SWOT-analysis.

5.1 Payment systems placement on S-curves

A product or services life cycle can be described by the four phases of an S-curve: childhood, growth, maturity and aging [40]. The s-curve is described on a graph with customer value on the y-axis and and time on the x-axis. Customer value is the difference between satisfied needs and cost (time, effort, money). In the case of payment methods, the cost is mainly time and effort, as identified in the selected customer requirements presented in chapter 4. In order for a product or service not to die out, it has to move forward on the s-curve by increasing utility, lowering costs or, preferably, both at the same time. S-curves have been identified for both payment methods and for different types of checkouts.The positioning was based on interviews and observations at IKEA, literature studies and benchmarking.

Figure 5.1 shows the position of the s-curves for payment methods. It shows that cash, cards and mobile payments are used today. Cash has been placed in the aging phase, since there has not been an update of its functions for a long time [40]. The s-curve for cash is special compared to normal s-curves, where the previous s-curve often dies out when the next s-curve reaches its second phase, growth. However, cash has been in the aging phase for a very long time. During that time, the s-curve for checks has both started and ended and the next s-curve, card payments, has reached its third phase; maturity. Nevertheless, in Sweden there is a trend indicating that cash might disappear within the near future [12].

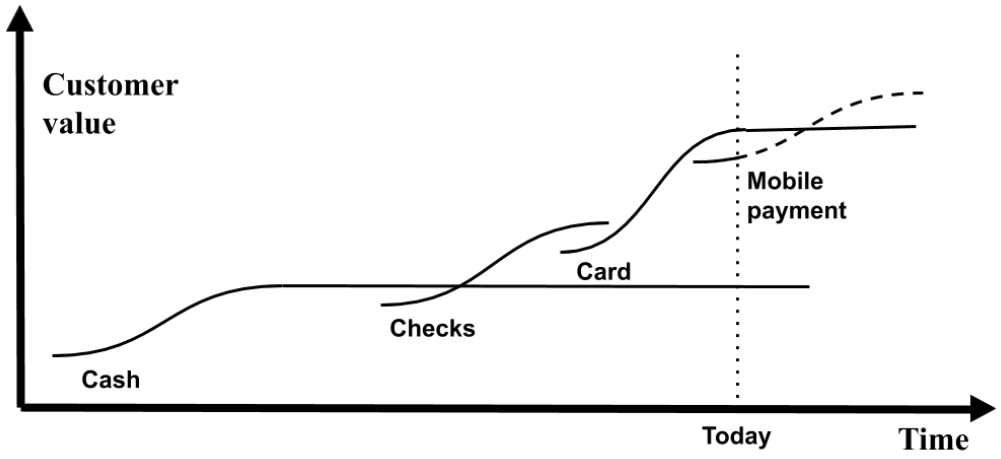


Figure 5.1: S-curve for payment methods

Cards are considered to be in the maturation phase because they are still developing. During 2016-2017 the NFC function for cards was introduced. This function allows the customer to place the card against the card-terminal and for purchases below 200 SEK, no pin is required [11, 40]. The introduction of this feature reduced an unwanted step, entering the pin. The currently new s-curve is mobile payment and it is in its childhood phase, although the technique is already used extensively in China (see section 2.1.3).

Figure 5.2 shows the s-curve for checkouts. The mechanical checkout was invented in 1878 and laid the foundation for the traditional checkout used in IKEA today and is still the standard in most retail-stores [41]. Note that traditional checkouts had been around for a long time before the self checkout was introduced in the market. At IKEA, eco checkouts were introduced over 10 years ago, IKEA being one of the first companies to use this technology. Because there are few new features added to the self checkouts they are considered to have reached the end of the maturity phase and is in the transition to the aging phase [40]. The s-curve for the automated checkout (see section 2.2.3) is just in its starting phase. There is still a focus on the development of main functions, such as handling many people in the store at the same time.

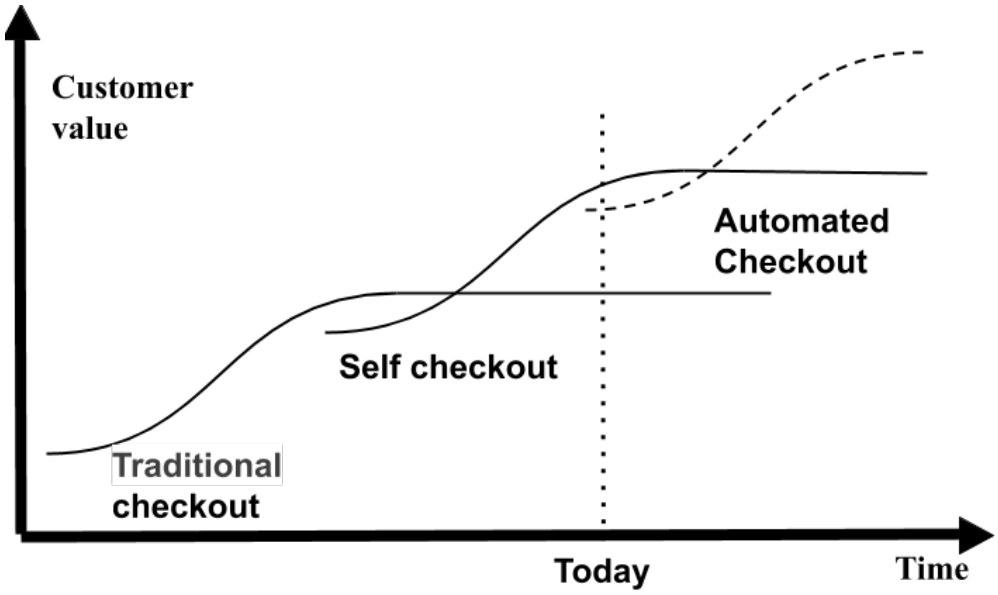


Figure 5.2: S-curve for checkouts

It could be argued that these three s-curves should only be two s-curves. The curve for the self checkout could be included in either the traditional checkout or the automated checkout. The motivation for it to be included in traditional is that the technology is largely the same and the only difference being that the customer scans their items instead of a cashier. The fact that the store does not need any staff who scans the goods is a similarity to the automated checkout.

5.2 Streamlining IKEA's online checkout

To better meet customer requirements "Intuitive payment" and "Short payment process" (see section 4.1) for online shopping, a new flow of the payment process is suggested. The new flow was created based on functions that customers thought were important, to increase the user friendliness and through ideas generated via benchmarking.

The new proposal for the flow in the payment process is shown in fig. 5.3. The first step is the same as today, the customer is able to check and change the selected items. By entering zip code, delivery options are presented, and it is possible to proceed to the next step where a delivery option is chosen. The recommended delivery option depends on how large the items or packages are, but it is also possible to choose another option. In step 3 the customer first chooses if he/she is shopping as an individual or business

customer and personal information and IKEA family membership is added. Note that the information required will depend on the choice of individual or business customer. To get to the last step, the customer must choose how he/she wants to pay. Several payment options should be available, e.g. debit card, invoice, installment plan and gift certificate. In Sweden today the payment process is conducted with Klarna, but since that brand is local to Sweden an idea is to develop a new system, possibly in collaboration with Ikano, which the global IKEA organization already has a collaboration with.

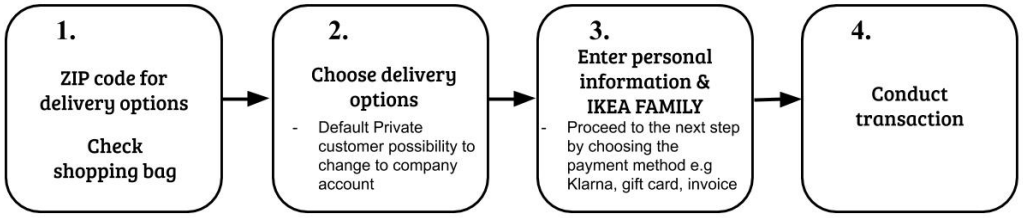


Figure 5.3: Suggested flow for the payment process at IKEA.se

In the new design it should be easy to switch between the different steps. There should be a summary of the previous steps and an indication on the current step, as well as a possibility to see the coming steps. The interface should follow basic design guidelines to make it intuitive to use [42]. For example, in the first step where the customer can change the number of items in the shopping cart, there should be a "+" to increase and a "-" to decrease. Adding colors will make the website more intuitive, e.g. making the delete button red.

The main disadvantage with the system on IKEA.se today is that there are two systems working in parallel. The payment with Klarna is separated from the original payment process. For example, if a customer wants to pay with gift certificate this is not possible from the Klarna process, but the customer must start over in the original payment process found with the small link in fig. 4.2. Therefore, the main advantage with a streamlined checkout solution online is that the flow becomes clearer for the customer and the payment process more user friendly. The SWOT for this proposal is presented in fig. 5.4.

