The Influence of Warehousing and Order Fulfilment on Customer Satisfaction in E-Commerce

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Abstract

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This study dealt with the influence of logistic processes, especially warehousing and order fulfillment on customer satisfaction in the B2C e-commerce business. The primary goal was to define links and dependencies between classic logistics sub-areas and more marketing-associated ones.

To this end, a theoretical framework was first formed, which discusses the relevant theories, models and processes on the basis of high-quality academic literature. Subsequently, a survey of consumers regarding their experiences and expectations of the online ordering process was created and distributed. At the same time interviews about logistics management with a focus on e-commerce were conducted with logistics managers. Through this methodology, both components of the term and research subject B2C were covered and explored, each with a focus on e-commerce.

As a result according to the survey, especially an efficient order tracking system as well as a fast, inexpensive and accurate delivery have an influence on the perceived customer satisfaction. The interviews showed that from a business point of view order processing in warehouses and distribution centers, flexible and transparent distribution processes and finally customer-oriented, exceptional customer service contribute to meeting customer expectations.

It was eventually concluded that efficient, customer-oriented logistics processes contribute significantly to customer satisfaction in B2C e-commerce as primary but not sole factors.

Key words
E-Commerce, Warehousing, Distribution, Customer Satisfaction, Business to Consumer

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1   Introduction

This is a research-based bachelor's thesis for the degree program International Business BBA in the major specialization of Supply Chain Management at Haaga-Helia University of Applied Sciences. The subject is how a well-organized warehousing and efficiently executed order fulfilment contributes to the overall customer experience in the B2C business for the e-commerce industry in Finland.

The first chapter of this thesis starts by providing the reader with relevant background information about the topic before naming the research question that is aimed to be answered. Following a demarcation - explaining what part of the work is and what is not – and the possible benefits a reader may get out of the thesis and its results are named. Lastly important key concepts and terms which are necessary in order to understand this paper are explained. The purpose of this first introduction chapter is to prepare the reader to understand following chapters and terms regardless of their previous knowledge of and experience with the matter.

1.1   Background

The rise of the internet has changed people's all day and work life. A significant aspect of it is the emergence of e-commerce, the purchasing and selling of goods and solutions online but it as well has helped to diminish geographic hurdles by connecting people with an access to the world wide web. Also, businesses benefit from e-commerce. (Simchi-Levi, Kaminsky & Simchi-Levi 2000, 235.)

Business organizations have benefited from e-commerce technology. This mostly facilitated the ability for companies and organizations to trade their goods and services globally, and moreover made it easier for people to make trades and transactions anywhere at any time. Since its inception, up to now, there have been no limitations on the search by specialists and businesses for cutting-edge technology that would satisfy the current state of e-commerce. In light of this, e-commerce as we know it now will change significantly during the next five years. E-commerce will experience tremendous growth and technological advancements as it continues to gain ground in both developed and emerging nations. (Babenko, Kulczyk, Perevosova, Syniavska & Davydova 2019.)

The significance of online shopping in Finland is also backed by data. The e-commerce market has more than doubled since 2017 generating a total revenue of 7.9 billion EUR in 2022. Within the upcoming next two years this number is predicted to rise to over 9.0 billion EUR. (Statista 2021a.) The segment of electronics and media makes up for a predicted total of 1.73 billion EUR in

revenue in the year 2022 with more than 8 out of 10 Finns and residents in Finland purchasing goods and services over the internet (Statista 2021b; Statista 2021c). In 2020 every second home electronics item in Finland was bought online (PostNord 2021a).

The emergence of e-commerce has significantly altered the warehouse and order fulfilment scene and its processes, as have the need for cost savings and mounting demand to lessen the environmental effects of warehouse management. Even in today's times of just-in-time efficient customer support and quick reaction, stockholding is still necessary as businesses continue to work to reduce inventory throughout the supply chain, increase consumer choice, and preference for instant satisfaction. Today's supply chains still rely on warehouses as a key connection. In order to manage a continuously changing environment, warehouse managers and their team members must be better prepared. They must also collaborate closely with their counterparts from the larger supply chains. (Richards 2011, 25.)

1.2 Research question

This thesis aimed to record what is important for a supply chain strategy of a business active in e-commerce espacially in regards of the topics warehousing, order-fulfilment and customer satisfaction and how these three terms effect each other interdependently.

The international aspect required by the degree programme of all theses was covered by the circumstances of the research and its author who is a German student collecting data about the Finnish market in the English language.

The research question (RQ) of this thesis was **"How does warehousing and order fulfilment best contribute efficiently to customer satisfaction in the Finnish e-commerce business of small electronics?"** The research question was divided into investigative questions (IQ) as follows:

IQ 1. What characteristics affect customer satisfaction in B2C when ordering online from placing an order to receiving a delivery?

IQ 2. What role do warehousing and distribution have in today's e-commerce industry?

IQ 3. Which functions of logistics management efficiently contribute to meeting customer expectations?

The table 1 below compactly visualises the three investigative questions, the relevant theoretical frameworks in each case as well as their respective research method and in which chapter to find the results..

Table 1: Overlay matrix

Investigative question (IQ)	Theoretical Framework	Research methods	Interview/Survey questions	Results
IQ 1. What characteristics affect customer satisfaction in B2C when ordering online from placing an order to receiving a delivery?	• Warehousing • Distribution • Order fulfilment • The elctronic shop in B2C • Satisfaction and loyalty • Customer Service	Quantitative survey of potential B2C customers	Survey question • 3-10	Consumers' experiences with and expectations of services along the e-commerce order fulfilment chain (4.1)
IQ 2. What role do warehousing and distribution have in today's e-commerce industry?	• Warehousing • Distribution • The advent of the internet • Satisfaction and loyalty • The elctronic shop in B2C	Qualitative interview with logistics managers	Interview question • 1-5	Logistics managers' theoretical experiences and practical experiences with warehousing and distribution (4.2.1)
IQ 3. Which functions of logistics management efficiently contribute to meeting customer expectations?	• Warehousing • Distribution • Quality Control and Improvement • Satisfaction and loyalty • Customer Service	Qualitative interview with logistics managers	Interview question • 6-13	Logistics managers' professionally sound classification of different logistics functions and their influene on and relevance to customer satisfaction (4.2.2)

1.3   Demarcation

The goal and the subject of this thesis is phrased precisely to research about a certain industry in a well-defined geographical target area. Subjects to analyse are "warehousing" and "customer satisfaction". This clear demarcation keeps the focus for both the author and the reader on the main questions and issues without spending inefficiently time on unnecessary side aspects that are outside of the scope of this study.

Relevant area for the data collection is Finland and Finland exclusively. A quantitative survey will be issued targeting individuals residing in Finland at the time of conducting the questionnaire. Individuals living outside of Finland as well as perspectives of representatives of every legal entity are cosidered outside the scope and will not be taken into account. Moreover, while the entities

warehousing and customers are fundamental parts of the research, other stakeholders along the supply chain such as manufacturers or suppliers are not investigated more thoroughly.

The following table 2 illustrates visually the demarcation of this thesis. Another demarcation regarding the literature research and data collection focus is presented in figure 1 in chapter 2.1.

Table 2: Thesis demarcation

Criteria Scope	In scope of this thesis	Not in scope of this thesis
Country	Finland	Countries outside of Finland
End consumer target group	B2C	B2B, C2B & C2C
Stage of supply chain	Warehousing, Outbound logistics, Customer	Other stages of the supply chain

1.4   Benefits

Goal of this thesis is to provide results about the role and importance of warehousing as part of the supply chain in e-commerce, how it contributes to satisfied customers and thereby generates customer loyalty and sales advantages.

Data is to be collected from B2C customers to represent insights of what the sales' target group expects from e-commerce and from a industry expert to get further insights on how these expectations can be met by companies' warehouse and order fulfilment management.

Companies being active in the field of this thesis' scope get valuable data and its conclusions on the above mentioned topics which they can implement into their operating processes and sales strategies. It can be helpful for existing firms to check and possibly adapt internal methods. For start-ups in e-commerce it can be a helpful guide on what to consider during building up the business.

The beneficial outcome for the author is in the practice of writing an academical thesis to learn and execute methods imprtant for such. Also the to data collection process including planning, executing and evaluating will promote the author's future career by applying theories, models and strategies in a practical way. Lastly further insights into the researched topics is to be extracted by this thesis.

1.5   Key concepts

Warehousing is defined as the temporary storing of products and materials in a depot (= warehouse or distribution center). It is implemented between two consecutive segments along an interlinking of processes (= supply chain). The fundamental parts of warehousing include receiving materials or goods from suppliers and storing - collectively "inbound" - as well as picking, packing and shipping to customers - collectively "outbound". (Boysen, de Koster & Weidinger 2019, 369.)

E-Commerce - also known as electronic commerce - is the practice of purchasing and selling goods via the internet or through internet services. One of the most mentionable benefits of e-commerce is that it allows customers to order and pay online via the Internet, not only saving time and space for both themselves as buyers and sellers but also considerably increasing the efficiency of those transactions in question. (Subramani & Walden 2001, 137-140.)

Customer satisfaction (CSAT) a frequently in marketing applied KPI (Key Performance Indicator) that measures the level of a company fulfilling customers' expectations. CSAT data is usually collected by a short survey sent to customers after order fulfilment. The results are expressed as an average score based on the survey ratings between 1 (Very dissatisfied) and 5 (Very satisfied). A low or decreasing CSAT score results in sales and profitability losses, a high or increasing CSAT score often leads to a marketing asset of customers recommending a business or product to other individuals within their surroundings. (Bendle, Farris, Pfeifer & Reibstein 2017, 49-52)

Supply Chain is a network of connected and interdependent organizations mutually and co-operatively working together to control, manage and improve the flow of materials and information from suppliers to end users (Aitken 1998, 15-16).

In the largest context, **order fulfilment** refers to the entire procedure from the moment of a purchase inquiry until the delivery of a product to the ordering consumer. High quality fulfilment involves picking the correct item, packing it into an appropriate and safe package and shipping it to the designated address and customer. According to Bloomberg, LeMay and Hanna (2002, 244) order fulfilment in a main aspect of whether a business succeeds or not. Timely and convenient delivery as well as the minimization of mistakes and issues along the fulfilment process contribute disproportionately to a satisfying total experience for the end consumer. A lack of meeting the customers' expectations to a company's order fulfilment likely results in losing customers.

Business to consumer, or B2C, transactions are those in which companies offer goods or services directly to customers. Traditionally, this may be used to describe people going to the mall to buy clothes for oneself, people eating at restaurants, or people choosing to acquire pay-per-view TV for their homes. However, the phrase "business to consumer" (B2C) has more recently been

used to describe e-tailing, which is the practice of selling goods to customers online. (Uzialko August 2022.)

2 Logistics, customer focus and the importance of quality for successful e-business

This chapter will introduce the main concepts, terminologies and models extracted from relevant literature such as mostly books or peer-reviewed journals. It furthermore provides a demarcation to the scope of this work.

2.1 Logistic management

Logistics is considered the connection from the starting point of each supply chain, the supply, to the target point of each supply chain, the targeted markets and their customers as visualized in Figure 1 below. Its ultimate goal is to achieve and ideally exceed the expected levels of delivered service and quality. Historical change of business environments went along with a change of how individual activities along the supply chain interact with each other. Historically marketing and classical manufacturing were separated whilst striving different targets. Marketing's responsibility was a focus on customers accompanied by delivering elevated level of service whereas manufacturing was responsible for smooth and efficient operational processes. With globalization and the internet business nowadays requires superiority in different characteristics such as availability of products at all times, fast and accurate delivery to locations around the globe or the cost-effective execution of processes, e.g. automatization of distribution centers in warehousing or low- to non-priced next day delivery in outbound logistics. These changes have been dependent on an increased merge of marketing and logistics and their activities and goals. Logistics serves the modern supply chain as an integrated factor in its function as a planning institution and contributes to success. This means as in these markets today revenue is won by service rather than products flexibility and lead time have become more important. Technical futures and product quality are seen as given. In order to accomplish their goals and create competitive advantage organizations improve their core functions such as order fulfilment and customer management to be able to respond quickly and flexibly to inquiries and demand. (Christopher 2011, 11-19.)
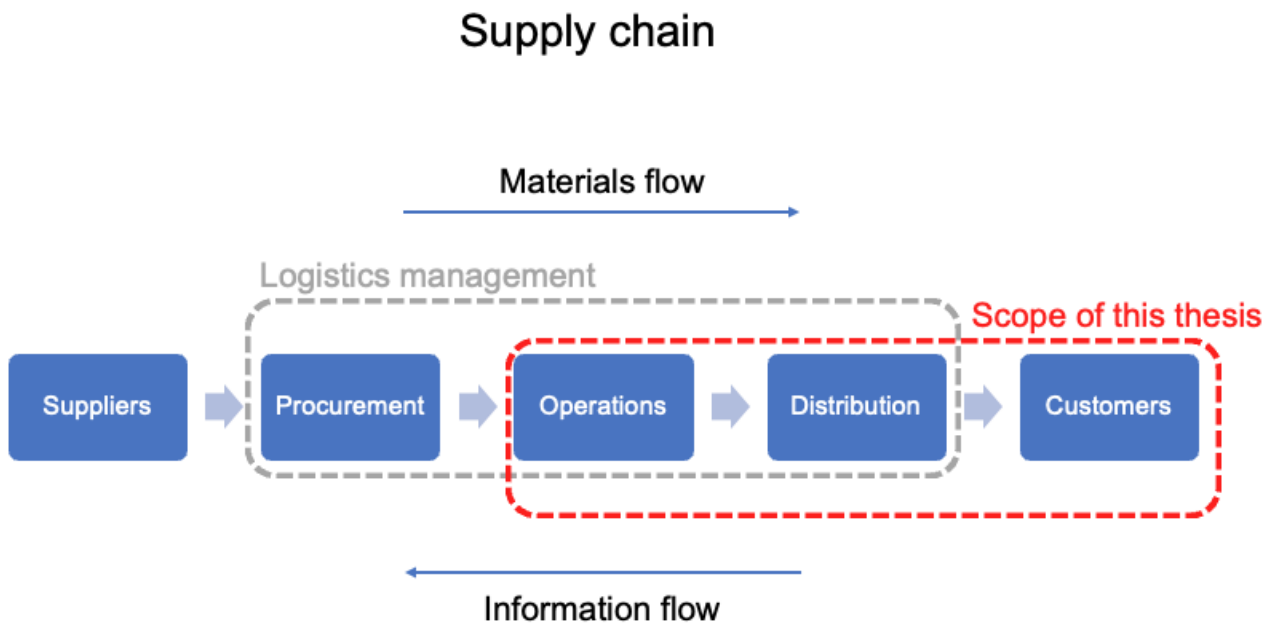
Figure 1. Logistics processes in the supply chain (adapted from Christopher 2011, 11)

2.1.1 Procurement

Despite not being focus subject of the thesis (compare figure 1 above) the author considered it important for a better understanding of the linkage between logistic management process as a whole and B2C order fulfilment in particular to introduce the procurement stage of a supply chain process.

Procurement can be defined as the process of acquiring goods and services from a third-party supplier through direct purchasing, competitive bidding or tendering process while ensuring the right quality and quantity. Procurement is most associated with businesses because companies need to solicit services or purchase goods usually on a relatively large scale. Procurement is usually a part of the input to a company that uses the procured goods or services in the making of their own final product. This makes it a very vital function of any business.

The procurement process refers to the identification and implementation of certain steps to ensure that a business can acquire goods and services to meet their requirements and achieve their objectives. This process isn't the same for all businesses because it can vary according to different needs. Each business has its own set of needs and so it will have a different procurement process compared to others which have different requirements. Every organization has a unique procurement process flow. According to the Jenkins (2021) and procurement consultancy firm CTA

Procurement (2017) the 9 respectively 10 steps involved in the procurement process as visualized in figure 2 are:

1. Identification of requirement: The first step in buying something is recognizing that there is a need for it. That could be buying a new item or reordering something when it is required. It is important that all the stakeholders be consulted at this stage to prevent issues later in the procurement process.
2. Determination of the specific requirements: When it has been identified that there is a need the exact specifics of the product or service that is required is to be decided. This includes technical specifications or part numbers.
3. Sourcing and RFI (request for information): Once it is evaluated what specific item or services are to be bought the procurement team has to then do the research to determine the various suppliers. For repeated orders there will usually be a pre-existing vendor list. Suppliers will need to be thoroughly investigated to assess their reputation, delivery times, quality, prices and overall reliability.
4. Negotiation and finalization of price and terms: For direct purchases RFQs (requests for quotes) will be sent to the shortlisted vendors. The usual practice is to get a minimum of at least three quotes before selecting. The company to procure from will be selected not only on price but also based on their promptness, reliability and quality. If there is a bidding or tendering process for the procurement the selection of the qualifying bids will be as per the terms and conditions set.
5. Purchase requisition and order: A purchase requisition generated within the company will be approved by the appropriate authority. This will then lead to the generation of a purchase order with all the specifics of the order as well as the terms and conditions.
6. Delivery of purchase order: The shipment notice is sent to the buyer wherever applicable. The delivery of the purchase order depends on the practices of the buyer and the seller. It can be in person or by e-mail this is also as per the specifications agreed upon by both the buyer and the seller.
7. Expediting: This involves creating the timeline for the prompt delivery of the requested goods or services. It may also include information on the payment as well as delivery schedules.
8. Receive and inspection: When the product or service is ready it is delivered to the buyer It is the contractual responsibility of the buyer to thoroughly inspect the supplied items if they match the agreed upon purchase order. Based on this assessment the buyer can either approve or reject the delivery.
9. Payment process: If the buyer takes delivery of the item, it is implied that they are accepted, and the payment process starts. For the payment to be made the documents relating to the order are inspected. If there are any mismatches, they have to be addressed and resolved before the payment. Once a payment is approved the payment is made as per the agreed upon modes of payment.
10. Record keeping and review: Both the companies the buyer and seller maintain their records for their auditing and taxation processes. The entire process should be under continual review order to improve as well as settle any disputes that might have arisen.
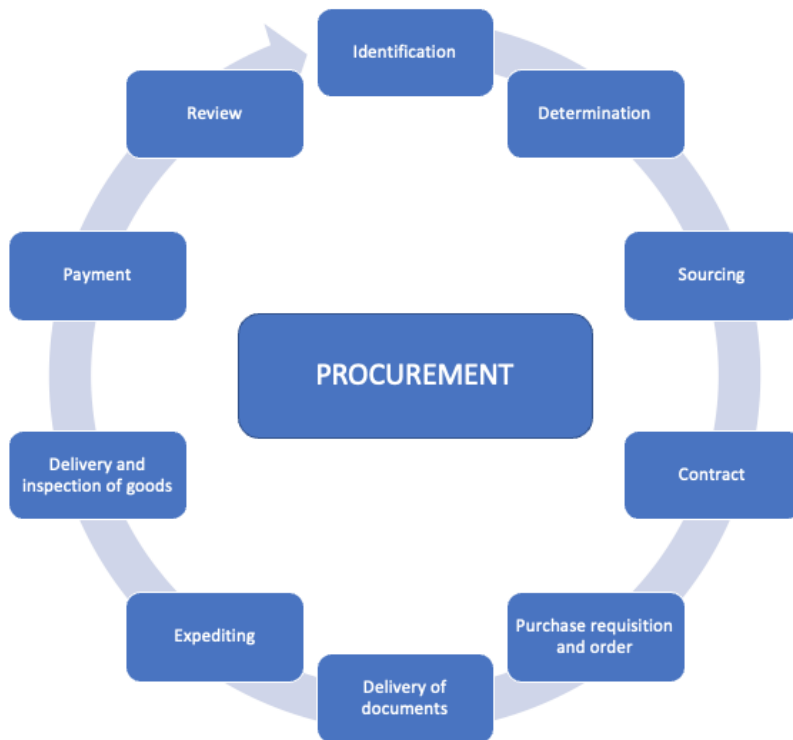
Figure 2. The procurement process adapted from Jenkins (2021) and CTA Procurement (2017)

The steps of procurement may vary from business to business, but the logical flow remains the same. Efficient procurement practices keep the flow of purchased goods and services quick and delay free.

