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B TO C E-commerce in Finland, Improving Last mile delivery

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Abstract

The principal objective of this research thesis is to find a suitable and efficient way to improve last mile delivery in Business to customer model Finnish electronic commerce.

A quantitative study method is adopted during the research and a descriptive procedure targeted a population sample consisted basically from Internet users in its generality and online shoppers in its specificity. An online survey is concepted and distributed through online channels such as social media and targeted emailing, to acquire the respondent's feelings and opinions about the online marketplace in Finland and its last mile delivery. It was promoted locally for the inhabitants of Satakunta region and other provinces of Finland in the aim of gaining varied opinions with the participation of all age groups.

The objective is to perceive the satisfaction of customers and enlighten the last mile delivery process to list the issues and provide efficient solutions for a durable development.

The results were different and diverse as the respondents of the questionnaire openly expressed their positive satisfaction on the B2C e-commerce in Finland and remain trust worthy for the last mile delivery as they suggested supplementary communication from the actors in this field and recommended including high technology in the representation of autonomous solution for their future deliveries.

Based on the empirical results, the electronic commerce in Finland has lot of potential and its developing is due to its digitalized platform where different customers benefit from variety of choices in term of e-commerce and delivery segment. Last mile delivery in Finland is improving towards new technologies such as autonomous robots and ecofriendly solution to reduce the CO_2 emissions. Therefore, it is highly recommended to continue this process by reinforcing strategies of durability on long-term basis.

Key words B2C, Last mile delivery, Autonomous robots, CO2,

CONTENTS

LIST OF SYMBOLS AND TERMS

B2B: Business to Business

B2C: Business to Customer

C2C: Customer to Customer

G2B: Government to Business

EDI: Electronic Data Interchange

EFI: Electronic Funds Transfer

DSL: Digital Subscriber Line

IBM: International Business Machines

UNCTAD: United Nations Conference on Trade and Development

WWW: Worldwide Web

NFC: Near-Field-Communication technology

VAT: Value-added tax

FAQ: Frequently Asked Questions

EU: European union

HTTPS: HyperText Transfer Protocol Secure

3PL: Third-Party Logistics

NEXBTL: Next Generation Biomass to Liquid technology

DHL: Dalsey, Hillblom and Lynn

CO_2: Carbon dioxide

1 INTRODUCTION

Commercial transactions have developed over generations utilizing different networks and channels involving the exchange of values, merchandises, and necessity products for human daily needs. In the late 20th century and with the constant developing of the internet around the world, several organizations have transferred part of their exchanges digitally and between the parties concerned has given rise to what is generally called electronic commerce. The latter has a new area that covers cross-border trade in goods by electronic means. Taken together, electronic commerce is understood to mean the production, promotion, sale and distribution of products through telecommunications networks. As an example of products distributed electronically are books, music, and videos transmitted over telephone lines or the Internet.

In the last decade the world has known a significant growth of the e-commerce sector with the introduction of a smart generation of phones, and computers are now affordable to different classes of the society, as well as rapid integration of fourth generation of broadband cellular network. The overall volume of electronic transactions is taking an important part comparing the traditional one, at the same time, classified advertisement websites are flourishing and attracting increasingly large audiences.

On the other hand, the research is focusing on the last mile delivery which is a crucial part of the delivery process during an electronic purchase, customers are constantly complaining about a late delivery on their orders and with improving the last mile delivery, it will develop the e-commerce sector, increase the satisfaction of the customers, entertain their experience and help reinforcing loyalty among them.

Finnish electronic market has known an enormous boost during the last years, and several self-service shops are taken the lead in the meaning of electronic trading and

delivery. Thus, How the delivery process is working in Finnish branded e-supermarkets and who are the key contributors? What are the key factors to develop a quick delivery for online shopping?

2 RESEARCH PURPOSE

The reasons for choosing electronic commerce as a research subject in general is the interest in the digital marketing and its fast development in such a short period, as the internet has taken an important part in daily lives of people nowadays. The commerce in its traditional way has conquered the world for thousands of years and brought it to one market as known as that it started conflicts and created alliances within parts of regions and empires. The world in 21st century is turning to a new phase of globalization which is covered by a digitalization of materials. Thus, trading turned to the internet as a solution to cover the fast-growing demand on trading and marketing, and it developed in the world wide web to several e-companies as websites started to pop-up in late 90s. Amazon, eBay were one of the first e-commerce enterprises to launch their operations.

2.1 Research purpose view

The personal reason in choosing "last mile delivery" is the previous delivery experiences that personally went through after online purchases, and many of closest friends as well without mentioning the large number of other customers that face problems during the delivery process in online commerce. It is a common issue in reason of products are in sometimes either delayed or lost in a rare case, causing disturbance as the purchased products or services are considered essential and the delivery process is crucial for a success online trading operation. In consequence, some customers turned to classic market due to the consistent delay as face to face purchasing assure them receiving their products immediately after confirming the payment.

2.2 Beneficiaries from the thesis research

Beneficiaries are online shoppers who chose electronic commerce as an alternative way to purchase their products. The constant growing of online market brings challenges to the field and the delivery process is a crucial element in the supply chain. Thus, find an alternative to fix its issues will be benefit for costumers and beginners in the e-commerce.

Therefore, choosing this topic is to figure out how to improve it and enhance its capacity to fit successfully in the supply chain of the electronic commerce. The aiming is to find an efficient solution to minimize the effect of last mile delivery on the purchasing operation in electronic commerce, and the shoppers to receive their orders on the estimated time effectively without an extra delay. In general, reducing delays in last mile delivery and improving it as a part of the online purchase will optimize the supply chain of business to costumer trading as the thesis will focus on this segment, and will encourage more people to be part of a high performing digitalized market.

3 PROBLEM SETTING AND CONCEPTUAL FRAMEWORK

3.1 Research problem

The research problem in the thesis is: How satisfied are B2C customers with the delivery process by branded online-supermarkets in Finland. How could the last mile delivery be enhanced?

3.2 Research objectives

Regarding the research problem, a variety of questions have been determined:

- What are the different elements in the e-commerce supply chain?

- What is the size of the online e-commerce market in Finland?
- Business to commerce market in Finland and how it is developing?
- How the delivery process is working in Finnish branded e-supermarkets and who are the key contributors?
- What is the last mile delivery?
- What are the strengths and weaknesses of this aspect of the technology?
- What are the key factors to develop a quick delivery for online shopping?

To achieve the objectives, theoretical parts of the electronic commerce, as well as Finnish e-commerce market must be covered and data needs to be collected in form of an online survey will be distributed online to users who have experienced electronic purchases from branded Finnish supermarkets. Approaching social media platforms and emails, will be necessary in order to share it with maximum of users. Results of the survey will be analysed and displayed as graphs figures and text paragraphs to evaluate the answers and provide s recommendation for solutions.

The main objective of this research thesis is to find a suitable and efficient way to improve last mile delivery in Business to customer model e-commerce. It will help the majority of the electronic commerce customers to receive their placed orders with reasonable time period, Therefore, the sellers will gain more control on this aspect of supply chain which is frequently disturbed by external causes. Thus, the profitability will increase as the customer is encouraged to carry out future online orders, as well as businesses will reinforce seller-customer relationship since a trustable link is been set up.

3.3 Conceptual framework

Research Literature

- information about E-commerce business
  - Types of E-commerce
  - Benefits and disadvantages
- Background of Business to Customer E-commerce
  - History
  - Evolution
  - B2C Business Models in E-commerce
- Information about B2C E-commerce in Finland
  - legal framework
  - Obligations of the seller and the buyer
  - Advantages and disadvantages

Research problem analysis

- Last mile delivery in B2C e-commerce
  - Supply chain in B2C e-commerce
  - Challenges of Last mile facility in B2C e-marketplace
  - Online survey on the customer satisfaction from B2C e-commerce delivery process

Results

- Online survey results analysis and conclusions
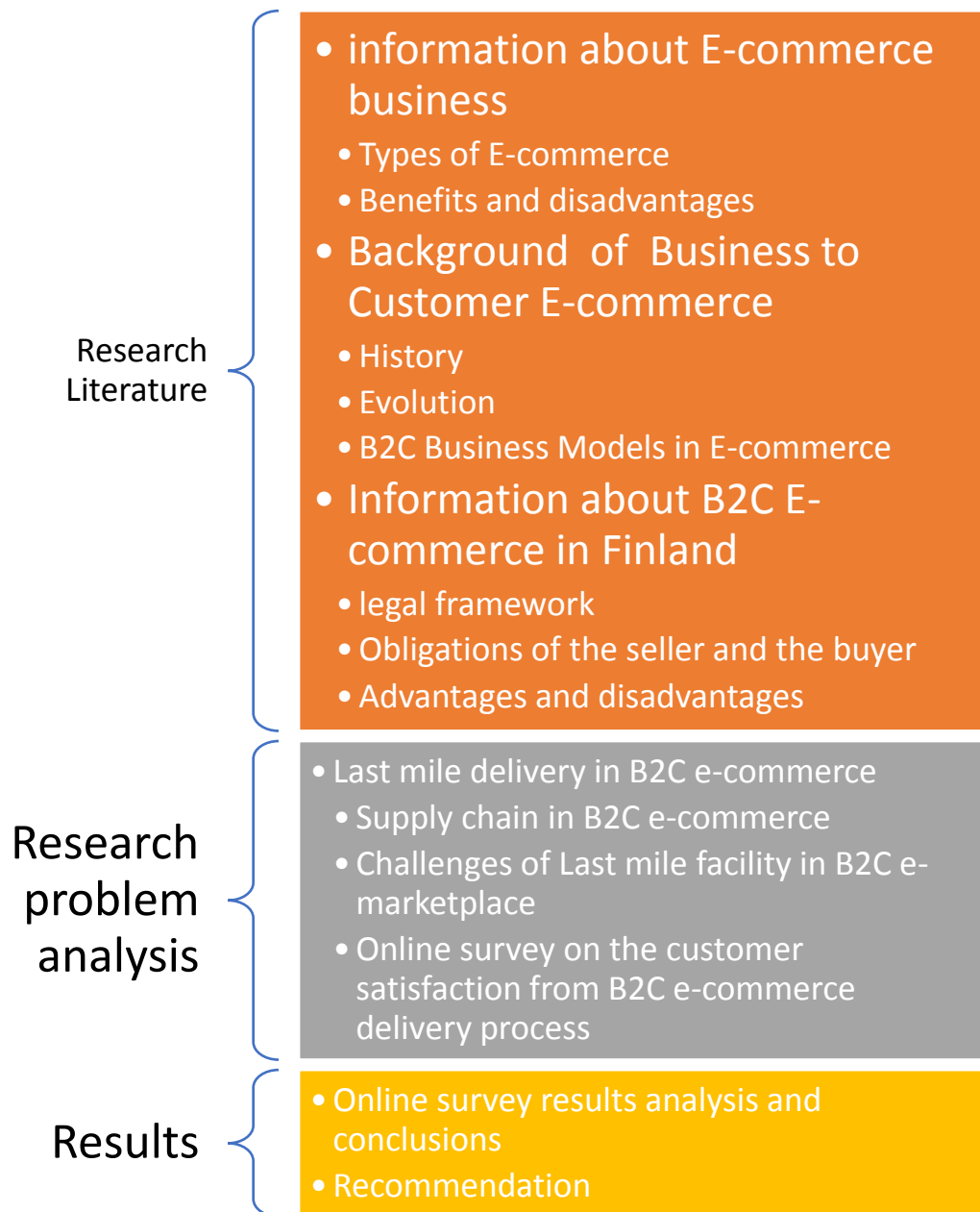- Recommendation

Figure 1. conceptual framework of the thesis research (Hamraoui, 2020a)

3.4 Ethical consideration

The legality where regulations are strict and must be followed in order to successfully produce a legal thesis work, the research thesis is conducted following SAMK's thesis instructions and under the supervision of qualified professor.

Online survey follows the objectivity and confidentiality of its takers is protected and kept in a secure online platform; credentials of different responders will be reserved anonymously.

Different information handled while conducting thesis researches such as texts, pictures, figures, graphics. is sourced and references will be presented as well to prevent any confuse in matter of offending the intellectual property and plagiarism.

4 RESEARCH METHODOLOGY

The research concept in its core is a systemic approach for finding convincing results, it begins with creating a problematic scheme, arrange it to build up theory and questions to answer later in the analysis step, the collection of data vary in term of the research type, analyzing the data to achieve facts and provide recommendation. (Kothari, 2004, 3.)

The thesis will be carried out following a quantitative research method because study concept that will be only virtually as it covers the online commerce and most, not all of it based on virtual platform interacting digitally with customers. The research is for a purpose to quantify the issue to consider how common it is, searching for outcomes that can be projected onto a wider population, although, data collection requires the researcher planning the information needed by the target audience and collecting it. The preparation of data involves the determination of the purpose of data collection, the methods for collecting information and the sequence of activities for data collection (Kothari, 2004, 3.)

Therefore, the method will be an online survey which is a conducted research to study a sample of population depending on the subject, people are questioned and personal information may be taken during the process of collecting data. (Kothari, 2004, 3) The answers are analyzed meticulously to identify key points and ideas for building a concrete conclusion on the hypothesis. The environment and differences between the

sample of population chosen provide a wide assortment of data which influence later the results.

The survey will be prepared using a certified online survey platform. Next, it will be distributed electronically to customers who use electronic Finnish e-commerce websites to purchase products and services. The sample of population selected to be questioned are all e-commerce websites users, and their profession vary from students, teachers, employers, employees, retired persons, etc. Other platforms will be sought in order to boost the vulnerability of the survey so the maximum of concerned population will be notified and the collection of data increase its accreditation for analysis.

Approaching social media sites and targeted emailing is beneficial to understand certain information behind the utilization of the electronic commerce as a new alternative to acquire goods, as well as its effects on daily lives of people. The answers will be analyzed and displayed as graphs and text paragraphs to discuss the problematic and deliver recommendations, the last delivery is very important item inside the supply chain of the electronic grocer and optimizing its functionally will improve the sector of online shopping in general and help the attraction of new customers to maintain a virtual dominance.

5 E-COMMERCE BUSINESS

Electronic commerce first appeared as soon as the Internet opened up to businesses. Thus, with the advent of web servers that showcase the company and the products it would like to sell, e-commerce has multiplied its features and evolved.

The United States have taken the lead in introducing and developing the sector as the internet evolved worldwide in the beginning of 21st century. During the last decade there was an evolution of new generation of smartphones, laptops, and smart televisions. Electronic transactions were never been as easy as before and China emerged on the development phase with its electronic platform known with low-cost

e-commerce web sites mainly destined to third world countries to accompany their digital booming. As well as attract the classic first world countries known as a classic customer to the Chinese market (Schneider, 2017, 3-4.)

United states have dominated the electronic market since the integration of the internet as alternative way to trade goods and products digitally without physical contact, China followed the same path as USA and developed its own platform customized to the Chinese market and globalized it later with the emergence of china's economic dominance over the world.

Web sites such as Amazon, eBay have become a classic destination to internet users for their electronic purchases, later on, the Chinese group Alibaba introduced itself to the market with its web sites such as AliExpress which rapidly took over an essential place in customer's favorite e-commerce destination.

Europe has already known a free market with initiating the European union and later unifying it electronically by introducing a digital single market strategy, which revolves around the concept of an e-commerce framework and the protection of customers and business who benefit from the online market and purchase products and services (Agarwal, 2015.)

5.1 E-commerce Marketplace

An electronic marketplace is generally characterized by a web site where different sellers known as organizations, multinational companies, self-service shops offer various goods and services to end customers. Marketplaces can be found in a B2C "Business to Customer" or B2B" Business to Business" corporation.

Therefore, marketplaces have the seller as a buyer and even the seller's customer in some instances (B2B subscription type). Principally, markets are intermediaries between businesses and purchasers. mostly by taking a commission "more or less significant" on each seller's sales, the platform can earn money. Subscription schemes, especially preferred in B2B, also exist.

Development means challenges and the online market has later come to identify many issues such as the language barrier, which the Chinese e-commerce platform has successfully gained the trust and attraction of worldwide customers by developing web sites in several languages mainly English as its dominance in the financial market.

Quality of products were doubtfully questionable between online customers, and led to the creation of multiple independent review websites such as WeChat to discuss seller's reputation, products sold, quality and delivery information. (Schneider, 2017, 4.)

Diversity of the countries and richness of its culture led to pump the online market with new products and different services to satisfy all genres. Local e-commerce marketplaces were developed to serve multiple regions of the same country.

China for an example with developing of its online marketplace has come over a distribution problem led to the creation of several warehouses in multiple large cities to deliver purchases efficiently and rapidly. JD.com is an example of a successful e-commerce company which built over 80 warehouses across China for a faster distribution. (Schneider, 2017, 4.)

Later on, Chinese government started an infrastructure evolution with the construction of brand-new highways, regional roads, train stations an extension of railways to isolated places which followed by the emerge of middle class that rapidly became a loyal customer of the online marketplace.

5.2 Types of E-commerce

Electronic commerce or e-Commerce describes the use of electronic means of communication in order to carry out commercial transactions. Most of the time, the selling of goods via the Internet network, but the term e-Commerce often comprises the channels of internet purchasing for Business to Business.

Selling products and services using the Internet have led to the identification of multiple participants where all of them benefit from the online platform for research and purchase purposes.

There are three main categories of the electronic commerce, commonly used worldwide:

5.2.1 Electronic commerce Business to Customer

The first type of e-commerce to emerge, as an extension of the mail order model, known as B2C e-commerce. It can simply be identified as customers shopping online. It is a very popular category in this list as every year companies sold goods and services to millions of customers worldwide, despite the fact that prices differentiate comparing C2C platforms which remains low comparing to B2C.

5.2.2 Electronic commerce Business to Business

Mainly electronic exchanges between companies, also referred as B2B, a trading arrangement focused on the use of an electronic mean between companies or between a company and its supplier. Otherwise all exchanges or commercial transactions between businesses can be described as B2B commerce.

A company that sells smartphones for an example can be a customer to its supplier of different components such as batteries or screens, as well as it is a seller at the same time of a finished product which is smartphone.

5.2.3 Electronic commerce Customer to Customer

Also referred as C2C, it is a conducted transaction carried out directly between two or more consumers of goods and services. In recent years, as the access to the internet become affordable, it enabled consumers to buy and sell goods and services among

themselves, generally at low prices and without any geographical market limitations. (Tarver, 2020.)

On the other hand, there are other types of e-commerce where their use is limited between certain participants and are not know wildly by the general people.

5.2.4 Electronic commerce Business to Government

Electronic exchange between private companies and government, where federal, state, or local agencies are often searched for online suppliers for their purchases. Also referred as B2G acronym for Business to government. (Kenton, 2019.)

5.2.5 Electronic commerce Business to Enterprise

Next, Electronic exchange between a company and its employees using an Intranet network, often called B2E, the automated process is used in particular via the provision of forms for the management of their relationship with the works council. (Rouse, 2010.)

Although, B2G and B2E have known an important development in recent years, it remains constant and not popular between the main three categories, due to confidentiality of the information circulated and contributors in the market.

The next figure shows the volume of types of electronic commerce where Schneider put on size the categories defining the importance and dominance of B2B and B2C through business processes in the online market.
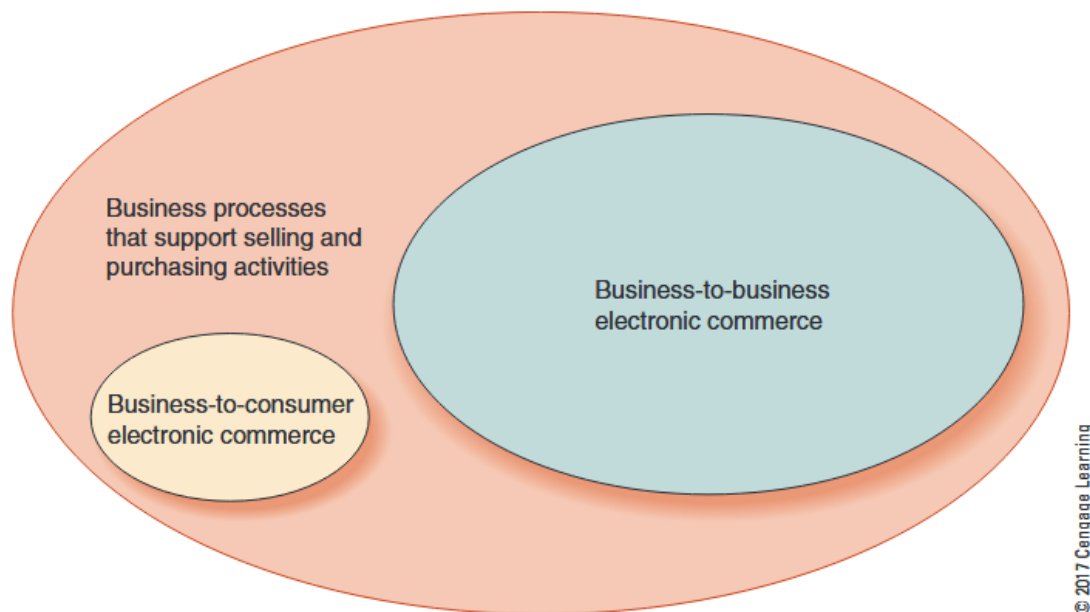
Figure 2. Elements of electronic commerce (Schneider, 2017, 7)

The business process is referred to multiple activities and transactions that companies take part of to sell their merchandises, services etc. involving the placement of orders, sending invoices, and shipping the goods as a final step.