Strengths	**Weaknesses**
User friendly	Takes time and is expensive to develop software that works globally
Adopted to customers wishes	
Clearer flow	Klarna is not present outside Europe
Klarna is well know in Sweden	
Opportunities	**Threats**
Possiblity of upsell	
The online shopping market is growing	

Figure 5.4: SWOT-analysis on a new interface for IKEA's web page

5.3 A single queue system in the checkout desks

As described in section 4.2.1 the queuing system for the traditional checkout and the eco checkout are not equal. In the traditional checkout there is one line for one checkout, while in the eco checkout there is one line for four checkouts. This makes the customer experience that the queue for the traditional checkout is shorter, while in practice it might be slower because only one customer is handled at a time in that checkout. A solution to make the queues seem more equal to the customer, is to have a move even distribution of the number of cash registers to the number of queues.

Within a time-perspective where checkouts are still used in stores, the queues can be smoothed out by using a single queue. A single queue is when there is one queue to many checkouts or even for all checkouts. A minor variant of this is the ones used in eco checkouts today; one line to four checkouts.

What are the reasons for changing the queuing system in the checkouts when there are many other types of solutions where checkouts are not needed at all? Because there is a long way to go before solutions similar to Amazon Go or other automated payment services can be introduced. Introducing a single queue is not as technically difficult or time-consuming as other solutions. Moreover, it is not as big a change for the consumer when shopping but still it improves the experience in the checkout desks.

The implementation of single queues can be done in different ways. Regardless of which alternative being used it is important to have different queues for the

traditional checkout and the eco checkout so that customers can choose line depending on which checkout they want to use. This is important because it was found that there is a large customer group who find the type of checkout they use important.

Alternative 1: Keep the placement of the checkouts as they are today but reorganize the queue so that the traditional checkout has one queue for two checkouts instead of one queue to one checkout as it is today. See fig. 5.5 and note that there is now a single queue for the two traditional checkouts located next to each other. This is easy to implement since the layout in the store is kept, two traditional checkouts are placed next to each other followed by two sections of eco checkouts, but still improves the customer experience by making the lines for the traditional and eco checkout more similar.

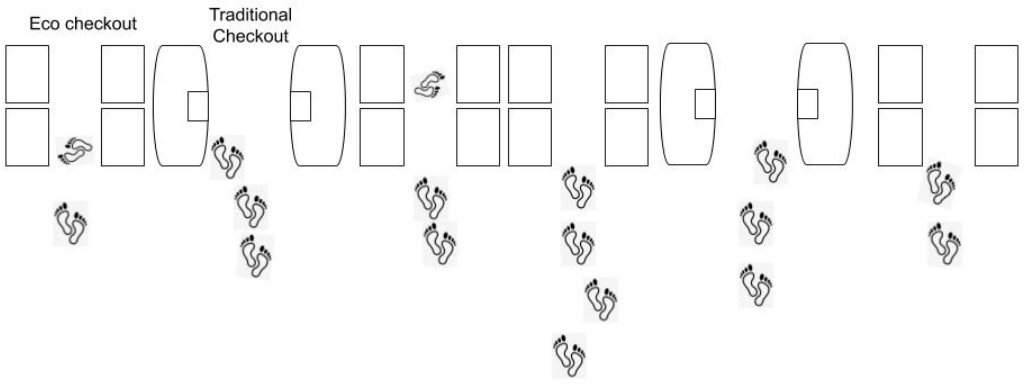


Figure 5.5: Alternative 1 of a single queue system

Alternative 2: Change the placement of the checkouts so all traditional checkouts are placed on one side and all eco checkouts placed on the other, as indicated in fig. 5.6. Implement one single queue for all traditional checkouts and one queue for all eco checkouts. Note that the aisles can be adapted depending on how long the queues are, for fewer customers the straight aisles can be used while for more customer the longer aisle can be used. This alternative demands a larger input to implement, since the location of the checkouts must be change. The advantages are pretty much the same as for the first alternative, adding that the customer now cannot chose the ”wrong” queue eliminating the risk of frustration when detecting that another queue was faster.

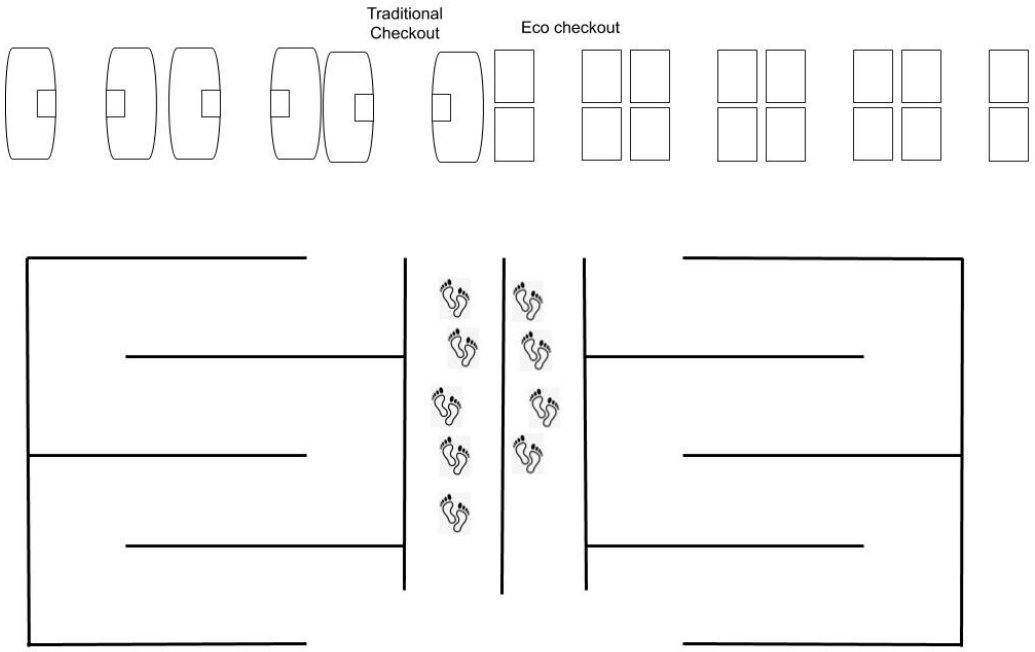


Figure 5.6: Alternative 2 of a single queue system

The main advantage for the customer when implementing a single queue system is that they get a more realistic sense of the speed of the queue by checking the length. The length of the queue will still not give a 100% fair picture, since customers with big and long shopping carts but few items will take up large space. Also, standing in the queue will be perceived as taking less time. This is because the customer is more active in the queue as it is constantly moving. See fig. 5.7 for a full SWOT of the single queue proposal.

Strengths	**Weaknesses**
Visualy equal queue for traditional and eco checkout	Customer is inexperienced in this solution
Easy to implement alternative 1	Queue looks longer
Queue feels faster	Takes more space in the store
	Demands large adjustments in store
	Possibly wider range of short and long queue, must be possible to handle both
	Hard to take a cart through if there are aisles
Opportunities	**Threats**
	Solution is up-to-date for a short period of time

Figure 5.7: SWOT-analysis for a single queue system in the checkouts at IKEA

5.4 Implementation of image identification in the restaurant

Based on the customer demand ”Intuitive queuing system” identified in the restaurant, an idea of a self-checkout with image recognition technique that automatically registers the customer's products was born.

There are several methods that use food recognition technique to help track health and fitness, calorie intake, and help diabetics by logging their daily intake [43–45]. These techniques include methods of identifying food items from a picture and could also be implemented in a real-time camera to identify food items collected by the customer.

According to [46], food recognition has successfully been implemented in a tray, self-service restaurant. A camera scans the food on the tray, and the system continuously determines if there is food in the picture. Since there might be several different kinds of food on one tray (e.g. a plate of meatballs and potatoes, a bottle of water and a brownie), the food must be separated. Once the food is separated all food items are identified and automatically pops up on the screen so that the customer can chose to either scan another tray (if he/she has collected many items) or continue to payment.

At IKEA the physical implementation of food recognition technique in the restaurant would be quite easy. Where the checkouts are placed today the

new automated checkouts could be located, thus maintaining the restaurant's layout. The implementation of this new technology would speed up the payment process, thereby minimizing queues. The customer demand for an intuitive queuing system would be fulfilled since there is no longer any confusion of which side of the terminal the payment is operated. Furthermore, the implementation would mean that IKEA could decrease the number of employees working in the checkout, allowing them focus on other important tasks in the restaurant.

The main advantage of implementing image recognition and self-checkout desks in the restaurant would be the faster payment process for customer and the reduced number of employees needed to handle the four checkouts today. One strength identified from IKEAs perspective is that cash would not have to be handled. Though it should be considered if automatic machines, like those used in supermarkets, could be implemented. The possibility to pay with cash is rather important for customer's in the restaurant and removing it could decrease customer satisfaction. More strengths, and the other aspects of the improvement suggestions is presented in a SWOT in fig. 5.8.