2.1.2 Warehousing operations

After successful sourcing of suppliers and procuring of goods the need for storing them arises because organizations in commerce buy goods in stock to ensure the fastest possible lead time for incoming orders. Such goods must be stockpiled in between processes of procurement and distribution or simply said between inbound of products from suppliers and outbound of them to customers. The physical location to do this is a warehouse – also known as operation or distribution center.

Different business activities require differently organized and managed warehouses tailored as much as possible to specialized needs. Warehouses can be categorized in line with different criteria.

Along the value-chain it's generally distinguished between

- Procurement warehouse: To provide the production with needed raw material to keep the production process going

- Production warehouse: To receive semi-finished products from manufacturing and distribute them upon internal order to the assembling unit
- Distribution warehouse: To store finished goods which are ready to be distributed to customers. This type of warehouse is used by commercial enterprises.

Further warehouses can be distinguished between how they're organized. Fixed allocation warehousing is the first of two. The structure of it is easier comprehensible because every SKU (stock keeping unit) has a particular location within the storage area. It is regularly used along companies offering a higher range of products and smaller volumes of these.

If an item may be kept in any available space in the storage, free or chaotic allocation warehousing is applied. Although there isn't a set place in which the goods must be kept, in fact this technique typically indicates that when something arrived at the storehouse it's going to be kept at the closest suitable warehouse site. This tactic is beneficial when there are too many item places to accommodate the variety of items. Outcome is that no specific places need to be allocated and kept free for new incoming items; any site will do. The process of putting goods into storage is faster and also less space required for it. (Christopher 2011, 400-408.)

The structure of a distribution warehouse how it's typically used in trade intensive businesses like the e-commerce industry consists of 4 parts as also shown in figure 3 below. The first stage where incoming goods are handled is the goods receipt where the physical receiving and control of quality and quantity of items being delivered from suppliers takes place. If all checks and controls are passed goods are forwarded to the second stage of the warehouse which is the unit warehousing or storing. Here the handled units are being transferred to shelves according to the implemented organization, so they are stored safely and effectively ready for being handled by the third stage, the order picking. In this process the personnel are responsible for collecting materials and products according to incoming orders often shown on a picking list before in the last stage of warehousing – the goods issue – those picked orders are checked, packed and labelled so they're safe and ready for being distributed to customers. (Christopher 2011, 410-413.)

Warehouse structure

Materials flow

Warehouse operations

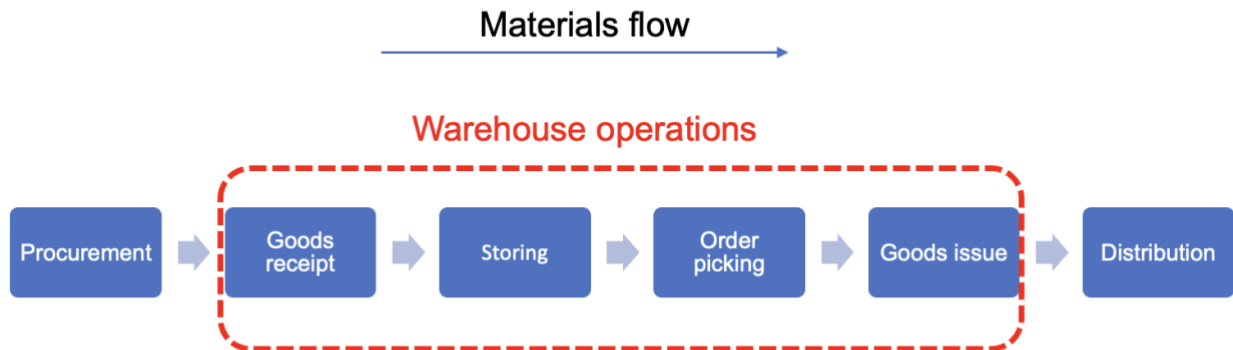Procurement → Goods receipt → Storing → Order picking → Goods issue → Distribution

Figure 3. Warehouse structure (adapted from Christopher 2011, 410-413)

All these individual steps and stages and their organization and structure ultimately contributes to an effective fulfilment of customer order. Creating, completing, shipping, and offering service activities for customer orders are all parts of order fulfillment. In order to complete such responsibilities, supply chain management needs to establish a system as well as a fulfilling procedure which allow for consumer requirements to be met whilst reducing overall operational expenses. The process of order fulfillment concentrates on transactions at the operational level. It serves as a crucial step in the management of a value chain. Ordering from customers initiates the supply chain, and their prompt and accurate fulfillment is the first step in delivering good customer service, which can have an impact on a company's financial performance. It encompasses all actions required to specify and fulfil client needs, plan the logistics system, and complete client orders. (Croxton 2003.)

2.1.3 Distribution

The role of transportation is the physical shipping of materials and products to and from warehouses utilizing different types of transportation such as water, air, rail or road distribution. When goods and products along the supply chain are not handled or stored in warehouse they are usually on the move between origins and destinations. The last one of such shippings to a destination is the delivery to the end customer, in B2C business from the distribution center to the consumer. (Sarder 2021, 11.) This process is also often to referred to as last-mile logistics or business-to-consume distribution and Lim, Jin & Srai (2018) have defined it as last stretch of a business-to-consumer (B2C) parcel delivery service.

It takes place from the order penetration point to the final consignee's preferred destination point. The transportation process includes 5 steps which are visualized in figure 4 below. In regard of the demarcation scope of this thesis the process of road transportation is analyzed representing the general transportation process. 75 % of domestic Finnish freight is shipped by road transportation (OECD 2021a; OECD 2021b).

First step is the planning of a route. This takes into account the factors costs and time for transportation as well as explicit delivery promises given to and implicit delivery expectations of customers. After planning the route, the loading of the transportation vehicle is to be planned. It is important on one hand to load the cargo in accordance with applicable laws regarding cargo safety and permissible weight limits as well as on the other hand an effective loading and unloading system. Based on the previous step, the planning of the route, cargo to be unloaded at the first destination needs to be loaded last. This minimizes handling times and thereby safes time and costs. After or before the loading the truck needs to be checked and maintained to ensure safety for load, truck and driver for the trip. If everything is prepared the goods can be moved from origin to destination along the planned route and finally handed over to the receiver at the place of delivery agreed in advance. (Sarder 2021, 13.)
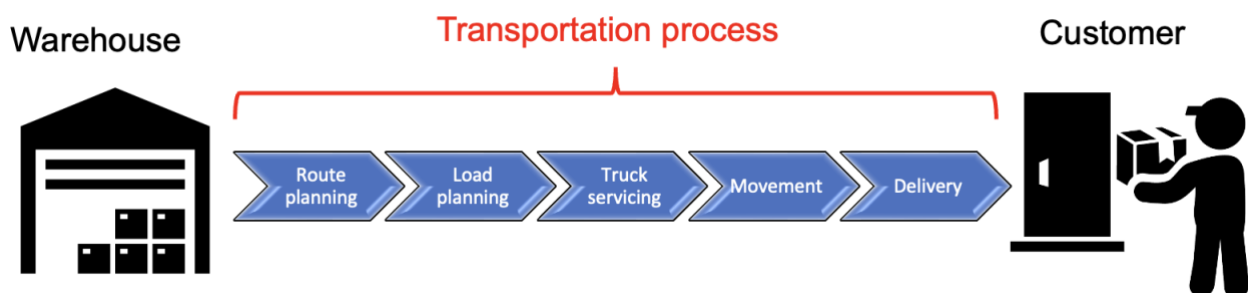
Figure 4. Transportation process (adapted from Sarder 2021, 13)

Fast fulfillment and delivery are not simply "nice to haves"; they are a need for each online purchasing experience (Dolan 2022). It is now a key factor for businesses in market differentiation. Because distribution execution of high standard and quality gives convenience and flexibility, consumers value it. As a result, same-day and on-demand delivery services become more and more important. Delivery service that meets or exceeds customer expectations to the service level is distinguished by certain minimum requirements which's existence and quality affect consumers' evaluation of the whole order experience. (Lim, Jin & Srai 2018)

Consumers are seeking for certain key components in the last mile delivery process, such as quickness, punctuality, correctness, and accuracy of the good deliveries once they have arrived at their destination. It is crucial that the distributor has the structural capabilities to fulfil and therefore also deliver the demanded volume of goods ordered (Boyer and Hult 2005). Order visibility, meaning the ability of consumers to track their order from placement to delivery, is another feature considered as given when it comes to the delivery (Harrington, Srai, Kumar & Wohlrab 2016). Furthermore, the time between the execution of an order by the customer and the arrival of the ordered products at the designated delivery location, known as order response time, must be taken into account when aiming for high customer satisfaction through operational processes (Mangiaracina, Song & Perego 2015).

Challenges of LML: In order to stay competitive, logistics businesses must overcome several obstacles. For the companies engaged, who are developing in a fiercely competitive industry where earnings are still brittle, flexibility and proactiveness are crucial traits. These modifications have an impact on every step of a logistics company's operations, from manufacture to delivery. (Kardinal 2022)

This is also known as "distribution structure" which covers the stages from order fulfilment to delivery to the final consignee's preferred destination point. It includes the modes of picking in a warehouse or store, transportation, own executed delivery or more often carried out by a third-party logistics partner and the final reception by the buyer (e.g. pickup by the consumer or delivery to a predetermined location). (Kämäräinen, Saranen & Holmström 2001)

2.1.4 Quality control and improvement

Quality starts where a business comprehends their customers' expectations, and it ends when these are met. When customers' needs are continued to be satisfied reliability is provided. A reliable product or service of high-quality leads to increasingly delighted customer: Customer loyalty is achieved. This comes with benefits for the quality delivering company. The acquisition of new customers is due to e.g. higher marketing expenses for e.g. campaigns more costly than the retention of existing, satisfied customers. Average spendings increase with longer relationship and thereby profitability. Also, an indirect advantage is that loyal customers recommend the business which lowers aforementioned costs for onboarding new clients. (Oakland 2014, 4-5.)

The development of supply chain management during past decades and the increased focus on customer service and operational lead times while maintaining quality standards has introduced and/or further developed approaches like total quality management (TQM) or just-in-time production (JIT) to the world.

In order to improve the performance, Six Sigma looks to identify and eliminates the root sources of defects and faults. It also aims to decrease cycle times and operating costs, increase productivity, establish greater customer experience, and result in increased asset utilization and returns on investment in both manufacturing and service operations. As a result, Six Sigma can be a significant strategic approach from both a market and financial standpoint because it focuses on outcomes that are crucial to consumers and justifies improvements by providing a clear financial return for the firm. Six Sigma is widely employed in many different manufacturing and service industries nowadays. Figure 5 depicts a model as to how Six Sigma, when used in conjunction with the DMAIC process, can serve as a link for performance improvement, assisting in the achievement of the performance objectives of increased quality, productivity, cost control, and profitability. (Evans & Lindsay 2015, 3-5.)
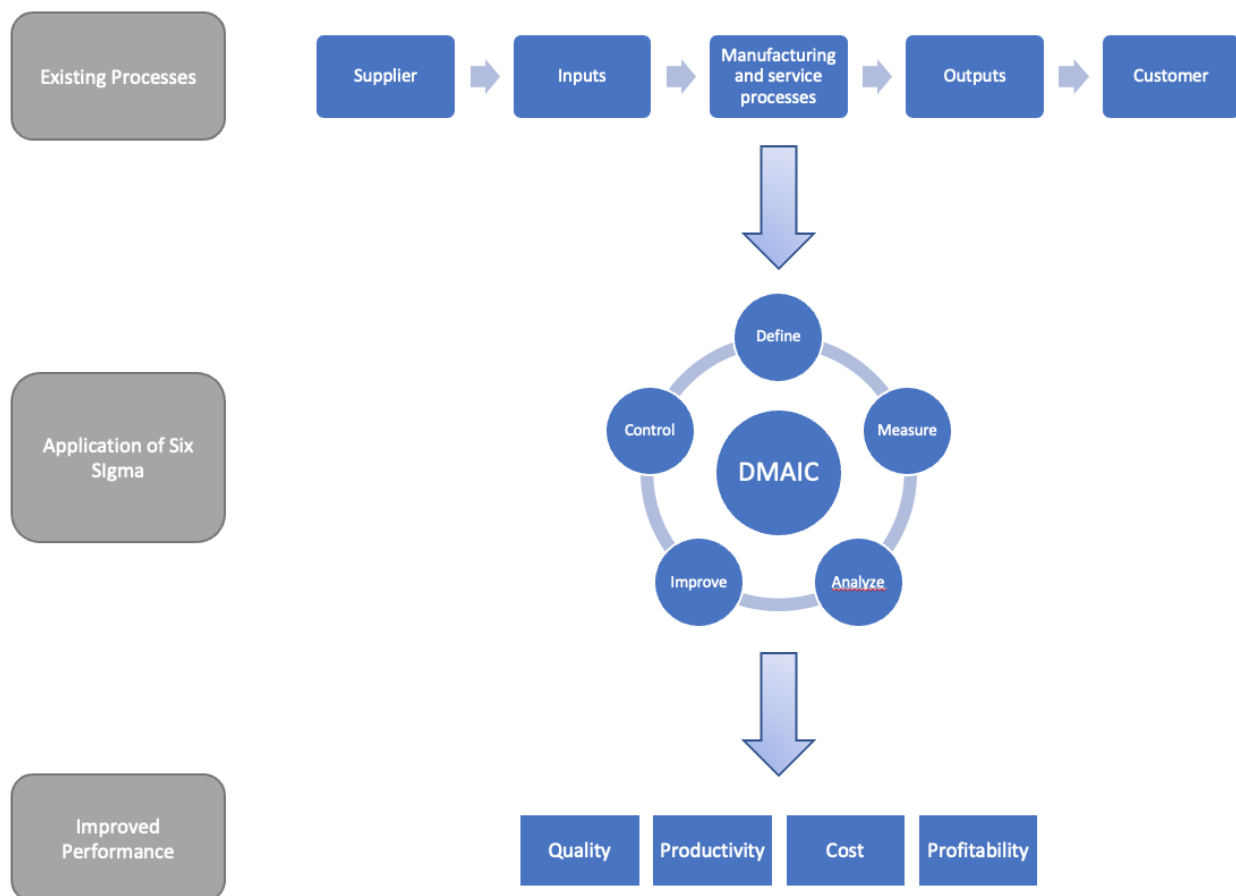
Figure 5. Process improvement through Six Sigma (adapted from Evans & Lindsay 2015, 4)

Just-in-time is an integrated, problem-solving management approach aimed at improving quality and facilitating timeliness in supply, production and distribution (Davy, White, Merritt & Gritzmacher 1992). According to a study by Kinney and Wempe (2002) the implementation of JIT results in profit margin advantages over non-implementing businesses due to improved product quality,

greater responsiveness to customer demand because of shorter lead times and greater product line variety. Primary objective of JIT to is the minimization of waste. Waste in the context of JIT is not restricted to solely physical inefficiencies, it also includes non-physical terms like incorrectly or inefficiently used as well as under-utilized capital. Every activity that occupies time and thereby consumes resources in the product/service flows but does not add any time or frees up capacities elsewhere along the flows is considered waste in JIT. An example is the delay of deliveries due to backorder by suppliers because the extra time needed to deliver the ordered items creates no added value for the customer. Further core value of the approach is effective sourcing and close connections to the supplier network to satisfy own demand. The availability of goods to meet incoming order demand establishes the ability to fulfil customers' expectations. (Lai & Cheng 2009, 5-7.)

2.2   E-commerce in B2C

B2C in e-commerce is the interaction of businesses and their consumers using the internet for order placements and executing transactions. The omission of the need for a physical retails store has benefitted both, businesses and customers, as purchase imitations like opening hours, local physical availabilities and distances to be covered. (McKinnon, Browne, Piecyj & Whiteing 2015.) Quantity of supply as well as volume of demand increased and trade in e-commerce grew enormously with expectedly passing the global mark of 5.5 trillion US-Dollars in 2022 (eMarketer 2022).

2.2.1   The advent of the internet – Web 1.0 and 2.0

Between the years of 1989 and 2004 the internet was mostly a bunch of static web pages meaning that whenever a user loaded them their only purpose and function was presenting predetermined information. This Web 1.0 was read only as there wasn't any logging in or interacting with the website or viewing analytics. Most of the early Internet wasn't even profitable by ads it was in majority just comparable to one big encyclopedia which's individual parts, the websites, all were hyperlinked together. (Singh, Gulati & Gulati 2011, 146-157.) The basic goals of web 1.0 are to establish an online presence and disseminate information to all individuals at every moment. The connection infrastructure was too fragile, and consumers and users of the webpages could simply browse them without making any changes or contributions. (Patel 2013, 410-417.) Over time improvements were developed and tools like Flash and JavaScript added many new different features. However, during this time, the users of the Internet were exclusively consumers. They went to the internet to consume information. Since late 2004 web 2.0 has entered the internet. During this time the web has evolved a lot but one of the biggest changes was the interactivity of the Internet. This meant that not only did users get information from pages, but the web pages

started getting information from them. (O'Reilly 2005.) Practical examples are social networks like the ones of Facebook, Twitter or Google. These centralized companies started collecting data about and the user and their interactions and preferences so that they could serve them better content which in turn would make people stay on their websites longer. This resulted in higher revenues and profits for these data collecting companies and eventually they realized they could package up all the data they had collected on us and sell it to advertisers for marketing purposes. Web 2.0 developed from a read-only platform to a read-and write platform. (Kenchakkanavar 2015.)