Businesses developed a new way to take part of all these activities virtually and their employees can arrange several transactions by teleworking, as internet network improved and reinforced in recent years, it becomes easy and accessible to work at home and several companies are leading the telecommuting by enabling their employees to work online. It can be seen especially in 2020 as the pandemic of covid-19 led to lockdown of many countries and employees started to submit their work virtually. (Schneider, 2017, 6-7.)

Relating to the figure, it identifies the dominance of B2B over B2C in the electronic marketplace, in the matter of volume and transactions as well. Business processes are overtaking the biggest part over the two categories as purchasing activities and processes arranged online are considered very important.

5.3 Benefits and disadvantages

According to United Nations Conference on Trade and Development or UNCTAD, the E-commerce is a particularly dynamic market, where sales reached $25.6 trillion globally in 2018, up 8 percent from 2017. It is a trend that is confirmed year after year and which does not cease to amplify, figures appear to be impressive. This testifies to an upward trend that is characterized over time. It is also a sign of the more fundamental shifts in the purchase behavior of millions of customers who become e-buyers, and Therefore the digital transition is accompanying the commercial revolution. Yet it is certainly more profound and structural as well. Since all sectors, but also many contributors are involved. (Biçer, 2020.)

5.3.1 Advantages of electronic commerce

If E-commerce has become prevalent in the daily life, it is due to the many benefits provided by this shopping process. Whether for everyday items, capital goods or for the purchasing of personal products, electronic commerce is viewed as more comparative, faster, practical and more economical than the traditional market.

From a consumer point of view, it listed among the key advantages of electronic commerce:

- Access to a wide range of resources and goods.
  Online shops offer a variety of products, and merchandise that are not available sometimes on the traditional market. Thus, the online is an open gallery for customers searching specific goods or services to purchase. (Goel, 2007, 4.)

- No hours for opening, 24 hours a day, 7 days a week.
  An online store is available 24/7 during the year. If it's a holiday, a snowstorm or some other occurrence, anytime and anywhere, customers can shop on the internet. (Mourya & Gupta, 2014, 30.)

- E-commerce platform at low cost.

The rent and labor expenses make physical stores costly. Lower operating costs allow online sellers to outperform many traditional ones. (Goel, 2007, 4.)

- No queues waiting, saving time

 walking around through city shops and consult many of them is one of traditional market necessity in order to find the ideal product. However, an online store allows its customers to avoid queues as well as finding a specific product is very easy with a simple search click. (Goel, 2007, 4.)

- Freedom to shop at any moment, anywhere in the world

 An online shop is qualified by the opportunity to reach clients all over the world. For specialist businesses that do not have a broad local audience, but enthusiastic clients dispersed across the globe, this is particularly relevant. (Mourya & Gupta, 2014, 30.)

The customer finds it convenient enough to approach the online market for his/her purchases. Thus, it is an efficient way to attract new customers by offering them better alternative to receive their products without a queue and immediate payment from home. On the other hand, from the seller's point of view, it can be listed:

- Ad retargeting can increase the sales of an e-Commerce web site.

 Retargeting uses cookies, a small computer code that tracks user activity to display targeted ads. Even if no one is buying, retargeting is a marketing tactic that helps increase revenue by keeping the targeted brand in the visual of potential customers. Sometimes they will see retargeted ads on websites unrelated to the content of the page. (Mourya & Gupta, 2014, 34.)

- Easy way to promote and advertise

 For companies, it is a low-priced promotional tool, enabling organizations to market their goods and services at a lower cost. There is a variety of choices where to promote as social media plays an important role nowadays into attract customers to shop online. Influencers as well are known by their videos on

YouTube or photos with sponsored products on Instagram. Thus, it is an effective way to promote a product or service. (Mourya & Gupta, 2014, 33.)

- E-commerce is a perfect way to obtain consumer data.
  Building a contact list is important for online companies that use a simple email sign-up to deliver in-store news and promotions. E-commerce helps companies to keep their audience in touch, as well as reinforce their loyalty by introducing discounts during holidays and special events, in order to acquire feedback responses. (Mourya & Gupta, 2014, 33.)

Other benefits to switch for the electronic commerce for the companies is a reduced operating cost where sellers can cut non-essential labor costs, concentration of storage places in decentralized areas. Possible elimination of intermediaries between producer and consumer comparing to the traditional market where several intermediaries force their way in the supply chain of an ordinary purchase.

5.3.2 Disadvantages of electronic commerce

While delving into the benefits of the online commerce, many inconvenient are encountered and shoppers may find it a disadvantage to their purchasing experience.

- Anonymity
  The comprehensiveness, interactivity, and space and time aspects introduce a lack of transparency to electronic business transactions, and the nature of the information, its physical location or its owner is difficult to determine.

- Limited interactions
  In traditional market there is a physical contact between the buyer and the potential purchased product as the customer can test/ try and touch the product to confirm its quality and dimensions, while the online market doesn't offer the accessibility to the product right away, it needs to go through delivery process.

- Non-accessibility of certain elements

Despite the fact that online commerce may benefit of the opportunity for the availability of lot of goods and services widely around the world, there are certain items that considered illegal or customers can buy them with special permit such as guns, or prescription drugs, other elements such as endangered species of animals, some food products or alcohol/ tobacco, may be unbuyable in certain regions of the world. (Mourya & Gupta, 2014, 36.)

• Change in technology

It might be considered as an inconvenient sometimes as the rapid develop of the internet network as well as the tools accompanying the online commerce such as smartphones, laptops, tablets etc. are constantly upgrading to next generations, which is a necessity for the E-commerce to update their software and platforms in order to keep competitive in the market.

• Security

Most of the online commerce platforms benefit from secure servers but yet there is always a gateway for hackers to attack especially for credit card information and user's data which is always considered as a prone to them. (Mourya & Gupta, 2014, 36.)

• Fraud

In any business transaction, there are many different and sometimes conflicting interests to protect. Both buyer and seller want to be protected from fraud and abuse. Problems of identification and anonymity have many repercussions, so there are many challenges that need to be addressed. The biggest of them concerning electronic commerce is fraud and the problem of identification of the parties which is one of the great weaknesses of the electronic world lies in the lack of identification of parties and transactions. (Mourya & Gupta, 2014, 35.)

In traditional commerce, it is more or less guaranteed by invoices, slips, receipts. However, in electronic commerce since it is easy to modify the computerized files and the administration controllers encounter two problems, the lack of trace physical transaction and unlike a digitized product, in particular, it can be

duplicated indefinitely and therefore can be resold indefinitely without any trace of it being found in any inventory state.

Other reason allowing fraud to be reduced, the fact essential that the user is indeed the owner of the credit card to be debited in order to carry out the transaction, just as it is often impossible to determine the tax to be withheld without precise knowledge of the place of residence of the buyer or of the customer. seller. (Schneider, 2017, 486.)

All of these disadvantages make electronic commerce transactions more difficult to trace, identify and distinguish among themselves than are transactions in other forms of commerce using traditional communication techniques.

6 BUSINESS TO CUSTOMER E-COMMERCE

There are many classes of marketing. Government to business (G2B), Business to business (B2B), Business to customer (B2C), etc. Most companies offer services in one or more of these areas. Conversely, C2C companies only operate in exchanges between customers. Same classes are identified electronically and can be emulated using a virtual channel.

Business to Customers E- commerce on the other hand, is carried out between a business organization and a buyer which is represented by a customer. It enables an electronic retailing operation between both participants through an online platform, usually an e-commerce web site. (Mourya & Gupta, 2014, 44.)
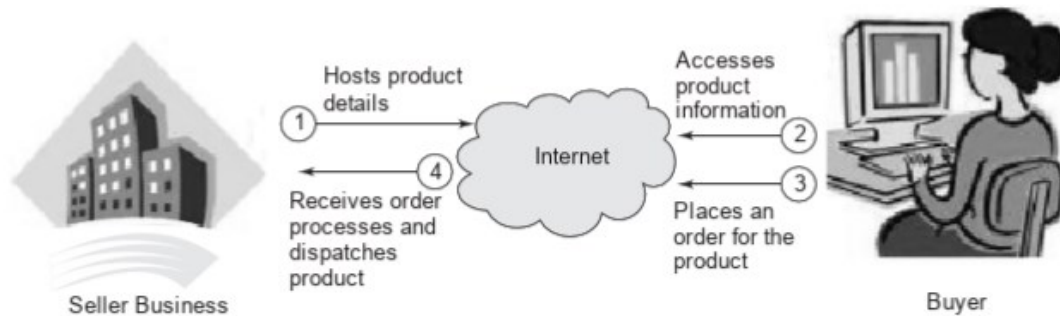
Figure 3. B2C Model. (Mourya & Gupta, 2014, 44)

Figure 2 shows the B2C model as how an effective electronic purchase must be conducted, first step the seller business introduce and promote the product on the Internet represented by a reliable e-commerce site such as Amazon. Seller adds details and all necessary information about the specific product on the web site.

Second step a Buyer represented by a regular customer login to the site "Amazon" and search for the specific product, find it and accesses the information related to it. Third step, customer places order for the product and final step the seller receives the order and approves the transactions after verifying all details of the buyer as well as the payment related to the order. Dispatching the good and calling it for delivery as a final step.

6.1 Definition

The B2C can be identified as an economic relation between corporations and customers. This often entails all company contact with prospective or current private clients, i.e. consumer-oriented marketing as well. It is a sale of business goods and services to consumers through an online store using internet as an alternative. An offline store which is considered as a traditional one can transfer its business online and have its channel online. (Sun & Finnie, 2004, 59.)

It includes an electronic transaction in marketing by means of identification of the potential product and its promotion, next ordering and carrying out payment details, approve of the sale and shipping the product, after sale is crucial for the company's e-marketing as it attract new potential customers, integrate new markets and reinforce

loyalty. Several companies are known worldwide as a B2C model such as Amazon, AliExpress, etc. (Sun & Finnie, 2004, 59.)

6.2 History

The e-commerce's beginnings and evolution are linked with the evolution of the Internet. In recent years, the Internet industry has recorded impressive growth figures.

At the very beginning, there was a lack of authority capable of defining rules and sanctions which allowed a certain form of anarchy to appear on the Internet and largely hampered the development of commercial activities on this network. (Qin, 2010, 4) The launch of Internet business activities appeared in the mid-1990s. Business-to-Business commerce took the lead an dominated the online market for a while, which in the year 2000 made up over 80% of electronic commerce.

In total, it was estimated that the turnover of electronic commerce represented already billions of dollars in 2000's according to a study of the time. The birth and development of e-commerce are linked to technological developments in the Internet network, in general the development of distance selling to the very evolution of the coverage of this network in society.

The very beginnings of the electronic commerce were in form of a paperless exchange operation, through Electronic Data Interchange EDI, which is related to Electronic Mail, computer bulletin boards and facsimile machines known as faxes. (Mourya & Gupta, 2014, 23; Qin, 2010, 5.)

In late 90s many Worldwide Web B2C companies have come to the rise and by the beginning of the year 2000 Google, Amazon, PayPal and others took over the marketplace and led the game till as it known today.

6.3 Evolution

In recent years, especially with the emergence of social networks, Business to Customer business has undergone more and more changes. This is why companies seek to adapt to the new consumption patterns of their customers to better meet their expectations and survive in the market.

The evolution of business to customer e-commerce started with the booming industry of computer and business laptops, it allows households mainly across the united states and other countries around the world to acquire personal computers in order to navigate the internet and browse different web addresses. Sales reached high numbers of computers and companies such as Apple and Microsoft adopted strategies aiming to attract the regular customer and their affairs were exclusively dominated by business to business market.

6.3.1 First phase of evolution

Computer prices declined as it reaches large market and households started to acquire the interest for buying new technologies, the internet fascinated the public customer as allowing it to discover a free virtual world where new information, tools and software are available regularly for use.

As the internet users increased rapidly, business to customer commerce adapted to the change and changed its strategies towards the virtual world, telephone line at that time reached high development in the 80s and business started to take orders on telephone lines and by promoting it on television and radio.

Companies such as Apple, IBM "International Business Machines" corporation and Microsoft developed suitable software to serve the business to customer market, as it will link households to business sellers virtually, also, developing online navigators was required in order to facilitate customer's experience and improved the marketplace as it reaches billions of dollars every year. With the continuous development of the internet and the business to customer e-commerce sector, companies entered the race

to dominate the online marketplace and attract customers who are ready to spend lot of money for their purchase on the internet.

1970 Electronic Funds Transfer (EFI)
•The banking sector was benefiting from it as to interchange to account data via protected networks

1984 Electronic Data Interchange (EDI)
•More secure and faster in order to transfer data and accomplish transaction with multiple parts.

1992 CompuServe
•New company has been entered the online marketplace, CompuServe, an American provider of online services, it allowed to customers buying products online using their computers.

1994 Netscape
•An earlier browser to navigate easily on the internet, with a secured system allowing a fast navigation and safe transaction within servers during online transactions.

1995 Amazon.com
•A giant of the business to customer e-commerce has entered the online marketplace yet it was new but faster it conquered the market by its revolutionary strategies and ideas.

1998 Digital Subscriber Line (DSL)
•It allows its subscribers to acquire necessary update about online offers and discounts as well as maintaining their connectivity on the line platform.

1999 Worldwide Web WWW
•Online market place has become one of the most important sector on the financial and economic aspect, with a volume estimated to 20 billion dollars that year according to business.com
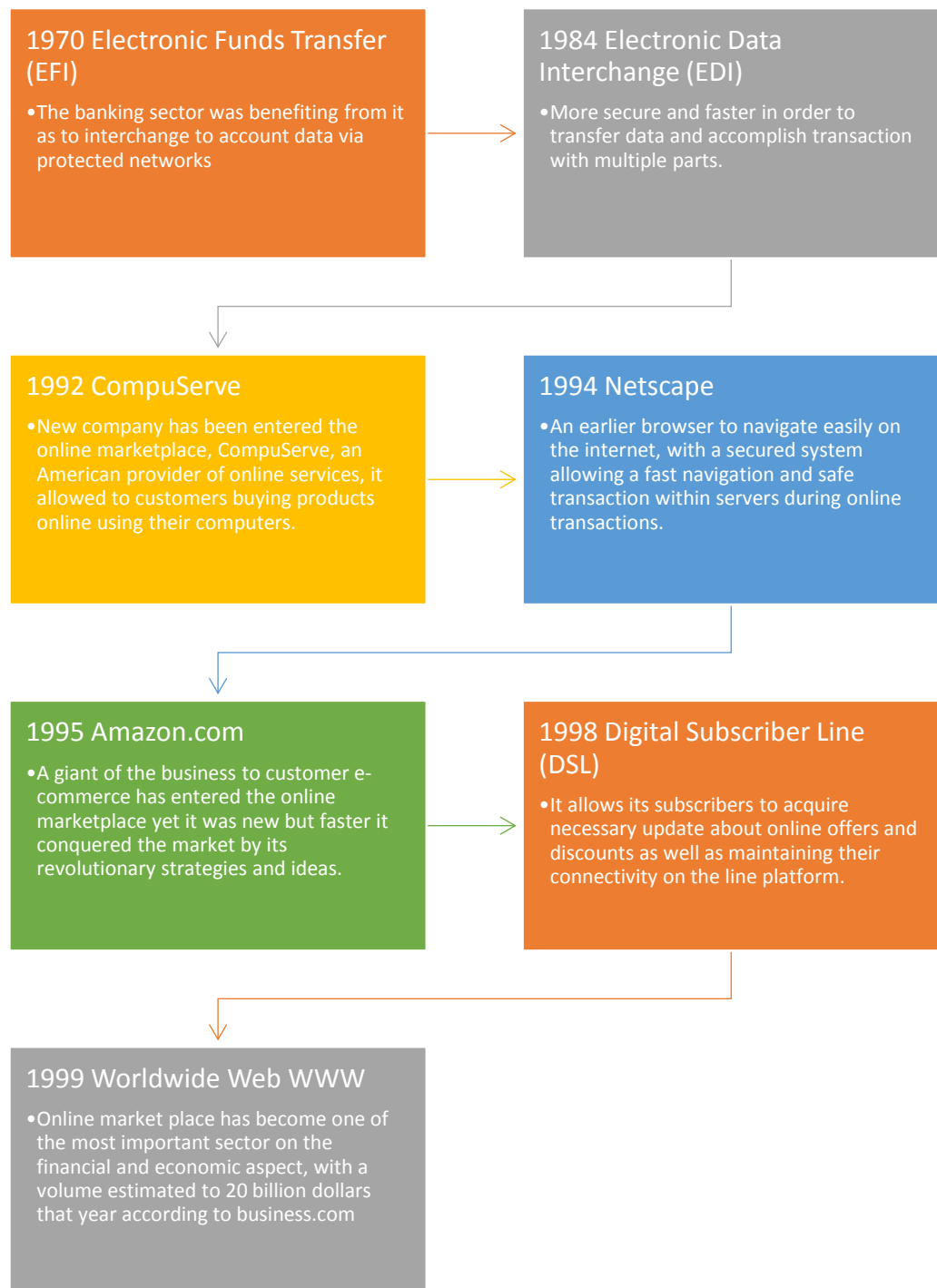
Figure 4. Timeline of the evolution of business to customer e-commerce in the first phase. (Mourya & Gupta, 2014, 24)

A marked timeline when the ban on the Internet for commercial business operations was lifted by the US National Science Foundation which it led to the creation of e-

commerce platforms, Amazon.com is one of the earlier enterprises to integrate the worldwide web in mid 90s seeking success in a freshly made market that will be a solid dynamic platform later on in the future. (Mourya & Gupta, 2014, 24.)

The e-marketplace has now a constant development and B2C companies in the online commerce are entering the stock market. Alibaba was launched later on 1999 to be added on the list of online platforms, the company gained profitability and climbed quickly through most successful ranked enterprises to become a major competitor to Amazon.

6.3.2 Second phase of evolution

In the beginning of the 21st century many companies entered the e-marketplace willing to acquire a share of the market, the rapid growth of the online commerce led to the disturbance of the market and several companies did not survive it, as soon as these companies integrate the stock market, failure emerged within them.

Known as Dotcom Burst, a period where was unusual a booming in matter of e-enterprises creation, unhealthy growth guided itself to an earlier end. Companies which could not resist multiple financial disturbances and stock market were shaken by the un-trust of investors and dropped later from the market. (Ullrich, 2019.)

Later on, after the disastrous period of Dotcom Burst, companies reinforced their bases and adopted new strategies as other sectors were growing constantly on the same line. Internet and high technology improved and tools, software and devices were created to accompany this evolution.

Companies presented on the electronic market who are flexible also, balanced the financial and technological aspects, stayed on the market and recovered with less damages mostly financially, despite the fact there was a decline in term of customers but rapidly increased in the example of Amazon which dominated the online marketplace after the incident.

On the other hand, Google was introduced in late 90s with a creative way to navigate the worldwide web, the giant search engine helped companies to set up their advertisement to attract potential customers. In earlier 2000s Google launched google AdWords allowing leaders of electronic marketplace to promote their goods and services, as well as to push small companies, or perhaps ones who suffered the Dotcom Burst.