Strengths	**Weaknesses**
Eliminates/shortens the queues	Expensive
Seamless payment process	Training phase for customers
Cash free	Increased risk of theft
Less employees per customer	Reliability of the system
Faster payment process	
Easy to implement in todays layout of the restaurant	
Opportunities	**Threats**
Early adopters	New technology where checkouts are not nessassary at all (e.g. Amazon Go)
Already used within the IKEA group	Implement a cash-station

Figure 5.8: SWOT-analysis for implementing image identification for the restaurant at IKEA

5.5 Extended checkout system for the bistro

The last improvement suggestion is based on the requirements ”Flexible queuing system” and ”Quick payment”, identified in the checkout desks and in the bistro. The solution is based on having different ways to order and pay for food in the bistro, but the same way of delivering the food. Ordering for the bistro should be available in the checkout desks and included in the self-checkout desks in the Swedish Food Market. Preferably, ordering could also be possible from a mobile device via an application. When the customer has ordered and payed for the desired food items, they get a ticket (physical or digital), which they give to the staff in the bistro where they pick up their food. The staff receive the orders digitally and can prepare the food without having a conversation with the customer.

By changing the flow of how to order and receive food in the bistro, the customer requirements will be better fulfilled. The customer will no longer have to stand in, possibly, several queues during one visit to an IKEA store (restaurant, checkouts, bistro, Swedish Food Market and help-desks in store) but ordering for the bistro will be possible from other channels. This is also a step on the way towards IKEAs goal of a seamless shopping experience.

Order and payment for food items should be included in the checkout desks, so that customers who want to grab something to eat after their shopping do not have to stand in yet another line. In the eco checkout it should be possible for the customer to add food items from the bistro, and after payment a ticket should be printed that is used to pick up the food in the bistro. The process should be similar in the self-checkout in the Swedish Food Market. Through the interface, it should be possible to add food items from the bistro in the Swedish Food Market. When the payment is finished, a ticket is printed that is used to pick up the items.

In the traditional checkout there are several options to integrate order and paying for items in the bistro. Either, the cashier could ask the customer if he/she want something from the bistro, or there could be cards of different food item that the customer pick up in the line and place on the conveyor. In the same manner as before, a ticket is printed that the customer uses to pick up the food in the bistro.

To meet all customer segments, a staffed checkout located near the bistro to handle customers who have not shopped in the store and customers who do not feel safe using the self-checkout desks in the Swedish Food Market should be in place. Preferably, a feature of ordering and paying for food items could also be included in the IKEA application. The most optimal physical layout for this proposal could be further investigated but a suggestion is to have

one area of payment. That is, both the traditional checkout for the bistro and the self-checkout desks for the Swedish Food Market are placed close to each other making it clear for the customer that payment could be done in both places, see fig. 5.9. In the other end there could be a pick-up area where customers hand in their ticket and receive the food they have ordered, marked "Food Serving" in fig. 5.9.

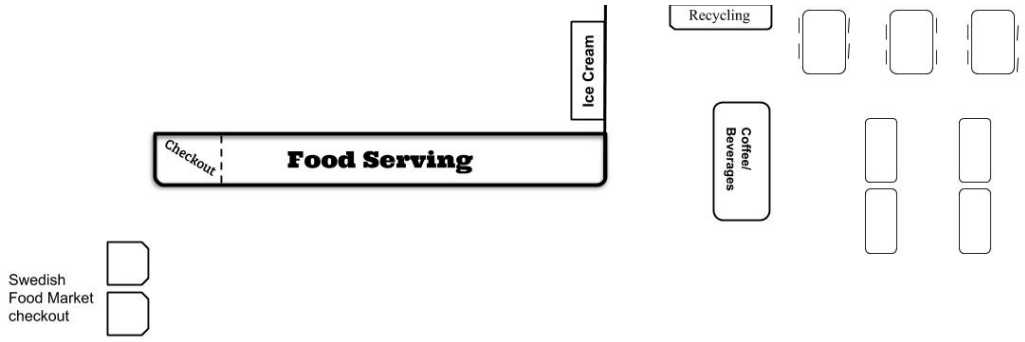


Figure 5.9: Suggested layout in the bistro

The idea is that orders automatically pops up on a screen so that staff can prepare the orders while the customer is on their way towards the pick-up. The pick-up itself could be organized in many different ways, here are two alternatives. First, there could be different stations depending on which product the customer has ordered, e.g. on station for sausages and one for pizza etc. Second, there could be a digital queuing system with a monitor showing the customer when his/her order is ready for pick-up.

The big advantage of this proposal, as shown in 5.10, is that it is in line with IKEAs vision to have an integrated payment solution and to reduce the number of queues for the customers. The bistro is a very well-known concept and has had the same design for a long time. People who visit IKEA already have expectations about how it works before entering the store. Changing it could be a disadvantage but could also potentially improve customer satisfaction dramatically.

Strengths	**Weaknesses**
Quick attendance	Change a well know system
Adapted to all customers, independent of payment choice	Might be an unclear flow
Less employees	Less personal meetings
Shorter queues	Expensive investment for the bistro
Less number of queues	
Integrated solution, in line with strategy	
Additional opportuinites of sales	
Layout is easy to adapt to new payment options	
Opportunities	**Threats**
No other store uses this solution	

Figure 5.10: SWOT-analysis for chaining the ordering in the bistro

As a conclusion to the improvement suggestions we present a visual summary of which customer requirements each of the presented suggestions will meet. The summary can be seen in fig. 5.11. Note that the suggestion ”New payment system in the bistro” opens for a whole new dimension and payment channel through enabling payment via a app.

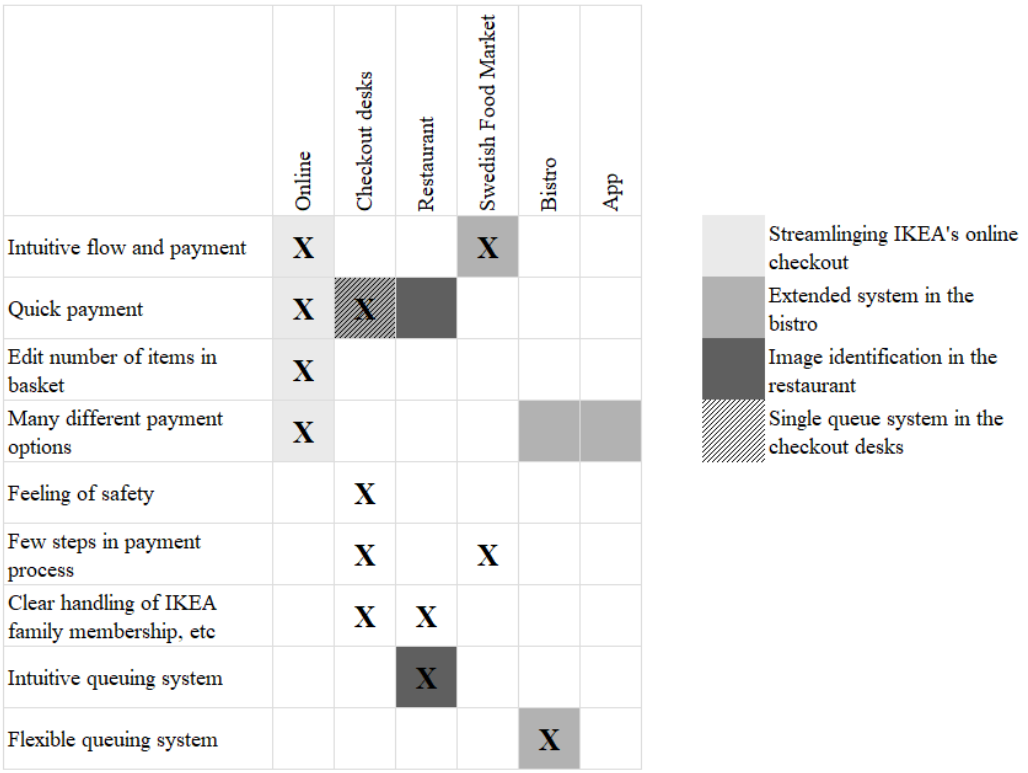


Figure 5.11: Summary of which customers requirements are met by each of the improvement suggestions

6

Discussion

Below follows a discussion about the results found in this study; the identified customer requirements and the suggested improvement proposals. Payment methods and possibilities for the future of payment is also included. The chapter is finished with a discussion about sustainability, sources of errors and future studies within payment systems at IKEA.

6.1 Payment methods

First of all, it is interesting to look at how the choice of payment options varies in the different channels. For example, it was found that customers have a higher tendency to pay with cash in the restaurant than in the checkout desks. Based on what was stated in section 2.4.1, that lower valued transactions are to a greater extent carried out by cash, the fact that the transactions in the restaurant is lower valued might be a reason for this result.