2.2.2   The electronic shop in B2C

A web-based software system known as an electronic shop - often referred to as a web shop or an online shop - offers products and services, creates bids and offers, receives orders, and manages delivery and payment options. A considerable amount of planning and preparation must go into the creation and operation of an electronic store. Furthermore, crucial choices must be made. Which goods and services ought to be made available online? Do multiple languages need to be available in the online store, and if so, which ones are desired? If there are variations between the supply payment and conclusion arrangements and a traditional business model, how may the discrepancies be explained and, if necessary, communicated? Are those of our customers that have higher customer value given preferential treatment, and if so, how? How can the value chain be integrated to include interested and potential customers? (Meier & Stormer 2009, 4-6.)

2.2.3   Supply chain integration into e-commerce environment

The development of computer networks and communication technology - particularly in the use of the Internet - has had a significant impact on how the world economy has changed. E-commerce, a byproduct of the network economy, sparked an economic revolution that had a significant influence on how people think and live. Many businesses are particularly worried about how to resolve business with e-commerce supply chain management challenges in response to this unexpected surge of e-commerce tide. Supply chain management elevated e-commerce to a strategic position so that e-commerce might penetrate the process and enhance supply chain integration standards.

For a company in e-commerce environment, it is of significant importance to create and maintain international sales network in global markets, to gather information about numerous company operations, such as e.g. processes of supply, production and distribution. Result of that ideally are lower corporate sales expenses and lower transaction costs for products due to a lower circulatory timeframe of goods resulting in offering clients the most efficient ways of receiving orders. SCM is based on the consumer demand, offering a collective perspective on related goods or services,

corporate data assets, development tools based on Internet technology as an instrument to organize, the whole stream with all crucial practices to optimize net value added, and enhance the effectiveness and efficiency of a platform. The primary benefit of internet technologies is the fast collecting and handling of a lot of supply chain data, which is made possible by e-commerce supply chain management. Suppliers, manufacturers, and vendors may create useful demand and supply forecasting with the use of these informational resources, ensuring that data flows seamlessly across the whole supply chain and assisting the businesses in managing and coordinating the organization. In addition to the benefits of e-commerce framework-based supply chain management which were previously discussed, e-commerce is also affected and improved permanently. Also, with advancement of IT, integrated supply chain management has become increasingly essential. Meaning the integration of supply chain management and e-commerce, which is customer-focused and integrated throughout the supply chain process and fully utilizes external resources to achieve quick response times and low inventory levels, is what a modern supply chain determines from an outdated in the field of e-commerce business. It is commonly recognized that implementing supply chain management may have a significant positive impact on businesses. The economic representation of a company can be accelerated through streamlining the supply chain. (Yang 2012, 653-658.)

2.3   Customer service

Already in the late 1960s it was established that "People don't buy products, they buy benefits" (Levitt 1969). Meaning that businesses focusing mainly or even exclusively on product features will end up inferior to those which consider their business operations as a holistic concept and complement the core product with value adding services. These services are not limited to customer service and logistics but includes furthermore services such as advertising or branding. (Christopher 2011, 34-35.)

The degree of customer value which a company offers in its market segments will end up deciding whether it succeeds or fails. Essentially, customer value is the gap in between perceived advantages of a transaction and the associated expenses. For a consumer there is no experienced customer value before the purchased product or service is received. Customer service of a business is responsible to provide a positive customer experience before, during and after an ordered product or service and with that any value is made available for a customer. Essentially, this encompassing process can be defined by three sub activities based on the status on an order as shown in figure 6 below. (Cristopher 2011, 29-31.)
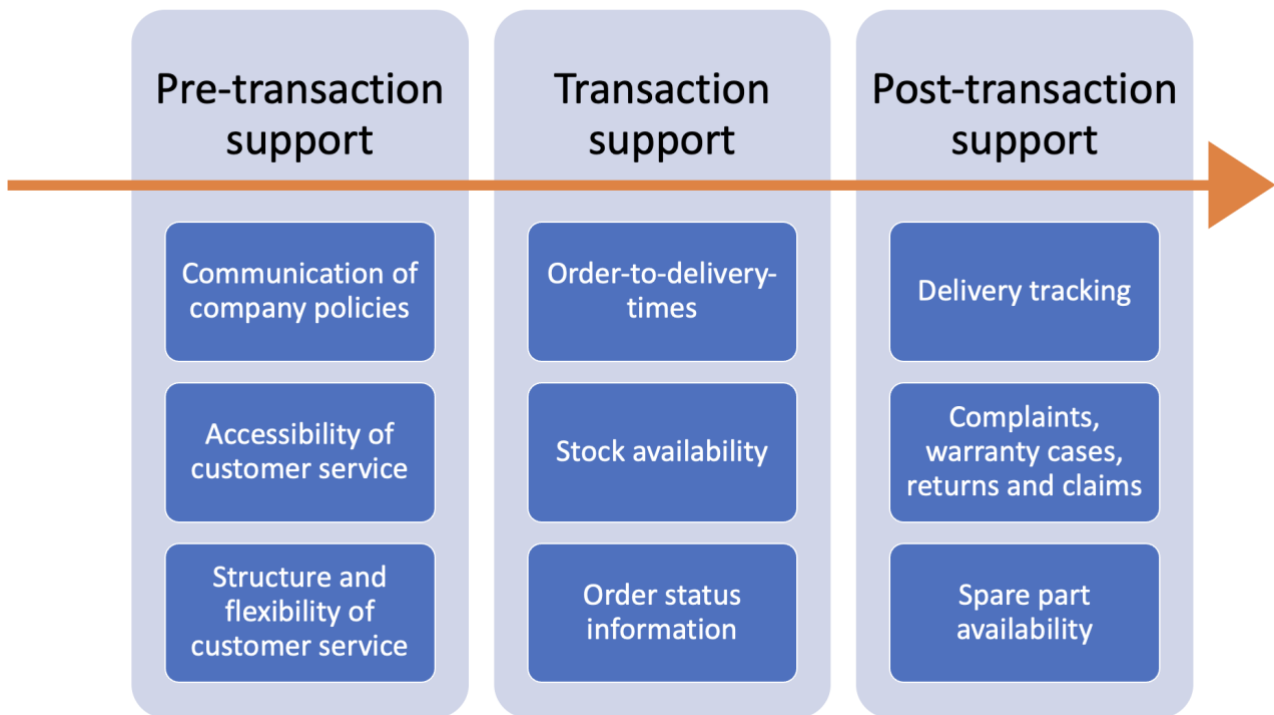
Pre-transaction support	Transaction support	Post-transaction support
Communication of company policies	Order-to-delivery-times	Delivery tracking
Accessibility of customer service	Stock availability	Complaints, warranty cases, returns and claims
Structure and flexibility of customer service	Order status information	Spare part availability

Figure 6. Components of customer service (adapted from Christopher 2011, 31-32)

2.3.1 Satisfaction and loyalty

In a nutshell, customer satisfaction is essential for the welfare of individual customers, the success of businesses that rely on their sales, and the sustainability of economic systems. The providing and reception of pleasant life outcomes, particularly in markets, benefits both a customer and a firm. It is possible to compare satisfaction to an individual quest, a target to be accomplished via the use of goods and services. A desirable outcome of consuming or patronage is satisfaction in and of itself. It is a gratifying and encouraging feeling. It eliminates the requirement for further corrective measures or having to deal with the effects of a poor choice. It changes the way that customers make decisions. A successful acquisition is a success in a larger sense. In capitalist society, businesses exist in order to generate profits. It must be repeatedly purchased in order to remain profitable. They value satisfaction as well because of word-of-mouth. The long-held belief that consumer pleasure is one of the keys to profitability is now being supported by actual evidence on the impact of satisfaction quality and other measurements. (Oliver 2010, 4-5.)

Loyalty is the long-term result of enjoyment. Customers must be capable and willing to continue interacting with the business in some way, typically through repeated purchases, in order to preserve loyalty or enduring preferences for products and services. Loyalty requires persistent, albeit sporadic, meaningful engagement with a good or service. Accordingly, the term "customer loyalty" refers to a strongly held determination to continually repurchase or use a preferred good or

service in the future, despite external factors and marketing initiatives that may encourage switching behavior. (Oliver 2010, 424, 432.)

Quality, defined as superior performance in all of its forms, including the positive disconfirmation of quality expectations, promotes customer happiness, which, when attained repeatedly, fosters loyalty. Quality lowers operating expenses and inefficiencies. Additionally, businesses with greater quality generate greater consumer perceptions, channel member responsiveness and therefore better word-of-mouth, better awareness, and cheaper costs for acquiring new clients. Through its impact on retention and a variety of other facilitating principles, such as the previously stated word-of-mouth, reduced marketing expenses, and human capital acquisition, satisfaction directly impacts profit. Along with having such immediate results, contentment also acts as a mediator since happy customers are more likely to buy more of the same type of items in the future. They shall put up with lower pricing elasticities, be more attentive to company communications, and we will be better protected against competitive incursions by paying less heed to competing overtures. The immediate impact of a consistent flow of new clients may be the largest effect of loyalty on business. Additionally, repeat consumers need little to no marketing attention; instead, focus should be placed on enhancing the quality of the product and the quality of the service. (Oliver 2010, 457-458.)

2.3.2 Customer retention

The ongoing effort to please and retain present customers actively participating in conducting business is known as customer retention. The majority of firms prioritize acquiring new clients rather than keeping their current clientele. Many companies send out sales personnel to close the first deal but leave customer care to the customer support team. The current tendency is for firms to value their existing clients who have committed to doing business with them while also creating an atmosphere that encourages clients to do so in the future. (Harris 2014, 155.)

According to Reichheld (1994) increased customer retention results in higher profits because an already onboarded customer is typically characterized by less effort and therefore lower costs to sell and service to. Additionally, customers who are satisfied over a longer period are more likely to recommend a company with their surroundings which results in the earlier mentioned advantage through word-of-mouth. In the role of among other responsibilities being the main contact for customers in post-transaction matters customer service performance is of biggest importance when it comes to keeping customers. (Christopher 2011, 36-37.)

2.3.3 Measurement of customer satisfaction

A common market research indicator known as net promoter score (NPS) asks participants to assess how likely it for them to refer a business, a service, or a product to someone in their surroundings, e. g. a friend, family member or co-worker (Reichheld 2003). As visualized in figure 7, the NPS divides into

- Promoters: Providing scores of 9 or higher. Promoters are the most loyal customers that provide positive feedback and recommendations in their social surrounding.
- Passives: Giving scores of 7 or higher. Passives are rather neutral not sharing a recommending word-of-mouth but neither likely to create reputational damage. However, with certain measures passives can be switched into promoters.
- Detractors: Giving scores of 6 or below. The hardest to convince, the most unlikely to share recommendations and the least easy to turn into promoters. Even with the possibility to share dissuasion and thereby actively discourage others.

This NPS approach's main goal is to deduce consumer loyalty to a label, service, product, or an organization based on replies to a single survey question expressed in repeated purchase transaction and recommendation via word-of-mouth. NPS can be a valid predictor of future sales growth under certain conditions. (Baehre, O'Dwyer, O'Malley & Lee 2022.)
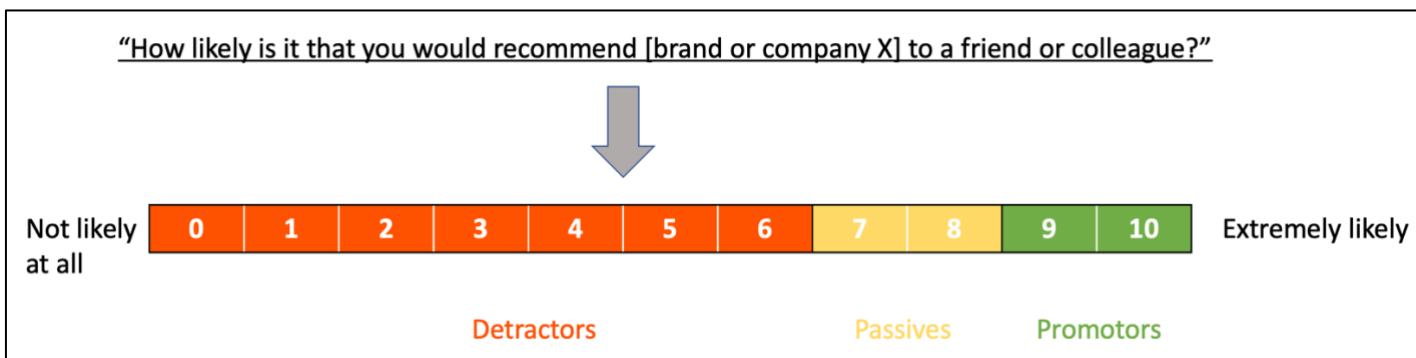
Figure 7. Net Promoter Score (adapted from Reichheld 2003)

Another measure for the satisfaction of customers is CSAT which was mentioned and briefly introduced already earlier in the section of key concepts. It stands for exactly what is measures: Customer SATisfaction It evaluates whether a business's goods and services meet or exceed customers' expectations. "The total number of consumers, or proportion of their base, which assessed an experience with a business, its products or services surpasses established satisfaction targets" is how CSAT can be described (Bendle, Farris, Pfeifer & Reibstein 2017, 49-52). As another result Customer satisfaction will have a positive effect on intention to write online reviews.

Customers nowadays have an option themselves to independently and directly review products and services online thanks to the World wide web. Typically, the experienced quality of a purchased product is included as well as an assessment of the experienced service quality provided by the seller in such reviews. (Thakur 2018.)

Because of the authenticity of such source of information, consumer-generated feedback like online reviews is seen as having higher credibility than seller-generated content (Bickart & Schindler 2001).

Unlike conventional word-of-mouth, whose reach is often restricted to local social surroundings, the influence of customer evaluations online can extend significantly such limited areas through its easy accessibility on the Internet (Thakur 2018). The influence of online reviews therefore can be classified as higher which makes receiving online-feedback as positive as possible a highly desirable achievement for sellers.

The normal business loop of losing and gaining clients is referred to as customer churn or customer attrition. All businesses are subject of churn, regardless of the quality of its delivered goods or provided customer support. Generally, a firm maintains more clients when there is less customer attrition. The rate at which consumers cease doing business with a firm during a predetermined time period is known as the churn rate, often referred to as the attrition rate. The amount of customers that discontinue subscriptions or do not renew them may also be considered churn. (Corporate Finance Institute 2022.)

3 Research methods

This chapter is about the chosen and applied methods of reseach to find results to the investigative questions which are:

- IQ 1. What characteristics affect customer satisfaction in B2C when ordering online from placing an order to receiving a delivery?
- IQ 2. What role do warehousing and distribution have in today's e-commerce industry?
- IQ 3. Which functions of logistics management efficiently contribute to meeting customer expectations?

A visualized design of the conducted research is presented and introduced in order to provide easier understanding of the connections and interdependencies between IQs, methods and data source to the reader. Furthermore, it is gone into detail with the research samplings and validity.

3.1 Research design

Both qualitative and quantitative design was applied in this thesis. This is because the different IQs required a specific population and thus a specific design for adequate validity. The application of both data collection methods, quantitative and qualitative, are defined as mixed method. In this case because they were applied not concurrent for all three IQs but consecutively the mixed data collection and analysis design is described as sequential explanatory. (Saunders, Lewis & Thornhill 2019, 181-182.) This was verified in practice by the fact that a questionnaire addressed to a large number of individuals was used to collect data for IQ 1 and experts in the field of "warehouse organization and order fulfilment" were interviewed to gain insight into the matters relevant to IQ 2 and IQ 3. Figure 8 below illustrates the design of this thesis's research methods.
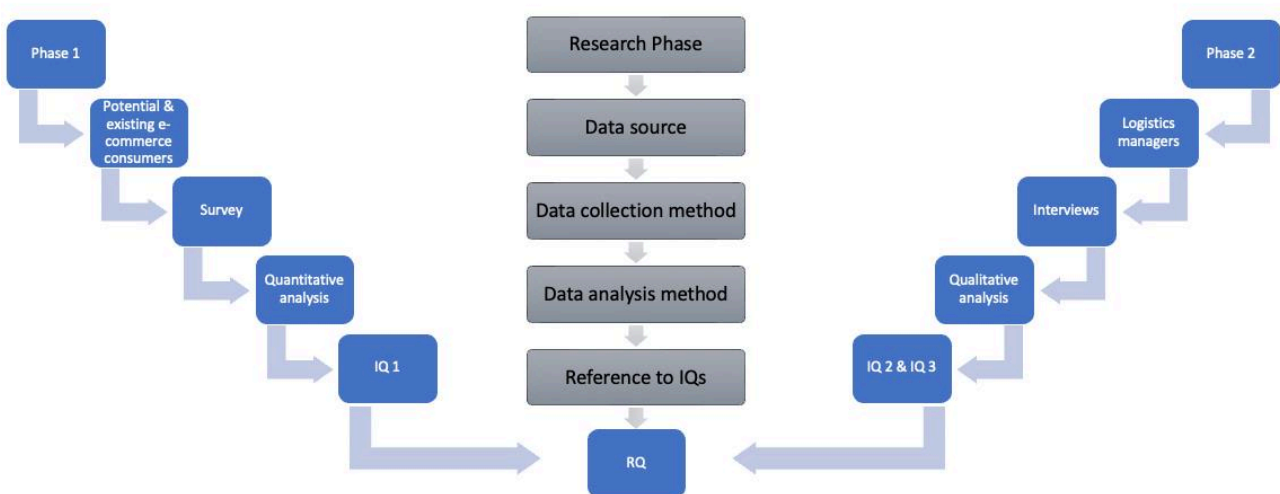

Figure 8: Research design

3.2   Population and sampling

A population is the research project's target population that it intends to collect data of and analyze such. In most research studies, it is either inappropriate or simply not viable to recruit the whole population of interest. Instead, researchers recruit a sample from the population of interest to include in the respective study. (Majid 2018.)

The targeted population for the questionnaire collecting data for IQ 1 were consumers who had prior experience or a potential interest in purchasing general items in general and/or electronic devices over the internet. A minimum quantity of 100 respondents was set -and reached- as target for the survey. For the expert interviews which were chosen to collect data for IQ 2 and IQ 3 logistic managers were the population. The interviewees' experience and knowledge in the study field of this thesis ensured valid and relevant results (compare chapter 3.5.2).