Later, Amazon came up with idea of premium customer ship where clients benefit from exclusive offers and services, known as Amazon Prime, the company offered a two- days shipping limit as a starting pack subscription, customers criticized severely the distribution management of the company, since then, the prime subscription will deliver products, goods in record times and its members will be updated regularly about special discounts as well as sale offers. (bigcommerce.com, 2020; Ullrich, 2019.)

2000 Google AdWords

• Based on a keyword auction scheme, Google AdWords allows advertisers to increase the stakes, using the keywords selected for their campaigns, to be among the first search results, Google AdWords initially introduced for marketers turning out to be a leader in e-marketing later.

2005: Amazon Prime

• Amazon introduced Amazon Prime as a creative way to reinforce customer's loyalty and attract new category of shoppers who are willing to pay extra fees for a fast shipping period, as well Prime members beneficiate from discounts, streaming videos, and special offers destined to only prime subscribers.

2006: Shopify

• An e-commerce platform is launched, Its mission to provide a dedicated solution for selling products online easy to use. With a designed store using an open source programming language, the online store became operational within months.

2008 AppStore, Android

• Apple introduced the iOS-integrated application store, the AppStore, a major commercial advance that brought digital content transactions to the general public on the go, Then Android, the Open Source rival bought by Google in 2005, was commercially released

2011: Google Wallet

• Google developed an electronic payment technique, known at that time Google Wallet is. It enables contactless payment and can handle different cards, including debit cards, loyalty cards and promotional offers such as discount coupons. Later on, Google switched its platform to android system, and changed the name to Google Pay.

2014: Apple Pay

• Apple launched its own mobile payment service that enables proximity payments to be made using contactless payment card technology with compatible Touch IDs on your iPhone, Apple Watch or Mac. Although, it is utilized to pay on the web or on mobile apps that accept payments from a card registered.
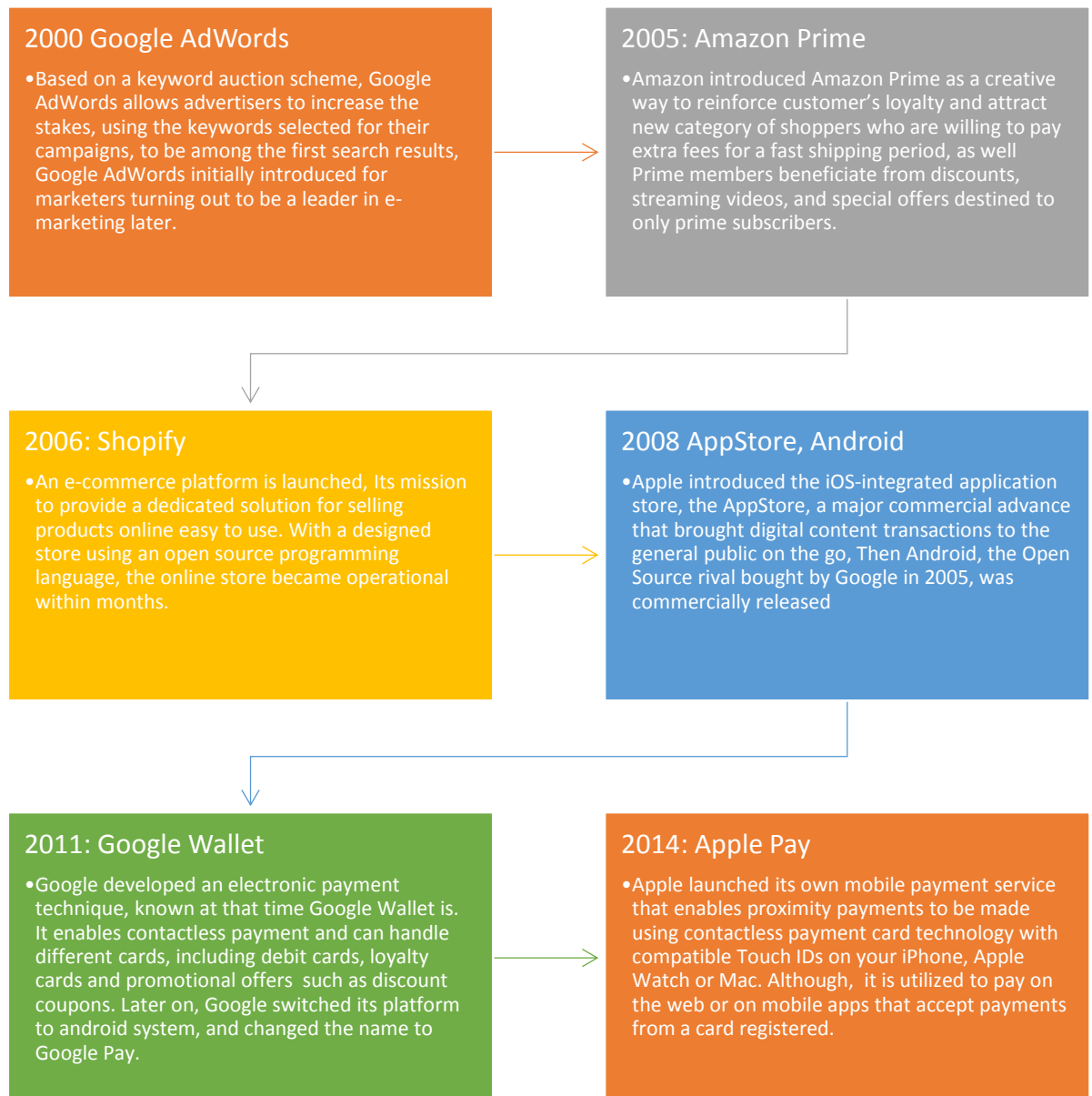
Figure 5. Timeline of the evolution of business to customer e-commerce in the second phase. (bigcommerce.com, 2020)

Other electronic platforms were created in the first decade of 21st century such as Shopify, but most of them unified in the idea to serve customers in different way, virtually through the internet channel with the aid of tools and devices created to help the improve of the electronic market.

Steve Jobs at the time when he was CEO of Apple.inc was aiming to conquer the world uniquely by a small device and in 2007 the first iPhone was introduced to world, showing the result of years of development and high technology in the palm of Steve Jobs.

Next, Apple created AppStore to accompany the evolution of the iPhone through applications ready to download, electronic commerce transferred to smartphones and it became easier to people make online transactions as the third generation of network cellular allowed the circulating of information smoothly and instantly between millions of customers. (bigcommerce.com, 2020.)

Android followed later in the second decade, by introducing first generation of android phones which opened the competition on the smartphone market and popularized the idea of using it widely. Google again genuinely took the lead by launching its own method to manage credit/ debit cards electronically named at first Google wallet and renamed Google Pay later.

A contactless technique of payment online without using physical cards, by utilizing the Near-Field-Communication technology known as well the NFC, it allows the data exchange of less than 10 cm between two devices equipped with this system. After that, Apple used the same system to add Apple Pay to its Appstore for their customers. (bigcommerce.com, 2020.)

The evolution of Business to customer electronic commerce is considered to be a dynamic move towards a futuristic dimension where the cloud and artificial intelligence will play an important role to develop the human being's capacity of knowledge and improve its daily life.

6.4 B2C Business Models in e-Commerce.

Business to customer model has been developing impressively during last decades and became for sure one of the most important categories in the electronic commerce as it attracts a large population of the online marketplace as well as its share market increase constantly and reach billions of dollars every year. Technology on the other side, helped encourage this type of online commerce to integrate different environments of the economy, and encourage different partners to trust the financial aspect behind it, as it is now a solid independent market with its contributors.

Business Models of the e-commerce enclose everything traded electronically through online platforms such as e-stores, e-branded supermarkets, and virtual communities etc. (Kang, 2010, 102.)

6.4.1 Marketing of Business to customer e-commerce

B2C marketing includes several marketing techniques intended for private customers. Unlike business customers, consumers' buying choices are often emotional, although, B2C marketing campaign is therefore intended to emphasize the personal and emotional advantages of the product or service for the final customer. In this area, the most common strategies are content, e-mail, social media, and website marketing.

Customers are frequently attracted to certain elements on the internet. Thus, it influences directly and indirectly their purchase decision. Businesses are aware of this criterion and utilize it in their side to purposely guide the behavior of the potential customer.
On the other hand, it can be listed the strategies which "robotize" the client which are:

- Content Marketing
Content Marketing aims to raise customer's awareness on the emotional content. It is a marketing strategy which is cover the advertising placement, as well as it provides relevant and high-quality content that arouses the interest of the target group and prospects. Business to customer clients are often searching for answers to the

following questions: How to use the product? Who manufactured the product? How is it manufactured? What are the tangible benefits? Is a proper quality? (Hassey, 2019; Kang, 2010, 102.)

To answer these questions businesses are needed to add an information address on the web sites, it allows the client to find easily answers to common question on the electronic platform, characterized by question and answer known as well by FAQ "Frequently Asked Questions", or contact tab where emails, telephone numbers and names of different responsible such as managers, technical support, etc. are shown in the web site and available on regular basis to answer customer concerns. Big platforms are equipped by a side forums where subscribed members share complaints, answers and suggestions for new products or services.

A "How-to" which often presented by a short description providing useful information on how to use products or services. It can be written or graphic, through the use of images or video material and is aimed primarily at facilitate the search and eliminate the confusion. Instructions for use illustrate the benefits of a product or service and can have a positive effect on the purchasing decisions of potential consumers.

Effective comparisons where many consumers used to compare their products or services using price comparisons and reviews. Price comparing web sites for example are available on the internet and it covers multiple platforms that sell same product to unique web page showing prices, preferences, etc. Some e-commerce companies have its own comparing tools to help the customer with information material as well as pushing up a quick purchase decision.

- Email Marketing

Newsletters are considered to be an effective way to establish regular contact with customers. Emails are purposely sent by the e-commerce companies to acquire new customers and selling products. However, strategies may differ in the implementation of email marketing because targets require different forms of communication. Consumers are more frequently motivated to subscribe to a newsletter for a several reasons, such as entertainment or staying update. Also, information and special offers.

Email marketing has become an effective tool to attract potential customers as well as reach its loyal client by a simple click, automated emails are popular within the e-commerce web sites, it permits to them a close contact to maintain a winner-winner relationship.

- Social-Media-Marketing

Nowadays social media plays an essential role to share information online freely to reach millions of people instantly, it became a faster way to online transactions allowing different customers to browse and buy goods. Although, the marketing behind it can encourage people to seek for certain products because of a concentrated advertisement on these platforms. Additionally, it replaces somehow classic forums which appeared earlier with the internet, customers can share their positive experiences in social media, as well as getting feedback from millions of users and complaints can affects the reputation of the companies.

Companies are now available in social media and customers can simply contacted them by sending direct messages or leave comments on their posts, e-commerce companies hired expert in digital communication to take part of customer discussions and provide suitable solution for their problems.

6.4.2 Models of Business to Customer e-commerce

When talking about B2C e-commerce there are five models which organize the market and enrich its different elements, these models identify the global aspect about the business to customer sector and emerge into the hidden sides of it.

- Direct selling

Generally, it involves direct contact between the seller and the consumer without any third-party intermediation. It is considered as a common model since most of B2C customers purchase their products from retail e-commerce platforms.

Clients are vulnerable to direct seller representatives which is on one way an efficient way to fast forward online operations from purchases and payments. The elimination

of intermediaries minimizes the costs on the side of sellers and save time and money as well in the side of clients. (Hassey, 2019)

- Online intermediaries

Businesses can rely on intermediaries to attract potential customers, it allows them to gain time over the time wasted on direct selling, as well as it is considered as a promotion to the business, as the intermediary will carry out certain operations to catch the attention of the customer. A commission on each sale is taken by the intermediary agreed already between both parts. This model is less profitable comparing to direct selling but it can be an alternative for the seller to reach out new class of customers. (Hassey, 2019.)

- Advertising-based model

Electronic commerce companies use as well other online platforms to promote their business and attract clients easily. Google as an example is considered a leader in the market of advertisement, google AdWords platform is a success and many enterprises advertise their products on it. It uses google search engine to give customers best choices of available offers with placing the advertised product on the top for better visibility. It increases the chance for customers to follow the promoted link considering it best option. (Hassey, 2019.)

- Community-based model

It is represented by the companies who target advertisements to customers, for example Facebook benefit from ads shown on its platform and specifically targeted to certain type of users, same model applies on Instagram as influencers share commissions with their sponsors in order to attract new customers.

- Fee-based model

it concerns companies which offer entertainment and immaterial information, it can be carried out by selling membership subscriptions, streaming videos, music etc.

For example, Amazon Prime which offers limited shipping on orders and special offers on music and videos, as well as Netflix which sells subscription for movie streaming in high quality. (Hassey, 2019.)

7 B2C E-COMMERCE IN FINLAND

Finland is considered a top emerging country in term of electronic commerce, as the internet is very developed across the country with a penetration rate of 92,5%, the Nordic country is ranked high besides countries such as Denmark, Qatar, Iceland etc. The widespread amid the age groups are respectively high, for example it is 93% for the age group of 16-24-year-old, 96% for the age groups of 25-34 and 35-44-year-old. The rest age groups are followed strongly by 70% to 90%. It represents the importance of the internet in Finland and the use of its means to navigate on the virtual worldwide web, as Finnish customers are curious about high technologies. (Export Entreprises, 2020.)

Finland as market adopted a digital strategy to follow the constant development of the electronic business. According to Nordea Trade, the local electronic marketplace's turnover for the year of 2017 reached out EUR 9.8 billion, with 3,32 million e-commerce users in Finland and it increasing every year, the online market will definitely gain new users and continue to grow, as experts estimated that 530, 000 new users will add to the existed customer base. (Export Entreprises, 2020.)

Finnish online market has known lot of changes as the new technologies are developing, it started with computers since the majority of customers possess a computer, which is relevant for the electronic shopping, it shows that 90% of purchases and online transactions were carried out using desktops, while 10% of the share is occupied by the smartphones and tablets , yet still very low but the smartphone market is improving constantly and new technologies accompanied electronic payment are drastically changed the way money is circulated in the country.
Therefore, an important part of transactions is completed electronically. (Export Entreprises, 2020.)

It shows the motivation and confidence gained by Finnish experts carrying out the e-commerce to new dimensions where traditional market will for sure have a solid competitor.

Electronic platforms have gained strength and experience in term of e-commerce as it developed simultaneously with the needs of its customers, it is now a mature sector worth billions of euros, with web sites such as tori.fi verkkokauppa.com or oikotie.fi, Finnish e-commerce marketplaces are attracting new generation of clients who were raised with technology around, and internet as a familiar tool using in daily basis. (Export Entreprises, 2020.)

7.1 Legal framework

In Finland the electronic commerce is regulated by acts that guided its operation and rule in case of inconvenient. The maturity of the online marketplace itself ranked the Nordic country one of the highest in term of e-commerce readiness sided by countries such as Luxembourg, Norway.

According to United Nations Conference on Trade and Development UNCTAD, the improvement of the online platforms in recent years led to the increase of number of customers as well as internet became affordable for different classes of the society, it allows to discover another alternative where online commerce is convincing both investors and customers. (UNCTAD Communications and Information Unit, 2015)
It can be listed the relevant acts that guarantee the right of the electronic commerce user.

The information society code is regulated in Finland under "The Information Society Code (917/2014, as amended)" act, it involves distance selling, as well as deliver necessary information by the service offeror whether it is electronic direct marketing or cookies.

The act approves the protection of privacy and information security, which is crucial for the future of the online e-commerce and the digital world in general. (Ministry of Transport and Communications, Finland, 2020.)

"The Act on Strong Electronic Identification and Electronic Signatures (617/2009, as amended)" is listed within different acts that guarantee a safe circulation of the information online, respectively signatures and e-identification are need to be safely secured from external disturbance. (Ministry of Transport and Communications, Finland, 2020.)

"The Consumer Protection Act (38/1978, as amended) "is for the mean to handle operations of sales contract, and through the order supply chain. As well as, it covers certain requirement for information given to the customer. (Ministry of Transport and Communications, Finland, 2020.)

7.2 The obligation of the seller and the customer

In the electronic selling, it is required for the seller to provide necessary information characterized by the law makers, mostly electronic platforms are web sites which are under law to guarantee the access to the information, a must to be respected, the customer should be able to acquire it easily and as soon as the contact with the webpage was made. The seller will undertake to describe and view the essential characteristics of the product in order to communicate to the buyer an overall price.

The seller can deliver extra material to describe the subject , such as forms of sales, contract, billing etc. (Finnish Competition and Consumer Authority, 2014.)

The business sellers must inform customers visiting their electronic platforms if there is a system of collecting data, cookies. It needs to be shown clearly on the front page before the customer start navigating the website.

The customer has the right to ask for additional information about the product offer as well as the location of production, and if it respect certain criteria corresponding environment, or child labor for example. On the other hand, the seller must confirm the agreement of the buyer on different legal responsibilities.

Next, during the process of the order, the customer can cancel it for any reason, as the seller must not charge any fees of cancellation, the method of payment needs to be clear and secure. (Finnish Competition and Consumer Authority, 2014.)

The Seller on the other way, should inform the legality of the products offered online on the electronic platform and the risk of dangers in case of the purchase act, such as pharmaceutical medicines, tobacco and alcohol. as several items can be considered illegal but yet still available to purchase. (Vero.fi, 2018.)

7.3 Customs and duty fees

Online purchase in Finland or in the European union is liable to value added-tax known as VAT which will be included in the total price, the purchase will not be liable to any extra added tax after that according the EU tax agreement. However, Online purchases from non-EU could require to pay customs duties and VAT, which vary depends on the price but customs duty start in application as the total amount of the purchase exceeds EUR150. Regarding the matter of Tax-free threshold, the value of purchase under EUR22 will not require any VAT. (Stuart Allt Web Design, 2020.; Tulli, 2020)

7.4 B2C e-commerce in Finland and branded supermarket

7.4.1 Background

Finnish online market has a serious potential in term of constant development, as its numbers showed that Finnish e-marketplace is improving on a long-term dimension where mobile devices, and smart tools will control online transactions.

For Finns the online market offers a widely open variety of choices from cloths, computers, smartphones etc. yet the online platforms presented in Finland are on open competition who attract a type of customer willing to pay for goods and service electronically.

Many sectors are benefiting from the online marketplace such as textile which is considered as a fast grow industry on the internet. Next, video streaming, music and electronics, a classic department for the customers. Travel agencies are taking a fair

share in the online market with offering Finns several destinations to travel, it is a coming sector on midterm future. Groceries are on the other side, taking first steps in e-commerce as some classes of society benefit from it, for instance workers who have long hour shifts, elderly people who most of them have an excuse to shop, as they are physically limited to some areas. Also, delivery options become more flexible. Thus, a dynamic sector with lot of potential. (U.S. Embassies, 2019.)

Finn's younger generation relay concretely on feedback and review websites where they acquire essential information about the aftersales process and the quality of products and services purchased previously by other customers. Although, forum discussion and social media chats are heavily persuading the purchase decision later on Finnish online customers especially millennials and gen-z.

However, concerning the electronic payment in Finland, credit and debit card still a strong solution to pay quickly on different web sites and platforms taking 32% of the market share, followed by bank transfer which dominated by organizations such as Nordea, Osuuspankki, Danske Bank, Säästöpankki, etc. but it is noticed virtual banks as well for instance PayPal. (Export Entreprises, 2020.)

Mobile payments increased since the beginning of the last decade with the booming sector of smartphones and tablets, high technology participated in the evolution of the mobile payments with different apps such as Google pay, Apple Pay etc. (Export Entreprises, 2020; Saari, 2018.)

7.4.2 Branded supermarkets in Finland

First, a supermarket is defined by a retail point of sale, in complete self-service, generally on a single floor, at reduced prices and margins, whose area is between 400 and 2 500 m2 and whose assortment consists of on average, 3 000 to 5 000 references, both food items, for the most part, and non-food products (maintenance products, hardware, stationery, cloths and wear, etc.). Payment is made for almost all of the products, at the checkout zones located at the exit of the shop. The opening of the first

store under the name of "King Cullen" in 1930 in Jamaica, New York, was loaned to the American Michael Cullen. (Editors of Encyclopaedia Britannica, 2014; Soares & Elmashhara, 2020, 295.)