Another interesting finding during the interviews was how many customers who wanted to keep the possibility to pay with cash. At the same time, it was found that very few actually choose to pay with cash, and that card is the number one payment option amongst IKEA's customers. Since Sweden is very close to becoming a cash-free society this could be a way for customers to show dissatisfaction with the development [13]. Some customers expressed concern about the inclusion of minorities, such as the elderly and young children, who might not be as used to cards and mobile payment.

The customer's willingness to pay with card but keep cash as an option is an important, though ambiguous, factor that needs to be considered when deciding upon the continued selection of payment options offered. Even though only a small fraction of customers pay with cash, removing it may reduce customer satisfaction severely. Further, IKEA's target group is, basically, everyone and therefore it is essential that the available payment methods reflects the requirements of all customer groups.

In the restaurant, Swedish Food Market, and bistro, it was important for the customer that payment options such as cash, card and Swish were available. For purchases online and in the checkout desk, where the transaction is often high-valued, payment methods such as debit card, credit card, invoice and installment plan were desired from the customer. But, deciding upon which payment methods are available, it is not just about the customer. Another perspective that must be considered is the cost for IKEA to provide the option. Based on the results of this study a clear majority of all customer's still wants to pay with card and a significant portion want to keep cash-payment. Thus, these two payment methods must be offered. Beyond this, some customers requested the possibility to pay with Swish or through an installment plan. It is important to be up-to-date about which payment options are offered, but the findings in this study indicate that the customer base for other payment options is too small to be valuable.

Moreover, could it be possible to only provide eco checkouts in the checkout desks and remove the traditional checkouts completely? It was identified that many customers could handle the self-checkout in the Swedish Food Market when they were "forced" to use that checkout. Customers did not even seem to be dissatisfied. Though, interviews with employees and observations showed that some customers needed a lot of help in the self-checkout. If implemented in the checkout desks, this would take a lot of time from employees reducing their time for other customers who need help. Today there is also a 20 items limit in the eco checkout. If this limit were to be removed (which would be necessary if only eco checkouts were available) the probability of customers making mistakes in the scanning process would increase and it would take more time to scan all items, increasing the queues.

6.2 Differences in the selection of customer requirements

As we saw in fig. 4.16, a total of nine customer requirements were selected for the payment system in this study. Some of the requirements were selected for multiple channels, for example, the requirement "Quick payment" was selected both for the online payment channel and in the checkout desks. It is important to remember that the requirement of quick payment was also identified in the restaurant and bistro, even though the requirement was not selected for further analysis in those channels.

The fact that quick payment was identified as a requirement in the restaurant and bistro but not selected is an indication that the payment in these channels is already quick enough to meet customer's expectation. Although the actual

payment might not be faster, customers might just have a higher demand for a quicker payment process online and in the checkout desks. It is not unlikely that customers feel more stressed and that the payment process feels like an unnecessary step in the online checkout and in the checkout desks. In these channels the customer has already done all his/her shopping and payment is the final stage before he/she is finished. In the restaurant and the bistro, on the other hand, the customer will sit down and eat his/her meal after payment. Customer's might not feel as stressed to finalize the payment since they have already reserved extra time for relaxing after payment.

Moreover, quick payment was not identified as a customer requirement in the Swedish Food Market. Therefore, the conclusion is that the payment process in the Swedish Food Market is quick enough. This could be due to several reasons. Either the payment process in the Swedish Food Market is perfect, or, as discussed above, customers have lower demands in the Swedish Food Market. Since the payment process in the Swedish Food Market is very similar to that in the eco checkout, it is more likely that the customer demands are lower in the Swedish Food Market than anywhere else. Why is that? The Swedish Food Market is an additional part of the IKEA store, and customers only enter if they have the energy and enthusiasm left to shop more. Therefore, customers that enters the Swedish Food Market likely has more patience than the average customer in the checkout desk, who is tired after several hours of shopping. Therefore, customer requirements might be harder to meet in the checkout desks than in the Swedish Food Market.

"Intuitive flow and payment" was a customer requirement selected online and in the Swedish Food Market, but also identified in the checkout desks and the bistro. Note that, according to appendix A.5, all customers thought that it was easy to pay in the bistro. Therefore, the conclusion is that this requirement is mostly relevant when customers are to handle the payment process themselves, as they are online, in the eco checkout, and the self-checkout in the Swedish Food Market.

Because there is a trend towards managing yourself, many customers feel embarrassed when asking for help. This tendency is also applicable to the payment procedure, since it has become embarrassing to appear weak and be in need of help. With the increase in online shopping and self-checkouts, it is increasingly important to improve the payment systems to be intuitive so that customers do not have to ask for help to handle their errands. This also applies for the checkout at IKEA.

In the checkout desks and Swedish Food Market, "Few steps in the payment process" was a selected customer requirement. As people become more stressed, have less spare time and more things to do, it is important to eliminate as many unnecessary activities as possible. For the payment

system, this would mean to minimize the number of steps. Though, it is interesting that this was not an identified requirement for the online payment channel. This may be due to the requirement being a latent need and not as obvious in the online payment channel. Also, the payment online is divided into the original payment and payment with Klarna. The payment conducted with Klarna is already as short as possible and since most customers online has conducted the payment with Klarna (75-80%), the demand of few steps in the payment process was not identified. Though, it is likely that this is a prominent customer demand in the original payment channel where there are significant more steps in the payment process as indicated in fig. 4.9.

Lastly, the IKEA family card can give customers discounts on selected products and meals. The customer requirement "Clear handling of IKEA family membership etc." was selected in the checkout desks and the restaurant. The requirement was also identified in the Swedish Food Market but was not as prominent there. This is an indication that customers are more concerned about registering the IKEA family membership in channels where there is a direct benefit from the registration. In the bistro, purchases are of lower-value and it is not as important to customers that the bonus system is registered there. The same conclusion could be drawn for the Swedish Food Market. But, since the self-checkout in the Swedish Food Market "forces" customers to register their family membership through a question about it, it was brought up as a customer need there.

6.3 Evaluation of the suggested improvements

Here, the four improvement suggestions are discussed based on the presented SWOT-analyses and from the perspective of the s-curves presented in section 5.1.

6.3.1 Streamlining IKEA's online checkout

As we saw in fig. 5.11, the improvement suggestion of a new flow in the online payment channel would have the possibility to meet all the selected requirements in this channel. The main advantage of this proposal, in addition to meeting more customer requirements, is that it helps make the online payment more user friendly. Satisfied customers mean customers that come back and recommend the service to their friends. Thereby, this suggestions gives an opportunity of a strengthened brand name.

Further, IKEA has found that many online customers abort their purchase

in the checkout. By making the checkout more user friendly, less customers might abort the purchase, creating possibilities of more sales. When IKEA implemented the Klarna checkout, they saw that the conversion rate increased with 47% respective 18% in mobile devices and desktops. It is clear that the Klarna checkout is more user friendly, and that a user friendly checkout results in a higher conversion rate, and thereby more sales. By eliminating the original checkout and only providing one checkout solution online, the conversion rate could increase even more, giving possibilities of up-sells.

To develop a software to fit a global organization and many different countries can be hard. Differences in laws and regulations put great demands on the software and creates sprawling requirements that has to be fulfilled to develop a solution that fits all countries. Besides, customer needs can differ between countries and cultures, thereby complicating the system specification further.

According to [25], the online payment channel is growing and the service is probably in its steepest phase of its s-curve. Since the s-curves of checkouts were found to be rather long, online shopping will most likely be relevant for a long time even though it has already been used for a few years. Since the curve of online shopping has already taken off, the customer base is large and there are great opportunities in developing the online service.

The design of online shopping will most likely change to meet new generations requirements. As described in section 2.3, millennials have expressed a need for customized solutions and are not satisfied with the online shopping solution as it is today. In particular, the delivery options have been specified as one of the biggest disadvantages with online shopping, and a change towards quicker and more customized delivery solutions is probable. Servitization is an area that will grow also within online shopping and delivery. For example, products bought online will probably be delivered directly into the customers car or home in order to make the shopping as smooth as possible.

6.3.2 Single queue system in the checkout desks

The suggestion of a single queue in the checkout desks is one of the easiest to implement in the store, especially alternative 1 which does not require any difficult, expensive or time demanding physical changes. Yet, implementing the suggestion will increase customer satisfaction. The queues of the traditional and eco checkout will seem more equal and they will feel faster as the customer is continuously moving in the queues. The identified weaknesses of this proposal, as presented in fig. 5.7, are mainly for the second single queue system. The implementation could make it hard to take large products through the queues and it would require employees to be more involved in the queuing, adapting the aisles to the number of customers. In addition, it

would require large physical changes in the store and take up considerately more space. Therefore, alternative 1 of a single queue could be implemented directly while the benefits compared to the drawbacks should be further investigated and tested for alternative 2.

