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**TECHNOLOGY CONTRIBUTION IN ELECTRONIC COMMERCE
DEVELOPMENT**

Customer experience of online shopping

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ABSTRACT

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<p>Nowadays, online shopping is no longer an outlandish concept for customers around the world because of its usability and popularity. In conjunction with the assistance of technology, the critical minus point of online shopping earlier is now almost erased. It was unreliable, the authenticity was not high and trouble in payment and returning. Buying online is now becoming more trustworthy, flexible in payment and returning. Coordinating with effective business strategies, executives have made it difficult for shoppers to ignore the temptation of shopping. This has been proven clearly based on figures showing multi-million dollars in revenue from online businesses.</p> <p>The aim of this thesis was to study existing technologies which companies used on the way to becoming almost unbeatable in online sales. What made their sales grow unbelievably for more than two decades? The thesis would work as a handbook which provides theoretical information about existing technology used in electronic commerce. Moreover, the questionnaire in the research part illustrates customer's experiences of online shopping. Thus, the research will show the opportunities or threats toward future electronic commerce.</p> <p>In empirical part, secondary sources were taken from books in the school library. Author has used this provision to access valuable information for better understanding of the digital marketing strategy and the technologies used to create online shopping platforms. The data and information in journals, reports, books and Theseus.fi are also used to describe the growth of electronically vending. In addition, some of the content of this thesis was inspired by teachers during my studies at Centria University of Applied Sciences. In the empirical part, quantitative survey method was used as questionnaires form via Webropol. Questionnaires were sent to the student groups and the data was analyzed appropriately. The main task of the survey was to answer the question: What is customer experience of online shopping? The survey shows that with the support of technology, consumers are increasingly accustomed to online shopping and so the industry is growing significantly. Specifically, the amount of money customers spend each time shopping is 50 euros or more.</p>		

Key words

Customer's experience, E-commerce, Internet advancement, Technology.

CONCEPT DEFINITIONS

AI	Artificial Intelligence
APN	Automated Payment Network
B&M	Brick and Mortar
B2B	Business to Business
B2C	Business to Customer
C2C	Customer to Customer
C2B	Customer to Business
CRM	Customer Relationship Management
EFT	Electronic Fund Transfer
EDI	Electronic Data Interchange
PwC	PricewaterhouseCooper

ABSTRACT
CONCEPT DEFINITIONS
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1 INTRODUCTION

In recent years e-commerce has really grown in an incredible way. This phenomenon has opened up voluminous opportunities for businesses in general and for the salespeople in particular. That intensification is contributed pungently and primarily by the concentrated development of technology, which supports buying and trading easier than ever. Meeting the needs of customers' convenience during technology 4.0 is a critical condition to help e-commerce become one of the main income channels of companies. In addition, voluminous small and medium-sized organizations and companies have been using e-commerce revenues as an official revenue source. Consequently, they are capable of minimizing the costs of premises and infrastructure such as brick and mortar. Thus, profit is considerably increased.

In global businesses, there is no better approach to expand your market share than e-commerce. It breaks down all barriers in trade and promotes global commodity exchange. Thereby increasing the competitiveness between businesses, creating many advantages in price and improving the quality of goods and services for consumers. From the benefits and opportunities mentioned above, a person doing business in addition to his excellent direct selling ability should not ignore the great improvement of applying technology to online sales.

The main objective is to study about electronic trade. The focus is on investigating of technology advancement firms used on the way to becoming almost unbeatable in online sales. The research question is: How is customer's experience when e-commerce supported with variety of modern technology? Clarifying the idea of how technology has contributed to e-commerce development. Analyzing under the vision of a market analyst, a salesman, how to optimize utilizing technology to achieve the highest revenue but still ensuring customer satisfaction simultaneously is the supreme mission for sales and distribution professionals. I have to admit that although there are many e-commerce promotion factors, but the technology does not allow it, the online trade is obviously impossible. According to London & Lucas (2012, 15), using technology really intensification your value. Using too much information at the same time to conquer customers sometimes has the opposite effect. Instead, presenting all the information customers may need to know on a website, blog and trying to create an impression that customers have to access to see in detail is much more professional. On the other hand, marketing strategy replaces interaction function in direct sales to keep customers in touch, ensure the returning of prospects and customers.

This topic especially caught the author's attention because my personal interest is in sales and online sales. The author undertakes a complex study in this thesis as a way to further explore and prepare himself for higher awareness in the online sales industry, where he is highly capable of working there after graduation. In addition, this thesis can also serve as a reading material for those who have similar interests and orientations.

The structure of this thesis contains two main parts which are theoretical part and practical part.

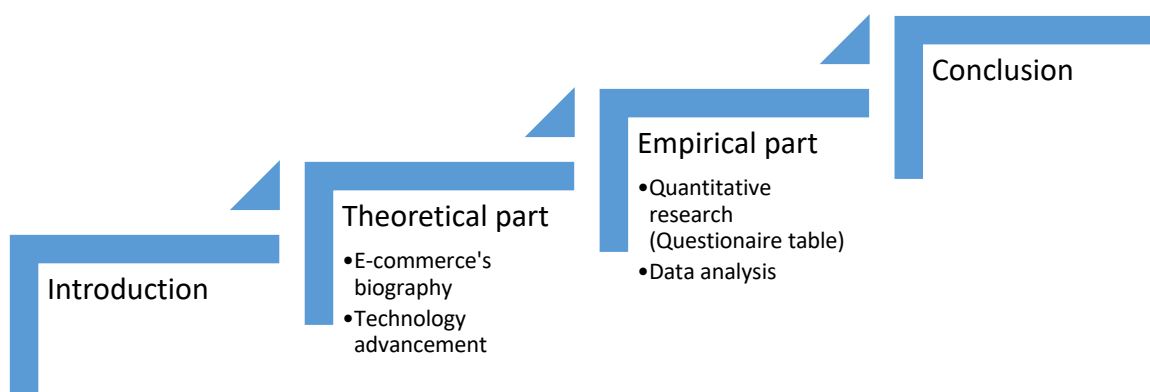


FIGURE 1. Thesis's structure

The theoretical part including e-commerce's background and the technology advancement which is a fundamental factor for e-commerce to thrive. This part is conducted base on the reliable secondary source such as journals, reports, theseus and books. The theoretical part aims to give reader a basic views of e-commerce. The empirical part contains a quantitative research and data analysis appropriately.