Grocery stores segment in Finland is dominated by minor group of big corporates, two large group sellers who both share an enormous rate of the Finnish market. These companies are listed as Kesko Corporation and S-Group, followed by Lidl which participate effectively in the market.
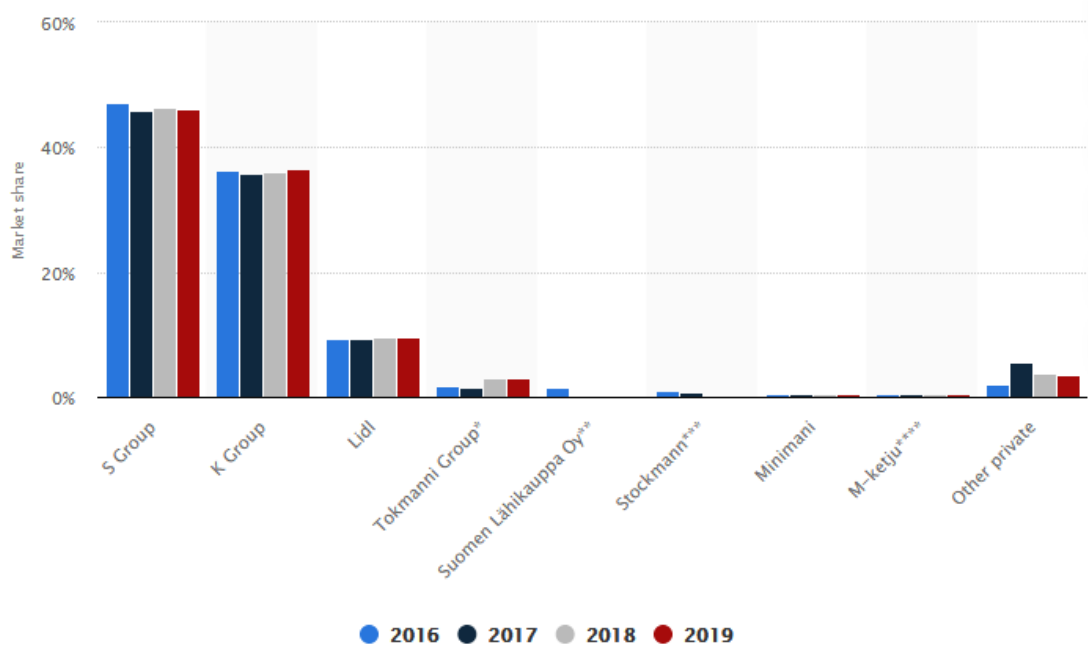

Figure 6. Finnish Market shares of grocery corporation from 2016 to 2019 (Statista, 2020)

S group is happened to be the leader in the retail industry with 46 percent of market share confirmed in 2019, the firm as well owns Sale, Alepa, Prisma and S-Market. Kesko corporation is following by 36,5 percent which is an important share knowing that several stores named under K-Market, K-Citymarket, K-Extra and K-Supermarket are maintained by the group. Lidl introduced itself back in early 2000s, the low-cost retail service quickly retains a fair share of the market and successfully gained regular customers because of good offers and fresh product that attracts clients with reasonable prices. (Statista, 2020; Stuart Allt Web Design, 2018.)

On the other hand, shopping online for groceries developed at high measures in recent years as the online payment methods improved in a way many Finnish customers turned to complete their grocery shopping electronically. Therefore, corporation adapted strategies on digital marketing and introduced the online grocer which is defined by doing groceries virtually. K group stores adopted the concept and over 400 shops are offering online grocer at the moment, easy process which requires a creation of an account on the website and start the purchase experience.

Next, the customer can define the delivery options between home delivery or pick-ups at the stores. (Stuart Allt Web Design, 2018). Online grocers are known to be well organized while shopping online as they manipulate their basket comfortably with no stress, they are as well purposely oriented toward specific product which can be found easily after a search click.

A significant rise on the online shopping because customers can follow their purchase plans and minimize costs by eliminating non-essential product from their basket, as well as time and a previous list of items can be saved in bookmark of the website to be purchased regularly depends on setting dates of the customer. (Kornum & Bjerre, 2005, 82.)

The corporations in retails turned to electronic commerce to satisfy an online type-based customer, with the fast changing of the economic environment, retail companies are adopting the online commerce as a long-term strategy and environmentally valuable. S group is well known by its different e-stores as the websites offer a variety of products that can be purchased online.

While talking about online shopping, it must be said that a major incident happened this year and helped opening optimistic opportunities to the electronic commerce. The sudden appearance of covid-19 epidemic in early 2020 played a major role to increase e-commerce of groceries, as the risk of acquiring an contamination risen up by human contact, population was invited to lockdown itself and limited their movement, therefore, the alternative to buy groceries online is adopted by several Finnish

customers and became an efficient solution for people who fear an infection. According to Yle news the ease of using the electronic platform and payment was a very convincing reason to try said a customer, as well as it covers all needs from daily life goods, and save a significant time to use it in other important tasks. (Yle Uutiset, 2020.)

Figure 8. Picture of purchased orders from online store (Pitkänen, 2020)

The picture confirms the statistics behind the rising of online groceries in Finland, the number of boxes of food purchased is remarkable and promising, as K-group for example records 800 percent increase in the online shopping. (Yle Uutiset, 2020.)
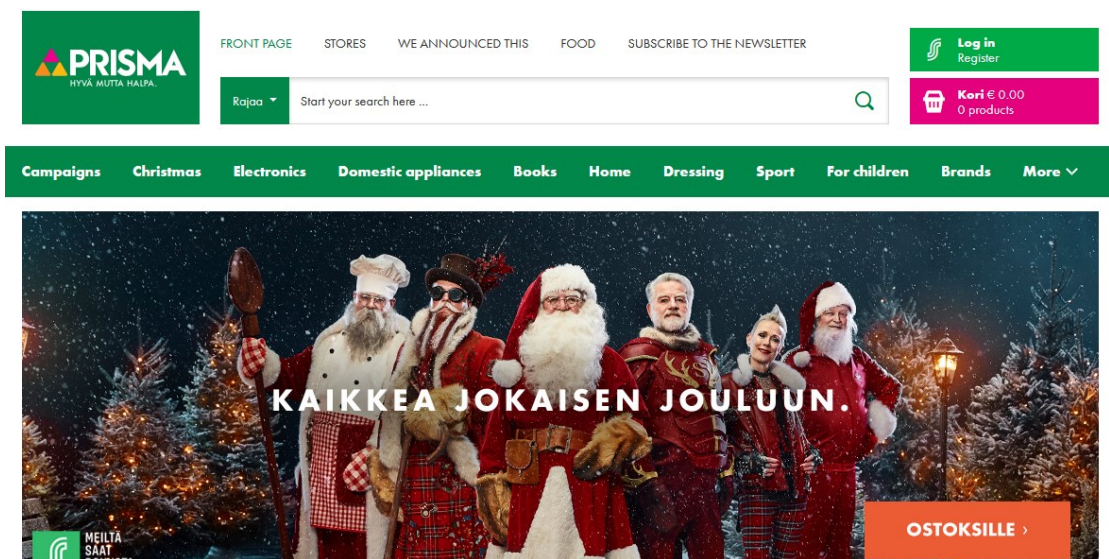
Figure 7. Front page in Prisma.fi web site (Prisma, 2020)

Prisma.fi is considered one of the leaders in matter of e-shopping, its electronic platform is futuristic and easy to navigate through, the design is related to the firm's color as it is green, offers started to display automatically in the front page and discounted products are pushed to the top. A variety of products are available and there is tab band which is differentiated by sections such as sport, dressing, home and books etc.

A search box is shown at the top to help customers find their potential products and the template of the website is genuinely customized for every generation as from seniors passing by millennials to gen z can easily navigate through the platform and perform purchase operations. the website offers a subscription to the platform by creating an account to administrate its preferences and customize the cart of products, as well as registering shipping and payment information for regular purchases. (Prisma, 2020.)

7.4.3 Determinants of trust in b2C e-commerce

Buying on internet in general is characterized by pre-payment segment which is defined as the payment of the purchased product before receiving it , the buyer in the

business to consumer e-commerce acts first to initiate a sale contract followed by the vendor as the actor who confirmed the purchase and start the shipping process. Most of electronic commerce web sites on the internet insist on the payment before shipping in the exception of rarity of some companies that request an electronic identification of buyer for example, or block a certain amount on the bank account in case of non-payment of the buyer. (Prins, Prins, Ribbers, & Van Tilborg, H. C. A., 2002, 27-28.)

The vendor in the online commerce is playing a major role ethically as the conformity of the order and shipping process is approved by its person, morally after confirming the payment the vendor is required to start the delivery part as the buyer on the internet is not on the opposite to a face to face purchase, approachable physically meaning that the buyer cannot receive the product immediately as it needs a shipping period before it handed to the home address. Thus, the customer is vulnerable to fraud risk.

A trust relationship is needed to be applied in order to encourage the online shopping and push the customer to not hesitate being a part of a purchase operation. The majority of web sites offer a refund option in case of non-receive of product or defective package. Yet, still the measures to start a refund procedure is relatively debatable and customer needs to provide certain reasons and proofs to confirm his/her case.(Prins et al., 2002, 37.)

Online risks are noticeable as well, listing hacking for example, is a high problem that causes customers and sellers lot of damage, with a secure electronic commerce web site buyers can navigate and buy safely their products, however, the constant updating of the algorithms in the servers and hackers improve their methods, it is effortless to eliminate this risk, but taking the right measures to secure the electronic platform will impact positively the clientele as a crucial determinant of trust between the customer and the seller.(Prins et al., 2002, 100.)

Therefore, trust is fundamental for the sale and purchase operations as it endorses the motivation and confidence in the customer to buy online. by eliminating and reducing risks of fraud, scam, and hack etc. vendors acquire credit on initiating professional and

lasting relationship to gain customer's attention and money, although, reinforce loyalty and satisfaction.

8 LAST MILE DELIVERY IN B2C E-COMMERCE

8.1 Definition

Delivery as a term is a primordial for any purchase in general as it is considered the last step before handing the order to its final receiver. Therefore, it is crucial to maintain its functionality and work effectively to improve and develop the segment as the domain of logistics is constantly emerging positively with the aid of high technology and the large value of participants in the sector.

It can be said that supply chain is a vast and sometimes complicated concept to identify as one idea, in reason of it consists of several steps and departments, each one is essential for the optimum performance and satisfaction of contributors (Gevaersn, Van de Voorde, & Vanelslander, 2009.)

The business to customer electronic commerce knows a rapid arise since the 2000s, thus, logistics are needed to follow this developing and stay put on the same line with taking operative measures to link the online platform to the customer. Eventually, logistics department especially the delivery process is key player to a successful online purchase, in reason of taking the order and convert it to physical product handing it over to the client. Basically, the customer relays on the delivery segment in order to receive the product.

The last mile delivery is defined by being the last step of a long supply chain process before delivering the order to the final user. (Gevaersn et al., 2009.) It is an important tool to deliver products in the business to costumer e-business, the majority of clients in the traditional B2C commerce are used to the approachable experience while they

are shopping for groceries. Thus, when shopping online customers are required to wait patiently for their orders. Which is concerning for most of customers whose are for need of it in short delays (Gevaersn et al., 2009.)

The last mile delivery in logistics includes the use of carriers for parcels in order to deliver packages to clients. It is an important tool which favorize the quick and smooth delivery process as well as costly adequate with the company's logistics strategies in term of shipping earlier as possible (Sarder, 2020, 133.)

8.2 Supply chain in B2C e-commerce

Figure 8. Supply chain of Business to Customer electronic commerce (Hamraoui, 2020b)

The supply chain in B2C e-commerce is long and several key players contribute in an online purchase operation. In the beginning the it starts when the customer initiates the purchase order by finding a product on the online platform and pay for it using an electronically payment method. Next the seller checks out the legality and conformity

of the payment as well as the availability of the product in the warehouse storage (logistiikanmaailma, 2020.)

Purchasing online involves several operations that the customer should engage with in order to complete successfully the order. The majority of e-commerce platforms adopt a standard design for their websites including a basket which is usually located on the top right or left, to be visible for the client, it is a helpful tool informing the customers about their added products and offer them either more options or removing items. A secure website is always needed for online purchase in reason that includes payments and confidential information (Portal, 2020.)

Thus, a data encryption is a must and it is shown as Hypertext Transfer Protocol Secure known as well by HTTPS, a protocol to encrypt and protect data from potential steal by hackers, all websites nowadays are required to adopt a https protocol for their operations. Next, the customer is always invited to accept General terms and conditions before confirming the purchase, it includes clauses for the purchase and rights / obligation for the seller and the buyer as well as product information etc. by accepting these terms the customer can proceed to pay (Portal, 2020.)

On the other hand, an order must be an easy operation for the customer to complete, thus, an identification, approval of the billing and delivery address and accepting general terms are the main steps for the customer to go through in order to confirm a purchase finally the customer has the authorization to choose a payment method which vary from credit card, electronic bank account such as PayPal or local bank and app payment for instance google pay, apple pay etc.

Next a confirmation of the payment has been made and sent by email to the customer to approve the purchase. Next an invoice including the bill with purchase detail is sent later and possible track of the order can be included as well (Portal, 2020.)

Generally, after providing an approve to the order and notify the customer online or by phone message or email. The warehouse storage initiates an order to select the potential product restored on the shelf which is delivered previously by the

manufacture's delivery transport. The manufacture produces the finished good and stored it temporarily in its warehouse waiting for delivery to ordinary retailers, meaning physical stores and retailers, or shipping directly to the electronic platform's distribution storage (logistiikanmaailma, 2020.)

The distribution place marks the order and shipped it with address details and type of shipping, the transport pick up the parcel and drives to the dropping point, it differs depending on the customer's choice for shipping options it may be collection box, bank lockers, collection point which the customer chose previously or home controlled access where the shipping personal are equipped by smart devices providing them the entree of the house.it marked the finalization of the parcel shipping and customer is invited to confirm the obtaining of the products (logistiikanmaailma, 2020.)

The supply chain in the business to customer commerce is characterized by the long process and the contribution of many department as each one for a specific mission to build up as successful B2C online purchase. Customers in business to customer business are highly deprived comparing to other business models, thus, it appeared that the supply chain risk to crash sometimes especially in the process of last mile delivery as the vendor usually provide an estimated time delivery which could not be respected in some cases. Yet there is a need to improve the delivery segment in order to qualify the supply chain and promote it as an effective center for logistics (logistiikanmaailma, 2020.)

8.3 Last mile in B2C e-marketplace

8.3.1 Challenges of the last mile delivery

The business to commerce e-marketplace is developing in optimistic ways, as the logistics segment needs to follow the last mile delivery process is a concerning issue that presently occurs in wide large, developed areas, traffic is an important problem and logistics operators fight effortlessly to maintain the delivery time for products and

goods purchased online, the customer on the other side, is a key factor in the business liaison, as its satisfaction improve the sector and reinforce its loyalty (Singh, 2016.)

Usually, a delivery goes without major difficulty for most of its journey, it is in the last mile that issues have more chances to occur. The carrier is responsible to deliver the goods to its recipient where the transport mode differentiates every time, for instance a truck, van, car etc. most of time several destinations are in the schedule for the journey and the time is limited for each delivery. However, Stops are numerous and the time lost is significant. The higher price of the last mile is partly explained by the inability to pool delivery costs at the end of the journey, as customers' delivery addresses are potentially very far from each other.

This is less true when there is a close-fitting network of customers. On the other hand, the more deliveries the carrier makes, the more the delivery mode which is vary from a truck or van empties, and therefore the more the delivery costs. In rural areas, this "last mile" can be estimated at 10-20 km, while in large cities it is only a few hundred meters. As a result, it costs even more in the countryside than in urban areas (Sarder, 2020, 134.)

Circulating in the city is a real issue for certain sizes of vehicles, and in particular vans and large trucks. And for good reason, as the environmental policies of cities are increasingly strict, the circulation of certain types of vehicles in particular those that pollute the most and responsible for gas emissions can be limited during certain time periods with less dense traffic at night for example or even prohibited constantly or during pollution peaks this measure is usually applied within large metropoles with dense traffic.

These constraints are relatively difficult to manage in reason of indirect uncountable schedules that must be made compatible with the availability of recipients. Night deliveries are also impacted by the urban environment due to a policy of reducing noise emissions in the city (Sarder, 2020, 134.)

There is the problem where the availability of the recipient is debatable as well, the schedule and the planned stops to be fixed according to the availability of each customer. The routes are not necessarily optimized in the city, which is indirectly a source of additional costs for transport. A lack of transportation flexibility is highly present in underdeveloped countries and the infrastructure doesn't meet the requirement for a quality delivery. Therefore, it is needed to overcome these issues first by reinforcing the channels which the delivery goes through and encourage the investment privately and publicly to maintain a reliable service (Sarder, 2020, 135.)

Although, customers are contributing to the problem as they performed disturbance to the supply chain, for instance, cancellations of the orders or the absence of the recipient in delivery operation, it slow down other deliveries and the personal needs a confirmation in order to complete the operation, otherwise the order will return back to the its origins and the customer needs to file complaints etc. (Singh, 2016.)

8.3.2 Advantages of the last mile delivery

Companies operating in the e-commerce sector have the opportunity to deploy their own methods of delivery and set owned vehicles to ship packages, it is considered to be effective as the companies have more control on shipping periods and the reliability of the service offered but it comes with increasing transport chain costs and valuable management of the supply chain.

However, enterprises that rely on third parties for delivery process gain time and quality management on their operation over business as well as costs related to shipping are inexistent, but the inconvenient is losing contact with client over shipment and third party companies are in total control of where, when and how the delivery will be processed (De Maere, 2018.)

The e-commerce companies utilize an extern alternative to operative their delivery process through Third Party Logistics or 3PL which can be defined as the process, in a company's supply chain, of outsourcing one or multiple logistics functions to a 3PL service provider. (Sarder, 2020, 354) Services can vary depending to the company's

necessity, from warehousing, distribution, repackaging, consolidation and return logistics etc. The 3PL provider manages and performs these particular logistics functions using its own assets and resources. It helps the companies manage their operative analysis and preserve the reliability between customers and the company as well as preserve the competitiveness by reducing its assets, allowing it to focus on its areas of competence and reduce its operational costs (Sarder, 2020, 354-355.)

Last mile logistics are by default a highly cost element, an ideal solution for small and medium-sized retailers may be to outsource this part of their e-commerce logistics in large cities to specialized logistics operators. Only in this way will it be possible to maintain the cost-competitiveness of this increasingly important logistics branch and to meet the demands for the immediacy of deliveries that the customer demands and that only the giants of e-commerce can satisfy today.

However, several companies exploit the channel of online sales and they could find a competitive advantage in this type of solution. It would allow these small or medium-sized retailers to position their products very close to the end consumer without having a loss of competitiveness in transport since management is controlled by a third party and effectively accomplished on that side (Sarder, 2020, 355-356.)

The benefits of this practice could be summarized as greater elasticity at peak times of demand which 3PL are highly experienced in managing large deliveries. Companies would reinforce customer loyalty with ultra-fast deliveries with of course a lower operational cost related to the last mile delivery. Therefore , an increase in average order value will be noticeable as the customer will frequently add more orders in future (Sarder, 2020, 355.)

8.4 Solutions for the last mile delivery in B2C e-commerce

The last mile delivery is an expensive tool as the closer the product gets to its destination, the more the transport cost increases, Thus, it is crucial to amortize costs for limiting the impact on overheads and the company's logistics management. Furthermore, the new environmental regulations can prove to be complicated to follow

and as part of long-term approach, the entire distribution chain needs to follow the development and the change.

8.4.1 Environmental strategies

The delivery process is categorized as a crucial phase for B2C commerce as it linked directly the customer to the vendor, and it differs depending on the client's choice, meaning that the customer is controlling the way its product is shipped.

Talking about last mile delivery process is considering transportation and in recent years there were lot of problems linking this element of logistics to climate change and consequences that were resulted over utilizing traditional transportation in delivery as well as for commuting and traveling. Today, it is most important to adapt environmentally strategies that beneficiate the companies and the planet as well.

Minimizing noise pollution and atmospheric pollution linked to transport is more important than ever as a priority objective, and by limiting the environmental impact of the last mile and adapt to new challenges, logistics actors have embarked on a vast overhaul of their delivery methods by adopting different strategies. First response to the problem by the use of soft means of mobility, cargo bikes, electric vehicles and vehicles running on city natural gas, which make it possible to fight concretely against fine particle emissions in cities, and to get around the problem traffic jam.