It is clear that the s-curve for an automated checkout, as seen in fig. 5.2, is in the very beginning and it is not yet entirely clear if this is a curve that will take off or if the development will go in another direction. The implementation of a single queue in IKEA stores would not help the development towards the next s-curve of an automated checkout since this is only an improvement of the traditional and eco checkout as they are today. Though, since the automated checkout solution has not yet bloomed, the majority of all customers are not ready for the transition to an automated checkout, making this a safer way to improve customer satisfaction.

6.3.3 Image identification in the restaurant

By implementing image identification in the restaurant, the queues can be shortened through a quicker payment process. The payment flow in the restaurant would be clearer and the payment more seamless. Through implementing a more automated checkout, less employees would be needed to handle the checkout and the freed up resources could be used to increase customer satisfaction in other areas.

The implementation of image identification in the payment process is a step towards an automated checkout solution. The suggestion can be argued either to be a separate, short s-curve placed between the curve of self-checkout and automated checkout, or as the first step of the s-curve for the automated checkout. Anyhow, this suggestion is definitely a step between the eco checkout and the automated checkout in one way or the other. The basic idea behind the eco checkout, that the customer scans the items, is reduced, while the checkout is not 100% automated since customers still have to accept and conduct the transaction. On the other hand, all new curves starts with basic improvement and thereafter develop into more advanced technologies within the same are. Only time will tell whether image identification in the restaurant is a one time appearance or the beginning of the automated checkout curve.

Regardless of whether this is a separate curve or not, it is the beginning of something new and creates an opportunity for IKEA to be a leader in this development. By implementing a technology in the beginning of the s-curve there are possibilities of adjusting the solution to customer requirement. The technology will also be relevant for a long time, enabling great opportunities to get a good return on the investment even if the technology is a large cost

in the beginning.

Since the suggestion covers many important customer requirements, has many strengths and opportunities and a similar solution has been proven to work, this suggestion is considered to be a safe investment.

6.3.4 Extended checkout system in the bistro

The most amazing thing about an extended checkout solution for the bistro is that it extends over several channels, thereby creating an overall feeling that the parts of an IKEA store are connected. By introducing the opportunity to place orders for the bistro in other payment channels, the number and length of the queues can be reduced since less customers have to queue multiple times.

Another strength with this solution is that it opens up for a whole new payment channel, mobile payment via the app. According to fig. 5.1, mobile payment is in the beginning of its s-curve and will soon enter its steepest phase where many users adopt the technique and the development accelerates. The main advantage of implementation in this phase is that IKEA is seen as relevant and up-to-date within payment since they are one of the first to provide the new technique of mobile payments. There are also great possibilities of adopting the technology to how customer requirements changes, when implementing the technique at an early phase.

The main weakness is that customers are not familiar with this flow and might be confused about the added features in the other payment channels. That is, not understanding the benefits or how to use the new features of ordering for the bistro in the checkout desks and Swedish Food Market. Besides, since IKEA is a rarely visited store it will take time before customers are used to the new system and can take full benefit from it.

The conclusion of this discussion is that there is no single solution that can be implemented to meet all customer requirements. The suggestion of an extended payment system for the bistro would meet many customer requirements identified in different channels and be in line with the vision of seamless shopping experience, since payment for the bistro is integrated in other channels. However, it is not possible to find *one* comprehensive payment solution that covers all customer needs both online and in store. The main goal should not be to find that one solution to fit all payment channels but instead be to achieve an equal customer experience both online and offline.

6.4 The future of payment

Based on section 2.1, it is clear that the development within payment systems has moved very quickly during the last 20 years. Based on new technology that enables revolutionizing automated payment solutions, such as Alipay in China and Amazon Go in the US, it is not likely that the development will stop here. Even though the technology is developing rapidly there is not an incline to change within payment solutions. The ancient payment method of cash is still up-to-date and although other payment methods have been developed, many still believe that it is important to keep cash as payment option. The market of payment solutions is slow moving.

All new technology has a period of novelty, though that period is about to drop for the online shopping channel. As stated in section 2.3, millennialls (people born 1982–2001) are comfortable with buying online, but still choose to buy in store. This is an indication that it is not enough with a technological push, but there also needs no be a customer pull for a solution to become long-term.

Right now, we are in the middle of a very interesting time within payment solutions. The technological push and digitalization are mega booms that will change our whole foundation. The hype around Amazon Go is large and many journalists and customers visit the store just to check out the technology. In China, mobile payments have exploded. But is this really the future for payment solutions? Younger people already tend to decrease their online purchases, indicating that the shopping is going back to historic well-known processes. Only 2% of the value of all transactions in Sweden are made by cash, but still it was found that customers demand the opportunity of paying with cash [13]. Perhaps the future is found within automated checkout solutions, or we might go back to the classic store solution with manual checkout including a personal meeting.

6.5 Sustainability connected to payment systems

Having a good discussion about sustainability based on the three aspects environment, economy, and social factors linked to this paper, it is difficult to find a good entrance. Though the subject of sustainability is large, few parts are relevant to the scope of this study.

From the economic perspective, IKEA wants all operated changes to lead, directly or indirectly, to increased sales. An increased sale can, from an

economic perspective, be seen as something positive because it results in higher turnover of money in the world. From an environmental perspective though, there are negative aspects on selling more goods. More products are processed, transported and thrown away. In order to reduce the environmental impact of IKEA's products, a higher focus could be put on working with circular economics, for example, taking care of products after use, recycling or re-use of products. Exactly how this is could be applied is beyond the scope of this project.

Social sustainability is about well-being, justice, power, rights, and the needs of the individual. IKEA is trying out a new concept of cash-free stores and, as an example, their store in Gävle, Sweden is completely cash-free [47]. If this is really the optimal thing to do from a sustainability perspective is not entirely clear. Several factors indicate that a full transition towards a cash-free society is not optimal on a short term. As mentioned before, many of IKEA's customers want to use cash for payment and there are also studies indicating that the older generation is using cash to a great extent. Further, there are uncertainties as to how robust a cashless system is, for example, if mobile or internal connections stop working [48, 49]. In order for IKEA to include everyone in society, it is a good idea to retain the current payment methods, including cash, but continue to develop alternatives.

6.6 Risks and sources of error

There are a few factors that could have affected the quality of this study. Firstly, the surveys used for the online payment channel were conducted from October 2018 to January 2019 on the Swedish web-site, IKEA.se. In Sweden there is currently a test of the use of Klarna as payment method. The use of Klarna was finalized and operated in full range on the Swedish web-site in late summer/early autumn 2018. Therefore, the implementation of the technique and possible problems that arise with new systems should not have affected the outcome of the surveys. However, from the customer perspective, payment with Klarna at IKEA was still a rather new thing, especially since IKEA is rarely visited. Therefore, it was not unusual with comments such as "like to pay with Klarna", or "does not like Klarna". These were comments that existed, at least to some extent, because the collaboration with Klarna was relatively new. Also, since the survey used for data collection online was not constructed with the purpose of this study, the quality of the material was slightly lower than if a survey had been constructed solely with the purpose of investigating the payment system. Much of the available data from the Exit Poll was not relevant for this study and therefore discarded in the data collection phase.

As presented in chapter 4, the online payment channel had the largest data set with 230 customer responses. For the checkout desks, 67 interviews were conducted and for the restaurant, 44 interviews were conducted. 20 interviews were conducted in the Swedish Food Market and 16 in the bistro. Since the data collection in this study was of qualitative nature, this is considered to be enough data points to ensure the quality of this study. It is also obvious that the Swedish Food Market and bistro were not the main payment channels, which is why the number of interviews in these channels are slightly lower. Note that the interviews in each channel were carried out over one workday and, therefore, there is a risk that all customer segments have not been covered in this study. Though, the answers were quite homogeneous in all channels, and therefore the conclusion is that the risk of missing out comments from extreme users is fairly low.

For the data collection in the store, the biggest challenge was to formulate short but covering questions. It was important that the questions asked in the store were quick so that the customer was not interrupted for too long during his/her shopping. The customers were not in the store to answer questions, but to shop at IKEA. While questions needed to be short not to interrupt the customer, they also had to be deep enough to get good answers. By asking questions that normally would have suited an in-depth interview, a lot of information could have been collected. In order to manage both these requirements, a quick interview and nuanced answers, three questions were produced for each channel. The questions were short and concise. Normally, in-depth interviews with a few customers and shorter interviews with many customers to ensure that the results cover the whole customer spectrum would have been optimal from a researcher's perspective. However, it was not possible to talk to one customer for 30 minutes or so, since that type of interruption would affect the overall experience with IKEA too much.

6.7 Possible future studies

In this study, many customer requirements were identified for the payment process online and in-store (checkout desks, restaurant, Swedish Food Market, and bistro) in accordance with sections 3.4 and 3.5. Nine customer requirements were selected for further analysis, as presented in fig. 4.16. Based on the selected requirements four improvement suggestions were developed and presented in sections 5.2 to 5.5. As we can see in fig. 5.11, all requirements are not met with the suggested improvements. Therefore, two additional ideas are presented that have the possibility of handling these customer needs. The ideas would require more work before being ready for implementation, but further studies about the ideas could increase customer satisfaction

dramatically.