2 CONCEPT OF E-COMMERCE

In this chapter, e-commerce definition will be explained to give the reader ordinary knowledge about digital sales. Besides, historical background is also discussed describing the development of e-commerce. Last but not least, segmentations part portrays market share and customer shape.

2.1 Definition of e-commerce

E-commerce or electronic commerce is a plan of action that gives firms and people a chance to lead business over electronic systems, most prominently: the Internet. Electronic trade works in every one of the four of the accompanying real market sections: Business to Business (B2B), Business to Customer (B2C), Customer to Customer (C2C) and Customer to Business (C2B). Internet business, which can be directed over PCs, tablets, or cell phones might be thought of like a modernized form of mail-request list shopping. Almost every comprehensible item and administration are accessible through web-based business exchanges, including books, music, plane tickets, and money related administrations, for example, stock contributing and web-based banking. Online business has helped organizations set up a more extensive market nearness by giving less expensive and progressively proficient circulation channels for their items or administrations. For instance, the mass retailer Target has enhanced its physical nearness with an online store that gives clients a chance to buy everything from garments to espresso creators to toothpaste to activity figures. (Bloomethal 2019.)

2.2 Historical background

Web-based shopping was imagined and spearheaded in 1979 by Michael Aldrich in the United Kingdom. He associated a changed local TV by means of a phone line to a constant multi-client exchange handling PC. The framework was promoted starting in 1980 and offered chiefly business-to-business frameworks that were sold in the UK, Ireland, and Spain. One of the most punctual customer shopping encounters was Book Stacks Unlimited, an online book shop made by Charles M. Stack in 1992. Stack's store started as a dial-up release board two years before Amazon was established by Jeff Bezos. In 1994, Book Stacks Unlimited moved to the Internet at Books.com and was at the end gained by Barnes and Noble. (Miva 2011.)

The table below defines the timeline of E-commerce.

TABLE 1. E-commerce timeline (adapted from MIVA 2011).

Year	Major E-commerce event
1969	The first major ecommerce company. CompuServe, is founded.
1979	Michael Aldrich invents electronic shopping.
1982	Boston Computer Exchange launches as one of the first ecommerce platforms.
1992	Book Stacks Unlimited launches as one of the first online marketplaces for books.
1994	Netscape Navigator, an early web browser, making it easier for users to browse online.
1995	Amazon and eBay launch.
1998	Paypal launches as an online payment system.
1999	Alibaba.com launches.
2000	Google launches AdWords as an online search advertising tool.
2005	Amazon launches Amazon Prime with expedited, flat-fee shipping for members.
2005	Esty, an online marketplace for handmade and vintage goods launches.
2009	BigCommerce launches as an online storefront platform.
2009	Square, Inc. is founded.
2011	Google Wallet launches as an online payment system.
2011	Facebook launches sponsored stories as a form of early advertising.
2011	Stripe launches.
2014	Apple Pay launches as a form of mobile payment.
2014	Jet.com launches.
2017	Instagram shoppable posts are introduced.
2017	Cyber Monday sales exceed \$6.5B

There are many milestone in the e-commerce history until now but 1979 is a highlight. E-commerce first major company founded in 1969. At that time the system was still simple with very little interaction and communities. Until 1979, Micheal Aldrich invented Electronic shopping, the real E-commerce begun to develop. Even so, during this time number of people accessed to the internet still limited and the whole system, alone, utilized for entrepreneurs who applied up to dated technology in trading. (MIVA 2011.)

2.3 Segmentations

Companies realized that appealing to all customers are an impossible missions because they cannot treat all customer the same way. The number of customer and prospect are gigantic. Moreover, their needs and buying practices also variety which makes serving them the same way is not an appropriate idea. Consequently, companies have ignored the mass marketing but focus on target marketing.(Kotler, Armstrong, Wong & Saunders 2008, 410.) Target marketing developed base on segmentations which means that customer should be divided into categories. The division of online shoppers into various classes can add to a superior comprehension and portrayal of buying conduct in the electronic business advertise. Web-based shopping databases comprise of various sorts of information on the client obtaining action and statistic qualities, just as utilization traits, for example, Internet use and fulfillment with administrations. Data about clients revealed by division empowers organization managers to build up great client relations and refine their promoting systems to coordinate client desires.(Wu & Chou 2011, 331-341).

As mentioned above there are four main segmentations in digital selling. They are B2B, B2C, C2C, C2B. B2B is a segmentation which participants in e-commerce activities are often large enterprises or companies. Understandably, buyers and sellers in this model are all businesses. B2C is a segmentation which parties in e-commerce activities include sellers who are businesses and buyers who are consumers or customers. C2C include components participating in e-commerce activities include individuals, which mean buyers and sellers are individual business individuals. C2B is the segmentation that customer contribute to business. However, those are ordinary method to divide customer into groups. Because of its simplicity and generality, it is hard to figure out strategies in developing customer satisfaction. In order to promote the productivity, the detail in segmentation should be boosted. In another word, segmentation process should be more specific. Normally, there are four ways of customer segmentation bring the best performance. Demographics includes age, gender, income and education. Psychographic includes lifestyle, choice and personal portrait. Behavioral data includes spending habits. Profitability potential to improve budget allocation. In detail, there are load of data driving the market. (Bell 2016.)

Demographics relate to population structure, including factors such as age, race, gender and income. Demographics are used in many different areas, from education, government, and business to issues related to political development and economic research. From the most basic levels, you will still need to know the demographics of customers and customer groups with demographic characteristics that will be best for business, especially when you are increasing budget for advertising. Demographics and psychology are all related to the personality traits of the target customer or market. (Kingsnorth 2016.)

The impediment of this sort of division is that there is a huge supposition that individuals with comparable qualities will carry on likewise, which is a long way from reality. In an event that somebody is a French, 45 years of age assembly line laborer who has a poor education will they carry on a similar performance as the entirety of their partners in the workshop who are of generally a similar age? No. They will have various interests, leisure activities and significantly more. To comprehend this in more detail we have to comprehend behavioral segmentation. (Kingsnorth 2016.)