A solution adopted in particular by Posti, the Finnish delivery company begins to utilize a renewable fuel in cooperation with Neste, the oil refining corporation is known by its MY diesel which reduced the emissions of CO_2 in the air, the fuel uses a NEXBTL, Next Generation Biomass to Liquid technology, where vegetable oils are among the raw materials for MY diesel (Neste, 2017; Posti, 2020a; Posti, 2020d.)

Therefore, Posti is engaged strategically on the long-term to offer a 100% carbon neutral service, as the company is a leader in the local market in parcel delivering, 40% of the delivery market is held by Posti and millions of packages are distributed weekly as well as deliveries know a crucial increase during holidays and special days such as

Christmas and black Friday. Thus, the enterprise offers flexible times of deliveries and extends its operations up to six days per week. The sustainable solution is an essential step for Posti to show its engagement for reducing the impact of its greenhouse gas emissions which is estimated to 3.8 million kg yearly (Posti, 2020a; Posti, 2020d.)

On the other hand , as a part of its commitment to reduce the carbon print , Posti in cooperation with Logisnext which is a multinational company specialized in manufacturing electric and auto guided vehicles, (Logisnext, 2020) offered the city of Helsinki 14 electric scooter ready to use from volunteers as well as employees to delivery groceries for the elders who are plus seventy years old, the initiative came after the pandemic of covid-19 risen up and limited the circulation of the population especially who are in high risk of contamination, the elderly persons are benefiting from this opportunity in free of charge as Posti will provide necessary training for the volunteers and Logisnext will afford a maintenance support for the scooters (Posti, 2020c.)

8.4.2 Examples of e-commerce platforms

The awareness of today's environmental problems followed by the actions of multiple companies in Finland, for instance several enterprises chose the option for eco delivery system to mark its print in reducing CO2 emissions and develop a long term solution for the future, Astialiisa a Finnish company specialized in thee trading of Arabian tableware for 100 years turned to delivery services such as DHL GoGreen and Posti green service to be among the actors of reducing a carbon print and improve the air quality by limiting the pollution in the city (astialiisa, 2020.)

Another example is Antonanton which is an enterprise specialized in ready to eat meals and home delivery food, the company adopts a solid environmental strategy about delivery and packaging as well as the food is organic and respect high standards , A&A stores offers ecofriendly home delivery methods such as bicycles and electric vehicles and it cooperate with K-group the giant Finnish retailer where customers can self-shop their ready to eat meals or order it online through K-ruoka.fi (Verkkokauppa, 2020.) It proves that several actors are starting to acquire the responsiveness for the climate

change and its impact on the online market and their solutions will be measurable in mid-term as customers are switching every day to online grocery shopping.

Garmendo is an online store born in 2018, offering a sustainable option for sportwear, the company's values are consist of high standards quality of sportwear which made from sustainable raw material and their partners are on the same commitment as is manufacturing outside Finland, as well as its market is online destined for Finnish market and worldwide. The store is adopting green logistics to reduce the impact of gas emissions packaging is ecofriendly made by recyclable card boards and for the delivery DHL GoGreen is monitoring Garmendo's shipment worldwide (Garmendo, 2020.)

8.4.3 Automated solution for last mile delivery

In the world of e-commerce, technology is developing rapidly as tools linked to online shopping are improving every day and several investors are engaged for more sustainability and durability in the e-commerce. Therefore, it is a must to develop the last mile delivery regarding the parcels to keep the competitiveness and attract more customers in the future. Autonomous solution is highly under developing at the moment and many countries are adopting robotic concepts to deliver packages and mini parcels as it has lot of potential in the near future. Several startups are popping everywhere offering autonomous delivery, according to Michael Wang there are two options for last mile autonomous delivery, either a ground-based or drones (Wang, 2019.)

The US is a leader in this field as Amazon the giant e-commerce platform started in 2019 testing ground based robots carriers for delivery as the company itself adopted same delivery option in its prime concept, robots can be used in some areas within the city and robots are equipped by GPS to manage their way through as well as locked systemically by password so the parcels stay safely inside the box (Brown, 2020.) Robots are more dynamic and flexible in term of efficiency and regulations as drones are still struggling with proper laws which will define its operation.

In Finland the autonomous technology is under testing as well, there are some startups partnering with retailers for the last mile delivery, LMAD for instance which is a European company destined to last mile delivery process, it offers self-automated robots for parcel delivery , K-market Otaniemi adopted this ground-based robot system to its online shopping section offering customers more variety on delivery options.

In August 2020, LMAD successfully managed to operate an autonomous delivery from the retailer's location "K-market Otaniemi" to its final destination "Aalto campus". It shows the noticeable improvement in recent years of this technology as well as the benefits for short and long-term period, as it happened this year with covid-19. It is more profitable and ecofriendly solution for both parties in the online sector (Guerrini, 2020; LMAD, 2020.)

Another example of ground based robotic system service for the last mile delivery in Finland, is adopted by the company Dimalog which is a home-on-demand robot service for retailer to deliver groceries and other products. (Asumi, 2020) A couple tests were established to demonstrate its efficiency in home delivery, the self-automated robot took deliveries from REDI's K-Supermarket which is located in the Kalasatama section of Helsinki to Majakka tower building where the customers are situated.

The online order is operated by Asumi a lobby service coordinator and home delivery service provider, and the groceries are collected in the K-supermarket, next the robot received the parcel and delivered it by navigating through the streets of Helsinki, customers are notified by phone SMS and the robot is equipped by a lock system only the proper person can access to it (Admin, 2020; Asumi, 2020.)

On the other hand, drone concept in last mile delivery will be soon imitated by the company Wing which is a subsidiary of the parent firm of google, (wing, 2020). the enterprise is specialized in home delivery using drones, it can be added to the ecofriendly delivery methods as the logistics are now turning to these kind of options as an alternative to reduce the carbon print, in Finland S-group retailer this time will benefit from this technology as customers will be interested to utilize it among other

solutions. The drone delivery will be operated in the eastern area of Helsinki and in lunchtime so employees, students and regular customer can order their lunch meals within short times. The drone-based delivery has lot of potential yet it is still in the beginnings as the proper regulations are under confirming and investors are slowly entering this sector (Yle, 2020.)

8.5 Types of last mile delivery

The delivery experience is often a key and underrated part of customer experience and satisfaction. As such, the delivery experience can play a key role in the loyalty of certain brands and certain services specializing in home delivery. For certain fields of activity, it also plays a very important role in e-reputation and customer reviews insofar as delivery is the last experience contact before requesting / publishing a review. A product can sometimes suffer a bad rating without the quality of the product being called into question (Hotjar, 2020.)

The delivery experience is carried by the prospective deliverer, but also more broadly influenced by the experience of unpacking the product received. It can also sometimes be optimized by the use of surprise marketing. For some goods, the optimization logic can go as far as the creation of delivery ceremonies. In B2C e-commerce sector, delivery also has an anxiety-provoking dimension that must be managed upstream through an information and reassurance system on the stages and deadlines of delivery. In the event of late delivery, it is often relevant to warn the customer. For high-value customers or transactions, the use of a well-managed phone call can limit the effects of the delay on customer satisfaction (Hotjar, 2020.)

Customers can choose many of the delivery options that e-platforms offer and depending to the budget as well, delivery process is highly cost for both parties and customer is invited to pay part of it, fast home deliveries are the most expensive type as the final user receives the parcel without leaving the house, but other types are available as well. There are several types of last mile delivery that differentiate itself by the criteria of time, price, and location to receive the product. It can be listed some of the types of delivery.

8.5.1 Home delivery

Home delivery is a service provided to the customer's home by natural or legal persons consisting of the transportation, transfer, deposit or delivery of a thing or consumer product. This service relies on logistics and transport strategies to deliver the ordered goods or items to the correct location or port within the contractually or conventionally defined time limits between the provider/seller of the service and the customer (HarperCollins, 2020.)

Many tools, supports or modes of transport can be used to deliver a user, user or consumer: truck, scooter, moped, bicycle, drone, delivery person on foot, car, autonomous vehicle, etc.

The methods of distribution provided by an e-commerce platform are clear indicators of the efficiency of its logistics offering. Furthermore, distribution is typically the only real connection that links the e-marketer to its customer. In the consumer relationship, therefore it is of essential significance. Today, the e-merchant has a multitude of distribution solutions provided by various players in logistics. With delivery to a relay point, the option most commonly given to Internet users is home delivery (Logmore, 2020.)

For the consumer, home delivery is a delivery method that offers a time saving, comfort with no travel to pick up an order with an easy delivery of large items, rapidity thanks to the support by usually a 3PL carrier. Competitive pressure amplifies the concept of home delivery that is not weakly marginalized as the intention of traders is always to reinforce consumer loyalty and avoid rivals on the same market to provide an additional service that will disturb the buyer's share on the market. The distribution at home therefore prolongs the user experience and must produce satisfaction to prevent losses.

On the other hand, home delivery can be adapted to specific deliveries, the customer sets boxes located on the area of the destined house, usually on the front door or isolated area to handle big deliveries. The customer can customize personally, however, it is a less secure solution for certain deliveries as the theft risks can occur (Posti, 2020b.)

8.5.2 Delivery boxes

Lot of retailers and post offices owned what it appears delivery boxes frequently on the entry of these buildings, a metallic mini-container with several small boxes equipped by electronical or mechanical system to provide safe delivery as the customer is the only person to have the accessibility to the box as long with the delivery personal. Also, the delivery boxes are available 24/24h. 7 days of the week in certain centers (ABLOY, 2018; Posti, 2020b.)

Delivery boxes are popping nowadays as a new alternative for the last mile delivery actors aiming to reduce costs and maintain the same quality of delivery. This method has emerged in recent years through the digitalization of the commerce in Finland, customers can always choose delivering to parcel lockers located in supermarkets or post offices where they can access to their packages at any moment during work time.

It is a cheap method comparing to home delivery as the customer needs to physically move to the delivery box location which chosen earlier during the purchasing process. The customer receives a repetitive notification on the parcel to pick it up, which permit to keep track on the order as well as assure its safety, the final user has the opportunity to customize his delivery time and cases in future orders (Wenzel, 2020.)

For groceries cool temperature-controlled boxes are available as well, customers can order online from online retailers and make a delivery to refrigerated lockers, it is an alternative especially for employees who have limited time during day time and can pick up their products later on the day (Wenzel, 2020.)

8.5.3 Bank lockers

It is a well-known concept as the bank started it in early days of trading where banks are the only safe location for valuable objects such as jewelry, money, gold, document sets etc. therefore, besides its useful solution for the trading, it is beneficial for the delivery process as the customer can customize a personal bank locker when all deliveries can be shipped to it for a later accessibility (HDFC Bank, 2020.)

The bank provides a safe deposit locker which is located inside the bank's building, an isolated room which is built uniquely to maintain the safety of the valuable belongings, from gold, diamond, jewelry, money etc. customers can choose delivery to bank lockers but it is limited to certain products and lockers are usually small and cannot handle big deliveries (Faugere & Montreuil, 2017; HDFC Bank, 2020.)

8.5.4 Home controlled access delivery

It is a smart developed solution for customers who are known to be outside their home frequently, thus delivery personal can deliver inside the destined house, using a smart card / key. The concept is defined by a house equipped already by smart locks connected to application which is downloadable on the internet, next a unique code will be delivered to both customer and delivery person who is applicable to conformity and privacy regulations. Next the customer can track the delivery product as well as control the access of the house to certain persons. (ABLOY, 2018.)

Home controlled access delivery option can beneficiate several parties, it manages and controls the access of external contributors to the homes of individuals, such as family, Elderly, etc. for various work related for instance child care, meal deliveries and emergency cases. The technology permits remotely control who can enter or not, without the need for keys as well as managing the access from mobile phones or computers. In general, the solution does not require any wiring or transmission between the equipped door or the key box and the various management software via the Internet.

It is therefore possible to manage remote access from a home that does not have an Internet connection. Also, an electronic lock that is easy and simple to install. Each habitant of the house is equipped by a unique QR code or numeric ID (Commscope, 2020.) As well as the delivery personal and other persons who use this solution. A track system is established to view the history of who acquired the access to the house and when, it is a revolutionary concept that for sure has lot of potential in future but is slowly gaining territory as many consumers still have trust issues with this technology (Commscope, 2020.)

8.6 Research design

The research is based on a descriptive procedure targeting a specific problematic in order to view its up-to-date status,(Questionpro, 2018) the research is for objective to provide answers on the last mile delivery process in the Finnish e-commerce market. Thus, customers and user of the internet are invited to fill in their opinions through a questionnaire specifically designed to conclude the situation firstly of the online market in Finland and secondly the last mile delivery as a link between the customer and the seller.

The satisfaction of online customers on B2C e-commerce delivery process is measurable in the questionnaire by designing questions about purchases on the web and reflecting feelings of multiple respondents on certain elements of the electronic commerce (Questionpro, 2018.)

Last mile delivery is a significant segment which is highly focused on in the questionnaire, to answer whether the process fulfilled reequipments for a successful online purchase or issues are occurring in this element of the supply chain and measures need to be taken to improve it.

A quantitative research method is adopted for the thesis as it will be conducted by an online survey which will be distributed on the internet through several platforms of social media and targeted emailing. Facebook will be the main social media platform

to share the survey utilizing well known groups with an important database such as Rauma in English, Business opportunities in Finland which have around 10k members. Next a targeted emailing concept will be used to reach as much as possible of the concerned population studied and through using Samk emailing system to reach students as well, it is a practical method to easily and rapidly acquire the required Reponses.

8.6.1 Sample & making of the questionnaire

First, the targeted population is users of electronic commerce website in Finland which covered every age group from under 18 to +65, within this group an important percentage use daily the internet to seek information, sale or buy goods and services. On the other hand, meaning generally Finnish customers that approach the internet to purchase products, tools, groceries, etc. and specifically those who navigate through e-commerce websites based in Finland in a closer aspect, for instance Prsima.fi, Foodie.fi, K-ruoka.fi and matsmart.fi, However, the population will be generally consisted of students, full-employed and part-time employed persons as well as retired and seeking opportunities people, 40 responses on the survey is needed to conduct an analyze and develop a summary on the questionnaire for the conclusions. the sample studied will be vulnerable to open questions which required additional information as well as closed question with chosen answers, and students from samk, and other institutions will be able to answer this questionnaire, as well as all users of the internet and customers who utilize the internet as a channel to purchase products goods and services..

The survey will contain in first part of general questions about the customer's gender, age group, profession and location. Next questions with Yes/No answers about the experiences of respondents in the e-commerce in overall and specificities about their purchases and the way they access the worldwide web. The second part will cover e-commerce in Finland part as questions such as "how do you see the e-marketplace in Finland" will identify the way respondents perceive the concept of the local online market after analyzing answers. As well as, questions about shopping online the

groceries and how respondents describe their experiences on the Finnish e-commerce websites.

On the third and last part, questions about the delivery process after purchasing products will identify the opinion of respondents about the last element of the supply chain, with questions corresponding to the delivery companies locally operating, and their delivery method they usually choose when purchasing online.

In the end, a question about their suggestions and recommendation to improve the last mile delivery will help identify issues and problems behind this process and provide practical solutions for a positive development of the e-commerce in Finland.

The survey is created on a certified online platform called "SurveyHero", which is a popular survey creator web site which help students and professionals produce surveys in an academic way, and free of charge. The questions are specifically chosen to answer the hypothesis for finding solution of the last mile delivery.

8.6.2 Online Survey questions

1. Did you carry out an online purchase before?
   - Yes
   - No, why?
2. If Yes, from 1 to 5 how did feel about it? 1 2 3 4 5
3. What type of products or services did you purchase?
   - Electronics
   - Music, videos
   - Household tools
   - Cloths & Fashion
   - Art & crafts
   - Other, specify
4. Are you interested to purchase something within the next months?
   - Yes
   - No
   - Maybe

5. Are you:
   - Male
   - Female
   - Gender neutral
   - Other

6. What is your age group?
   - Less than 18
   - 18-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - =+65

7. Are you?
   - Student
   - Employer
   - Employed Full-Time
   - Employed Part-Time
   - Seeking opportunities
   - Retired
   - Other, please specify

8. Where are you located?
   - Satakunta
   - Uusimaa
   - Keskisuomi
   - varsinais-suomi
   - Kanta-Häme
   - Pirkanmaa
   - Päijät-Häme
   - Kymenlaakso
   - South Karelia
   - Etelä-Savo
   - Pohjois-Savo

- Other, please specify

9. What is your preferable device to access the internet?

- Smartphone/ Tablet

- Desktop/Laptop

- Smart Tv / console

- Smartwatch

- Other, please specify

10. Do you check out e-commerce web sites, while you are surfing on the internet?

- Yes

- No

11. How often do you go to branded supermarkets near you? Per week

- 1

- 2

- 3

- Plus 3

12. How can you describe the online market in Finland?

13. Did you try online shopping from Finnish e-commerce websites?

- Yes

- No, why

14. Which e-commerce website did you buy from or you checked before?

- K-ruoka.fi

- Prisma.fi

- Foodie.fi

- matsmart.fi

- other, please specify

15. Did you receive your product in the expected timeline?

- Yes

- No

16. If the answer is No, which one of these problems you can relate to?

- Shipping delay

- Technical issue in the e-commerce platform

- Lost or stolen package

- Other, please specify

17. From 1 to 5 how much are you satisfied with the service offered on the previous commerce web sites? 1 2 3 4 5

18. How much do you agree with the following statement?

Online grocery shopping changes my daily life for the better

- Strongly disagree
- Agree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Disagree
- Strongly agree

19. How often do you check Finnish e-commerce websites for discounts?

- Always
- Usually
- Sometimes
- Rarely
- Never

20. What will motivate you to start shopping groceries online?

- Price
- Product quality
- Fast delivery
- Everything above
- Other, please specify

21. How often did you experience late delivery for your packages?

- Always
- Usually
- Sometimes
- Rarely
- Never

22. What delivery method do you prefer when you purchase online?

- Delivery box
- Bank locker
- Reception box (at home)

- Home access delivery
- Other, please specify

23. What delivery companies are you familiar with?

- Matkahuolto
- FedEx Express
- DHL Express
- Posti

24. Would you like to enroll in paid delivery subscription to get products earlier?

- Yes
- No
- Maybe

25. In the ends, what can you suggest to overcome the delivery problem when shopping online?

9 EMPIRICAL RESULTS

The survey was created and designed by the aid of SurveyHero platform which is an online tool permitting the creation of various types of surveys academically certified to later shared by email, social media or a specific link, students, enterprises and professionals are able to put in order questions in a questionnaire form electronically to deliver it later for answer collection (Capterra & surveyhero, 2020.)

During a week of collecting answers 40 respondents from all several regions of Finland took the opportunity to establish an opinion about the e-commerce in Finland and last mile delivery process. The survey included mainly the region of Satakunta by targeting local groups of Facebook such as "Rauma in English" and generally other provinces of Finland such as UUsimaa keski-suomi etc, Targeted emailing system was used as well, the samk email platform helped to reach students from the university of applied sciences without the need to distribute it physically. The responses were different from each other, and multiple questions were asked in order to acquire all-out information about this sector and its delivery segment.

9.1 Satisfaction on e-commerce purchasing

General questions about the e-commerce and online purchasing experience, first the respondent are able to answer quick Yes/No question on if they experienced an online purchase before, 100% of respondents answers Yes to the question showing that users of internet are aware of the online market and are already benefiting from the electronic trading as an sided alternative to purchase products and services.

Did you carry out an online purchase before?