3.3   Data collection

In this subchapter it is expounded what means of data collection were used in the two different phases of this thesis. It is disclosed what the method was chosen, what the source of information was and why it was chosen.

3.3.1   Quantitative questionnaire

For the data collection of the first phase, which primarily focused on the investigation of IQ 1, a survey was created. This survey was addressed to people living in Finland of any demographic background. This was chosen because the research was limited to Finland within the scope of this thesis. A total of 11 questions were formulated, the first of which was directed at the country in which each respondent lived at the time of participation. If this question was answered with "Not Finland", the survey ended immediately. This technique right at the start ruled out the possibility of people outside the target group distorting the overall result.

With the exception of the demographically related questions, the focus of the questionnaire was on experiences and expectations of the individual components of order fulfilment in an online order. In this way, the topics of e-commerce and order fulfilment were incorporated and linked in line with the research question. The majority of the questions could be answered by single or multiple selection of certain answer options, if appropriate and applicable extended by the option "other, please specify". This had the objective to increase the motivation for a complete answer. Two questions towards the end of the process offered respondents the non-mandatory option of using a

free text field to report a particularly succinct memory of one positive as well as one negative ordering experience. This opened up the opportunity to provide additional data material that may not have been previously covered by other questions. The author hoped for additional reports of experiences from a different perspective, coming directly from the consumer, than the one provided by him through the question and selection limitation.

The survey was created online and distributed via a link within the author's extended Finnish network. This network covers the whole of Finland with a quantitative center in the Uusimaa area. It was possible to reach through the author's direct network from a wide variety of industries such as finance, electronics e-commerce or public service, to name a few, and in the next instance by means of divisions by participants to their respective networks a total number of 108 responses.

The full questionnaire and its results can be found from appendix 1.

3.3.2   Qualitative interviews

For the second phase of this thesis, two interviews were planned, arranged and conducted, each with an expert from the logistics industry with experience from among others the e-commerce industry in Finland. In contrast to the first research phase, the focus here was not on obtaining a picture of the mood and opinions of a large number of possible consumers, but rather on determining predefined logistics processes and their influence on a successful overall operational business and, in particular, on customer expectations and satisfaction. Through their academic and professional accounts of their experiences, the interviewees were thus able to respond to the author's questions in a targeted and informed manner, contributing knowledge and assessments to answer the investigative questions and ultimately the research question.

A list of questions was drawn up in advance of the survey, which included 13 main questions following an introductory question. These 13 questions were written carefully in order to be as close as possible to the relevant topics and terms. Care was taken to formulate and direct the questions in such a way that they permitted a targeted and interpretable response by the experts and at the same time were close enough to the investigative questions. Within a topic area of Logistic determined by the delimitation of the thesis topics, special terms and processes were to be comprehensively examined. The first five main questions thematically addressed the answer to investigative question 2 while the remaining eight had the focus on investigative question 3. The meetings were closed with offering the open possibility to add information.

The two interviews were conducted virtually using "Zoom" software on 26.10.2022 and 27.10.2022, respectively, and lasted approximately one hour each. It was agreed with both interview partners either in advance of the interview or immediately before it took place that names and current

employers would not be published. Personal names and names of companies of current as well as former employers of the interviewed were therefore replaced with letters to ensure anonymity. However, permission to record the interview sessions was formally given in both cases.

Great care was taken not to be particularly responsive to the responses so as not to judge or lead in any way. The author took the role of an objective and neutral questioner.

The full interview including answers can be found from appendix 2.

3.4   Data analysis methods

This part shows how the data collected by different methods was subsequently analyzed.

3.4.1   Quantitative survey

After closing the questionnaire to additional participants, the collected data was analyzed using Webropol's reporting and analysis tools and put into context with each other and the investigative questions. This was not possible for open-ended questions 9 and 10 due to the fact that the responses received were in free text form. Instead, all responses were listed and examined for common themes, thematic overlaps and frequencies of such in each case.

3.4.2   Qualitative interviews

Two experts with a professional background in logistics and e-commerce were chosen as appropriate partners for the interviews. More information about the respective person can be found from the appendix 1 where both introduced their career path in logistics briefly.

The virtual interview meetings were recorded after obtaining permission. After finishing the interviews this gave the author the possibility to view the recordings at any given time. The first step of analyzing the collected material was transcribing the audio into written text in a word document to be able to better analyze the outcomings and attach the interviews in full as appendix to this thesis paper. Within the word file, below each of the thirteen questions (plus intro and outro questions), the answers of the interviewed experts were recorded in a 2x2 table. On the one hand, this ensured that each answer could be clearly assigned to a specific question as well as to an interview partner. In addition, the tabular visualization of the answers related to a specific question supported the analysis process.

This analysis process consisted of matching what was said by interviewee A with what was said by interviewee B. In a further step, the respective answer was then compared with the interview question and additionally with the two investigative questions relevant for the qualitative research

(IQ 2 and IQ 3) and thus checked for relevance and validity. A visualization of the method is presented in figure 9 below.
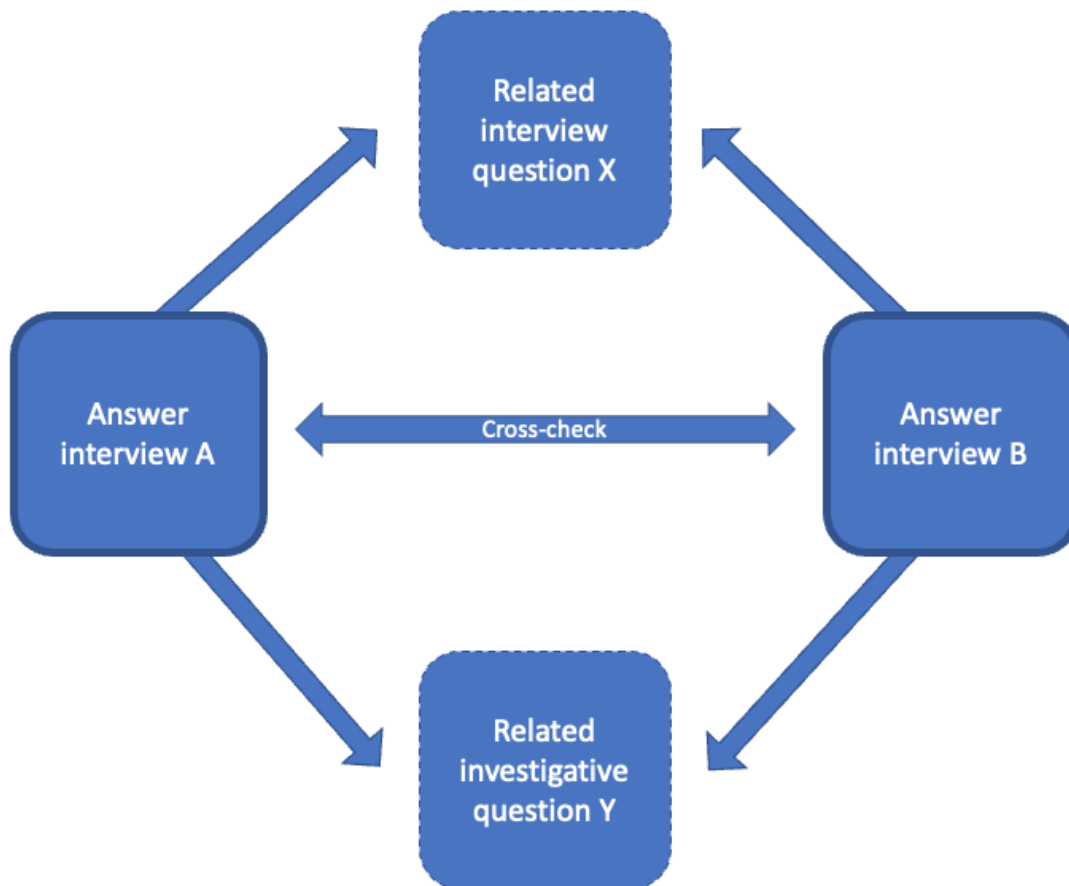
Figure 9. Model of applied analysis method of collected quantitative data

By applying this systematic method similarities and differences could be extracted and put in context and relevance to the interview question as well as the investigative question.

3.5   Reliability and validity

A measurement's consistency is referred to as its reliability. A study is regarded as dependable if another researcher would anticipate the same outcomes if they carried out the same investigation in the same manner. Whereas the degree to which observations and results precisely and appropriately reflect the phenomenon of the research topic is known as validity. (Davies & Hughes 2014, 158-160)

3.5.1   Quantitative research

A valid questionnaire collects accurate data that accurately measure the concept the survey is targeted to, and a dependable one will ensure that these data are consistently obtained (Saunders et al. 2019). To ensure reliability and validity of the collected data the survey, it's background and goal were introduced thoroughly. Terms and models that were briefly and in comprehensible wording explained to make sure every participant regardless of their occupational background and expertise was able to understand the scope, background and goal of their participation. Before the questionnaire was published and shared several pilot tests with people of different backgrounds were made to test whether or not the questions an answer options were comprehensible. Since the target population of this research part were people living in Finland the very first question ensured validity in that regard by asking for the participant's current country of residence. If it wasn't Finland the questionnaire was immediately forwarded to the outro page to make sure they do not get part of the research.

3.5.2   Qualitative research

In order to avoid any bias during the interview, which can be the result of inappropriate or leading formulation of questions (Saunders et al. 2019, 456), the questions were phrased clearly and neutral and the interviewees were repeatedly asked whether they understood the wording. Whenever relevant it was also emphasized if a question was grounded on personal opinions or professional experiences. During answering the respondents were not interrupted and after the answer comments of the interviewer were avoided to not lead or influence the interview by revealing any form of dis-/approvement. In addition, after the final context-related question and answer the experts were given the possibility to add anything they felt was missed during the immediate answer or that they felt was left out by the author. However, this was not made use of due to lack of necessity in the eyes of the conducted. Validity was ensured by the choice of interviewees (compare chapter 3.2).

4 Results

4.1 Quantitative survey

This subchapter summarizes the results and analyzes findings of the consumer survey conducted in order to contribute to answering IQ 1.

4.1.1 Demographic information about the respondents

During a period of 2 weeks, the survey was answered a total of 108 times. Of these, a total of 105 were relevant to the scope of IQ 1 and this thesis. 3 participants stated that they did not live in Finland and were therefore not allowed to answer further questions as described in 3.3.1 and were forwarded to the end of the survey.

While not primarily of relevance for the results of this thesis the gender identification and age group were asked from the participants in order to get an overview of the responding group. It was found out that the majority identified as female with 67 % (n=70). Cumulatively from the three quantitatively largest age groups, 86 % of participants were in the 18-44 age range. Thus, the results represent different generation and age structures.

4.1.2 IQ 1. What characteristics affect customer satisfaction in B2C when online from placing an order to receiving a delivery?

Of those valuable 105 responses, 96.1 % (n=102) reported owning a mobile device, which underscores the relevance of these products in today's society. Question 3 served to measure where these mobile devices were obtained from. Since the source of supply can be >1 if more than one mobile device is owned, multiple answers could be given to this question in order to show that a respondent ordered a smartphone from an online store, for example, but a tablet from a retail store. The results showed that more than half of the participants (53.4 %; n=56) stated that they had purchased a device online from a mobile device on the Internet. Still, 40.0 % (n=42) purchased the device from a traditional retail store. Thus, a slight tendency toward online purchasing can be seen among the respondents.

After finding some impressions about the relevance of mobile devices and their purchase sources, the author wanted to find out a little more about the general ordering behavior of the participating persons. It was found that 94.2 % (n=100) ordered items or goods via the Internet within the 12 months that had passed at the time of the survey. One in five (n=21) even did so once a month on average. Both results, purchase method of electronic devices and general frequency of online ordering, are in line with and confirm the all-Finnish statistics from the introductory part 1.1. When

asked about the most frequently selected delivery methods of these online orders, 67 % (n=67) responded with "Delivery to a pickup point" while over a quarter (27.0 %; n=27) of online orders were ordered for home delivery and only six times (6.0 %) indicated that the merchandise was picked up from the seller's store or warehouse after ordering it themselves. Of the 100 orders placed online in the past year, 94 were for delivery either to a pick-up point or directly to the customer's home.

Now that we have gained some insights into the ordering behavior of the respondents and the relevance of delivery services for online orders, it was time to find out more about the expectations and requirements of consumers with regard to order fulfilment and delivery. For example, what are the expectations regarding delivery time, i.e. how long are the respondents willing to wait after completing the order until delivery to the selected delivery location? The result was a mean of 4.07 days. PostNord (2021b) also came to a similar conclusion with a survey in Finland in which 67 % answered "3-5 days" to the question "When you buy a product online, what are your expectations as to delivery time?".

Next, as part of answering investigative question 1, the aim was to determine whether and to what extent online reviews from other customers are important for customer satisfaction. Participants were asked how often they would read reviews about suppliers or products before ordering online. 70.5 % (n=74) stated that they "always" or "usually" do so and 23.8 % (n=25) "occasionally" do so. This shows the relevance of online reviews in today's e-commerce purchasing decisions.

In the next part of the survey, a matrix was presented that included various components of an online order along a simplified flow. These individual services, ranging from a user-friendly interface of the web store to receiving order and delivery updates and a simple return process, were asked to be rated on a scale of 1 (Not important at all) to 5 (Very important). The following findings could be analyzed: "Receiving updates about order and delivery status" was most important to participants with a mean of 4.2/5.0 followed by "Delivery costs" with 4.0/5.0 and "User-friendly interface of web shop" with 3.9/5.0. Being offered a "variety of carriers to choose from" was rated least important (3.0/5.0).

Finally, as an optional free text field, the option was offered to briefly report on a positive as well as a negative experience. 61 and 58 respondents respectively made use of this option (full responses in appendix 1). When evaluating the positive consumer experiences, it was noticeable that frequent mention was made of reliable order tracking, fast delivery and at the same time faster delivery than expected. So besides being provided with status updates about their order consumers in this questionnaire valued a delivery time that was on one hand perceived as fast in absolute time perception as well as in relation to the expected duration until delivery. Another repeated mention

was an uncomplicated return or refund process. According to the analysis of the survey results, customers' main negative memories are of problems with delivery (loss, delay, wrong delivery location) and a lack of information flow regarding the current order and delivery status. The receipt of an incorrect product, poor customer service and complicated, non-customer-friendly return processes were also mentioned several times.

In summary for this subchapter 4.1, after analysis in response to investigative question 1, it can be stated that according to the survey results, especially an efficient order tracking system as well as a fast, inexpensive and accurate delivery have an influence on the perceived customer satisfaction. In addition, delivery targets should be calculated cautiously rather than too optimistically so as not to fail to meet the associated customer expectations. Simple return processes and good customer service also help to increase customer satisfaction.

4.2   Qualitative interviews

This subchapter summarizes the results and analyzes findings of the interviews conducted in order to answer IQ 2 and IQ 3.

4.2.1   IQ 2. What role do warehousing and distribution have in today's e-commerce industry?

Both critically important processes within the fulfilment chain, namely warehousing and distribution, were analyzed and evaluated for their individual relevance within the e-commerce trade as well as in comparison with the traditional retail store. This finally provides a comprehensive picture for the classification and answering of this investigative question.

Rested on the qualitative interviews it is evaluated that warehousing and distribution aren't only important, but they are rather essential for the existence of every e-commerce business. The process quality of these operations determines the efficiency order fulfilment and therefore the extend of meeting customer expectations.

With the advent of e-commerce, the variety of different delivery methods increased. Pick-up service points or machines are of high significance because they offer more flexibility to both the consumer and the business. Physical receipt of a parcel can be influenced by the receiver and their ever-changing needs and situations by using those self-pick-up options. For the business it means faster and shorter delivery routes because the last mile is covered by the customer proactively. Also, in these distribution networks shipments can combined to bulks because the service points serve as local micro hubs and offer higher interim storage capacities than a truck or van used for last mile home delivery. All this ultimately leads to reduced logistic costs. Savings

which can then be either invested or forwarded to the customer to increase the order experience and the overall satisfaction.

Relevant for warehouse handling and transport logistics is furthermore the size of a transported product. With a smaller parcel, typically for example in the electronic device industry transit times and handling costs are smaller but therefore the individual transport safety is increased especially in terms of parcel loss. All these factors, process cost, labor input and product safety are of high relevance for an e-commerce seller as they are all directly associated with customer expectations such as price, delivery time and received quality.

Along with excellent delivery services comes the choice of courier partner unless distribution I executed in one hand by the seller, too. Critical criteria that must be met by these third parties in order to work successfully in e-commerce transparent and flexible processes with enhanced visibility. Included in this is a modern and user-friendly order tracking system that provides the receiver and the seller constantly with up-to-date information. Extensively developed logistic networks and infrastructure are required to ensure smooth and fast processes without interruptions. It is about finding the ideal balance between cost and service offering.

The key differences when comparing logistic management processes in e-commerce nowadays with traditional retail business were found to be defined as follows: On one hand there are online shops with the important criteria of user-friendly application in pre-order phase and more flexible warehouse and delivery network structures vs. physical retail stores with more challenging inventory management.

4.2.2 IQ 3. Which functions of logistics management efficiently contribute to meeting customer expectations?

In order to be able to answer this question about meeting customer expectations, it was first important to find out, with the help of the expertise and experience of the interviewees in the field, what the main customer expectations are. By asking specific questions, it was also possible to filter out which functions of logistics management have the most significant influence on the satisfactory fulfilment of these expectations. According to the results of the interviews, the three main expectations of customers regarding the distribution management of their online sellers are definable as follows.

Great importance is attached to speedy delivery of orders, whereby it is particularly important to emphasize here that adherence to the expected delivery date communicated after handling of the order in the warehouse and handover to the courier is even to be classified as more critical than the delivery time alone. The communication of this expected delivery date arouses an expectation

in the consumer; it is perceived less as a targeted goal of the courier or the seller, but rather as a promise. If this promise cannot be kept exactly due to problems along the delivery process, the negative impact is much higher than the positive impact if it is kept. Flexible delivery processes are another important criterion. Here, the fulfilment of customer expectations begins even before the order is placed in the seller's online store. Due to the current relevance and spread of e-commerce and the resulting large number of logistics partners, consumers have developed individual preferences for delivery companies. The broadest possible selection of the most reputable and well-connected options preserves the chances of meeting a customer preference even during the checkout process. In the next instance of the delivery chain, however, the flexibility offered also means being able to respond as quickly as possible to change requests from recipients and to implement them. Be it a change of the intended delivery location, the delivery method or the delivery time. All during an ongoing delivery process. Consumers nowadays are used to being able to make such high demands, therefore it counts: There are providers on the market who can realize this, is this particular one, which serves the current order, one of them?