Segmenting customers from their shopping behaviors is mainly based on determining the criteria they use to choose a specific product or service. Unlike simple information about the age or gender of a customer, customer segmentation from behavior requires a large investment of time to understand the key factors that influence their purchasing decision. Fortunately, it is easier to understand customer behavior in this big data globe, principally individuals in digital atmosphere (Kingsnorth 2016). Some examples of factors like how often customers use a product or service, the purchase of material to serve a specific event or occasion, what the buyer hopes or expects to receive from shopping, loyalty to a brand.

Social network statistics allow you to identify trends in interests and attitudes. Emotional data is the premise to delve deeper into the attitude of customers in terms of psychology. Keeping track of social networks is a good idea because natural conversations that are not affected by online advertising help you detect problems from customers or popular psychological phenomena.

Since clients are not all stand up to regard their commitment to the primary concern, not every one of need to be a priority. Clients that whine until they get the most reduced cost and who require a ton of hand-holding or client administration backing may really be unfruitful. You can section your clients into classifications and offer them various items, valuing and administration levels dependent on various variables. Components incorporate your clients' present productivity, the potential increment in benefits and in general significance. The majority of this establishes benefit division. (Ripsam & Bouquet 2016.)

3 TECHNOLOGICAL ADVANCEMENT SUPPORT E-COMMERCE'S DEVELOPMENT

This chapter contains two main part including current market situation and existing technology. The first section describes market conditions in which e-commerce has a competitive advantage over traditional sales methods. The second part discusses some of the most prominent technologies that have a major impact on the online business including artificial intelligence, electronic data interchange, electronic fund transfer and social media.

3.1 Current market situation

The effect that technically knowledgeable clients are having on the internet business world is not only more grounded than any time in recent memory, but it is also quicker than at any other time. Gone are the days when clients would wander the internet attempting to decide whether an online request merited the hazard. Rather, innovation today is helping clients monitor their buys, and changing the manners by which those purchasers cooperate with online retailers. These patterns, thusly, are influencing the master plan. As innovation changes business-to-customer exchanges, new open doors for the two sides of the circle are rising. Shoppers presently approach a scope of devices that help them check costs, discover choices, find stores and get coupons. Retailers are seeing advantages too, as innovation causes them to make more grounded associations with shoppers and manufacture their brands quicker. (Agrawal 2017.)

The most recent decade was the greatest in the historical backdrop of the online business industry. In addition to the fact that we saw elevated purchaser intrigue and support - the business likewise recorded gigantic marketing projections. As indicated by Clark (2019), China pulled in nearly \$900 billion from web-based business retail facades in 2016, with the U.S. gaining more than \$423 billion in deals income. By and large, the web-based business world got roughly \$1.915 trillion out of 2016. Innovation is proliferating this monstrous tide of favorable circumstances. A long way from the days when it was only the establishment of internet business, innovation today is transforming the business into what may be the apex of current retailing. Be that as it may, how precisely is innovation affecting the web-based business scene?(Pando 2018.) However, all of those data only allowed by the permission of modern technological advancement.

In fact, the amount of technical support to online commerce is not countable so in this thesis, only a few examples of technology are selected. Hopefully these examples will characterize more detailed technologies deep within it. From there, bring an audience with an overview of the initiative in trading today.

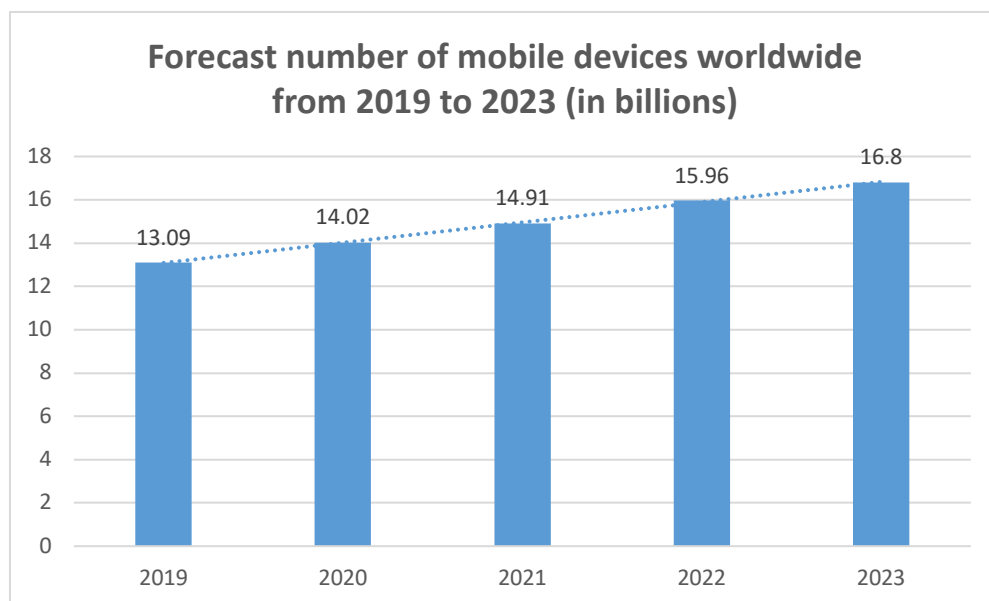


FIGURE 2. Forecast number of mobile devices worldwide from 2019 to 2023 (adapted from Holst 2019)

According to Holst (2019) the number of mobile device user around the world is increasingly develop (FIGURE 1). This development is stable and tends to increase rapidly. This is a signal of e-commerce extending opportunities due to the effect of technologies. In this chapter, several outstanding technologies will be discussed.

3.2 Existing technology

In this chapter, emerging technologies that play a key role in the online industry will be briefly introduced. The content of each passing technology will include concepts, models and classification if possible. The technologies included in this chapter are technologies that the author considers to be outstanding and desirable, including electronic money transfer technology, information exchange technology, artificial intelligence, and social networks.

3.2.1 Electronic data interchange interaction protocol

In the general exchange process, conventional exchanges are frequently examined, signed contracts and helped out by partners through phone, fax or letter. The applicable business reports must be made and conveyed by hand. Various records with a similar message ought to be prepared on numerous occasions in an exchange procedure that frequently includes banking, traditions, merchandise investigation and transportation. Along these lines, such exchanges frequently bring about abundance work and additional spending and the chance to commit uneven errors, and any deferrals or loss of messages regularly cause startling misfortunes on the two sides. (Zheng, Li, Han, Dong, Yan & Qin 2009, 88.)