Number of responses: 40
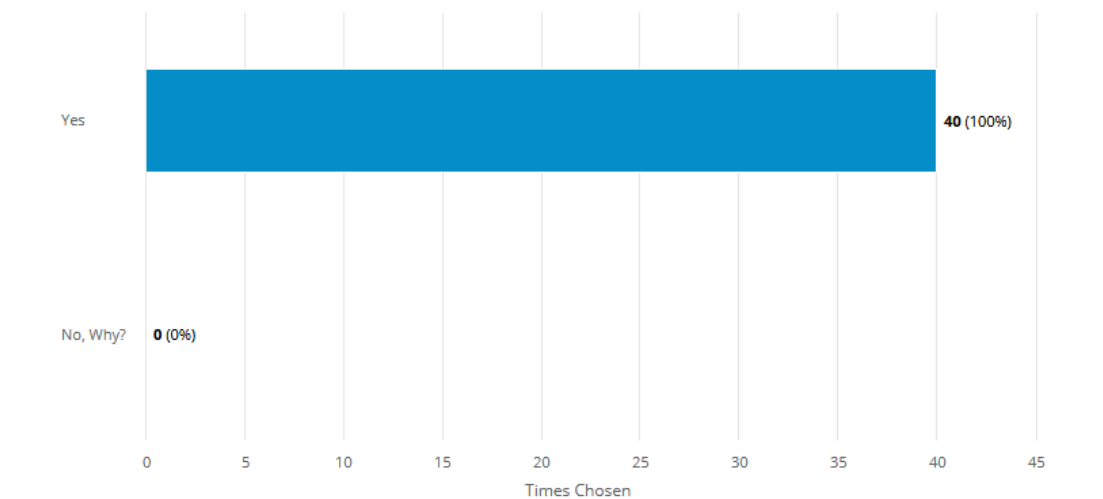
Figure 9: Online purchasing. (Hamraoui & SurveyHero, 2020)

The second question is about rating the experience of online purchase, and most of respondents gave at least 3 stars as they considered their operation good, 21 responses with 4 stars show that purchasers are satisfied with their experience and very good feeling are expressed for it.

If Yes, from scale 1 to 5 how did feel about it?

Number of responses: 40
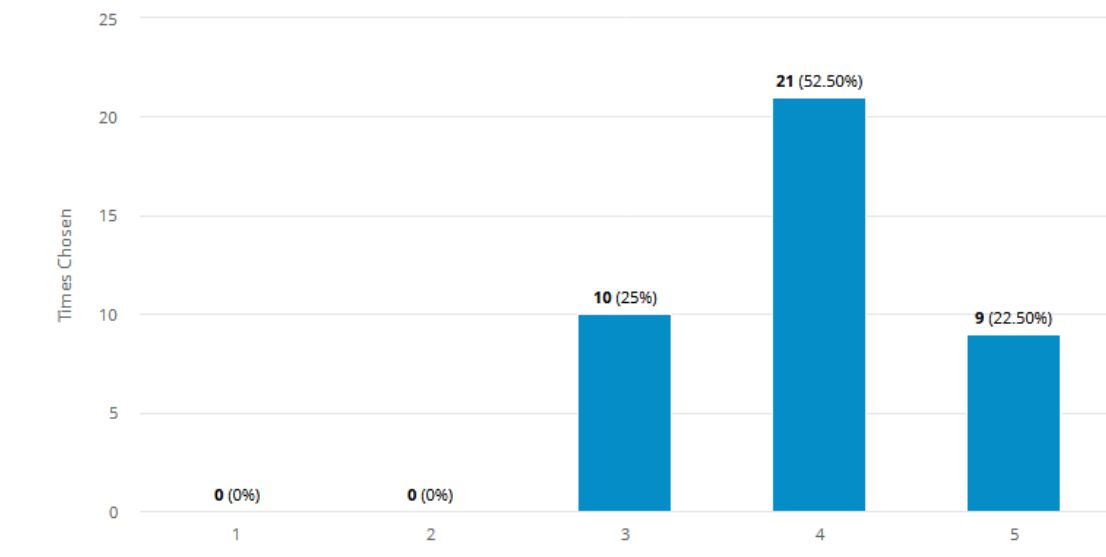
Figure 10: Rating online purchase. (Hamraoui & SurveyHero, 2020)

Electronic sales are described by its variety and several types of products are available on the e-commerce platforms for sale, respondents on the third questions took the multiple choice option to mark their type of favorite product on previous purchases, the answers differed from electronics which 67, 5% of customers agreed on buying them, next 65% responded by buying cloth and fashion, 52% affiliated to household tools.

On the other hand computers and smartphones shared by order 45 and 42% of the purchases by the survey's respondents, the rest divided itself between console, video games, media music and video etc. in the other case option the sample population gave answers such as groceries , ready to eat meals , drinks and snacks, membership for sport clubs, nutrition products and car parts. This segment approves the advantage of e-commerce as a solution for various products especially those dedicated to the personal and daily use.

What type of products or services did you purchase?

Number of responses: 40

Product	Responses
Electronics	27 (67.50%)
Computers & accessories	18 (45%)
Smartphones & Tablets	17 (42.50%)
Consoles & video games	11 (27.50%)
Media (Music, videos, DVDs, etc)	13 (32.50%)
Household tools	21 (52.50%)
Cloths & fashion	26 (65%)
Art & crafts	8 (20%)
Other	14 (35%)
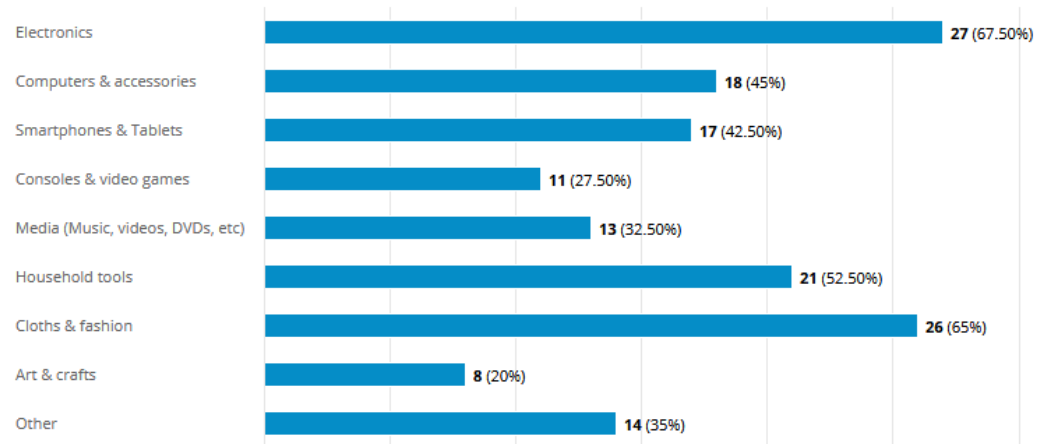
Figure 11: products available on the e-commerce platform. (Hamraoui & SurveyHero, 2020)

Next question is to see perceive the future plans of the customers, the majority of respondents show their interest to buy products online in the next months, 82% answers with Yes, and approved the second question which was about the feelings about the online purchase, it demonstrates that online customers strongly go towards buying again in the online market which is a positive segment of reinforcing loyalty of customers and applying satisfaction strategies on long-term basis.

Are you interested to purchase something in the next months?

Number of responses: 39
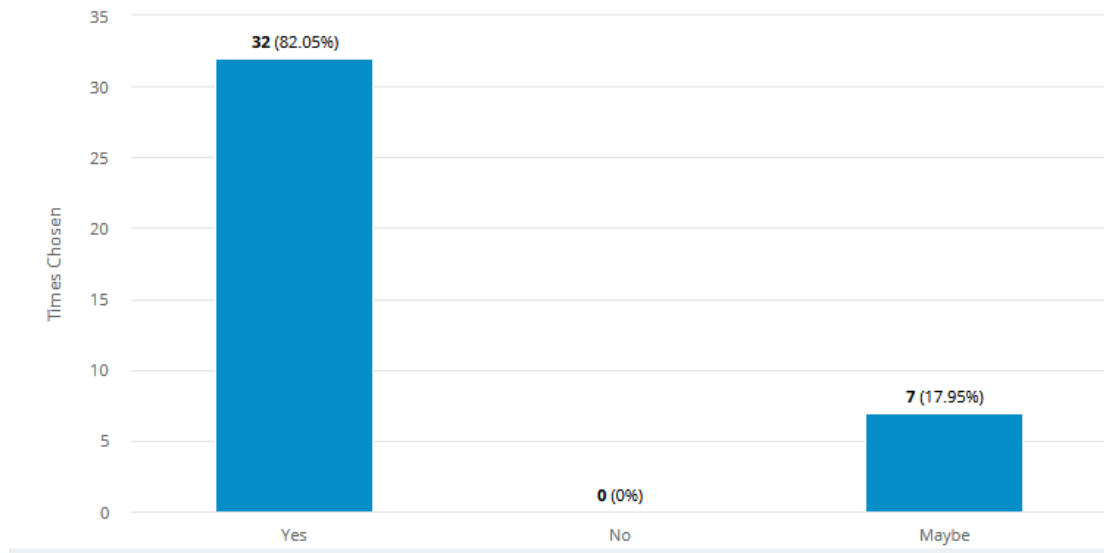
Figure 12: Interest in the online purchasing. (Hamraoui & SurveyHero, 2020)

Gender question is next with 62,5% of respondents were females it strongly dominated the population sample during the survey, males were consisting 35% of the respondents and only 2% remained neutral. This part shows the distribution of the online market on based on gender, females are more into online shopping and products destined to this gender vary and attract more customers by its interested prices and special offers.

9.2 Demographic diversity of the population sample

Are you:

Number of responses: 40
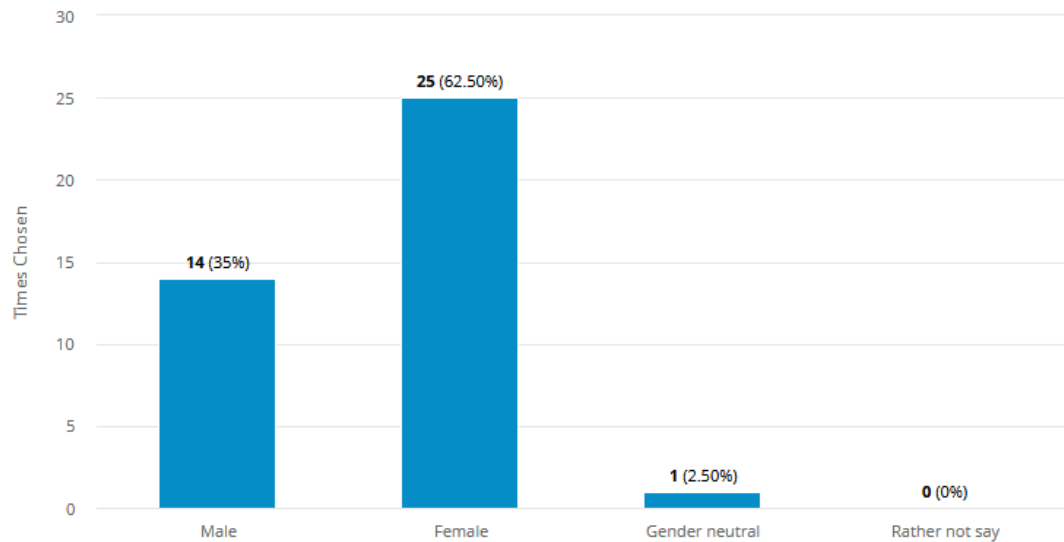
Figure 13: Gender distribution. (Hamraoui & SurveyHero, 2020)

Age group question shows a slight domination by 40% of the 25-34 age group between respondents, and it might be affected by the targeted population as the survey was shared on social media platforms majorly Facebook. Thus, there is a high chance that the age group active on Facebook as well is in this circle as well. It followed by the 18-24 age group 27,5% and the 35-44 group by 20%, it shows that internet users can be at any age and the respondents are diverse.

What is your age group?

Number of responses: 40
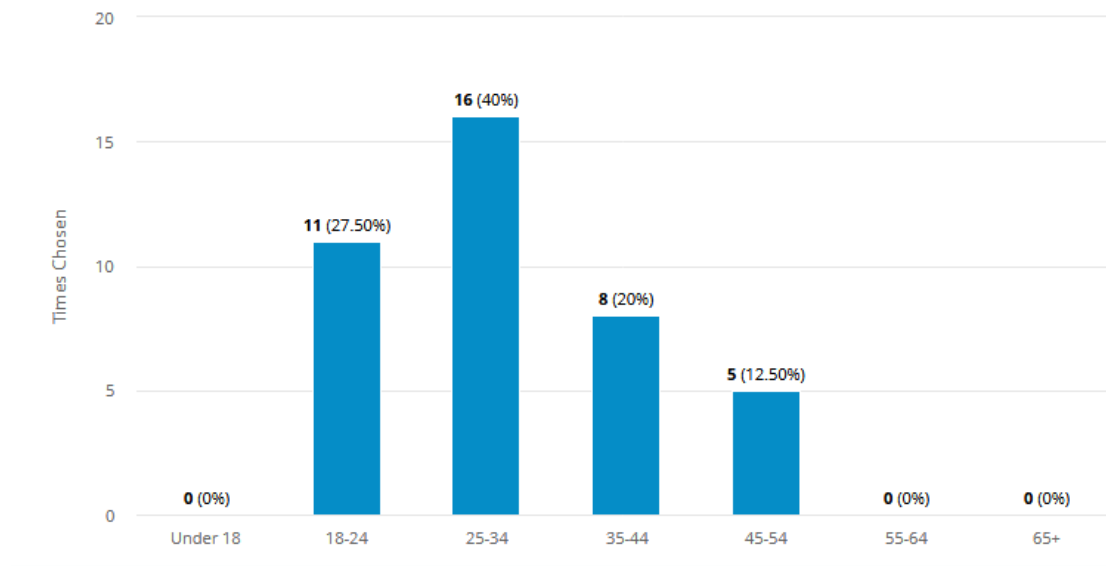
Figure 14: Age group in e-commerce. (Hamraoui & SurveyHero, 2020)

The profession question is marked by a divided percentage between full-time employed respondents and students, 37,5 % were either a representative of one of the professions, followed part-time employee, employer represents 7,5% and seeking opportunities persons by 5%, the other 5% were identified as student and part-time employed at the same time. The population sample is taken different professions and it varies from student to employee.

Are you?

Number of responses: 40
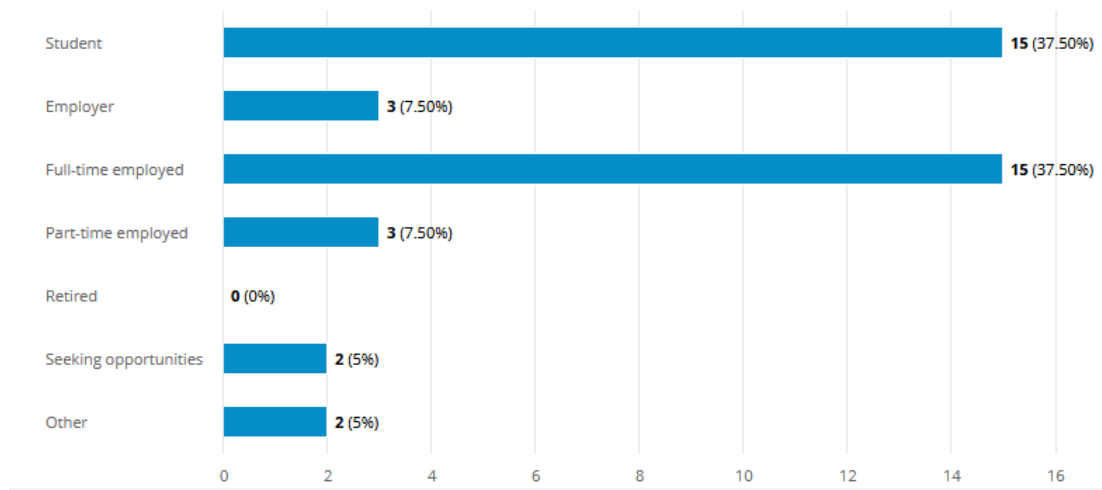
Figure 15: Profession segment in the online commerce. (Hamraoui & SurveyHero, 2020)

The location part is providing an important information where the population sample is located and which regions is active on the online market, the online survey I limited to 40 respondents. Thus, there is no concrete response on which region is leading the e-commerce, as the thesis research is mainly conducted in Satakunta province, therefore, 55% of the persons were from this area and confirmed their location, Uusimaa next by 25% and Keskisuomi following by 10%, respondents were located mainly in large cities and major regions which shows the logistics approach of the online market and its impact on the choices of the purchase decision.

Where are you located?

Number of responses: 40

Location	Responses
Satakunta	22 (55%)
Uusimaa	10 (25%)
Keskisuomi	4 (10%)
varsinais-suomi	2 (5%)
Kanta-Häme	1 (2.50%)
Pirkanmaa	0 (0%)
Päijät-Häme	1 (2.50%)
Kymenlaakso	0 (0%)
South Karelia	0 (0%)
Etelä-Savo	0 (0%)
Pohjois-Savo	0 (0%)
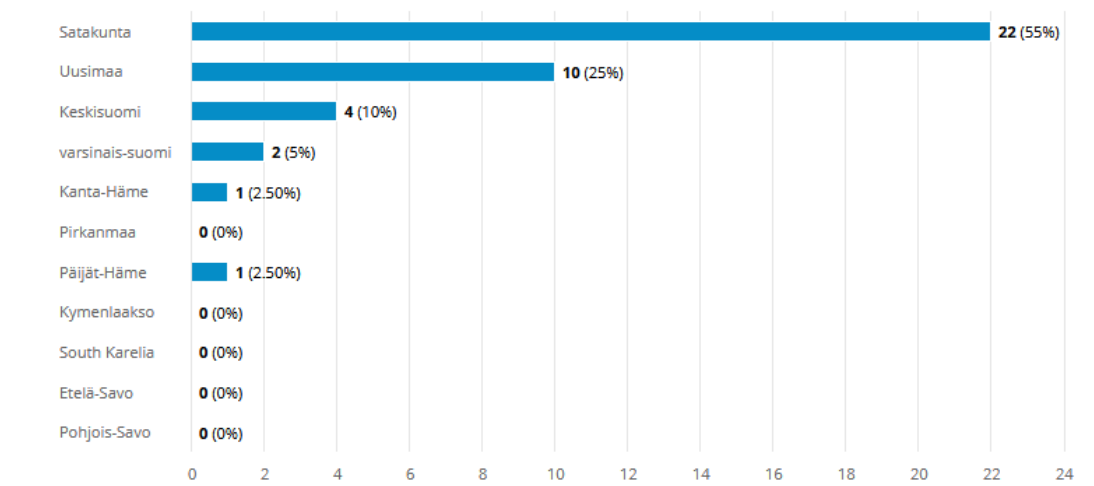
Figure 16: Location in the Finnish e-commerce. (Hamraoui & SurveyHero, 2020)

9.3 E-commerce market in Finland

82,5 % of the population sample access the internet through a smartphone or tablet which shows the major development of mobile phones in last decade and its impact on the e-commerce in general, smart phones became more affordable on the basic side, which led to more customers on the online market. 60% of respondents are using desktops and laptops to navigate the internet against only 5% and 2,5% of the answers for smart tv and smartwatches.

What is your preferable device to access the internet?

Number of responses: 40
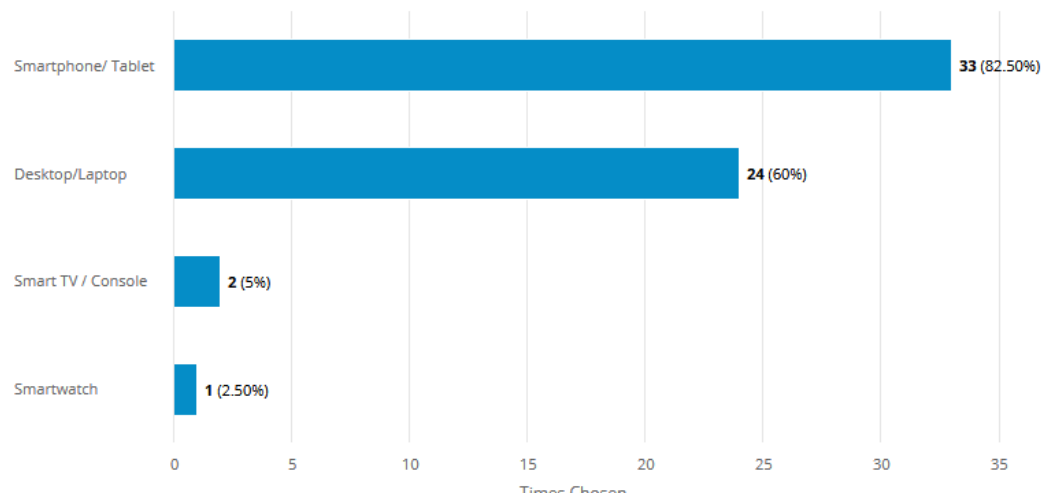
Figure 17: Internet means in the e-commerce. (Hamraoui & SurveyHero, 2020)

Checking out website of e-commerce platforms is a regular habit of 86,8% of the respondents and it shows the interest of the population sample in the online market as a solution for its purchasing behavior, only 13% do not check or consult the e-commerce web sites while navigating through the internet which declining as more customers are interested to what the online market offers from product and goods comparing to the traditional market.