When talking about customer expectations there are, however, areal and structural differences to consider. In urban areas, standards are disproportionately higher than in more remote ones. Consumers from these busy, fast-moving, and well-connected areas expect the fastest, most flexible, and least expensive services. In some cases, this can even extend to the expected free, same-day delivery. As is also a common prejudice, online customers from smaller towns and more remote areas tend to be more patient and forgiving when it comes to receiving their ordered goods. Expectations are lower compared to the big city because recipients are aware of their infrastructural environment and the limited service that comes with it. Here, a delivery delay has less of a negative impact on customer satisfaction because the initial expectation is lower.

A decisive tool for fulfilling the aforementioned customer expectation to the flexibility of order fulfilment and delivery is the communication of a delivery tracking. This increases transparency and is nowadays even more likely to be classified as a "given feature" than as a unique selling point or competitive advantage. It is therefore all the more important to provide the customer with a high level of order visibility service. On the one hand, it enables the customer, whose property is in question here and delivery, to always be informed about the current delivery status without having to contact the customer service of the seller or courier on his own initiative. The consequence of this would be an unnecessary commitment of labor resources on the one hand and a reduction of the perceived purchasing experience on the other hand due to the customer being forced to request the required information himself. On the other hand, it also provides the selling company with constant insight into the ongoing delivery status, which is relevant for monitoring the progress of order fulfilment. In addition, tracking is often considered a source and proof in case of delivery

problems such as delays, damages or loss. In the implementation of such systems, it is important to distinguish between information messages to the receiver and those to the sender. Certain events are highly relevant for the seller but would only cause confusion for the consumer. To classify this, special codes for transfers and forwarding between individual courier handling centers could be mentioned as an example. These have no added value for the recipient and would rather lead to uncertainty and, in the next instance, avoidable customer enquiries, but are essential for the selling business in order to be able to influence the ongoing delivery process, also in the consignee's interest.

Talking expectations goes hand in hand with talking experiences. To specify: Perceived experience of the entire order progress from accessing the online store until receiving the product in expected quantity and quality. Now, the shipped product is not handed over to the courier as a naked item from the warehouse and finally delivered to the recipient, primarily for reasons of transport safety. It comes in a package. And as it turned out in the two interviews, the packaging also has a not inconsiderable influence on the customer's ordering experience. As mentioned, its main and most obvious function is protecting the content. It makes a difference to the consumer whether he has received the ordered product in undamaged condition, i.e. the packaging has fulfilled its primary function, but the package itself arrives in an externally damaged or unesthetic condition. This expectation increases with the rising value of the ordered product, as the recipient perceives the unboxing as a joyful experience which he is looking forward to and which is missing if the packaging is damaged. Packaging is therefore more than just protection. It plays a role in finding answers to the question of the order experience of a customer.

Both experts also emphasized the importance of not only an existing but also an excellent customer service for customer satisfaction. Customer service is the primary, often the only communication contact between the company and the customer. It represents the business to the outside, is often the subject of positive and negative online reviews and an important channel for passing on customer feedback and wishes within the company. Customer service is a key element and good customer service is a competitive advantage in e-commerce.

Conclusively for this subchapter 4.2 after the insightful interviews it can be stated and summarized that especially order processing in warehouses and distribution centers, flexible and transparent distribution processes and finally customer-oriented, exceptional customer service contribute to meeting customer expectations.

5   Conclusions

5.1   Key findings

The objective of this bachelor thesis was to identify, determine and verify the influence of warehousing and order fulfillment on customer satisfaction. To what extent can logistics process management and its effective and efficient organization and execution contribute to satisfied customers at the end of the supply chain? To find out, numerous literary contributions from textbooks and peer-reviewed publications were studied, put into context of the research question as well as the investigative questions, and summarized. Building on and complementing this theoretical framework, quantitative and qualitative research was conducted. On the one hand, to provide process insights on the business side, and on the other hand, to find out what is important to consumers in online ordering and fulfillment.

The research question (RQ) of this thesis was "How does warehousing and order fulfilment best contribute efficiently to customer satisfaction in the Finnish e-commerce business of small electronics?" The research question was divided into investigative questions (IQ):

IQ 1. What characteristics affect customer satisfaction in B2C when ordering online from placing an order to receiving a delivery?

IQ 2. What role do warehousing and distribution have in today's e-commerce industry?

IQ 3. Which functions of logistics management efficiently contribute to meeting customer expectations?

With the disappearance of the retail store as a temporary warehouse in the last instance before a sale, it is all the more relevant in e-commerce to have an integrated and optimized supply and delivery chain with regional hubs and fulfilment centers built into the network in order to be close to the consumer. E-commerce order fulfilment nowadays reflects the flexibility the internet has been offering to people. Tailor-made processes and solutions for almost all customer expectations contribute to a high level of customer satisfaction, loyalty and retention.

Warehousing and order distribution aren't only connected, they are interdependent. Both affect each other and "whatever interruption occurs in one of them needs to be fixed by the other" (Interview B.) They are not only of pronounced importance, but they are also a prerequisite for the execution of an e-commerce business in the B2C sector and their level of efficiency significantly defines the success of the company. With ever-increasing customer expectations such as fastest possible delivery at the lowest possible price while offering a high overall service standard as well

as increasing competition in the e-commerce sector, smooth, cost- and time-efficient as well as transparent processes are of utmost importance in order to meet or ideally exceed these high expectations and deliver long-term, substantial customer satisfaction. This research has provided clear indicators and evidence of this from theory and practice. If the entire work were to be summarized in a single sentence, it could be concluded that efficient, customer-oriented logistics processes contribute significantly to customer satisfaction, which in turn has a positive effect on customer loyalty and retention and ultimately secures and increases corporate success in the long term.

5.2   Suggestions for further research

In certain areas this thesis had limitations. For example, some areas or theories were mentioned, but not in depth in the sense of a target-oriented scope. For example, the retail store model was often used as a comparative reference but was not clearly examined separately. It may also be advisable to examine the logistics processes discussed in additional or more depth with regard to their ecological sustainability and associated optimization approaches. Furthermore, the focus was on B2C during the entire research period. Thus, this thesis does not provide any direct insights into the impact of logistics processes on customer satisfaction in B2B business. It is also unclear whether the results might not be different in a different geographic focus.

All of this provides topical focus and demarcation suggestions for further research.

5.3   Learning reflection

Through this comprehensive project, the author was able to validate, review and deepen a variety of content learned during his studies and apply it in an academic context. Extracting relevant information from a variety of texts was applied as well as putting it into context with the framework and demarcation of the thesis.

In addition, it was a challenge for the author to find the capacity to complete this thesis besides his regular weekly working hours. Planning, scheduling and time management skills were applied successfully and thereby trained and sharpened. This was a process that was optimized as the project progressed.

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Appendices

Appendix 1. Questionnaire

Total number of respondents: 108

1. What country are you currently living in?

Number of respondents: 108
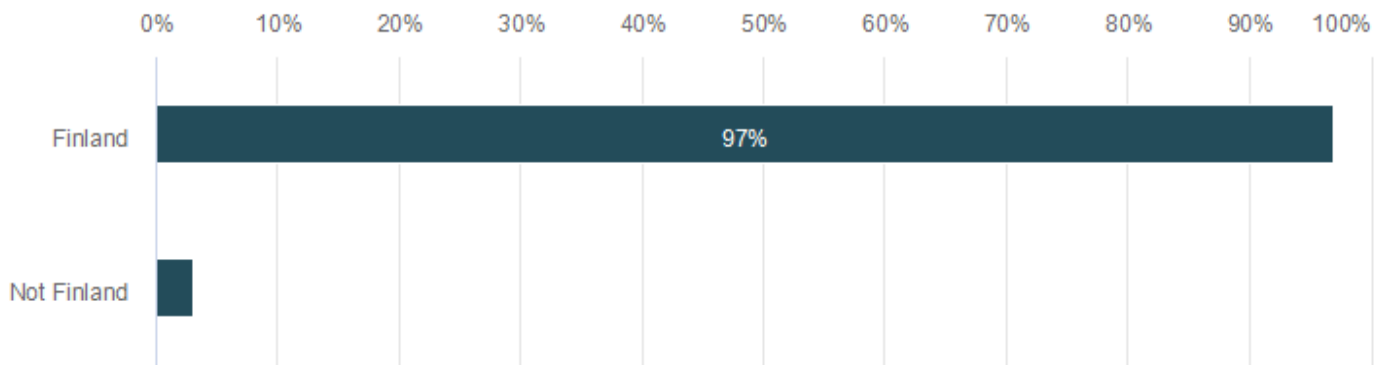
	n	Percent
Finland	105	97.2%
Not Finland	3	2.8%

2. Which of the following mobile devices do you currently own?

Number of respondents: 105
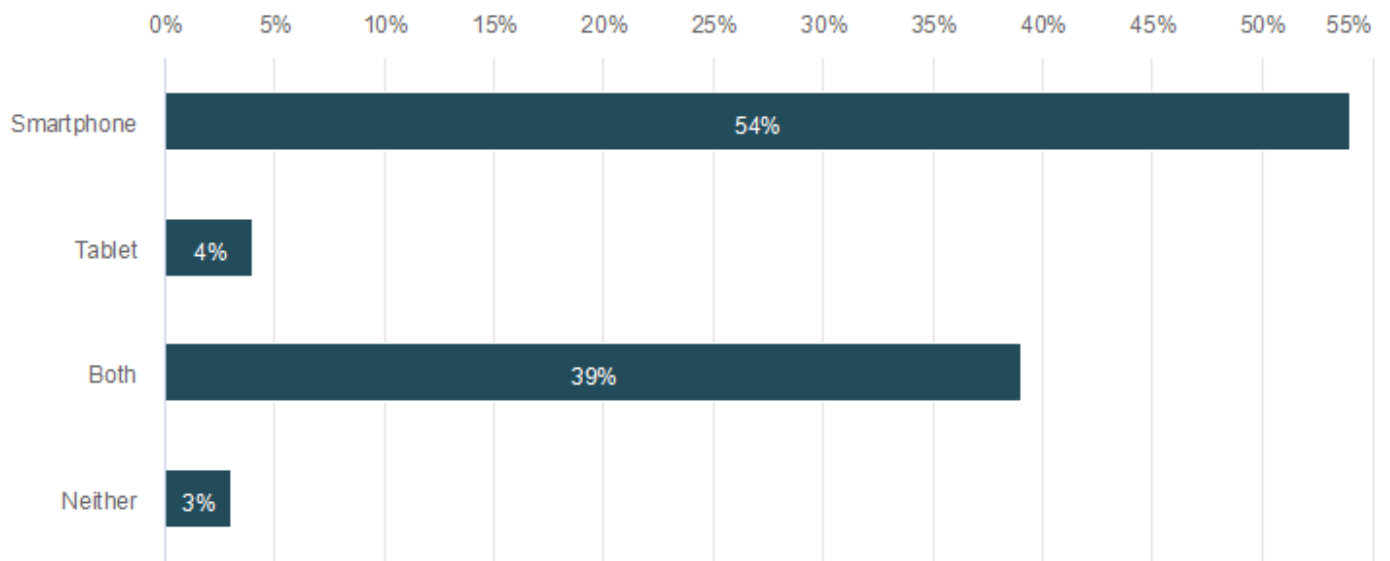
	n	Percent
Smartphone	57	54.3%
Tablet	4	3.8%
Both	41	39.0%
Neither	3	2.9%

3. Where did you buy this/these device(s) from?

Please choose all answers applying to the purchase(s) of your device(s):

Number of respondents: 105, selected answers: 126
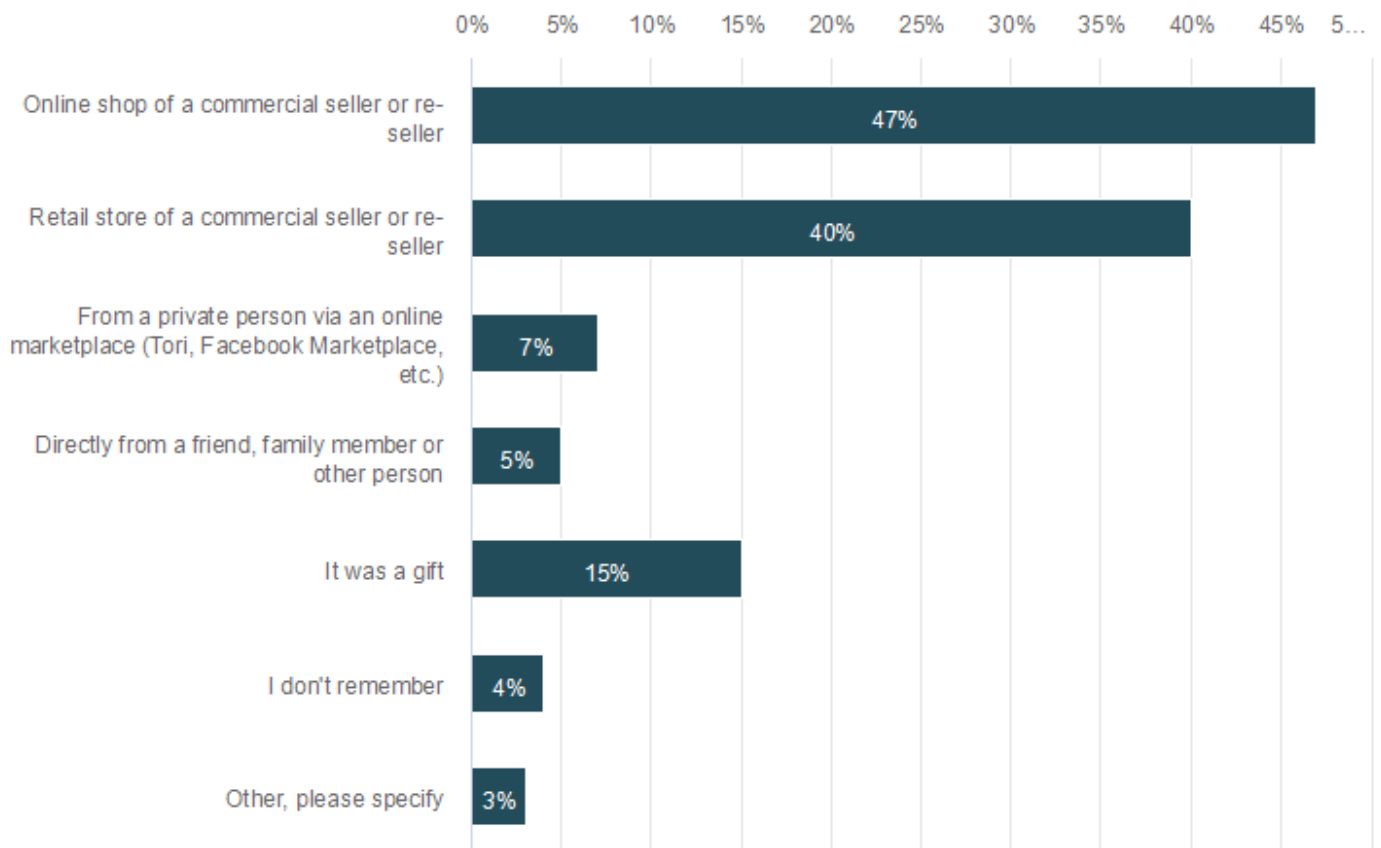
	n	Percent
Online shop of a commercial seller or re-seller	49	46.7%
Retail store of a commercial seller or re-seller	42	40.0%
From a private person via an online marketplace (Tori, Facebook Marketplace, etc.)	7	6.7%
Directly from a friend, family member or other person	5	4.8%
It was a gift	16	15.2%
I don't remember	4	3.8%
Other, please specify	3	2.9%

Answers given into textfield

Option names	Text
Other, please specify	From the work
Other, please specify	Work connected, workplaces provides phone, tablet and laptop
Other, please specify	Belongs to the employer

4. On average, how frequently did you order an item or good from a commercial seller or re-seller over the internet within the last 12 months?

Number of respondents: 105
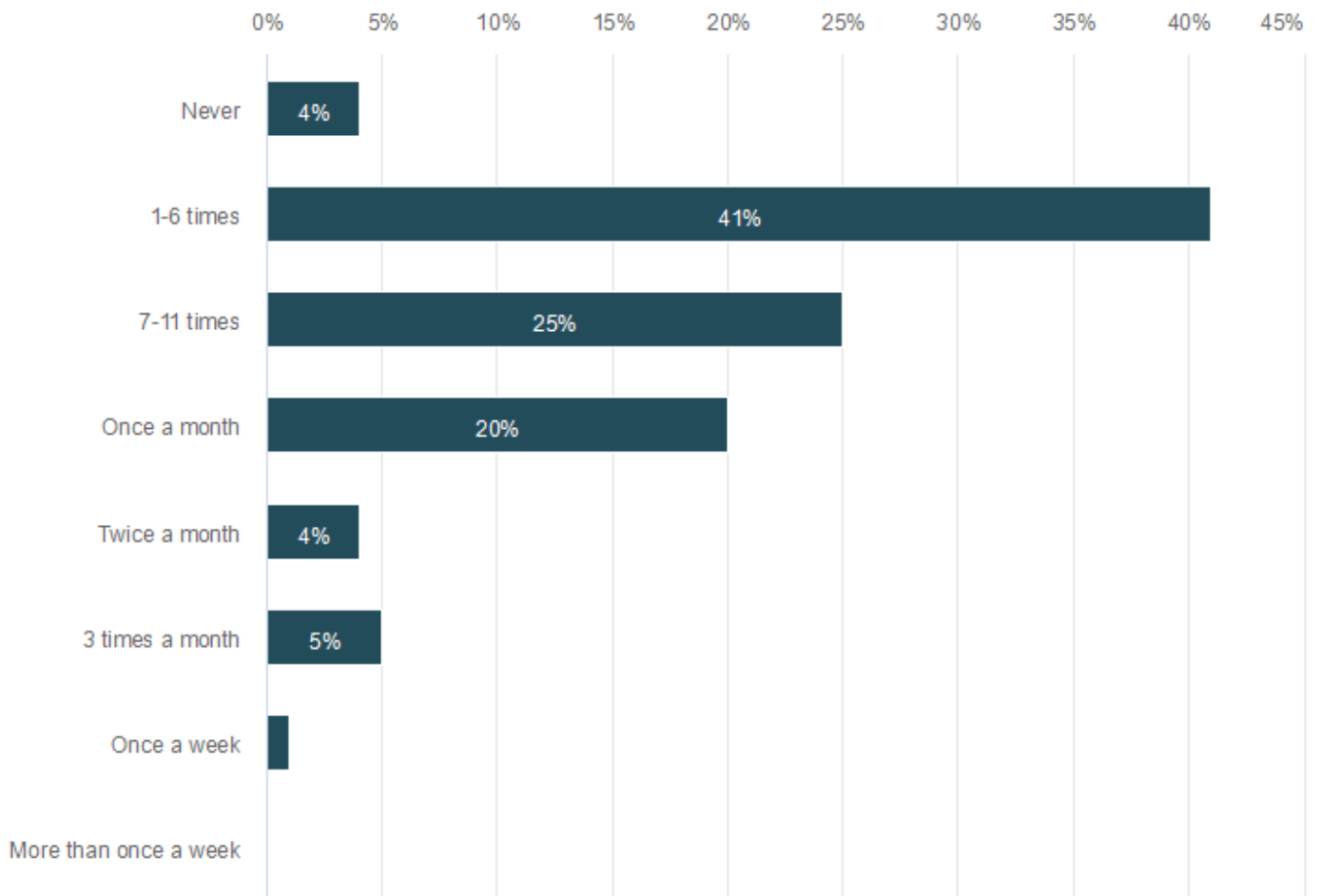
	n	Percent
Never	5	4.8%
1-6 times	43	40.9%
7-11 times	26	24.8%
Once a month	21	20.0%
Twice a month	4	3.8%
3 times a month	5	4.8%
Once a week	1	0.9%
More than once a week	0	0.0%

5. Regarding those online orders of items and goods of the past 12 months: What was the most common delivery method you chose?