Since the development of technology, people have begun to learn how to exchange manual paperwork to minimize errors in their work. In addition, it reduced labor and costs. In other words, this change is both faster, more accurate and much cheaper than traditional paper exchange.

EDI (Electronic Data Interchange) is an innovative way to rearrange customary business exchanges by mimicking the development of business solicitations and records. It is anything but another innovation. Indeed, it tends to be followed back to the 1970s when it was utilized to trade inward information inside a business and after that to give business information between organizations. Because of various zones and its motivation, it is hard to recognize the EDI in a predictable manner. (Zheng et al. 2009, 88.)

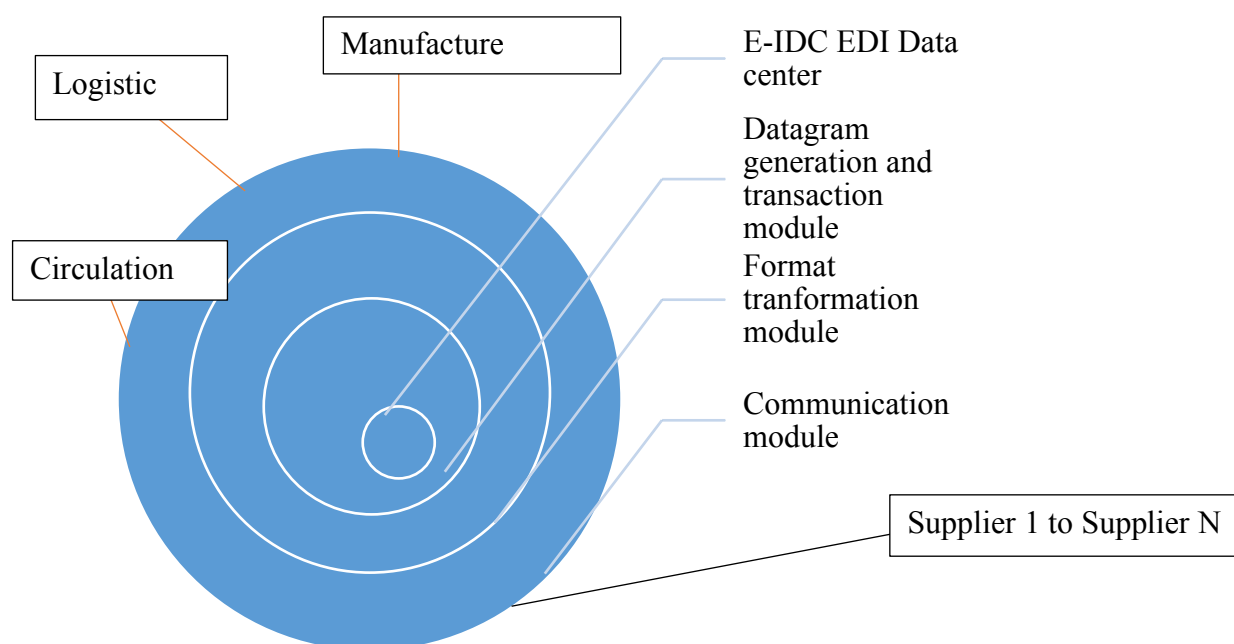


FIGURE 3. EDI framework (adapted from Zheng et al. 2009, 90)

EDI's center substance is commercial data and archives, for example, requests, solicitations, and guidance on expenses, installment endorsements, calendars and confirmation of conveyance (FIGURE 3). Since EDI is by and large progressively utilized in business, an ever-increasing number of business reports are made by PC programs. In this manner, EDI has turned into the trading of data between PC programs. Since EDI-upheld e-installment and move, frameworks are all the more broadly utilized, the utilization of checks and different installments will be significantly dismissed. EDI enormously streamlines the preparing of paper records, this is an approach to spare paper. Also, it is causing changes in the task of banks. Moving capital through organized banks will be an irreversible pattern later on. (Zheng et al. 2009, 89.) A graph of the EDI system is outlined in (FIGURE 2).

According to Shahzad (2012), EDI is a settled and viable technology with regards to decreasing mistakes and expanding effectiveness. EDI innovation is nearly a similar age as the Internet may be. As these two advancements are combining and the business network is feeling the benefit of this union, EDI and the Internet will wind up omnipresent later on. EDI clients are now observing emotional cost investment funds by moving their traffic from customary Value Added Network (VAN) administrations to the Internet. As EDI working gathering inside the web designing team make interoperability principles for the utilization of EDI over the web, and as security issues are tended to, EDI over the web will turn out to be a piece of ordinary business. The EDI working gathering as of now has a contract for an interoperability standard for procedure to-process EDI. When that standard is set up, constant EDI over the Internet will supplant ordinary time-postponed, bunch style collaborations. (Shahzad 2012.)

3.2.2 Electronic fund transfer

Electronic fund transfer (EFT) alludes to an electronic monetary exchange. Under the US Electronic Funds Transfer Act, EFT is a non-paper money related exchange made through a PC or other electronic terminal, gave to a charged budgetary establishment or on the other hand credit to the record. In addition, EFT can likewise be known as an exchange. (Wilkinson 2013.)

Exchanges are handled by the bank by means of the Automated Payment Network (ACH), a safe cash move framework that associates all budgetary establishments. For installments, cash is moved electronically from a financial balance to the installment organization's bank, generally not exactly a multi-day after the booked installment date. ACH system goes about as a clump handling framework. Budgetary

foundations amass ACH exchanges for the duration of the day, which are prepared through cluster handling later. The ACH system handles 24 billion EFT for every year, representing in excess of 41 trillion dollars moved. The ACH Association is one of the biggest and most confided in installment frameworks on the planet, as indicated by the affiliation. (Rouse 2019.)

EFT payments are generally quicker and offer more security than checks, wires or Visas. EFT payments are additionally progressively advantageous for customers and providers or clients. The installment is taken straightforwardly from the payer's financial balance and saved into the beneficiary's ledger, which implies that no printing or marking is required, making an outing to the bank or pay charge card charges later. They are an extraordinary choice for organizations that need to pay rapidly to another association, have numerous common bills or will in general exchange with a similar supplier and normal clients. For instance, gathering rent, participation charges and paying for standard shipments from a similar provider are substantially more streamlined with EFT installments. Also, since installment is taken straightforwardly from the financial balance on the concurred date, customers can see all the more obviously and control, the date customers get the installment and the sum will be considered. (Ryan 2018.)