Do you check out e-commerce web sites while you are surfing on the internet?

Number of responses: 38
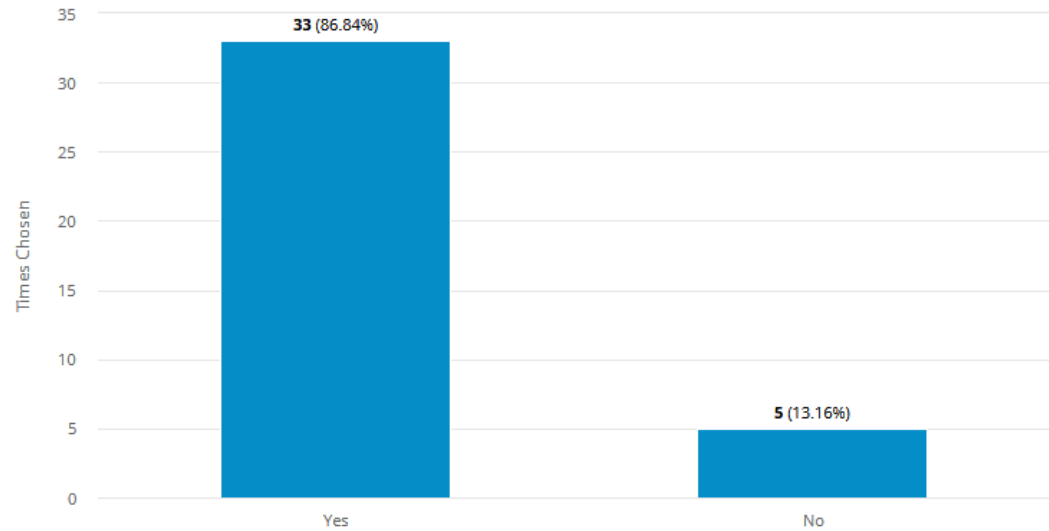
Figure 18: e-commerce in figures. (Hamraoui & SurveyHero, 2020)

Going to supermarkets differs between respondents and 45% of them are shopping twice a week in branded supermarkets, while 25% choose to go once per week, the rest which is represented by 17,5% and 12,5% confirmed shopping up to three or more weekly.

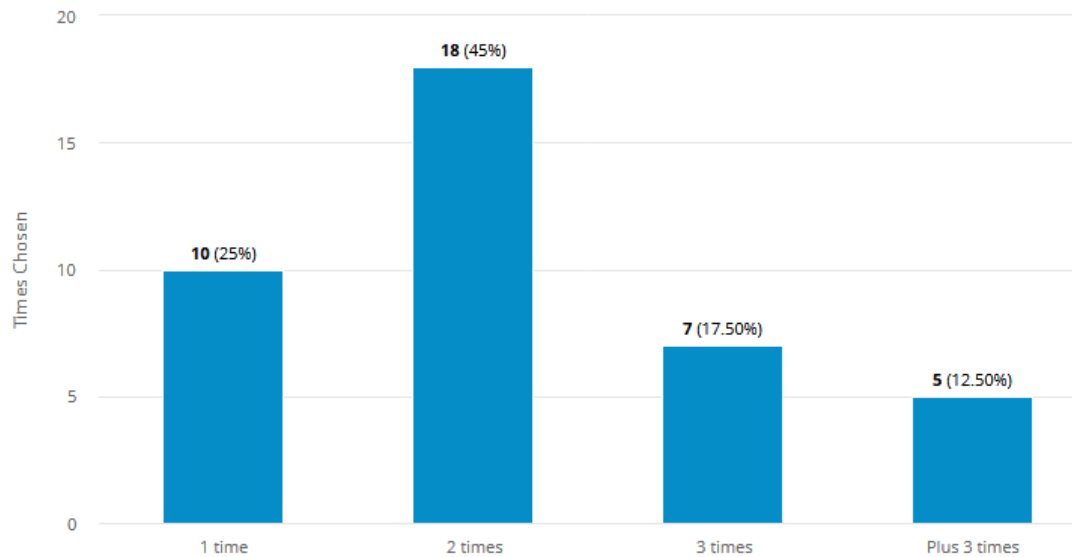**How often do you go to branded supermarkets near you? Per week**

Number of responses: 40

Figure 19:   Shopping in traditional market in figures. (Hamraoui & SurveyHero, 2020)

Describing the online market was an open question to let the respondents express their sincere opinions about the e-commerce in Finland, the majority of answers were very positive as the population sample is very happy with the development of the local online market and it seems that it is on the right way. The online market has lot of potential with mentioning its positive impact during the pandemic of covid-19. On the other hand, there were still answers criticizing the grocery section and marking the limitation of the products offered by some responses.

How can you describe the online market in Finland?

Number of responses: 29

Text answers:

it is very important

Developed

it is developing in a good way

Very good

Good with some improvement in level of product variaty

great and developing in a good way

Figure 20: The online market in Finland. (Hamraoui & SurveyHero, 2020)

Grocery online shopping with home delivery is non existing at reasonable price.

Even with all this crazy times, I think Finns did a good job online. My point of view.

Limited and expensive !

Sellers are still working on with them. Sending bought items in Finland is really slow.

They have improved since the Corona situation started and seemed to have responded relatively quickly to changing demands.

I felt like there was access to the products I wanted to get, access to fitness products is very broad in Finland so my experience was good.

Easy and trustworthy. Some companies send you the package first before you even paid the goods

Quite good

very positive, The market is developing in a rapid speed, and the investors are interested to this sector

Figure 21: The online market in Finland.   (Hamraoui & SurveyHero, 2020)

The sample population responded with majority in this question, showing the interest towards Finnish e-commerce websites and reliability withing the local market. 87,5% responded with Yes on their online operations with a Finnish e-commerce platforms and only 2,5% did not purchase items from these web sites as the problems occurred during their experience is either linguistic as the platform were available in only Finnish language or they could not figure out how to operate, as there wasn't enough information and explanation how to navigate through these platforms.

Did you try online shopping from Finnish e-commerce websites?

Number of responses: 40

Yes	35 (87.50%)
No, Why?	1 (2.50%)
Why	4 (10%)
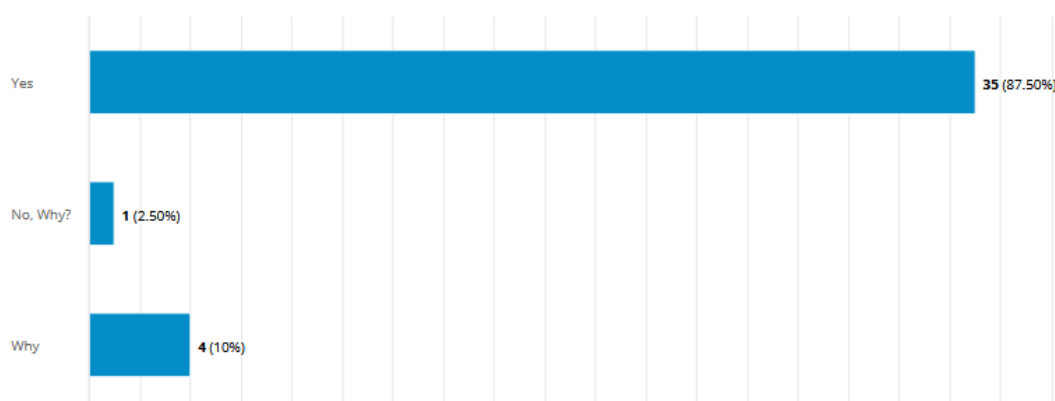
Figure 22: E-commerce web sites in Finland. (Hamraoui & SurveyHero, 2020)

The population sample in the online survey provides information on which e-commerce website on grocery shopping is more selected, K-ruoka.fi I highly recommended and 56,4% of respondents chose this platform to order groceries online, Foodie.fi as well is a popular platform for shoppers with 35,9% people are very familiar with this platform, Prisma.fi is next with 33% and matsmart.fi is sharing 15% within the respondents. On the other hand, other e-commerce platform specialized in other activities marked their presence such as gigantti.fi, power.fi, suomalinen.fi etc.

Which e-commerce website did you buy from or you checked before?

Number of responses: 39

Website	Responses
K-ruoka.fi	22 (56.41%)
Prisma.fi	13 (33.33%)
Foodie.fi	14 (35.90%)
matsmart.fi	6 (15.38%)
Other	12 (30.77%)
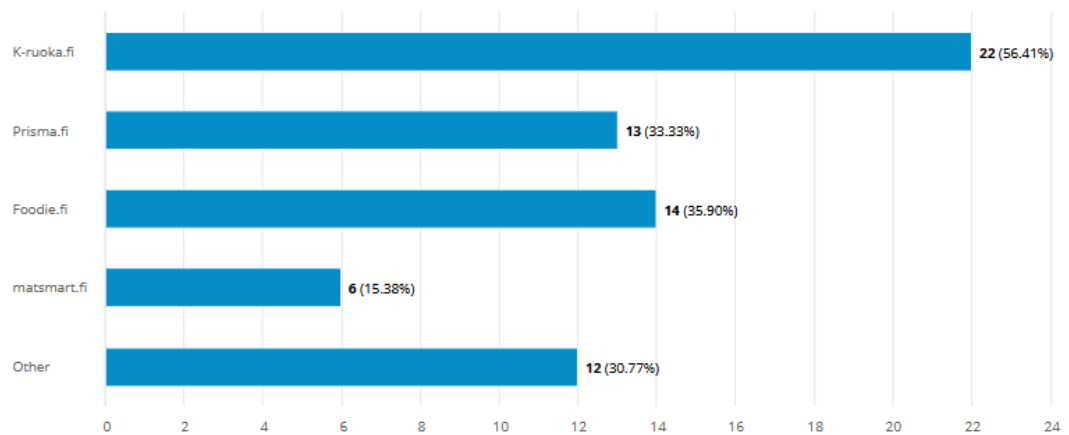
Figure 23: E-commerce websites in Finland. (Hamraoui & SurveyHero, 2020)

gigantti.fi

aminoporssi.fi

Fitnesstuku.fi

mytrendyphone.fi

Amazon

Amazon

Suomalinen.com

Power.fi & gigantti.fi

Figure 24: Other e-commerce websites in Finland. (Hamraoui & SurveyHero, 2020)

The majority of the population studied responded by YES, a successful delivery within the expected timeline while 17% found problems during the shipment. In figure 26, 64,7% met a delay in their delivery, 47% admit there were technical issues in the e-commerce platform itself which led to disturbance of their orders, 29% of respondents received a message where an out of storage has occurred.

Did you receive your product within the expected timeline?

Number of responses: 35
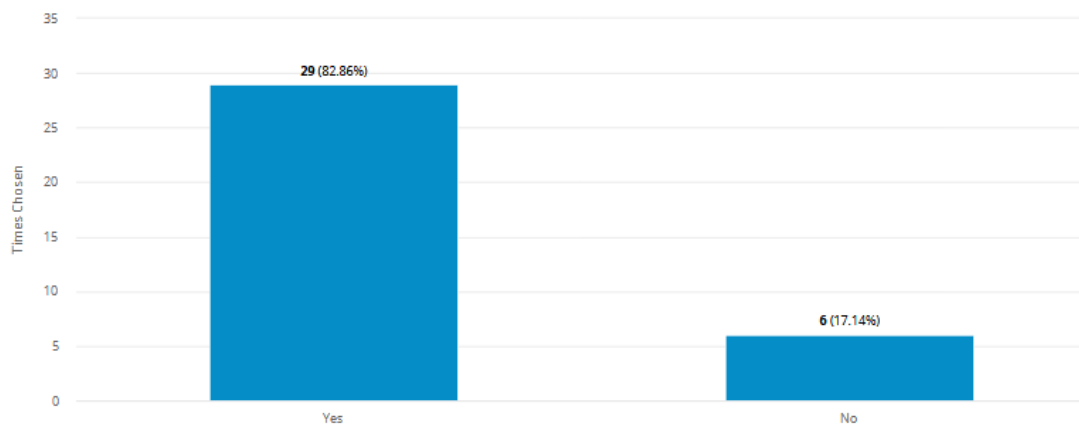
Figure 25: Satisfaction in Finnish e-commerce. (Hamraoui & SurveyHero, 2020)

If the answer is No, which one of these problems you can relate to?

Number of responses: 17
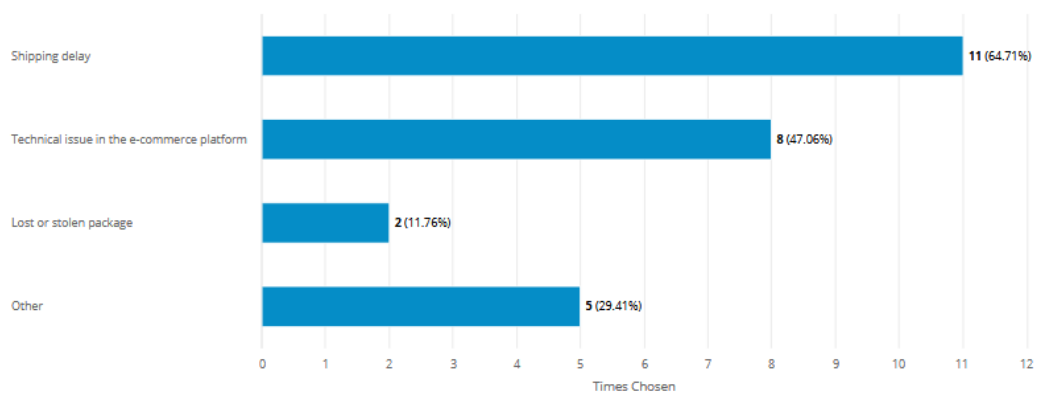
Figure 26: Satisfaction in Finnish e-commerce. (Hamraoui & SurveyHero, 2020)

Rating question about consumer satisfaction in Finnish e-commerce is very positive and shows the fulfillment of the local costumer in the e-commerce platforms operated in Finland, 44,7% of the respondents gave either 3 or 4 stars to express their gratification about the service offered and only 2,6% weren't satisfied and expected more from these web sites.

From scale 1 to 5 how much are you satisfied with the service offered on the previous commerce web sites?

Number of responses: 38
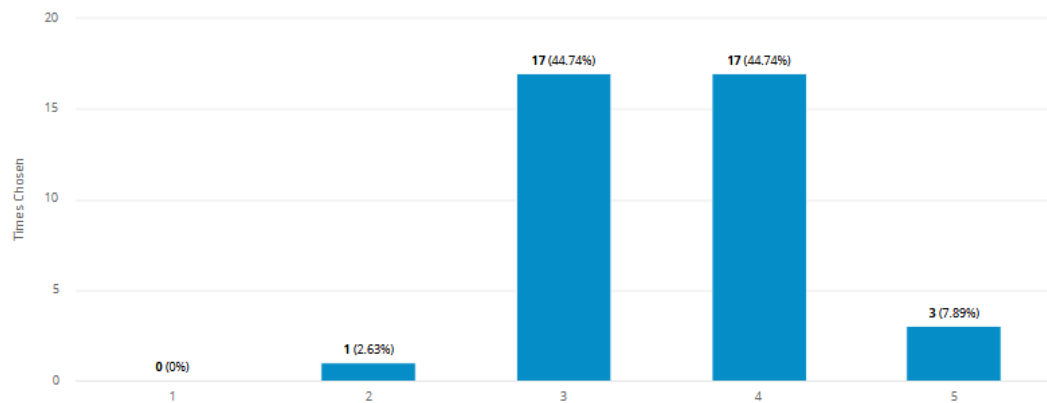
Figure 27: Satisfaction in Finnish e-commerce. (Hamraoui & SurveyHero, 2020)

39 responses on the online grocery question, 30,7% of respondents somewhat agree with the statement of online grocery has a major impact their daily life. However, 23% agree and 15,4 % strongly agree, it shows a positivity on the e-commerce in general based on persona experiences, the population studied showed a good perspective towards the online sector as well as its future in Finland, as customers are regularly ordering again, a minority of the respondents choose not to agree with the statement demonstrating with that a non-satisfaction on the e-commerce or the expectation doesn't meet the offer.

How much do you agree with the following statement? "Online grocery shopping changes my daily life for the better"

Number of responses: 39
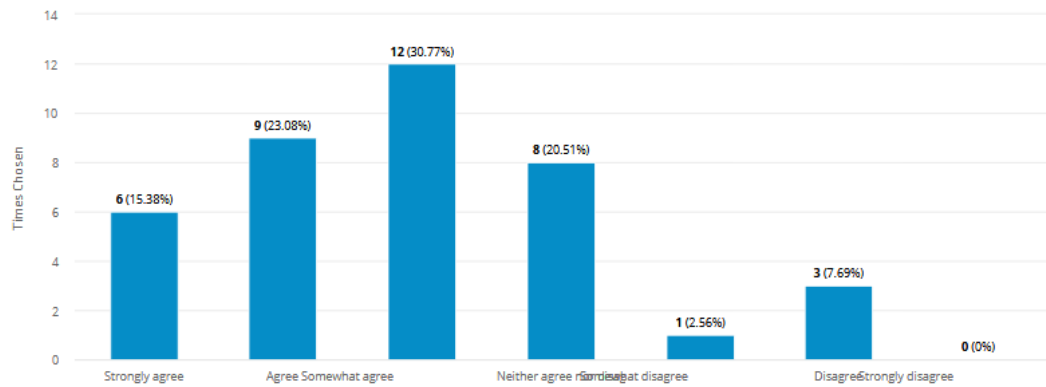
Figure 28: Satisfaction in Finnish e-commerce. (Hamraoui & SurveyHero, 2020)

Finnish customers are regularly checking discounts and special offers while they're navigating through the internet, 34% of them marked sometimes as an answer for checking out the discount while 13% of the population studied is highly searching for discounts on the e-commerce platforms.

How often do you check Finnish e-commerce websites for discounts?

Number of responses: 38
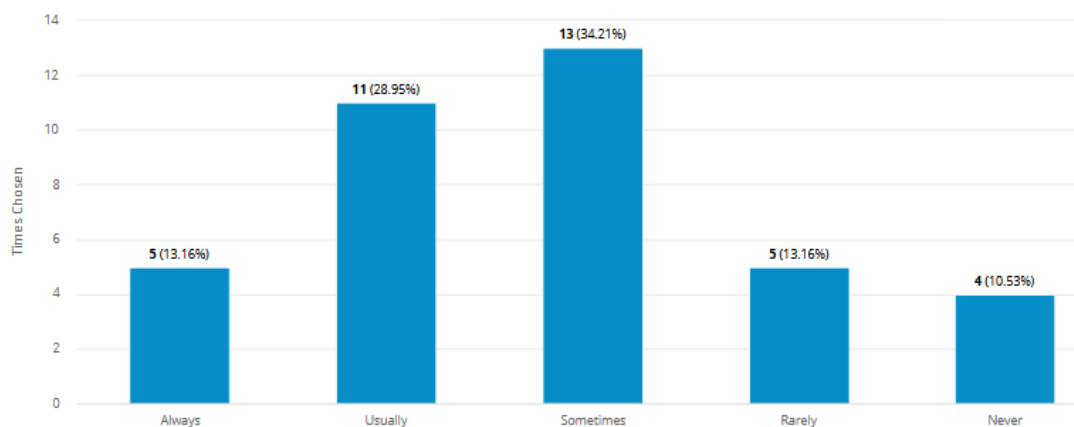
Figure 29 : e-commerce in Finland. (Hamraoui & SurveyHero, 2020)

When it comes to the trigger elements for online grocery shopping, price is a crucial segment shopper look at, it shows that the e-commerce in its generality needs to

compete on term of reliability and flexibility of products and prices. Customers are using the online market in reason of is offering cheaper products that are more expensive on the traditional market. Thus, different parties in the e-commerce should consider this element to attract and reinforce loyalty of online shoppers by special offers and discounts. Fast delivery is an also an element to put into consideration for a successful purchase and as it is the last step before the final user receives its order, product quality is essential but for the population studied, it comes last as for online shopping motivation.
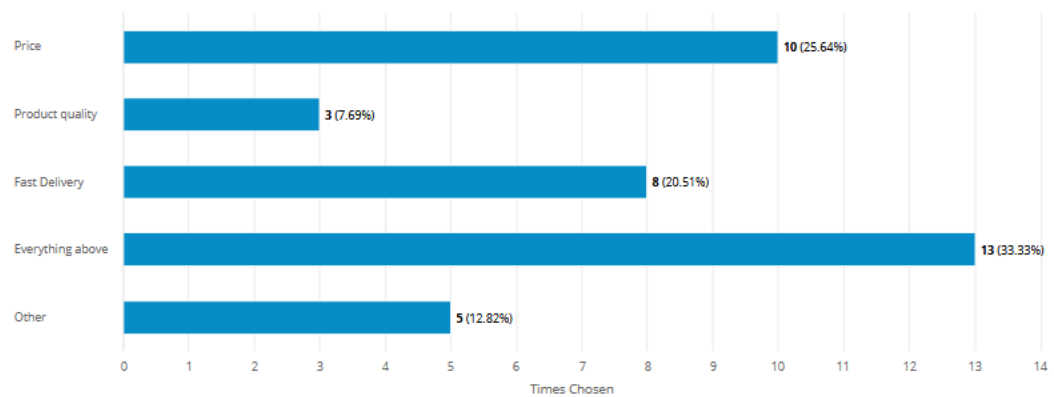
Figure 30 : e-commerce in Finland. (Hamraoui & SurveyHero, 2020)

9.4 Last mile delivery in Finland

The population studied affirmed they rarely assist to a late delivery as their orders mostly arrived on time, 45% are optimistic about their package delivery and view a good delivery within the expected times. However, 37,5% confirmed some delivery delays and only 4% consistently face a late delivery. In general, the delivery process in Finland based on the population sample is stable and doesn't undergo major logistics problems.