Number of respondents: 100
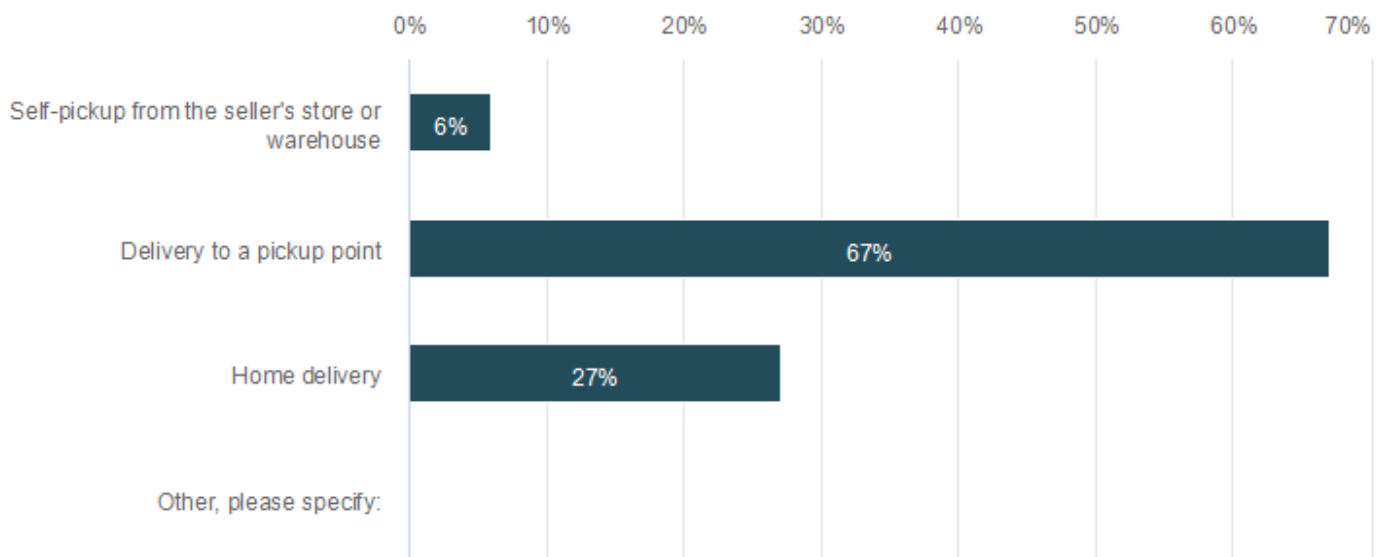
	n	Percent
Self-pickup from the seller's store or warehouse	6	6.0%
Delivery to a pickup point	67	67.0%
Home delivery	27	27.0%
Other, please specify:	0	0.0%

6. How many days after placing an online order of an item or good are you willing to wait for your order to be delivered or ready for pickup?

Number of respondents: 105
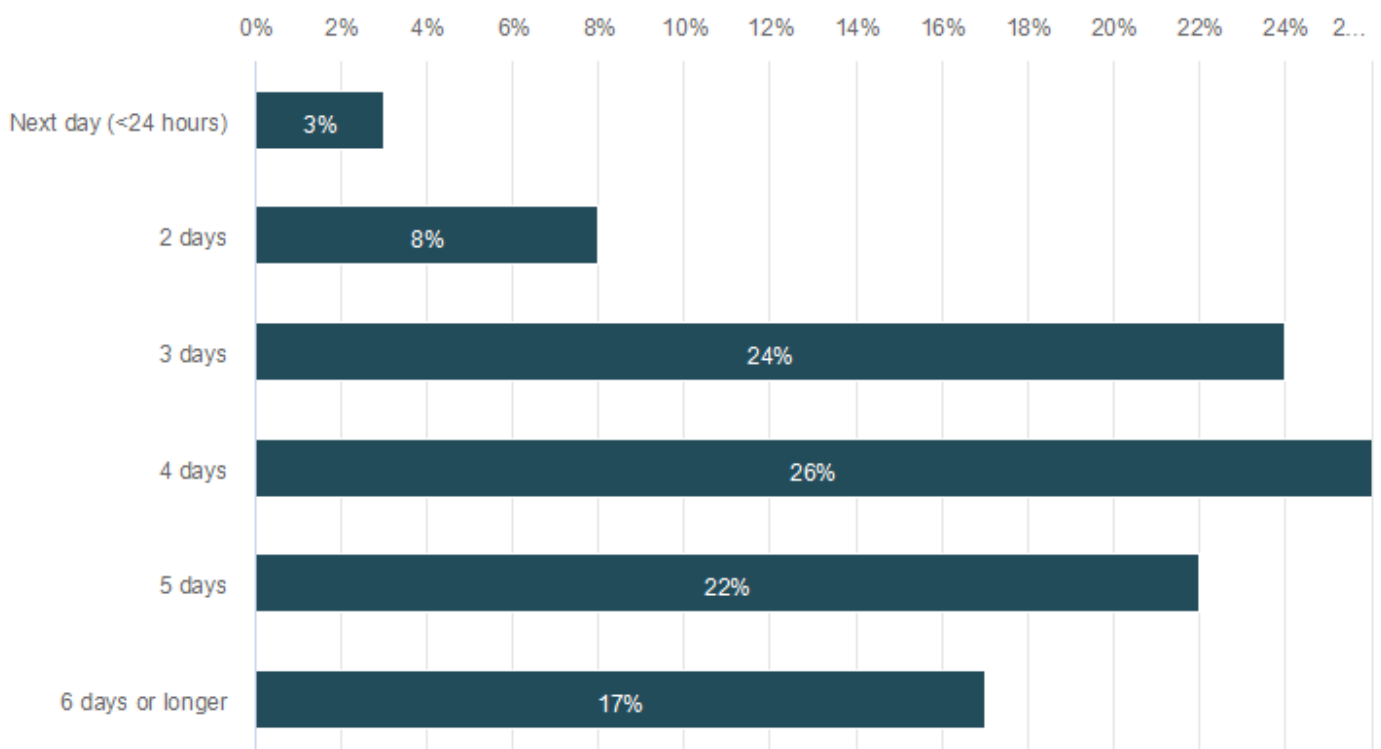
	n	Percent
Next day (<24 hours)	3	2.9%
2 days	9	8.6%
3 days	25	23.8%
4 days	27	25.7%
5 days	23	21.9%
6 days or longer	18	17.1%

7. How often do you actively look up online reviews about a product or seller before you order online?

Number of respondents: 105
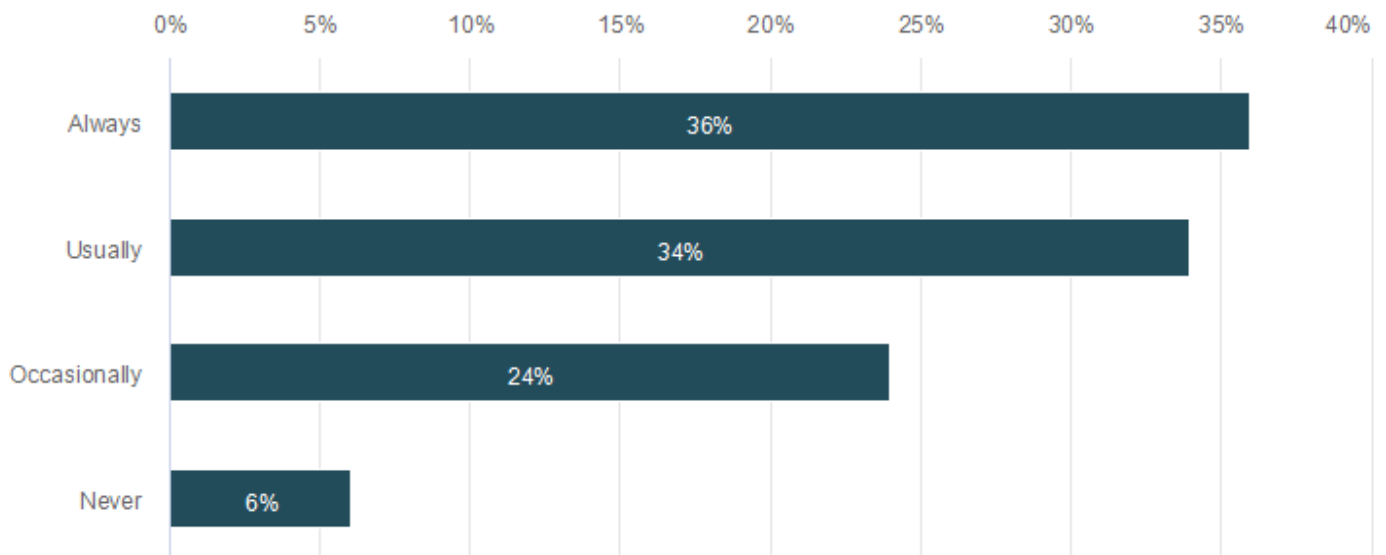
	n	Percent

Always	38	36.2%
Usually	36	34.3%
Occasionally	25	23.8%
Never	6	5.7%

8. Please rate the following services/components of an online order process according to their importance for you:

Number of respondents: 105

		Average score
User-friendly interface of web shop	n = 105	3.9
Accessibility of customer service	n = 105	3.6
Variety of payment options	n = 105	3.6
Variety of carriers to choose from	n = 105	3.0
Receiving updates about order and delivery status	n = 105	4.2
Delivery costs	n = 105	4.0
Delivery time	n = 105	3.8
Delivery method	n = 105	3.4
Convenient return process	n = 105	3.7
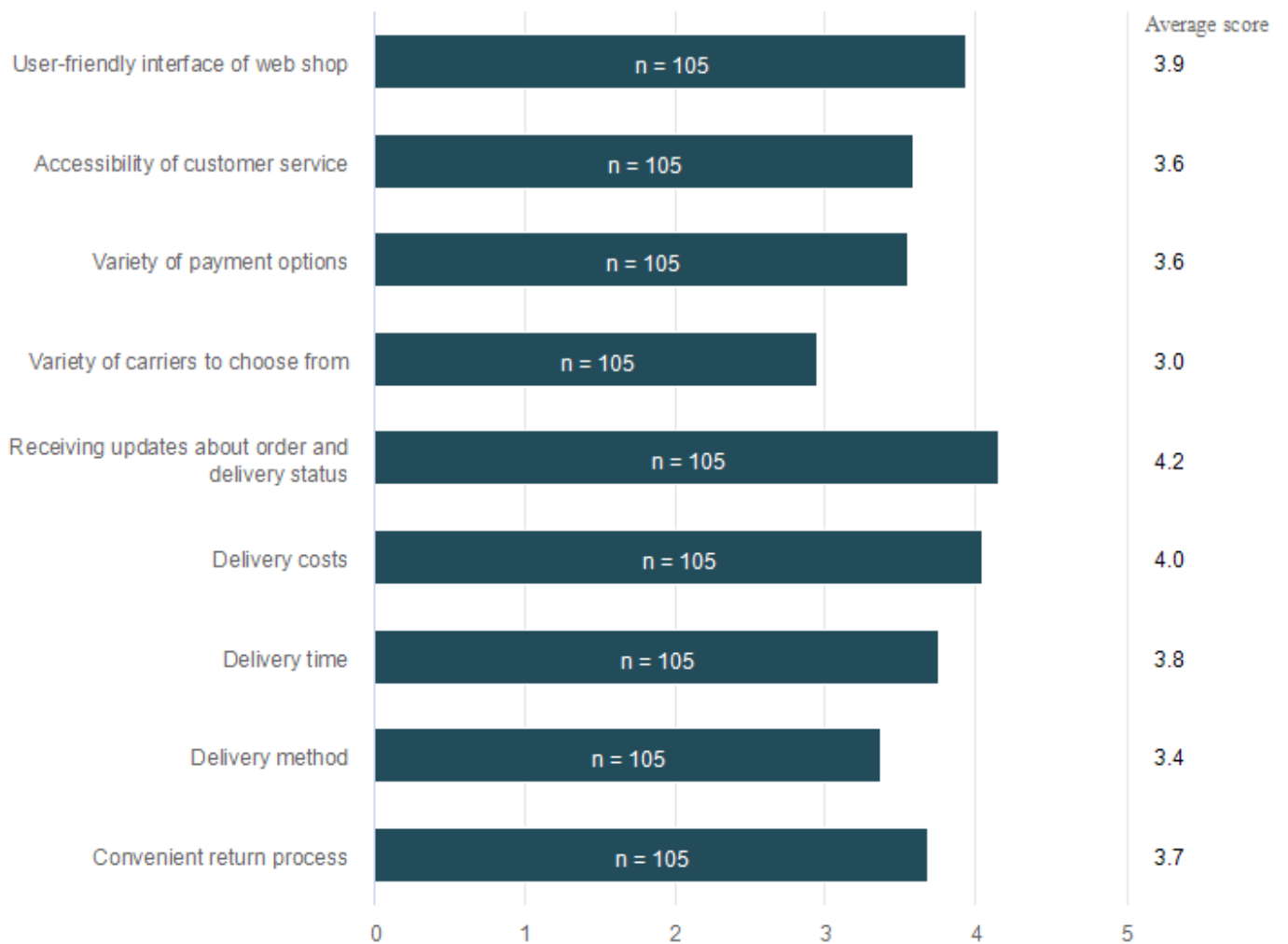
	Not important at all	**Rather unimportant**	**Neutral**	**Rather important**	**Very important**	**Average**	**Median**
User-friendly interface of web shop	2.9%	11.4%	10.5%	39.0%	36.2%	3.9	4.0
Accessibility of customer service	3.8%	6.7%	33.3%	39.1%	17.1%	3.6	4.0
Variety of payment options	1.0%	15.2%	28.6%	38.1%	17.1%	3.6	4.0
Variety of carriers to choose from	5.7%	27.6%	37.1%	24.8%	4.8%	3.0	3.0
Receiving updates about order and delivery status	0.0%	5.7%	14.3%	39.0%	41.0%	4.2	4.0
Delivery costs	1.0%	9.5%	8.6%	45.7%	35.2%	4.0	4.0

Delivery time	2.9%	15.2%	13.3%	41.0%	27.6%	3.8	4.0
Delivery method	3.8%	16.2%	38.1%	22.9%	19.0%	3.4	3.0
Convenient return process	1.9%	18.1%	21.9%	25.7%	32.4%	3.7	4.0

9. What is the last <u>positive</u> experience in connection with an online order that you can remember spontaneously? Please describe briefly (One sentence is enough)

Number of respondents: 61

Responses
Detailed delivery tracking and notification about arrival of package to R-Kioski around the corner.
Ordered from an e-commerce and had the order delivered within a day and at my pickup point in 3 days. Return was smooth and easy from their website and didn't require any extra work from me the consumer.
I ordered something and it was delivered faster than expected.
I ordered a product from Finnish webshop on Sunday evening, it was posted in Monday morning and I received it Tuesday. Finnish companies are famous that delivery might take a week, that's why I was positive pleased.
Due website bug order went through with wrong size, but customer service was prompt & friendly and fixed it easily for me.
Buying two curtains on sale, cheaper than buying just one.

The parcel arrived much faster than expected and told. The whole process from ordering to delivery went very smooth.

I ordered food from Fiksuruoka. And they sent me code for discount for my next delivery. And code is valid for a very generous time.

I usually buy online what i struggle to find on a shop (which is quite common here in Finland) so this week i received my first xmas gift order. Came much faster then announced so that was a positive experience although I bought in advance so I wouldn't need a fast delivery. bought 3 products at the same time in different websites and received just one so difficult not to compare them.

Ordered ichneumon wasps online --> they had a whole plan figured out on how to fight moths, sent the wasps reliably every two weeks without having to reorder and had very detailed and helpful instructions.

Getting special treatment because of loyalty-like discount

For me it is a smooth ordering process:

* you can see all details online (also pictured)

* you pay by card

* you will be updated per email or push on when the parcel arrives

My purchase being delivered within 24hours from purchase!

Ordered some second-hand clothes, arrived on quickly and in good condition. They let me know very well what was happening with my order in the process.

I had a suprise lollipop in the package

Ordering clothes, picking them from pick up point next door. Tried the clothes and returned the ones that didn't want to keep to the same place and continued my life. Fast, easy and didnt have any contact with others.

In Finland being able to pay for customs very easily through online services.

The package arrived the next day.
Usemmiten tilaan lankoja. Olen saanut tilaukseni jo seuraavana päivänä läheiseen noutopisteeseen
Keskisen kello. Very fast and simple process. Very good info and status updates
Got it quickly to the nearest place possible.
My order arrived fast.
Faster delivery than I expected
I got my order faster than I expected
I've ordered contact lenses and they were delivered in only two days and the options for delivery were good, it was delivered to Posti post machine, so it was easy to pick it up as well
I ordered jeans from a local store and I received the product 2 days later and it fit.
Ordered cosmetics online and got them faster than i expected (= within two days).
Poor quality product, free return and refund available.
Amazon delivered order on time.
Nelly.com was super-fast and well informed of all stages.
Got scammed but etsy refunded me.
Using fast and convenient customer service chat when ordering online
Smooth process, update about the order status
ordered from jotex/ellos and arrived when it was supposed to and was a easy process
Very convenient return process for a wrong product. Pre-paid label and refund within 1 week.

Getting information for delivery time and a call to make sure I am at home now, so the delivery will be successful.