6.7.1 The payment process in the checkout desks

The first idea for further studies is to investigate the flow in the payment process in the eco checkout. Throughout this study it has been identified that the eco checkouts in store do not maintain a sufficiently high standard to meet customers' requirements. In the checkout, it is important to the customer that the payment is quick, and one way to achieve this is to minimize the number of steps in the payment process. Furthermore, the system used in the eco checkout at IKEA was developed in the early 21st century, making the system fairly old. It is obvious that an update is needed.

It should therefore be investigated how a new solution for the eco checkout could look like. By keeping the number of steps to a minimum, the requirement "Few steps in the payment process" can be met. A focus should be put on creating a user friendly interface. Payment options, the possibility of manually registering barcodes and to a greater extent using symbols and boxes to reduce the amount of text on each screen are some things to keep in mind during this development. This would be a way to also meet the customer requirement "Feeling of safety" as an improved user interface can reduce uncertainty and anxiety about how to use the eco checkout.

6.7.2 Possible use of an automated checkout solution

As described in section 2.2.3, Amazon has just introduced a new store with a fully automated checkout. The current development within payment, customers' urge for a quick payment, IKEA's goal of a seamless shopping experience and a seamless payment included in the shopping are all factors that would be covered with a solution like Amazon's. Actually, *all* customer requirements identified in store would be met by such a solution.

Today, this technique struggles with handling many customers simultaneously and the technology is very expensive. Since a solution of an automated checkout would meet all customer needs for the payment process, it is highly interesting to stay up-to-date with the development within this technology. Identifying the right time to invest in the technology could give a very good return on investment and make IKEA trend setting in the area of payment solutions. Therefore, the development within the technique of an automated checkout should be carefully followed and possibilities for implementation at IKEA could be further investigated.

7

Conclusion

The development within payment solutions is quick and since payment still is the very last activity when shopping it is important to stay up-to-date so that customers leave the store with a positive experience. Continuous improvements are always beneficial. In this study, nine customer requirements were selected for the online payment channel, the checkout desks, restaurant, Swedish Food Market, and the bistro. It is clear that the payment systems could be improved to further increase customer satisfaction at the already popular furniture store IKEA.

Four main improvement suggestions are recommended in order to better meet customers' expectations and the identified requirements.

- Streamlining IKEA's checkout online
- A single queue system in the checkout desks
- Implementation of image identification in the restaurant
- Extended checkout solution for the bistro

The combination of these four improvements creates a great base of both short-term and long-term suggestions. Together they cover many of the most important customer requirements for the payment channel and helps take the payment systems at IKEA to a new level, preparing IKEA for the future.

IKEA's main goal is to create a seamless shopping experience online and offline. The conclusion of this master thesis is that there is no single solution that can cover all customer requirements online, in the checkout desks, restaurant, Swedish Food Market and bistro. The main goal should therefore not be to find to find one solution that is to fit all channels, but to focus on creating an equal customer experience both online and offline.

Bibliography

[1] A. J. Rohma and V. Swaminathan, "A typology of online shoppers based on shopping motivations", Journal of Business Research **57**, 748–757 (2004).

[2] Inter IKEA Systems B.V., *Vårt arv*, `https://m2.ikea.com/se/sv/this-is-ikea/about-ikea/vart-arv-pubad29a981` (visited on 01/29/2019).

[3] Inter IKEA Systems B.V., *1940-1950*, `https://www.ikea.com/ms/en_AU/about_ikea/the_ikea_way/history/1940_1950.html` (visited on 01/29/2019).

[4] *Varumärkesrapporten*, Mediekompaniet (2018).

[5] Inter IKEA Systems B.V., *IKEA fakta och siffror 2018*, `https://m2.ikea.com/se/sv/this-is-ikea/about-ikea/ikea-fakta-och-siffror-2018-pubfd3597c1` (visited on 01/29/2019).

[6] A. Beattie, "The history of money: from barter to banknotes", Investopedia (2015).

[7] G. Davies, *A history of money - from ancient times to the present day*, Third Edition (University of Wales Press, 2002).

[8] M. Goodfriend, "Monetary policy comes of age: a 20th century odyssey", FRB Richmond Economic Quarterly **83**, 1–22 (1997).

[9] J. Stavins, "How do consumers make their payment choices?", Research Data Reports **17** (2017).

[10] J. Weatherford, *The history of money* (Three River Press, 1997).

[11] Bästa kridikortet, *Vad är blippa?*, `https://bastakreditkortet.com/vad-ar-blippa/` (visited on 04/24/2019).

[12] Handelsrådet, *Det kontantlösa samhället*, (2013) `http://handelsradet.se/forskning-och-utveckling/forskningsprojekt/fristaende-projekt/det-kontantlosa-samhallet/` (visited on 04/16/2019).

[13] Sveriges Radio, *Allt färre använder kontanter*, (2016) https://sverigesradio.se/sida/artikel.aspx?programid=83&artikel=6382359 (visited on 04/16/2019).

[14] BBC - Business Daily, *China goes cashless*, (2017) https://www.bbc.co.uk/programmes/w3csw83z (visited on 02/07/2019).

[15] J. Saarinen, *Mobile payments in china: why foreign businesses should adopt a strategy*, (2018) https://www.china-briefing.com/news/mobile-payments-china-foreign-businesses-china-adopt-strategy/ (visited on 04/07/2019).

[16] S. Atkinson, *Wechat hits one billion monthly users - are you one of them?*, (2018) https://www.bbc.com/news/business-43283690 (visited on 04/07/2019).

[17] Museum of American Heritage, *The history of cash registers*, (2014) http://www.thecorememory.com/The_History_of_Cash_Registers.pdf (visited on 05/02/2019).

[18] Goran Blazeski, *Piggly wiggly – the first true self-service grocery store*, (2016) https://www.thevintagenews.com/2016/12/25/piggly-wiggly-the-first-true-self-service-grocery-store/ (visited on 05/04/2019).

[19] National Museum of American History, *Cash and credit registers*, https://americanhistory.si.edu/collections/object-groups/cash-and-credit-registers (visited on 05/02/2019).

[20] Adriana Hamacher, *The unpopular rise of self-checkout(and how to fix them)*, (2017) http://www.bbc.com/future/story/20170509-the-unpopular-rise-of-self-checkouts-and-how-to-fix-them (visited on 05/02/2019).

[21] A. Gunnarsson, *Följ med in i amazon go – det nya butikskonceptet*, https://www.acando.se/vad-vi-kan/teman/smart-retail/folj-med-in-i-amazon-go-det-nya-butikskonceptet/ (visited on 02/08/2019).

[22] Amazon, https://www.amazon.com/b?node=16008589011#nav-top (visited on 02/08/2019).

[23] D. Bosa, "Amazon's automated grocery store will launch monday after a year of false starts", CNBC Tech (2018).

[24] Alanis Business Academy, *The consumer buying process: how consumers make product purchase decisions*, (2012) https://www.youtube.com/watch?v=zPFeoNkZYGc (visited on 04/04/2019).

[25] Willy Kruh, KPMG International, "The truth about online consumers", (2017).

[26] S. Schuh and J. Stavins, "How consumers pay: adoption and use of payments", Working Papers **12** (2011).

[27] R. Teigland, *The rise and development of fintech*, 1st ed. (Taylor and Francis, 2018).

[28] *Om oss*, `https://www.klarna.com/se/om-oss/` (visited on 05/05/2019).

[29] *Vilken klarna lösning är du intreserade av?*, `https://krokedil.se/klarna/` (visited on 05/05/2019).

[30] `https://www.paypal.com/se/webapps/mpp/pay-online` (visited on 05/05/2019).

[31] *Om swish*, `https://www.getswish.se/om-swish/` (visited on 05/05/2019).

[32] K. T. Ulrich and S. D. Eppinger, *Product desing and development* (McGraw-Hill, 2012).

[33] P. Wallgren, *Methods to support analysis - from data to requirements*, Lecture, 2017.

[34] A. Bryman and E. Bell, *Business research mathods* (Oxford university press, 2011).

[35] B. Bergman and B. Klefsjö, *Quality - from customer needs to customer satisfaction* (Studentlitteratur, 2010).

[36] Apotea, *Om apotea.se*, `https://www.apotea.se/om-apotea` (visited on 04/18/2019).

[37] H&M, *H&m-gruppen i korthet, fakta och siffror*, (2018) `https://about.hm.com/sv/about-us/h-m-group-at-a-glance.html` (visited on 04/16/2019).

[38] H&M, *1980–1999*, `https://about.hm.com/sv/about-us/history/the-90_s.html` (visited on 05/08/2019).