How often did you experience late delivery for your packages?
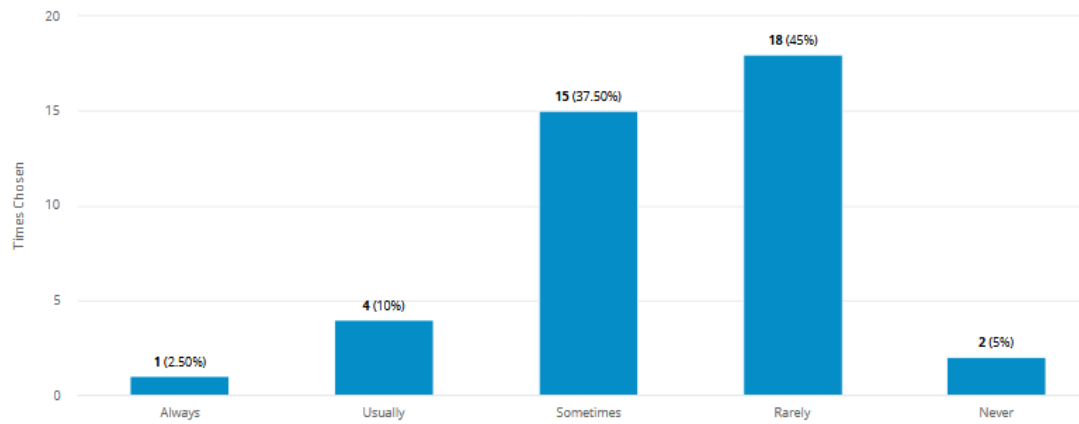
Number of responses: 40

Figure 31: Last mile delivery. (Hamraoui & SurveyHero, 2020)

Delivery option is one of the elements that are chosen by the customer, 38,4% of respondents are choosing delivery boxes as it is known by its low cost and flexibility in delivery process. Next customers selecting home delivery as a best solution for their parcel delivery, as it stays an efficient and faster in most of times., Home access delivery method is on the use as well, almost 18% of the respondents chose this delivery option for their deliveries as it utilizes a controlled access technology for the house so the delivery personal can make an entree and deliver the parcel(s).

What delivery method do you prefer when you purchase online?

Number of responses: 39

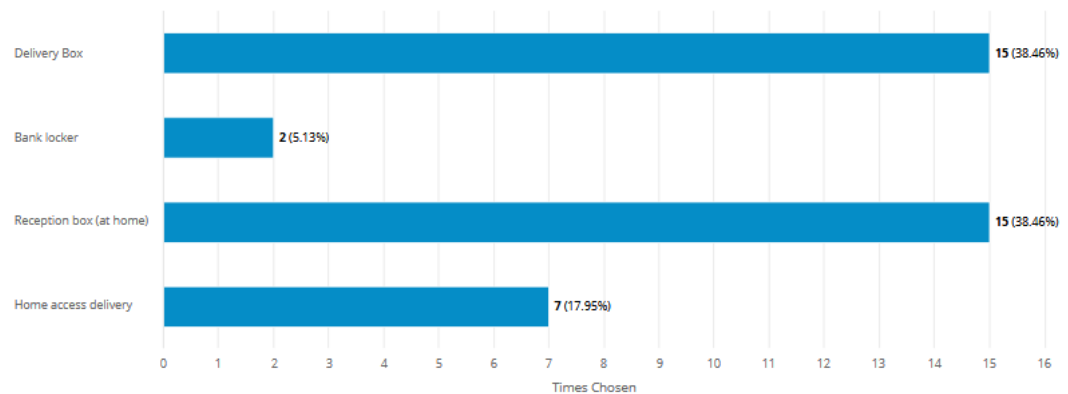| Delivery method	Times Chosen
Delivery Box	15 (38.46%)
Bank locker	2 (5.13%)
Reception box (at home)	15 (38.46%)
Home access delivery	7 (17.95%)

Figure 32: Last mile delivery. (Hamraoui & SurveyHero, 2020)

Several delivery companies are operating in the Finnish market, and the respondents of the online survey confirm their awareness of certain enterprises such as Matkahuolto with 77,5% are using its services. Posti is dominating the chart by 97,5% as most of customers are using this company for their deliveries. International corporations are active on the local market for instance, DHL express and FedEx express, other respondents state Ups as an important contributor in the delivery process as well.

What delivery companies are you familiar with?

Number of responses: 40

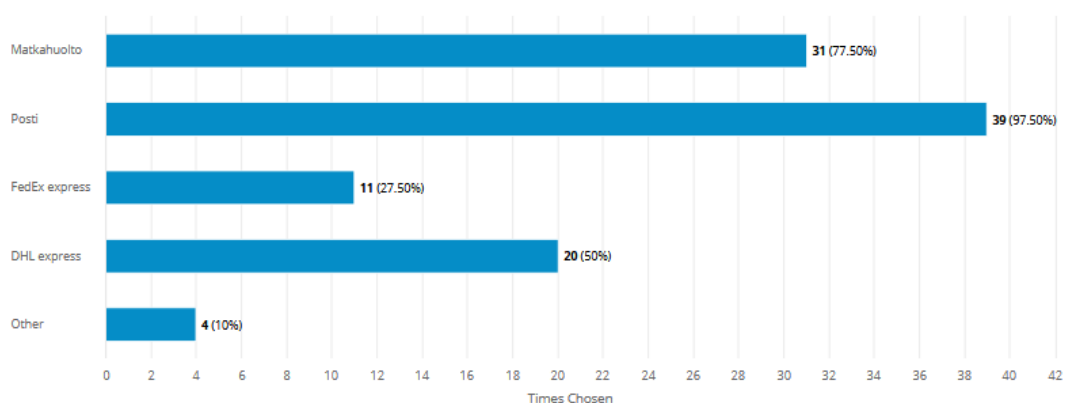| Delivery company	Times Chosen
Matkahuolto	31 (77.50%)
Posti	39 (97.50%)
FedEx express	11 (27.50%)
DHL express	20 (50%)
Other	4 (10%)

Figure 33: Last mile delivery. (Hamraoui & SurveyHero, 2020)

Most of the population studied is not sure whether choosing a delivery subscription to optimize their delivery process or not at all, as it is a plus cost for the customer and companies can benefit from this segment balance their last mile delivery costs.

Would you like to enroll in paid delivery subscription to get products earlier?
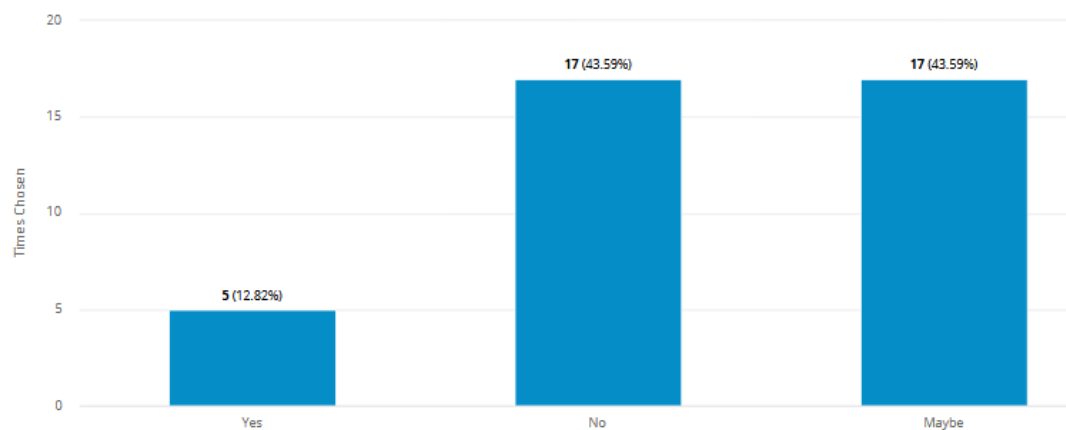Number of responses: 39

Figure 34: Last mile delivery. (Hamraoui & SurveyHero, 2020)

In the end, last question about recommendation for improving the last mile delivery in the online shopping, was an open question to permit the respondents manifesting their opinions about the last mile delivery and how could it be improved. Several answers were persuasive and shows the interest of the population studied to develop the e process of delivery for the better, one of the respondents suggested having delivery activities during the weekend, between Saturday afternoon and Sunday night as several times packages could have reached the destination but it didn't because there is no delivery and also lack of communication in term of tracking packages.

On the other hand, autonomous robotic system was suggested to replace humans as a personal for delivery, as well as including other high technology segments to diversify the logistics supply chain and reinforce its delivery process.

Figure 35: Last mile delivery in Finland. (Hamraoui & SurveyHero, 2020)

10 SUMMARY & CONCLUSION

10.1 Summary

The research is for purpose to find measurable solutions for the last mile delivery in the Business to Customer e-commerce in Finland, the concept is representing a crucial step for the supply chain as it is the last step linking the customer to its online order, and its functioning remotely comes back to different contributors within the supply chain of the e-commerce. Online shopping nowadays is developing rapidly as high technology is highly playing a major role for diversifying the market and add new parties to it, Internet is a lifetime partner as without its online platform could not be established and its durability is linked directly by the future of the worldwide web.

Conducting a questionnaire was crucial to answer questions about the satisfaction of online consumers in the e-commerce in general and in Finland in specific, how it is

developing and who are the actors in the market? Last mile delivery in its part is optimum process for the e-commerce. Thus, improving it is adopting a long-term strategy about the e-commerce and customers. And how the platforms will act accordingly to the customer's intentions, the open market of e-commerce is a positive aspect where potential consumers find variety of products goods and services within the same platforms without taking the traditional market's alternative.

Based on the survey results it is proven that the online customers were positively satisfied of the e-commerce in Finland, the concept of questions asked and the answers demonstrated a lean towards an agreement on the very developed Finnish online platform and how it attracts the customers from various age groups and professions, it is considered as a strong alternative for Finnish customers to purchase their products and goods, and on general base the Finnish customer is very satisfied on how the online platforms of e-commerce are operating in Finland. Thus, a positive feeling means a happy customer and reinforced of its loyalty. Also, gained of potential customers in short-term basis.

Online orders are improving and become easier for the customer to make as it detailed and few steps are made before confirming the order, banking payments methods are accompanying this revolution by offering certain options for simple and safe payments. However, delivery process is to overcome within next years as transportation is developing towards environmentally solutions as well as artificial intelligence is gaining parts of the market with robotic self-guided system.

On the other hand, the survey was an important phase to show these aspects of the problematic and work on evaluating and creating solid recommendation for its developing, the population studied was limited yet still provided meaningful answers to analyze and understand how the online market is operated in Finland.

In general, the e-commerce has lot of potential in Finland, it is described by positive future as many operators are considering a switching towards the virtual market for more profitability and to attract new customer ship on short and long-term basis. The branded supermarkets in Finland are working side by side to develop the platform for

e-marketing and understand deeply the customer behavior, as well as it is important for them to act more sustainable in reason of the Finnish customer leans more to the environment aspect and considers an ecofriendly solution for the online market as it is for the delivery process.

10.2 Conclusion

Following its rapid growth through the development of the Internet and new technologies, e-commerce is considered as a revolution. In addition, the behavior of the consumer has been revolutionized by the practice of the online shopping. The last mile of distribution technologies is changing, the technology is a significant driver for ever shorter delivery times, allowing supply chain processes to be more effective and alternative delivery methods such as drones and robots to be introduced.

Many automotive companies, for instance, have operated on ideas that actively help parcel operators work using cameras-based object tracking and machine learning tools, automated vehicle loading systems, and machine learning. Advanced self-guided vehicles operating with artificial intelligence is to come in near future. The management of parcels in the distribution centers of retailers or logistics companies will be reinforced by autonomous and self-learning applications. Several corporations can be seen functioning with this technology for instance Alibaba and Amazon.

The research displays the importance of the e-commerce as an effective solution for shopping and its productivity comparing to the traditional market, the reliability of its elements and durability in a long-term facing challenges such as pandemics with the covid-19 and delivery process with turning to 3PL logistics operators and committing to the environment by adopting durable solutions for reducing the carbon print.

Delivery methods vary depending on the customer's choice, in the research home delivery and delivery boxes still dominating the delivery process and are fairly chosen by consumers as an efficient solution. However, it is noticeable that home-controlled access delivery is gaining the popularity as major actors are operating within the

market, clients are choosing this technology as the platform is more digitalized and controlled by secure systems that allows a safe experience.

11 RECOMMENDATION

As a result of the quantitative research that was conducted to improve the last mile delivery process in B2C e-commerce in Finland, several thoughts can be displayed to overcome the present and future challenges. Turning to environmentally friendly solutions are more than important in the present as the climate change is impacting the bio ecological system of the planet. Thus, reducing the gas emissions are highly needed for a better future, several partners on the delivery process are already on the race to put their strategies on the market, delivery enterprises adopting electric vehicles for their deliveries and renewable fuel for the existent transportation fleet.

Robotic system which is highly developed in Finland and testing operations are taken at the present, the technology is recommended to overtake the traditional parcel delivery. Thus, encourage the use of it, is crucial for the delivery process to rapidly automate and extend locally and internationally, ground-based robots can be a substitute solution for no contact delivery as problems due to human contact for instance covid-19 pandemic can maintain normal circulating of goods and deliveries to its destinations.

On the other hand, deliveries using controlled access technology can be benefit on the long term as the equipped houses will beneficiate from deliveries and other service without the need of the owners as well as it is a controlled technology by a secure system which only the owners and other permitted individuals can access to the property. Delivery boxes are recommended as well if it can be extended to rural areas without the need to move to certain places as well as remotely opened by the person of use to let other authorized persons collect the packages.

12 FINAL WORDS

The research is for aiming to display an explanatory view on the electronic commerce in its basic side and mark a closer assessment on the e-commerce in Finland and how it is developing with the aid of high technologies and tools that permit the extension of this sector. As well as work on the delivery process issues and provide solutions for its developments.

The research started with providing theoretical meanings on the e-commerce and its types, models and positives aspects on the operations, in the part of e-commerce in Finland statistics were needed to demonstrate the positioning of the market and its development, as well as different contributors within the sector. The research step defined itself by a difficulty into finding the ideal research method but sooner was chosen as an online survey , analyzing the results on the other side claimed by the personal opinion of the author as well as the population studied, the author made conclusion based on the analyses part and recommended several solution that can be benefit for the problematic.

In the end, the research wasn't in the easiest of its ways but accomplished its objectivity and met all goals setup in the project plan. Personally, it has been a practical learning period where all theoretical skills acquired in the campus by the qualified professors were benefit for both the research process and in writing the thesis. Conducting the survey was an important phase of the research which has been an absolute enlighten as for the methods used in the questionnaire and during the analyzes of results.

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B2C e-commerce in Finland, last mile delivery

Welcome to the e-commerce survey about the customer satisfaction of the last mile delivery

Did you carry out an online purchase before?

◯ Yes

◯ No, Why?

◯ [why]

If Yes, from scale 1 to 5 how did feel about it?

⭐ ⭐ ⭐ ⭐ ⭐

What type of products or services did you purchase?

You can select multiple options.

☐ Electronics

☐ Computers & accessories

☐ Smartphones & Tablets

☐ Consoles & video games

☐ Media (Music, videos, DVDs, etc)

☐ Household tools

☐ Cloths & fashion

☐ Art & crafts

☐ [Other]

APPENDIX 2

Are you interested to purchase something in the next months?

○ Yes   ○ No

○ Maybe

Are you:

○ Male

○ Female

○ Gender neutral

○ Rather not say

What is your age group?

○ Under 18

○ 18-24

○ 25-34

○ 35-44

○ 45-54

○ 55-64

○ 65+

Are you?

○ Student

○ Employer

○ Full-time employed

○ Part-time employed

○ Retired

○ Seeking opportunities

○ Other

APPENDIX 3

Where are you located?

○ Satakunta

○ Uusimaa

○ Keski-suomi

○ varsinais-suomi

○ Kanta-Häme

○ Pirkanmaa

○ Päijät-Häme

○ Kymenlaakso

○ South Karelia

○ Etelä-Savo

○ Pohjois-Savo

○ [Other]

What is your preferable device to access the internet?

Type some text...

☐ Smartphone/ Tablet

☐ Desktop/Laptop

☐ Smart TV / Console

☐ Smartwatch

☐ [Other]

Do you check out e-commerce web sites while you are surfing on the internet?

○ Yes | ○ No

APPENDIX 4

How often do you go to branded supermarkets near you? Per week

- ○ 1 time
- ○ 2 times
- ○ 3 times
- ○ Plus 3 times

How can you describe the online market in Finland?

[   ]

Did you try online shopping from Finnish e-commerce websites?

- ○ Yes
- ○ No, Why?
- ○ [Why]

Which e-commerce website did you buy from or you checked before?

You can select multiple options.

- ☐ K-ruoka.fi
- ☐ Prisma.fi
- ☐ Foodie.fi
- ☐ matsmart.fi
- ☐ [Other]

Did you receive your product within the expected timeline?

- ○ Yes
- ○ No

If the answer is No, which one of these problems you can relate to?

You can select multiple options.

☐ Shipping delay

☐ Technical issue in the e-commerce platform

☐ Lost or stolen package

☐ Other

From scale 1 to 5 how much are you satisfied with the service offered on the previous commerce web sites?

★ ★ ★ ★ ★

How much do you agree with the following statement?

"Online grocery shopping changes my daily life for the better"

○ Strongly agree

○ Agree

○ Somewhat agree

○ Neither agree nor disagree

○ Somewhat disagree

○ Disagree

○ Strongly disagree

How often do you check Finnish e-commerce websites for discounts?

○ Always

○ Usually

○ Sometimes

○ Rarely

○ Never

What will motivate you to start shopping groceries online?

You can select multiple options.

○ Price

○ Product quality

○ Fast Delivery

○ Everything above

○ [Other]

How often did you experience late delivery for your packages?

○ Always

○ Usually

○ Sometimes

○ Rarely

○ Never

What delivery method do you prefer when you purchase online?

○ Delivery Box

○ Bank locker

○ Reception box (at home)

○ Home access delivery

○ [Other]

APPENDIX 7

What delivery companies are you familiar with?

You can select multiple options.

☐ Matkahuolto

☐ Posti

☐ FedEx express

☐ DHL express

☐ Other

Would you like to enroll in paid delivery subscription to get products earlier?

○ Yes   ○ No

○ Maybe

In the ends, what can you suggest to overcome the delivery problem when shopping online?