Package was delivered after 3 months wait.

Via a contact on Linkedin I could order and receive it within a few days.

On time

My order arrived at the Posti in the time which the seller promised. And I got a SMS about it arriving.

Large verkkokauppa order of home appliances. Nice delivery crew installed stove and dishwasher.

The item was delivered quicker that promised

Regular tracking updates and clear information in the order confirmation email as to how long it can take for tracking to update after the completion of the order.

Return process of a product was easy, the paper to be filled out was already included in the package!

I ordered some clothes online, they arrived within the expected time frame and I decided to keep some items. It was super easy to return the rest of the items. = No problems in the process.

Nordpost provides good tracking and visualization of the parcel. One time they trued a home delivery when I was out so they called me and agreed to bring it to the nearest Kmarket and send me the pick up instructions. Smooth and pleasing

Order was completed one day after I had ordered and I received a link with status of delivery.

Free shipping

My order took only a few days to process and in two days was delivered. I picked it up with no issue!

a secondhand camera from Kameratori. Payment and delivery process were quick and convenient.
Order arrived at the promised time.
Order came next day.
I ordered a TV and it arrived very fast. Also i could choose The delivery Time Myself, so i didn't have to worry it arriving while i was working.
Delivery earlier that expected/told
Delivery was faster than I expected.
Next day delivery to the pick up station.
Website had live chat with customer service.
Found a very good website where it IS easy to save your shipping cart and then later continue from where you stopped shopping The last time
Ordered a jacket that came on 2 days. That was very fast
I ordered clothes and they came with a plastic bag where you can return The clothes If they won't fit. Address written on The Bad so very easy to return Bad clothes
Delivery was fast.

10. What is the last <u>negative</u> experience in connection with an online order that you can remember spontaneously? Please describe briefly (One sentence is enough)

Number of respondents: 58

Responses
Home delivery was offered for an extra of 10€. For a small package. I didn't choose it.

I ordered a carpet from a store and it took customer support two weeks to inform me that my order was missing, then I got a giftcard which was 1/4th of the prize of the item.
I ordered something and had a certain pickup Time for it from Post office. I was quatanteened because of corona and couldnt pick it up so they sent it back, never got The money or product. There was no customer service to help with The problem
Ordered product from big retailer, it took 4 days for them to inform that they are not able to deliver the product.
Delivery time was long and none of the products (5) were good, there was no reviews to help.
Never receiving my package
The parcel never arrived even thought the merchant claimed it must have arrived. When checking the tracking number, we saw that it was stuck somewhere in Estonia and not in Finland. It was so difficult to communicate with customer service. In the end we luckily got our money back but it took so much time and energy to get there. We will never order from this merchant again.
I wanted to return an item. The return process was quite hard work. I had to print out referral as not provided by the online store and went to the wrong returning point as there was misleading instructions.
I think many times before ordering from Alibaba again. product worked but quality was horrible. (have had good purchases there before but I will never buy electronics from them again.
Order came a week later than specified/expected.
Got notification about order being prepared, but nothing else for a long time
An order was once flagged at arriving soon, but got then cancelled. I just received then an email that the amount will be refunded but no further explanation.

I ordered from abroad, and the order took several days (maybe 5) to be processed before even being shipped, so the delivery time from me making the purchase to actual delivery was like 9days

My order did not arrive, asked them what happened twice, said my address was not there but it was.

The order hadnt arrived and when I contacted customer service they said that they were out of stock with that item. So they didn't inform me about that and i had to contact them first.

I had to print out the return information myself and glue it to my packet.

Having a parcel delivered to a locker, but not receiving the locker code, because of some weird mismatch of phone numbers (at least that's what they said).

Received a wrong product.

Tavaran toimitus kestänyt useita kuukausia. Toimitusaikaa ei ilmoiteta eikä sitä että tavaraa ei tilattaessa ole varastossa

Takes too much time, didn't get any order confirmation. Boxes are full, so they try several times to deliver to the same place.

They delivered me the wrong item. (clothes)

Technical issues with payment and had to handle the issue

I didn't receive any information how the order proceeds so I didn't know when I can expect my order to be picked up

I've ordered a glass screen protector from some Finnish website. It was supposed to come in a couple of days, but I waited for a week. When it came, protector's quality was super bad, we thought it's with defect and they refused to give the money back and sent the new one, but it was also bad

I wanted to return a product and I had to wait for the online-store to accept the return and then print a separate return label myself and make a return shipment. It was too complicated and too many steps.

Ordered clothes online and returned them, had to pay for the return myself and never got my money back for the clothes i had payed.

Poor quality product.

Posti leaving package 30minutes away form the promised destination.

I was ordering vitamins from Yliopiston Apteekki and wanted to chose the store as a pick-up point. It was not an option and I needed to choose a pick up point elsewhere which cost money. They had an online exclusive sale and I guess too many pickups from store. Anyways in a nutshell too much of an hassle, won't order online from there again.

Got scammed.

I can't remember any specific one

A second package from jotex was supposed to arrive but already a week late and with home delivery and no update of any estimated arrival time

Item not in storage as supposed to and no info for new delivery time. Had to contact the customer service to get a new delivery appointment.

Only possible payment model were not safe based on the public information, so I cancel everything.

Ordered online because not at the shop; then had to wait and when delivered no time to pick it up

Arrival time is all day…

Tracking worked not well and order was at Posti for many days but I did not know about this.

Order of a book through Amazon DE with shipping to Finland. Delivery window was a week long, book arrived in the evening of the very last day. Technically within the window, but kind of annoying.
Delivery was delayed by one week
The parcel was marked as delivered in the online tracking even though it hadn't actually arrived. Luckily this could be cleared up in a couple of days though.
An online shop was lacking a phone number, so when having questions about my orders, I wasn't able to contact them.
UPS. Goddamn. Never a good experience, they always say they could not deliver, even though I was at home the whole day waiting for them.
I ordered a gift from Microsoft's supplier in China, FedEx was supposed to deliver it. Despite me not choosing a home delivery (which is usually a premium feature) they tried it. I then called and requested lockerbox delivery, but they lost the parcel in transition so I was calling them for 2 months 3 times a week. Needless to say I showed up at the bday party giftless. I even went to their terminal in the airport but that was worthless
Estimated delivery time for very small package to my home place was 5 working days. That's long.
Webshop idiotic to use, losing the shopping cart multiple times
An amazon order that automatically chose the pickup point which was far away (instead of me choosing it) and I had to lose some time to fetch it.
Delivery took very long without being informed frequently.
Something wrong was delivered.
Dont recall one now
Once ordered something that got Broken on its way. Very long process to get my money back

Receiving wrong product after long delivery time
They could not find my package at Posti point in K-Market even I should've been there. Next I went again and they found it then.
Due to work time limitations I only order so I can pick up my package myself. I remember I wanted to order something and only at the end when choosing how to deliver the order it was shown that they did not offer this option Only to home. I ordered from another website then.
Package GPS got never updated.
Ordered a painting from Instagram artist and it never came
Once i bought something online and there was no customer service. So i had to talk to bots for so long and My question for them was too complicated
I am currently waiting for a order. A tshirt from the internet and it has been 7 days now and in the tracking link it still says order is processing. Not sent yet. And I pay 5 Euros for the delivery.
Delivery was slow.

11. Gender: How do you identify?

Number of respondents: 105
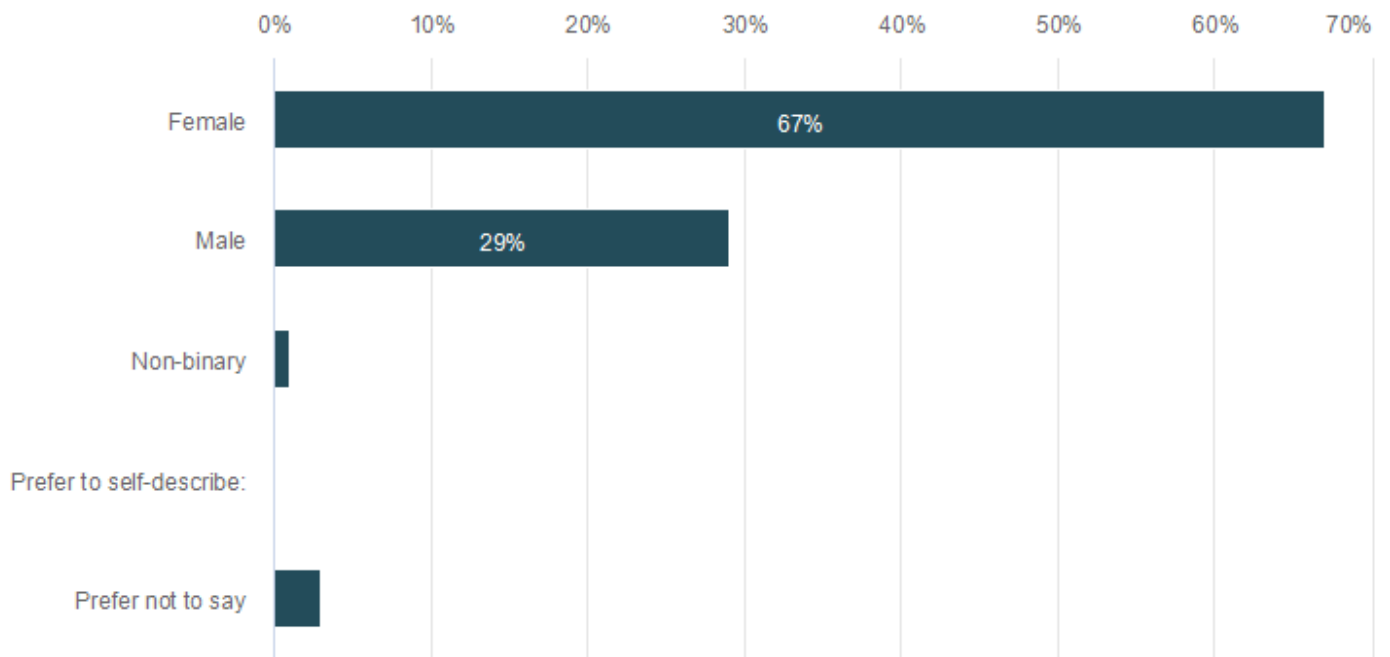
	n	Percent
Female	70	66.7%
Male	31	29.5%
Non-binary	1	0.9%
Prefer to self-describe:	0	0.0%
Prefer not to say	3	2.9%

12. Of what age are you?

Number of respondents: 105
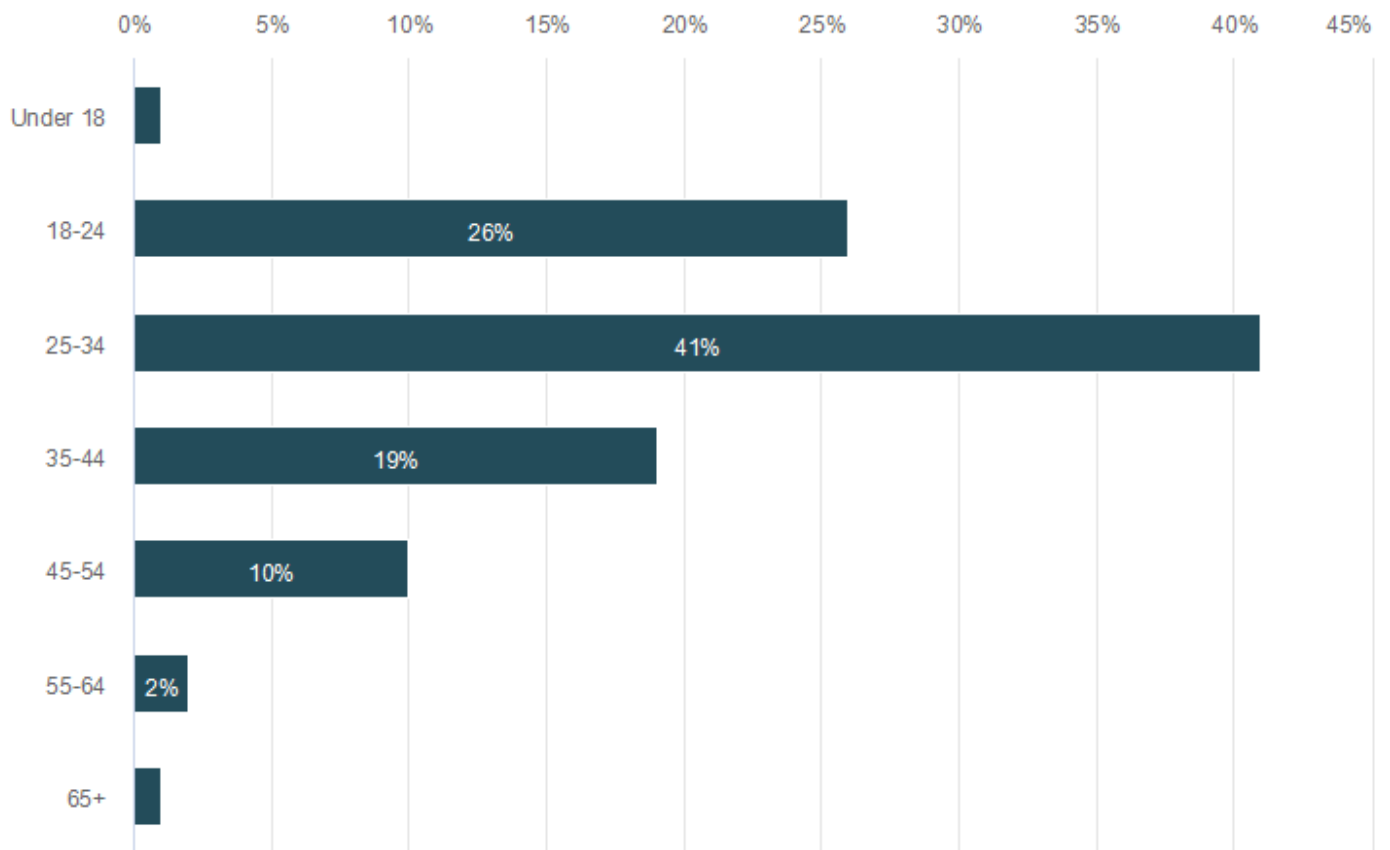
	n	Percent
Under 18	1	1.0%
18-24	27	25.7%
25-34	43	40.9%
35-44	20	19.0%
45-54	11	10.5%
55-64	2	1.9%
65+	1	1.0%

Appendix 2. Interviews

IQ 2: What role do warehousing and distribution have in today's e-commerce industry?	IQ 3: Which functions of logistics management efficiently contribute to meeting customer expectations?
Question 1.-5.	Question 6.-13.

<u>Intro question:</u> In your professional career, how have you gotten in contact with the topics "order fulfilment", "distribution" and "e-commerce" so far?

Interview A:

I have been in in logistics now for five years and for most of the time I was working in the order fulfillment customer service. My role there was to gather information from the customers before the ERP system registered the order so then it would go to following fulfilment processes. This is something something that every logistic process starts with in my opinion. I would also act as connector between selling company, carrier and buyer. I would explain to customers about upcoming deliveries and what documents were needed I haven't been much in the specific operational side of the delivery. On the other hand in my current company I basically I am strategically involved in all our processes from the order fulfillment to the delivery to our customers. This position which I have right now it the first one that I deal in the ecommerce business because before it was more focussed on physical shipment of goods for instance container or rail but that was not ecommerce. This classical order fulfillment compared to ecommerce business is of course quite different because customers deal online with you and your company so then not only you need to have competitive prices for your customers but moreover the entire process should really be designed that the customer can easily find the desired product from your online store to the check out and payment. That's a bit more demanding because there are many competitors out there. I would say so that there is yet a lot to see because nowadays the world is turning to ecommerce more and more.

Interview B:

Order fulfillment if we start with that, I think I was about 18 years old. I had a summer job and I was supposed to do archiving. Bute then in the fulfilment team they had a sick leave and they put me there instead because they had no other choice. It was summer vacations and everybody was on holiday so I jumped in there and I was doing the order fulfillment for "company C", a forestry machines company. That's how I got acquainted and I ended up staying there for a couple of years. It was a little bit bigger industry order fulfillment. With distribution I became familiar in the same company a little bit but then probably when I joined "company D", an elevator engineering company, it was when I learned about proper distribution networks. They were spread globally and they had several different distribution centers around the world so there I learn the concept of what distributions means. E-commerce experience professionally came from "company E", a e-commerce re-seller of electronic devices. I had a background in a different industry so ecommerce was new when I joined "company E" which was 2021.

1. Can you tell me what are the benefits for a business delivering to pick-up-points rather than customers' home addresses?

Interview A	Interview B
First of all, I can see from my experience that in certain markets there are more parcel pick up deliveries compared to home deliveries because in certain markets customers are more prone to their own timetable or it's part of the culture to want to go and pick up the parcel yourself rather than get it delivered home. They perceive more freedom because they can go anytime to pick up their delivery while for home deliveries one needs to be at home. So, the benefit here that I see is first of all it's usually the cheaper logistic option because the carrier's costs are less on delivering the parcel because they don't need to cover the last mile. This is when the courier goes from house to house. But when they just need to deliver to the closest	The benefits for the company are in terms of flexibility towards themselves. Pick up points allow them to combine shipments to bulk shipments to those pickup points. It's also cost wise more efficient. Usually, the home deliveries are around 20 % more expensive in for the company. But I would say the biggest benefit is the flexibility of combining shipments towards the customers.

pickup point it's cheaper for them in operational costs. Also, in this sense I can point out that this the more secure option in my opinion. This is despite of course also packages get lost on their transit to a pick up point it is more common that parcels are not getting delivered properly, for example to the right address, the right consignee or they're being stolen. Also, the delivery process is more vulnerable during the last-mile-part. An example would be: The delivery address is not filled in correctly. There are a lot of blockers which prevent the correct delivery to customers which do not occur that often for pick-up points. Of course, a minus of central parcel pick-up is still that these are not widely available everywhere because some customers may live in an area where it's not offered for infrastructural reasons, and this might leave them unhappy. But parcel networks are constantly developing and growing every day so I feel like eventually we will live in a world where several delivery options are available everywhere.	

2. What are key differences in the delivery process depending on whether a business is active in e-commerce or in traditional retail stores?