[39] H&M, *Hennes & mauritz ab full-year report*, (2019) `https://about.hm.com/en/media/news/financial-reports/2019/1/3190999.html` (visited on 05/08/2019).

[40] P. Lindstedt and J. Burenius, *The value model - how to master product development and create unrivalles customer value* (Nimba AB, 2006).

[41] Kassaregistrets.it, *Kassaregistrets historia*, `https://www.kassaregister.it/faq/49-kassaregistrets-historia.html` (visited on 04/24/2019).

[42] M. Bohgard, S. Karlsson, E. Lovén, L.-Å. Mikaelsson, L. Mårtensson, A.-L. Osvalder, L. Rose, and P. Ulfvengren, *Work and technology on human terms* (Prevent, 2015).

[43] S. HOI, *Food image recognition by deep learning*, () http://images.nvidia.com/content/APAC/events/ai-conference/resource/ai-for-research/FoodAI-Food-Image-Recognition-with-Deep-Learning.pdf (visited on 04/10/2019).

[44] Liu C., Cao Y., Luo Y., Chen G., Vokkarane V., Ma Y., "Deepfood: deep learning-based food image recognition for computer-aided dietary assessment", Inclusive Smart Cities and Digital Health. Lecture Notes in Computer Science **9677**, 37–48 (2016).

[45] SRI International, *Food recognition technology*, https://www.sri.com/engage/products-solutions/food-recognition-technology (visited on 04/10/2019).

[46] E. Aguilar, B. Remeseiro, M. Bolanos, and P. Radeva, "Grab, pay and eat: semantic food detection for smart restaurants", IEEE Transactions on Multimedia **20**, 3266–3275 (2018).

[47] IKEA, *Ikea gävle först ut när ikea testar kontantfritt*, (2018) http://press.ikea.se/ikea-gavle-forst-ut-nar-ikea-testar-kontantfritt/ (visited on 05/08/2019).

[48] TT, "Mätning: svensken bävar för kontantlöst samhälle", Dagens Industri (2019).

[49] Sveriges Radio, *Gäller att krama mer pengar ur varje huvud*, (2019) https://sverigesradio.se/sida/avsnitt/1226855?programid=3626 (visited on 04/18/2019).

A

Customer statements and requirements

In this section, a list of customer statement connected to each identified customer requirement is presented. Statements are taken from interviews with customers and employees, as well as from observations. If several customers have said the same thing this is indicated in brackets after the statement. E.g. "Easy to order (11)", means that 11 people said that it was easy to order.

A.1 Online

- Intuitive flow and payment *
  - Could not register IKEA family membership
  - Did not get the opportunity to register IKEA family membership
  - Messy page
  - Easy to order (11)
  - Hard to finalize the order
  - Works well to order
  - Quick and easy to shop
  - Messy order, hard to find where to complete the purchase
  - Had to call customer support to place an order
  - Hard to conduct the purchase with Bank-ID
  - Can not pay with gift certificates (4)
- Equivalent performance in all devices and browsers
  - Cannot order on an iPad

  - All browsers do not work all the time
  - Easy with a smart-phone
  - Wish that the application was better
  - Clear whether an item can be purchased online or not
  - Can not chose delivery option in all browsers

- Equal services in all platforms
  - Cannot chose pick-up in Eneby anymore, bad
  - Would like to book time on the day for delivery, but it does not seem to be possible. I do not work from home and cannot take a day off to wait for delivery
  - It is impossible to shop it the item is not in stock at the closest store. Then one have to know people in other cities or drive a long way yourself
  - In store one can order home delivery for the same day, but not when ordering online, why? (3)

- Quick payment *
  - The page is slow/it does not work to add items in the basket
  - Many steps in the payment process
  - The web page is slow
  - Quick and easy (20)

- Clear information about delivery **
  - Items is marked red when I enter zip code
  - Good delivery cost (2)
  - Clear delivery cost
  - Should be possible to view delivery cost before going through all steps
  - Unclear what assemblage costs
  - The delivery cost is not always shown
  - Would be good to see price limits for delivery cost
  - Good to see weight/volume of a package to know if it will fit i a postal package
  - I would have liked to know how large and heavy the final package will be

  - Missed name of delivery points, want to know where to collect my package (2)
  - Got insecure if social security number will be visible on the package, because I do not want that
  - The delivery times changed after I had conducted the payment
  - Hard to find delivery information
  - No information about delivery via SMS or e-mail
  - Unclear how delivery communication will happen
  - Could have been clearer which delivery times that apply
  - Easy to see choices for delivery
  - Could not choose where to pick up postal parcel
  - No information about time of delivery
  - Need clearer information about ”pick up at a store”. Says 2 days but to understand why one has to read the terms and conditions
- Many different payment options
  - Bank-ID is great (2)
  - Hard to conduct the purchase with Bank-ID
  - Miss direct payment with Bank-ID
  - Good with different payment options (4)
  - Can not pay with foreign credit card (2)
  - Can not pay with gift certificates (4)
  - Hard to understand/weird payment options
  - Would have liked more payment options, e.g. direct payment via my bank
  - Miss to pay with Swish (2)
  - Hard to find available payment options
  - Quick and smooth to pay with Klarna (4)
  - Very good since one can pay with Klarna (5)
  - Do not like the connection to Klarna (2)
  - Hard to do the payment with Klarna (2)
  - Could not pay with card via Klarna (2)
  - Pay in parts with Klarna was sent to a new web page
  - Easy to chose card payment instead of invoice

  - Could not accept the purchase despite using Bank-ID

- Edit the number of items in the basket **
  - Could not change number on an item I had accidentally put in twice. Tried to reload the page and everything
  - Trouble with the wrong number of items in the basket
  - Can not change number of items after entered the payment
  - Hard to change and delete items in the basket (4)
  - Should be possible to edit the number of items in the basket (2)
  - Can not add another item of the same sort in the basket

- Summation of items and cost in the basket
  - Hard to quickly check ones basket
  - You should have a summation of the total cost in the basket
  - Misses that total cost and stock balance is not shown in the basket

- Possibility to export items from the planning tool to the basket
  - Hard to move items from the planning tool to the basket
  - Hard to move items to the basket from PAX planning tool
  - Add a function to export items from planning tool to basket

- Possibility to see product page from the basket
  - Can not click on a product in the basket (2)
  - Should be possible to click on an item to get information about it

- Reliable basket **
  - The basket is emptied if one does not conduct the purchase directly. I want to have the order open a few days and add items continuously
  - The basket was emptied after a day or so and I had to start all over (2)
  - The basket emptied when I looked on other stuff but came back when I chose to proceed to payment
  - Sometime one gets logged out and that is not visible right away
  - Good that one can save the basket for several days (3)
  - The page loads when I try to add items to the shopping list
  - Problems with adding items to the shopping list
  - Suddenly an item jumps out of the basket
  - An item disappears when I add another item to the basket

A.2 Checkout desks

- Clear handling of IKEA family membership, bags, goods delivery etc. **
  - Need help in the eco checkout registering large or small bag
  - I often need help in eco checkout with IKEA family card, bag etc
  - Need help getting goods in the goods delivery
  - Difficult to register IKEA family card. Many cards are demagnetized, and customers then need help. Today you can register with a driving license or a personal ID number.
  - Personal number does not always work to register family cards. The customer cannot see for themselves if they are members, they only receive an error message that the staff must handle (eco).
- Few steps in the payment process !
  - Eco: There were many choices and steps, I just want to put in the card and scan the items
  - Many choices in eco
  - Items of two parts, eg box and lid, is a problem in the eco checkout. The customer is asked if they have both parts, stop and need press "OK".
- Sense of individual adaption of work tempo
  - I have a disability and do no shop if there is no self-checkout
  - I like to work at my pace and structure packing in eco
  - Messy, hard and stressful in the traditional checkout
- Staff available **
  - I need to train myself to use eco if only that were available
  - Don't like to scan
  - Needed help with gift certificates
  - It was a difficult card reader
  - It didn't work to scan a barcode in eco checkout, had to ask for help
  - It gets wrong in eco
  - Needed help getting staff discount

  - It feels uncertain in eco
  - Don't just like eco, want help

- Feeling of safety *
  - I need to train myself to use eco if only that were available
  - Chose traditional because it is safer
  - Good not to have responsibility in trad
  - Good that the employee was careful with delicate items
  - Feel unsafe in eco "What should I do now", "Oh, help"
  - Eco works well if you know what to do
  - It feels uncertain in eco (2)
  - easy that things break into eco checkout

- Space to take groceries through the checkout **
  - Customer's wants a bigger band. I (employee) think it works well. Larger bands = longer bands, such as, for example, GeKås.
  - It is crowded at the eco checkout if you are more than 2 at the station
  - All items do not fit on the band, in trad
  - small storage area, in traditional checkout when packing items"
  - Small band and Plexiglas makes it impossible to access the whole band to put up items