To begin EFT Payment, customers have to get authorization and ledger data from the provider or client need to be sent or gathered. On the off chance that customers are utilizing their bank, they should have their client or provider round out a structure enumerating their contact data and record, they should return it to provider. Utilizing this data, salespeople can set up EFT installments through their web-based financial framework. Utilizing an online installment supplier like Plooto, customer just need to email their provider or client with installment subtleties paid value and charge date, and they can enter. Believe their record legitimately from the email, the client has given the fundamental data, the installment will be charged from the payer's record on the concurred date and kept into the beneficiary's record. On the provider, it might take 1-5 business days for the exchange to show up in the bank of the payee. (Ryan 2018.)

3.2.3 Artificial Intelligence

Artificial intelligent (AI) is a zone of software engineering committed the creation by a machine that identified with work and reacts like human insight. These procedures incorporate getting the hang of, arranging, and critical thinking. The significant objective of computerized reasoning is to make master

frameworks the structures which demonstrate the lead, learning, delineate, explain, and counsel its customers. The subsequent objective is to execute human knowledge in machines that are making structures about appreciate, thinking, learning and react like human's activity. These days, AI has turned into a vital piece of the innovation business. (Aws Amazon 2018; Best Tech Guru 2016.) In the future, with the strong growing potential AI will extend to many divisions in doing business. Electronic commerce is just a typical example.

Mechanical AI incorporates. Narrow man-made brainpower and general artificial consciousness. Tight AI is insightful frameworks what individuals can see around in PCs. It centers around taking care of one issue that has been learned and educated to deal with some particular assignments without being customized clearly how to do. This sort of machine knowledge is clear in the vision-affirmation systems on self-driving vehicles, in the voice acknowledgment of Siri virtual capacity on the iPhone Apple, moreover, in the proposal engines, the suggest things clients may rely upon what they acquired beforehand. There are endless applications for tight AI, for example, responding to fundamental customer advantage request, planning with other sharp systems to do endeavors like booking a cabin at an fitting time and zone, helping radiologists to spot potential tumors in X-beams, hailing uncivilized substance online, recognizing mileage in lifts from data aggregated by the Internet of Things, the once-over proceeds interminably. (Heath 2018.)

As demonstrated by PricewaterhouseCoopers (PwC), AI will contribute more than 15 trillion dollars to the overall economy constantly 2030. Along these lines, the associations can get tremendous focal points from put assets into artificial intelligence. In 2017, as per the report of the MIT Sloan Management, AI worldwide official research and study undertaking found that more than 80 percent of authorities believe that computerized reasoning will make persuading and redid customer experiences anyway most importantly, envision business results to drive progressively noticeable profit. There are some features handy uses of AI that can lead the business to the method for advancement and accomplishment. (Dbrain 2018.)

AI has been created and executed in various zones, particularly in internet business. The advancement of AI has dazzled everyone to get more regard for vendor online business. Amazon.com, one of the greatest global online retailers, that transformed into a featured case of e-commerce. In spite of the fact that the term 'artificial' may infer something pessimistic or dehumanized, AI enables organizations to give an increasingly customized involvement to their clients. AI makes it workable for internet business

retailers to dissect a large number of connections consistently and at last objective ideas down to a solitary client – an encounter each advertiser longs providing. (Asling 2016.)

3.2.4 Social Media

Social media is a very special part of electronic commerce. The impact of social media on internet business has turned out to be increasingly significant. In the event that one offers data in social media, at that point it could be perused by numerous individuals, in this manner prompting the many-to-many spread of data. As per the buy goal research report in 2008, 70% of shoppers visit social media sites, for example, message sheets, person to person communication destinations, and sites to get data on an organization, brand or item. Further, about half (49%) of these customers settled on a buy choice dependent on the data they assembled from social media locales. Regardless of its developing advantages, in any case, there are as of now few examinations via web-based networking media and how it influences web-based business. Item interfaces in internet business sites are difficult to be spread in light of the fact that there are insufficient communications between clients. Consequently, most online business shopping centers have given other clients' surveys of items to enable potential clients to pick the items they are searching for. Yet, this sort of audits must be found in online business shopping centers, and there are as yet insufficient associations between clients since this did not depend on social connections. Incorporating social media with internet business might be a conceivable arrangement. (Kwahk & Ge 2012, 1814.)

Pretty much every significant business association has a social nearness today. Both existing and rising organizations are currently forcefully utilizing person to person communication destinations to advance their items, administrations, moreover, increase significant input from their clients. Indeed, for organizations, collaboration by means of an interpersonal organization has nearly turned into a true standard for surveying their client administration. It has now turned out to be regular to see little or locally established organizations that work exclusively through their Facebook accounts. (Manohar Singh & Singh 2018, 22.)

Then again, when the utilization of interpersonal organizations is total (spending more days in a specific timeframe) can create a constructive purchasing conduct, in light of the fact that while investing more energy in this sort of sites, shoppers accumulated data esteem, more than if they had less time to spend there. Thus, when there is content via web-based networking media arranges that gives data, this will

expand the instructive worth that is likewise connected with the expansion of procurement action. Individuals are likewise presented to items or benefits that others share on interpersonal organizations sites, since they are presented to a lot of data, and they channel the ones they think about applicable to them. Having a companion discussing an item is considerably more significant than having a brand discussing its very own item or administration. (Pires 2018.)

4 TECHNOLOGY IMPACT

In this chapter, the impact of technology will be described both on customer and trader's perspective. The advantage and disadvantages of each perspective will be explained in detail.

4.1 Technology impacts trader

Changes in technology directly affect both consumers and distributors, but its impact on sales is remarkable. Current merchants carry on in no way like their forerunners. They have new devices, new procedures, and new assets available to them and obviously, they face new difficulties (Frost 2017). Therefore, the advantages and disadvantages will be discussed in this chapter.

4.1.1 Advantages

The first advantage of technologies on customer is that it allows sale people to find, connect and qualify prospect around the world. Indeed, nowadays sales reps do not have to take prospects to the fairway or a nice meal to frame a relationship. Internet-based life makes it simple to discover, qualify, and associate with purchasers whether they are in the following town over or over the world. Successful social venders fabricate trust and compatibility with their prospects before a business discussion ever starts. These reps have a momentary advantage over non-social venders since they have officially settled themselves as believed counselors when purchasers choose they are keen on that arrangement type. That implies current venders can hop promptly into giving suggestions and demonstrating their prospects the estimation of their item. (Frost 2017.)