Interview A	Interview B
The key difference is when a customer visits a retail store they physically can see and inspect the product. Their product expectations for example what it looks like can be evaluated right away and before the purchase. Whereas for e-commerce it's	The delivery process for the e-commerce industry is that you can have much more flexible inventory. You can ship from different warehouses or fulfillment centers. If they are existing, you have the flexibility in e-commerce to ship the sold products

important for the selling company to deliver the best possible presentation of the product on their website which takes additional resources to do compared to a retails store. When you buy something online and it is a product that you haven't purchased before there's always a risk that it would not meet your expectations. The second thing is the shipping side. In ecommerce you can usually see different offered shipping options during the checkout process and depending on the available variety and customers' preferences at this point of the order process there's a possible blocker because making this decision of what delivery method to choose and what price willed to pay for doesn't exist in traditional retail stores. Free deliveries of course exist as well but not always and for all delivery methods. Because there's a lot of competition companies always try to deliver something particularly outstanding so the customer would not only would visit their website but that they get convinced to go all along the order process to the final checkout. Meaning the user interface should be as easy to use as possible and for that there are a lot of technical and personnel resources required. Not being able to deliver such things as convenient order process or high-quality product presentation will likely result in losing this potential sale. Customers might even consider visiting a physical store to buy. So basically, e-commerce always has to be a

from either location. In the traditional retail stores, you must be very accurate with your inventory at the retail store because you need to be able to anticipate more of the customer demands. The amounts of sold good are required in the actual store so it's about more inventory management than in the ecommerce where it's more flexible. In retail stores you need to be more accurate and with more inventory management comes a higher cost. It's more costly to have inventory that is not going out of the inventory which is called a slow-moving inventory.

little bit ahead an put extra efforts into how they want to present their goods to the customer and that's something that the physical traditional shops don't face as intensely.

3. In your experience, is it relevant for the delivery process of what size a transported good is?

Interview A	Interview B
First, there is typically a difference in the logistic costs depending how big the shipment. This then comes with the higher cost for the for the selling company. Then there are often differences in transit times which differ because smaller shipments usually are delivered quicker due to easier handling all along the delivery chain. Another difference is the safety of the shipments. Small shipments tend to get lost much more often. But of course, we not only can think about the size of the shipping alone but in addition how it's packed. We can see that small shipments tend to be packed a bit worse compared to larger ones because often their packing guidelines are not as sophisticated and less focused on transit safety but rather handling time and that includes packing.	It's not only in terms of the size that much but it's also about what the product is and how it's packaged. But if we talk about only the size then it becomes more difficult the smaller it gets because smaller packages have the disadvantage of getting lost very easily and the packaging as well becomes difficult for smaller items because um you need to create a durable package in a really small size which is surprisingly difficult to manage. Bigger products are easier to handle, and they break less frequently. There is an advantage both ways but I would say it's more difficult for the smaller size packages.

4. Which criteria should be considered when picking a courier partner?

Interview A	Interview B
From the technical point of view an easy integration between the systems is important. Integrating non-compatible systems will lead to problems that would come up later and fixing those technical	For the business continuation and business aspect itself the price comes into play but then when you break it down it comes to the service offering for that career partner. What kind of services do they offer? Does it

issues would take an unnecessary long time and tie up resources. When it comes to the shipping part transparent delivery process is important. Who is responsible for the delivery especially the last-mile delivery to the customer? Lack of information would create confusion to the customer. Also, so what happens in case of errors or interruptions along the delivery? How is this going to be handled? With this coming the offered insurance of the shipment is to assess. From my experience also I can emphasize that it's highly beneficial to have access a great logistic network which often the big players in the industry can provide. Then how quickly and successfully can changes be implemented? Is flexibility given? Often companies that are new in the market they're very open and their communication is very easy, and they're really willing to help and adapt to individual needs of a seller which is their customer in that case. I think that's something that can be overlooked but it is valuable to the vendor to have easy communication with the shipper. I think a business can win more from that than from just a cheap price with some big player. It's more than just numbers. The service level is more important than just numbers. Not only the shipping service but also the overall service which that courier partner offers to a vendor and its customers.

match with the business model that the company is working in or wants to move towards to. Then there is the security aspect of how well a courier manages their entire delivery chain. Also, there is the time of transport meaning how fast they can deliver from point A to point B. Furthermore, the visibility aspect is very important for the company and for its customers so that the courier partner knows how to track packages or how to troubleshoot if something happens along the chain. Then I think nowadays the sustainability aspect is also important which had not been for many years, but it becomes more and more important in logistics to be aware of the footprint of the delivery. Another criteria, at least from my personal point of view, when choosing the courier partner has been that they are able to backtrack the footprint so that they have reports on emissions that they can provide to the customer being the business so that you can use that in your own reports when you do your annual CO_2 reporting.

5. What differences should be considered when comparing order delivery in a big metropolitan area vs. in a more remote and rural area?

Interview A	Interview B
Deliveries to remote areas is generally more expensive. Sometimes buyers from such areas have to pay some surcharge for deliveries. It also takes longer transit times for these deliveries because line haul comes into those areas and therefore deliveries take longer time. Another difference would be delivering to pick-up points like parcel lockers or service points might not even be existing because most of shipments go through metropolitan areas in bigger cities.	If we start with the metropolitan area uh it's a busy area and I think one difference, there is that you need to pay attention to the customer requirements. So what kind of expectations do the customers set for you? But then there is also the more purely logistics perspective: For example, you can't drive a big truck inside a big metropolitan area. So, what you need to do is you need to break the packages down, you need to divide by zip codes or even streets so that you can have smaller vehicles or even bicycles so that you can distribute the packages in that area then of course you need to be more mindful in the metropolitan areas. It's about customer requirements or rather your service offering versus those customer requirements. For example, pickup points are often full because of the large volume of packages being shipped and returned. So what you need to consider is a Plan B: If the primary delivery location is out of capacity where do you deliver instead? Is a home delivery possible and vice versa? Regarding home delivery: Do you need to deliver face to face, or can you leave a package behind the door? These things are to be considered in the metropolitan area; I think are the most important. When you compare that with a remote area, we can take for example Sweden: Sweden has in the lower part of the country the metropolitan area. A big market, busy e-commerce industry but

	then when you go further up to the north there are fewer service points, and the transit times are longer because of the different infrastructural network. There are bigger distances between the different steps in the process and sorting hubs take a longer time. Main difference is the delivery promise. You need to be very careful towards the customer with those when comparing to the metropolitan area because in a metropolitan area you can estimate your delivery promises quite accurately. It is often quite fast. In remote areas you need to be more careful with those promises. You need to calculate the distances and even climate can play a role sometimes. For example you need to have a smaller vehicle in the metropolitan area to reach destinations but then on the other side you need to be mindful of what kind of driving route the driver has to face and what kind of vehicle you need to have. Icy hills can't easily be pulled up with a very light van. So, it also is the fleet that is chosen. In remote areas probably it's not a good idea to offer home deliveries because the homes are of farther away from hubs and they're spread out from each other which is a more costly choice then to offer home delivery. That cost will then be directed somehow to the customer so I wouldn't recommend this.

6. In your experience: What are customers' main (can you name top 3) expectations when it comes to distribution?

Interview A	Interview B

The delivery time promise that's given to customers is to be kept. Unfortunately, it's not uncommon that's it gets exceeded which leaves customers unsatisfied. It's important to communicate a realistic delivery estimation because after all customers pay for their goods to arrive in time. Second is the communication upon delivery meaning the carriers would send a notification to the receiver to give an important final delivery notice. For this it's important that the customer's contact information is stored in the database and that there's as mentioned before a functional integration between the sender's and the shipper's systems so that these communications can happen as smoothly as possible, so customers know what the current shipment status is. That means that nowadays customers expect to be able to make changes to the delivery sequence even after the shipment process has already started. This includes changes of actual delivery time or even delivery destination. For example, to change from between home delivery, parcel lockers and pick-up service points. E-commerce and its delivery processes become more and more tailor-made to consumer's experiences due to the constant growth of it. Who doesn't meet those increasing demands of flexibility won't win the market.	Customers' expectations today have changed a little bit I would say from when COVID started. They changed but if we name the top three those would be: Fast delivery times is the first one. Depending on the country markets have a little bit different demands. For example, the Finnish market doesn't have the same customer demands as the German. In some countries free shipping is expected but I would say you can't assume that for all countries. But I would say that low-cost shipment is one of the expectations. Quite rarely a customer wants to pay a lot for the shipping. Conclusively fast delivery times, low-cost shipment and also it's an important aspect of customer expectations nowadays surprisingly that customers have a preference of choosing the delivering courier partner because e-commerce is already so much used among the private consumers that they have an expectation already of what logistics partners they want to be offered to choose from the seller's website. Those three are the main ones.

7. Do customers' expectations to the delivery differ between such areas as in question 5 above (metropolitan/urban vs. remote/rural)?

Interview A	Interview B

Customers in metropolitan areas are more used to quick delivery times, an overall good service level and the earlier mentioned flexibility. Depending on the area same day delivery might be expected. Others expect free delivery because they are used to live in a world where everything is always available and quickly accessible. I made the experience in my career that customers from more remote rural areas tend to have lower expectations for the delivery time because they are aware of the circumstance that processes take longer. Result can be that the satisfaction rate would not be as negatively influenced with some slight delivery delays compared to people living in metropolitan areas.	Yes. I would say that customers in a metropolitan area expect quite a lot. They expect to be able to choose between any type of service offering that there might be. They are not willing to wait long for their orders so the expectations on the delivery time is high. Deliveries are expected "yesterday". Other expectations are that the selling companies are very flexible and agile with their processes because people in those areas are so busy, they want the delivery to not interrupt them from other activities. The order and delivery process has to be as smooth as possible. And then in the remote areas I would say that the customers are aware of the environment and the location they live in. They are used to longer delivery times and they know that there are only a limited number of services that can be offered to those places, so the expectations are lower. They tend to even pay a little bit extra for the delivery because they do know that it's a little bit farther from hubs and warehouses. In terms of the home delivery versus pickup points they also are aware that the service offering is limited. I would however say if there was a company who started doing a service offering focused on the remote areas that can start changing in the future.

8. In your opinion, which part of the fulfilment chain should a business optimize with priority and why?
   a) Timely and accurate processing of an incoming order in the warehouse
      OR
   b) Timely and accurate delivery of the goods from the warehouse to the consumer?

Interview A	Interview B

My instinctive answer to that would be that it really depends on the business and what goods are being shipping but if I had to choose, I would say warehouse processes. This is because often the last-mile delivery is executed by an external courier company which also calculates and provides a delivery date estimation which they aim to keep to as closely as possible. This is an external process which the selling business to a certain extent can and must rely on. Furthermore, this means that the possibilities for intervention and modification into third party processes is limited. The warehouse fulfilment time and operations on the other hand is something which can be optimized directly and independently. Therefore, this is where capacities for optimization should be invested more. As both parts are part of one whole order fulfilment process and both affect keeping handling and delivery promises it should be optimized first where a business has full control.	That's a difficult question. If we talk about e-commerce and if we assume in this question that the customer has quite good visibility of the following delivery steps along the process after they placed the order I would say delivery. These two given options affect each other quite much but I would say the optimization and the priority should be on the delivery of the goods from the warehouse to the consumer because I think that for example during the order fulfillment process in the warehouse if the handling takes a little bit longer than planned the customer probably will be OK with that because it still falls within the delivery promise. But when it's visible that the goods are ready that's immediately when the customer starts getting impatient. That is immediately when the customer starts looking at their tracking code and wonders their delivery is. That's why it should be a priority because the customer can see it, the customer can follow it up. Whatever interruptions in one of the options warehouse or delivery processes occur need to fixed with the other.

9. Why is it important to provide customers an order tracking?

Interview A	Interview B
Because what's in question is customers' money and property. In cases when customers don't get their order a proof of for example damage or loss is needed so the	I think it's essential for the customer as well to always be aware of the status. They are expecting a package. They might need to plan to be at home if they ordered a home

orders are refunded or replaced. Ordering and paying for something creates an expectation of receiving the product. The order tracking here serves as main source of information to the customer, whether everything is fine with the order process. Shipping delays or other issues which are out of customers' interference are shared via the tracking. Another point I can say that without sharing the ongoing order status a customer will inevitably reach out to customer service when there are questions about the order. This creates additional interactions with the company's customer service which by providing the tracking information it is ensured that that preventable extra workload happens as rarely as possible.	delivery: When do they need to be home exactly? The customer has already paid for their order before it's received meaning they already own the delivered product. Therefore, the mentality is that these products they own them, and customers want to know exactly where the orders are. This is also a mental thing, preparing for receiving something you're looking forward. On top it's simply good customer service and good visibility. If order tacking is not provided customers will contact the company and bombard the company's customer service team to ask where the ordered package is they simply don't know themselves. I think in in terms of kind of making the process easier also for the company it is very beneficial to have the tracking shared to the receiver.

10. What information should be included in order tracking?

Interview A	Interview B
Information that customers as well as the selling company's customer service to always locate the shipment.

A tracking number which is connected to a certain order, ideally the order number is included too, the address of the shipper and the consignee. All events at the hubs along the delivery duration and the estimated time of arrival at the consignee.

Also contact information of the carriers or the selling company's customer service to offer help and assistance to customers. | This is a challenging thing to do because as carrier you don't want to provide too much information to the customer in the order tracking, but you do want to provide certain information to the seller in the order tracking. Usually, it's suggested and recommended that the seller sees more than the customer does because you want to simplify the data that is shown to the receiver. The receiver doesn't need to see everything that's going on in the process because that's also going to confuse them. As an example, I ordered something, and I |

This however requires customized integration between the systems of selling company and carrier.	live in Finland. I know the store's warehouse is in Germany. Now if I see that my package is all of a sudden in UK I start thinking why would it be there. However, this can easily be explained in terms of the logistic process. The Courier for example is consolidating the delivery and forwarding through a different country before transporting to Finland but the customer doesn't really understand that and it's very confusing for the customer. This customer in the example then would likely call the seller and complain. I think it's essential to provide for the customer the main tracking events but for example if the package is lost and requires something to be sorted out there are codes being used for in the tracking by the carrier. Those codes should not be visible to the customer but are very essential for the company in terms of troubleshooting before the customer even notices that something's going on. So an information which should be in the order tracking for the company is every sorting hub so everywhere that somebody touches the package there should be an event in the tracking and then also if something happens to the package along the way there should be an event for as well. But for the customers only the main events are needed. There are: - Package left the warehouse - Package is in transit - Expected delivery dates destination

11. Can you remember -as a professional or as an e-commerce consumer yourself- an outstanding feature you have come across in any order delivery process? Positive and/or negative.

Interview A	Interview B
One thing I came across at my job was that nowadays the physical labels on return packages become more and more obsolete replaced by a QR code that is provided to customers. For sending the parcel they go to the post office or other drop-off point and there the labels are printed for them upon scanning the QR code. I think it's a great customer experience and the outstanding part of this is that nowadays this is even possible with some couriers for parcel lockers. You scan the QR code, the label gets printed, the locker opens, and you can drop-off the parcel securely and at a time of your convenience. I believe this is part of the next developments in logistics. A negative experience I made myself is I ordered one product and then it was for a long time in the delivery process and eventually it arrived at the designated service point for me to pick it up but it wasn't properly stored in the shelf, and I had received no information about this issue so I had to contact the courier to figure out what happened. It turned out there was a scanning event missing in the order tracking so to understand what's the current situation I had to take initiative myself and to be forced to do that as a consumer is not the best experience.	This was a long time ago and this didn't exist back then but now it exists everywhere. So now this example is a bit of old news already, but I hadn't experienced this back then. Budbee then was really small, and its services were used by only a couple of businesses. I ordered something and I remember Budbee was one of the first logistics companies that was providing this kind of live visibility where a receiver can see where the driver is. You can see a map and you can see the car is driving around and you can see exactly the time when the driver is delivering the package to you. This includes and estimated time left until reaching your home and I thought that was so cool. Like said this was already years ago and I believe they were the first company to ever use this last-mile tracking and I thought that was very nice and a very good customer experience.

12. Do you think that packaging plays a role in how customers perceive an order experience?

Interview A	Interview B

Yes, for sure. This depends of course on the product. Anything that's expensive or vulnerable like some electronics customers expect that the package protecting the content inside. Furthermore, it's expected that the package is flawless and perceived to be beautiful. Security and experience go hand in hand. I can give an example from my own experience: Once order fulfilment department was thinking to increase transport safety of packages by putting an additional tape on top of them. Later analysis showed this resulted in a bad customer experience because not only it looked like was opened was opened and closed again with this tape but also that customer had to do like this extra opening step of cutting the tape. It was decided this was not the best experience for customers. Then my personal opinion of this is that I probably would not mind if the product not the prettiest packaging as far as the product is in good condition. I didn't purchase it for packaging, but I know that that this whole experience is very important because it's nice to open a new package. It's nice to feel it and it seems this goes also for the packaging itself as well because like said: Who doesn't like opening a new package?

Most definitely it does because I think what's tricky about packaging is that for the business something might be very functional and safe to pack but then there is also what the customer perceives. The customer wants a nice package without it looking like someone's driven a forklift over it 10 times. Right so and the higher the ordered product's value the more the customers care about the quality and perceived aesthetics of the packaging. But it's also tricky because in logistics you can't have an outstandingly looking package. You can't have a branded package going through the logistics hubs. It's a very fine line between good quality and fancy packaging that the customers are willing to accept it. Something we talk about nowadays in packaging as well for customer experience is the unpacking experience. Customers receive an order, and they even film the unpackaging of their order because this is one part of the overall experience: Already opening the package. If this is not delivered that's a part of the experience that the customer will then miss: The unboxing experience. So it's very important as well that you think about the design of the package not just how it looks on the outside but the design on how you fold specific corners or what kind of stuff do you have inside, in between? If you open for example the first layer, can you see maybe a nice message inside? So I definitely think an increasing amount of

	emphasis is on the packaging nowadays than it was even a couple of years ago

13. In your opinion, is customer service important for customers to be satisfied with the overall order experience?

Interview A	Interview B
Absolutely, 100 % because customer service is the only contact between customer and the selling company. All other departments are not visible to the customers, and they shouldn't be. So experience of customers perceive the company though the interaction with customer service and this is why customer service should be very visible and interactive. Reviews also often represent mainly experiences with customer service and if this experience was a bad one chance are that this customer will never buy from this company again. Even if this has to do nothing with the product but it has such a big like impression on the customers. I would say customer service should be much more valued in many companies.	I think customer service is one of the key elements in the company for the customers because they are the voice of the company towards the customers, but they are also the voice of the customer towards the company. It works both ways and if customers give feedback to customer service, they need to be able to channel this feedback within the company to develop or change certain things that are complained about. If we talk about topics like compensations or dissatisfaction of customers that needs to be communicated both ways and the customer service is a key player in this because they are interpreting the message to both directions. I would say that um in order to have satisfied customers customer service needs to be at their best and that's also one of the competitive advantages of a successful company to have good customer service.

Outro question: Is there anything you would like to add?

Interview A: No.

Interview B: No.