- Intuitive payment **
  - Needed help with gift certificates
  - It was a difficult card reader
  - Selected traditional because I had an invoice since before
  - Selected traditional checkout because that is easier as a company
  - Gift certificates do not usually work
  - Eco checkout works well if you know what to do
  - Chose eco checkout because it's easier
  - Unsure about the technology in eco checkout want the help from the staff
  - It is unclear how to confirm the payment by signature
  - Edit number and deleting products, can be done by the customer himself, but many cannot handle it

- Possibility to pay with cash *
  - Like traditional checkout because you can pay in cash
  - I chose traditional checkout because you can pay in cash
  - I wish to pay by card or cash
  - I want cash to remain
  - Want to pay with cash in eco checkout
  - It does not matter how I pay
- Possibility to pay with card **
  - I wish to pay by card (including the NFC function)
  - I wish to pay by card or cash
  - It doesn't matter how I pay
- Availability of other payment options
  - Good if all payment methods are offered
  - I want to be able to split the payment at the checkout
  - I wish to pay with Swish
  - It doesn't matter how I pay
  - We should switch to apps
  - Want to pay with Klarna if the purchase is over 500 SEK
  - Gift certificates do not usually work
- Personal meeting **
  - Personal treatment
  - Nice to meet a cashier in the traditional checkout
  - We (employees) are not there to stop thefts, we are there to help the customer
- Quick payment *
  - Long queues in the traditional checkout.
  - The eco checkout is quick
  - I chose the eco checkout because the queue was shorter
  - In the traditional checkout cashiers are experienced so it goes fast
  - I chose the traditional checkout because too few eco checkouts were opened

  - I like the eco checkout because it's faster
  - I like the traditional checkout because it's fast
  - It was not so good that it took time in the checkout
  - I chose the traditional checkout because it was a shorter queue
  - Often shorter queue in the eco checkout
  - Good that there were no queue in the eco checkout
  - The eco checkout is faster if you have an organized shopping cart
  - Complex errands creates a queue when there are problems in the eco checkout
  - I want more personnel so that it goes fast
  - I chose checkout depending on how long queue it is
  - I wonder why more checkouts are not open, there were a little queue
  - In the eco checkout the cashier should check that all items are collected, i.e. 2-pack goods. The customer does a lot themselves but it's easy to get it wrong.
  - There is no multiplication system for the customer, so if the customer buys many of the same product the cashier tries to see that and help out.
  - The cashier can pause a payment process and take another customer in-between
  - The new card terminals are very quick. The cashier does not need to present as many notes (1 instead of 2). It is also quicker for the customer to get their money back
  - Multiple package goods take time in the eco checkout. The customer gets a question if they have collected both items which hinders the flow in the checkout process.
  - Items of two parts, e.g. box and lid, is a problem in the eco checkout. The customer is asked if they have both parts, stop and need press "OK".

- Intuitive queuing system
  - 1 queue to 4 checkout eco, 1 queue to 1 checkout in traditional. Looks to be shorter queues in traditional but can go slower
  - Gender begins further into the store for eco (makes the sex look further, about 2.5 m difference)
  - Queue in the traditional checkout cannot be seen from the customers' perspective when they come from the store due to a pillar

  - A lady misses the queue to the eco checkout
  - Hard to come from the bargain-department into the checkouts
  - The queue for eco starts further in the store than the traditional queue. Makes the length of the queues look different even if they are not

A.3 Restaurant

- Possibility to pay with card *
  - I wish to pay with card
  - I wish to pay with card with NFC
  - I do not wish to pay with Swish
  - Firstly I want to pay with cash, secondly with card
  - Both cash and card should be available
  - It is good the way it is
- Possibility to pay with cash *
  - I wish to pay with cash
  - I do not want to pay with Swish
  - It is important that cash is an option
  - Firstly I want to pay with cash, secondly with card
  - Both cash and card should be available
  - I am satisfied with the way it is
- Personal meeting **
  - The checkout was not acceptable, poor treatment and service
  - The personnel was polite and helpful
  - Two screens would enable the cashier can handle two customers simultaneously, though the customer will not receive the same level of attention and all cashiers can not manage the task. The queue will appear shorter if the cashier can service customers on both sides of the checkout desk
- Clear handling of IKEA family membership
  - The cashier had to enter IKEA-family number, the ID-scan and application did not work

  - Positive if one could register the IKEA-family membership without bringing the card
  - Unclear registration of family membership, is it possible for the customer to scan membership?
  - Good if one could scan drivers licence or enter social security number instead of bringing the IKEA card
  - The IKEA-family card did not work

- Intuitive logistics **
  - Plates and cutlery should be available in more places
  - Unclear where to go for service and payment
  - I could not find the plates
  - Breakfast buffet: Poor that I had to collect plates prior to the line of payment procedure. It should be a separate line for the buffet
  - Breakfast buffet: It is bad that I have to pay before collecting the food
  - All dishes are not on viewed on the graphic signs, which makes the customer confused who might believe all dishes are not available. It is easy to miss the first menu
  - The cutlery, napkins and spices after the checkout are easy to miss since they are hidden behind the cashier
  - All dishes are not presented on the graphics signs
  - Customers are required to change sides as the cashier is unable to operate on both sides of the aisle and which side the customer should choose is unclear
  - A customer forgot to take a plate in the beginning and plates were not available later on
  - Easy to miss the napkins, salt and cutlery behind the cashier. Many customer head straight to the beverages. Those who stop there create an obstacle for those who come after
  - Check the menu first and then stand in line
  - Hard for the customer to know which side of the checkout the cashier want them to queue on
  - Spoons are unavailable at the coffee machine which requires customers to re-enter the queue
  - Hard to take cutlery behind the cashier and holding the tray at the same time

- Short waiting time
  - Short waiting time
  - Crowded between the checkout and sweets, if someone stops there they become a plug
  - Check the menu first and then stand in line
- Quick payment
  - Two screens would enable the cashier can handle two customers simultaneously, though the customer will not receive the same level of attention and all cashiers can not manage the task. The queue will appear shorter if the cashier can service customers on both sides of the checkout desk
  - Much to click on for the cashier
- Intuitive queuing system !
  - I did not understand on which side of the checkout it was possible to pay so I had to change side
  - Many customers had to change side of the checkout desk because payment was only available on one side

A.4 Swedish Food Market

- Intuitive payment *
  - It scrambled with the card, I had to cancel the purchase and ask for help
  - It was hard to read on the screen
  - A barcode did not work so I had to enter the digits manually
  - It was easy to pay (5)
  - It was hard to understand the payment(2)
  - It was so-so to pay, first time
  - It was great to pay
  - The customer must press ”start” before scanning items, many customers miss this
  - Unclear that it is possible to pay with cash in the bistro
  - Customers are used to Coop/ICA and these checkouts does not operate in the same way

- Clear handling of IKEA family membership
  - The IKEA-card did not work
  - The IKEA-family card did not work
- Possibility to pay with card
  - I wish to pay with card (15)
  - I does not matter how I pay
- Possibility to pay with cash
  - I wish to pay with cash (2)
  - It does not matter how I pay
- Availability of other payment options
  - I wish to pay with Swish (3)
  - It does not matter how I pay
- Intuitive queuing system
  - There is no indicated queuing system
  - Crowded with the queue and picking candy at the same place
  - Many customers goes to the bistro because they do not understand that the self-checkout is also available
- Few steps in the payment process !
  - Many steps in the self-checkouts
  - Customer must press ”start” before scanning items, many customers miss this

A.5 Bistro

- Possibility to pay with card *
  - I wish to pay with card (7)
  - I wish to pay with card with NFC
  - Cash and card is a must
  - There should be multiple payment options available
  - It does not matter how I pay

- Possibility to pay with cash *
  - Good if one can pay with cash
  - Cash and card is a must
  - There should be multiple payment options available
  - It does not matter how I pay
- Availability of other payment options
  - There should be multiple payment options available
  - Availability of other payment
  - It does not matter how I pay
- Intuitive payment
  - It is easy to pay (11)
- Quick order and payment
  - It was good, no queue
  - It was quick to pay
- Provision of a receipt
  - I did not get a receipt (the machine was broken)
  - The cashier was a bit dissipated, the receipt was wrong
- Flexible queuing system !
  - Two checkouts are opened and the personnel says that the other checkout is opened but customers does not switch queue. Customers are ”locked” in the aisles and it is hard to change side if one is in the middle of the queue.
  - Hard to change queue when a new checkout opens

B

Questions for interviews with employees

- What are your job assignments and for how long have you worked here? Describe a regular working-day for you?
- How does it differ to work in the traditional and eco checkouts? What is good? What is less good?
- What is the hardest/most difficult part of your job?
- What would you like to change with the checkouts?
- What does customers normally need help with? Why do you think customers need help with this?
- What takes most time for customers in the checkouts? Why does that take long time?
- Do you do anything to reduce the number of thefts/shoplifting? If yes, what? If no, do you know why?
- Is there anything we have not asked about that you want to add?