Secondly, according to Cook (2017), the second advantage of applying technology in e-commerce is processing data-backed sales. In the past, salesmen were in a consistent challenge. Salespeople, for the most part, worked alone and selling systems shifted relying upon the rep. There was no substantial route for supervisors to evaluate which deals methodologies worked best. Presently with CRM stages and other following innovations, organizations can streamline the business procedure. Project leads can examine information to see which sales reps are performing and why they are fruitful. Investigation and information social event have abbreviated the business cycle. Prospects are progressively educated, and

if deals reps can act rapidly, they can change over leads quicker. Innovation has likewise made it simpler to bind together deals groups. CRM frameworks streamline the business procedure and enable groups to share information, prompting a more grounded group and thusly expanded deals. (Cook 2017.)

Thirdly, technical support allows trader to sell wherever they go. Presently that sales reps can achieve key selling undertakings on their smartphones, everything happens all the more rapidly. Envision a rep who meets a prospect at a gathering. Twenty years prior, she would have gotten his business card, flown home from the gathering, and sent him a handout when she returned to the workplace. These days, that rep can associate with her prospect on LinkedIn a negligible 30 seconds after they have met. She can send him assets by means of email that night and consider to organize the following day. It is conceivable her prospect will be most of the way to the nearby before her flight has taken off. (Frost 2017.)

Last but not least, technology advancement boost the productivity better than ever. The present culture is quick paced and we are always progressing, particularly in the event that you are a business proficient. Having arrangements that are versatile cordial as well as responsive and vigorous enough to evade separates from your PC to your telephone is as basic as ever. With the present innovation, deals delegates can make item arrangements and send over a statement to a client legitimately from their cell phone. Profitability does not need to stop once you leave the workplace or shut down your PC, consistently keep your business procedure in movement with portable bolstered stages that empower you to react rapidly and remain in front of your opposition. (Cruda 2019.)

4.1.2 Disadvantages

Although technology offers many benefits for business people. At the same time it also brings unexpected troubles. This section discusses some of the things that using technology in business can be. Thereby, business people can consider using them more reasonably and safely.

First of all, the security issue when using technology. In life, privacy is essential. In business, it is even more a matter of concern. Online devices is a two-way road, giving individuals access to the outside world, yet in addition, permitting outcasts into the spot of business. Messages routinely contain malware that can taint PC frameworks. Individual gadgets, for example, USB drives may get tainted with an infection at a representative's home and after that connected to an office machine, moving the infection to your frameworks. Significant documents can be stolen, as happened to Sony when touchy interior

messages were uncovered to the world, or Equifax, which had the private data of a great many individuals stolen through electronic snooping. Awful entertainers can present ransomware that stops up a framework, promising to open it simply after the installment of a considerable expense. Maybe the eeriest kind of interruptions is PC infections that assume remote responsibility for your tasks. Malware has been known to crash electric utilities, meddle with medical clinics and police headquarters and even assume responsibility for PC worked, self-driving autos. (Sarokin 2019.)

Secondly, cost is likely the main weakness identified with innovation and business. For instance, starting in 2010, a solitary PC or programming system may cost a few hundred dollars. That, however, organizations cannot simply purchase their innovation once and be done they have to refresh the innovation continually so as to remain side by side of mechanical models and upgrades. Moreover, having technology implies that an organization needs to pay technology experts to help with and screen that innovation. (Thibodeaux 2019.)

Lastly, phones, email, messaging, and social media have generally supplanted direct correspondences. One short gathering or discussion can dispense with different instant messages, telephone calls or messages. The capacity to pick the general population you connect with, as on Facebook or Twitter, isn't an alternative in the work environment, in the case of managing individual specialists or with customers. Relational correspondences, basic to building business connections, are progressively confounded and require civilities and listening aptitudes a bit much in social media. A lot of dependence on electronic techniques for correspondence not exclusively can expand pointless traffic yet can diminish imperative individual association. (Nestor-Harper 2019.)

4.2 Technology impacts customer

Not only salespeople but also buyers are affected by technology. In other words, it almost changes consumer shopping habits on the internet platform. While the advantages of technology motivate buyers, its limitations on consumers also make them hesitant. In this aspect, technology affects customer on many ways, both advantage and disadvantage. In this section, the typical advantages and disadvantages of technology affecting customers will be clarified.

4.2.1 Advantages

First of all, convenience is the greatest advantage. Where client serenely shop at 12 PM while in night-wear. There are no lines to hold up in or clerks to track down buys, and the client can do their shopping in minutes. Online shops offer individuals the chance to shop all day, every day, and furthermore remunerate a 'no contamination' shopping background. There is no better spot to purchase instructive items like digital books, which are accessible right away when the installment experiences. Downloadable things obtained online to dispose of the requirement for any sort of physical material whatsoever, too, which helps the earth (Jain 2018.) Comparing and learn about items and their costs is so a lot simpler on the web. On the off chance that one looking for machines, for instance, it can discover buyer surveys and item examinations for every one of the alternatives available, with connections to the best costs. Individuals can inquire about the firsthand experience, appraisals, and audits for most items and retailers. (Jain 2018.)

Secondly, there are many choices online. Any brand or item should be found. Millions result would be found within a second. The latest international trends will be followed without spending money on air-fare. Customer able to purchase from retailers in different parts of the state, nation, or even world as opposed to being constrained to their own topography. A far more noteworthy choice of hues and sizes than the customer will discover locally are available to them. In addition, the stock is significantly more abundant, so the buyer will generally have the option to locate the size and shading. Some online shops even acknowledge orders for out-of-stock things and ship when they come in. (Jain 2018.) Rack space in a brick-and-mortar store is constrained, which implies that an assortment of products is restricted. Not so with an online store, the decisions are overwhelmingly plentiful. On the off chance that a client does not perceive what they need at one store on the web, they can proceed onward to the following one. As a buyer, they have the ability to do that. (Collins 2019.)

Last but not least, purchasing online usually cheaper than buying at B&M store because of several reasons. To draw in clients to shop on the web, e-rears and advertisers offer discounts to the clients. In addition, promotion continuously released. Because of the end of upkeep, land cost, the retailers can sell the items with appealing limits through on the web. Sometimes, huge internet shopping destinations offer store examination. (Jain 2018.)

4.2.2 Disadvantages

Usability is the prime reason that drives the achievement of an internet business. Despite the fact that the web gives a snappy and simple approach to buy an item, a few people want to utilize this innovation just in a constrained manner. They view the web as a method for social affair more data about an item before getting it in a shop. A few people likewise dread that they may get dependent on the internet shopping.

According to Jain (2018), the first disadvantage is the concern that most of people who shop online at the first time pay attention. Except if customer personally acquainted with a brand or item, purchasing on the web requires an act of pure trust. One that does not generally end in support. Sizes are frequently loose. One can't decide surface, texture, fit, cut, quality, heave, or solidness just by taking a gander at a photograph. Items that looked extraordinary may feel shoddy, ungainly, or modest when client grasp them.

Secondly, the time delay makes customer feel annoy while shopping online. There is consistently a period delay in accepting your buy while you hang tight for it to be conveyed. Get it in a B&M store and you can take it home with you straight away. (Goodman 2019.) Long span and absence of appropriate goods administration result in deferrals in shipment. Despite the fact that the span of choosing, purchasing and paying for an online item may not take over 15 minutes. The conveyance of the item to the client's doorstep takes around 1 to 3 weeks. (Kotamjaru 2019.)

Lastly, the client cannot evaluate the item ahead of time when they purchase on the web. Neither would they be able to contact an item, or see it close up with their own eyes. This can be a significant hindrance with regards to particular kinds of items, for instance, attire. (Goodman 2019.)

5 CONDUCTING EMPIRICAL RESEARCH

In the research section, there are two smaller parts which are the description of the method to be used and the implementation plan and the results analysis. The aim of this research is to clarify the need and opportunity of e-commerce in the future. Specifically, the research will answer the question: How does a customer feel about shopping online? A questionnaire is prepared and sent via multiple channels to collect results. Even so, the respondents who answered the questionnaires are students who are still in school and those who have graduated and are working. The reason the author targets these people because they are young, have knowledge of technology, have close contact with new types. In addition, they are relatively busy people, so the need for convenience and services is remarkable. Questionnaires are sent through many channels, not only through universities in both Finland and Vietnam but also to popularize on social networks and the passing of author relations to ensure richness in information. Respondents questionnaires are not only international students or young people in Finland but also students from other countries. Since then, the results of the survey can show global trends.

5.1 Research method and plan to process

The method used in this empirical research called ‘Quantitative research’. According to DeFranzo (2011), quantitative research is utilized to evaluate the issue by method for producing numerical information or information that can be changed into usable measurements. It is utilized to measure frames of mind, suppositions, practices, and other characterized factors – and sum up results from a bigger example populace. Quantitative research utilizes quantifiable information to detail realities and reveals designs in research. Quantitative information accumulation strategies are considerably more organized than Qualitative information gathering techniques. Quantitative information accumulation strategies incorporate different types of studies such as online reviews, paper studies, versatile overviews, and booth studies, eye to eye interviews, phone interviews, longitudinal examinations, site interceptors, online surveys, and deliberate perceptions. (DeFranzo 2011.)

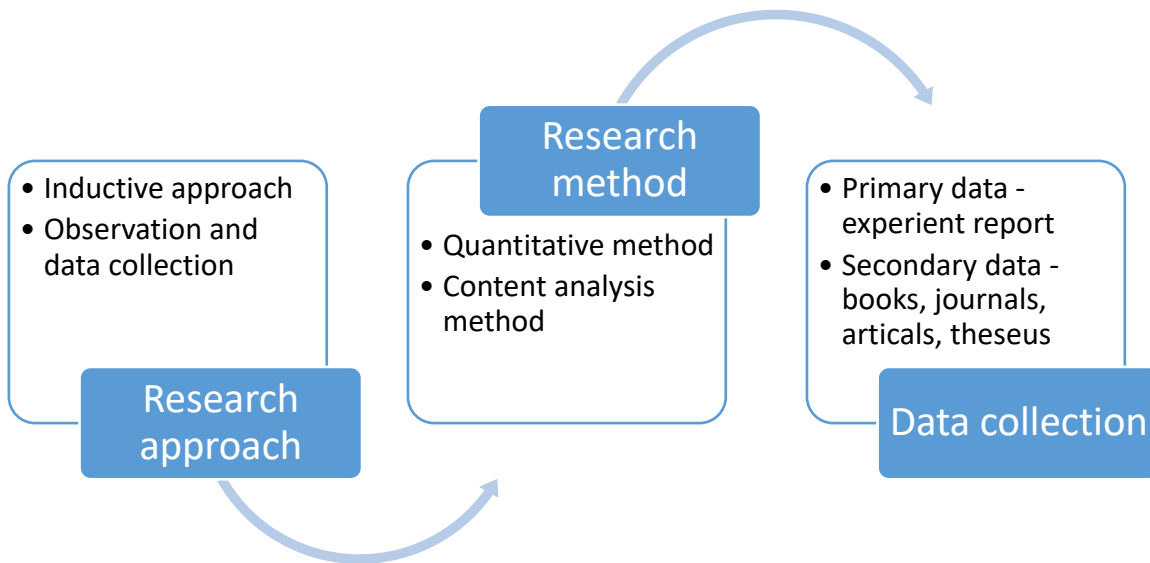


FIGURE 4. Research method

The survey took four days from 22 July 2019 to 26 July 2019 to collect responses from respondents. It is emailed by school account to two groups of business students including NBMS16K and NBMK17K. In addition, the author has received the help of international students from Australia, the United States and the Netherlands by spreading the survey question link to students in their universities. This survey method has some inconveniences during the process because although it is widely distributed, the answers to the questions only account for a small number of people sent questionnaires. In addition, the answers obtained should only be considered as references because some respondents may have responded superficially.

In this case the internet has helped a lot in the process of collecting answers and spreading questions to people who respond everywhere. Even the feedback from many countries that the author did not know they were also involved in this survey. Webropol is an excellent surveying tool by its ease of operation. When the survey is finished, its interface to the surveyed person is very friendly and easy to use. In addition, its instantiate cannot be ignored. The answers are recorded immediately after the respondent presses the save button. Finally, the recorded data will be automatically analyzed on Webropol. This is really a great help for the researcher.

5.2 Research analysis

This chapter will present data collected from respondents via Webropol platform. The results will show a clearer view of the customer experience for online shopping and industry opportunities. Which factors influence customer decisions and experiences will be shown here. Actors responding to their own personal views will be the most accurate assessment of this issue.

To better understand the customer experience, the questionnaire was sent to two groups of students in the business field at Centria University of Applied Sciences, many students from other universities around the world and others graduated student. The questionnaire is shown in Appendix 1 and Appendix 2 of the thesis. From the feedback of the respondents, it will be possible to assess which products are popular on how to shop online, which websites are used by customers as well as which factors make customers happy and unhappy during the shopping process.

1. What is your gender?

Number of respondents: 36

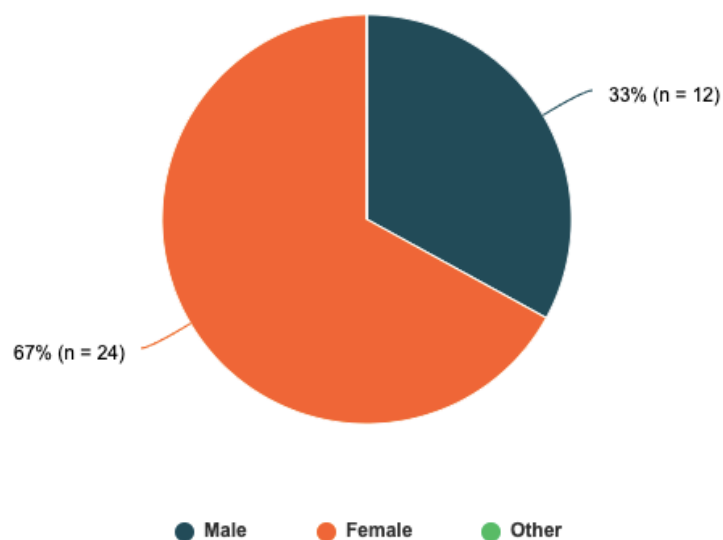


FIGURE 5. Gender

From the survey conducted, the results for the first question were 24 women and 12 men out of 36 respondents. This corresponds to the proportion of 67% of women and 33% of men in the question (FIGURE 5). Through observation, it is easy to recognize that the number of women is exactly double that of men. In addition, the survey has been sent with an introduction and encourages the responders to

answer questions only when they are interested in online shopping. So with the above results we see an objective result that women are more interested in shopping than men.

2. How old are you?

Number of respondents: 36

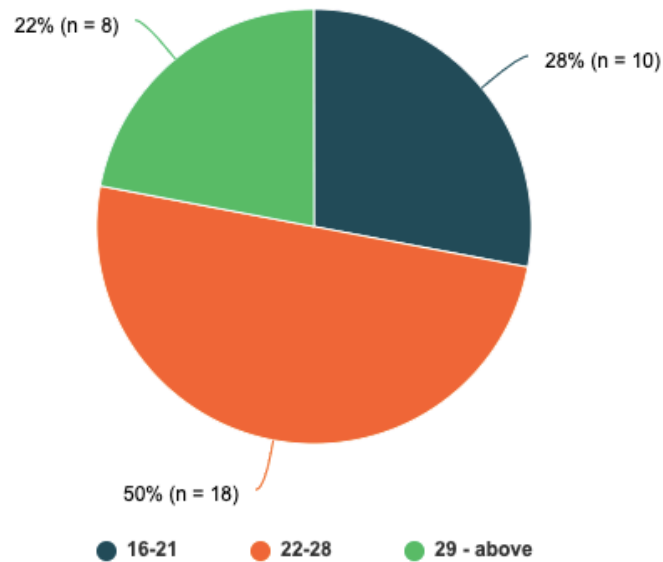


FIGURE 6. Age

The results of the survey question about age show that the majority group is from 22 to 28. 18 respondents, corresponding to 50% (FIGURE 6). The remaining two age groups have not much difference in data but in general, the age group from 16 to 21 years old still accounts for more. Specifically, the age group 16 to 18 accounted for 28% with 10 respondents and the age group of 29 and above accounted for 22% with 8 respondents. These data show that young people are somewhat interested and in need for more online shopping. This means these organizations need to pay attention and plan strategies to suit the youth's tastes in order to improve the quality of service as well as the development speed of the industry.

3. What is your nationality?

Number of respondents: 36 , Number of selected replies: 42

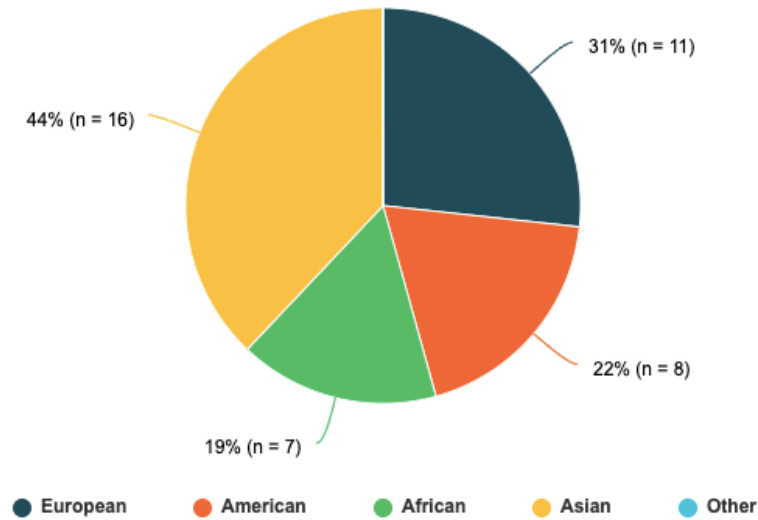


FIGURE 7. Nationality

This question is installed as a question with multiple answers in case the respondent has more than one nationality. The results of the third survey of nationality show the overwhelming dominance of Asia and Europe in the proportion of online shopping services. Specifically, Asia accounts for 44% and Europe accounts for 31% (FIGURE 7). From the figures, Europe is considered as the continent of countries with advanced development technology so online shopping is no longer too strange. It is worth noting that Asia's rapid development is the new development opportunity of online shopping in the continent. In (FIGURE 6), the proportion of Asian buyers accounts for 44%, nearly half of global purchasing power. This is a complete prediction of Asian development in the future in the digital technology business.

4. How long do you have to stay in Finland?

Number of respondents: 36

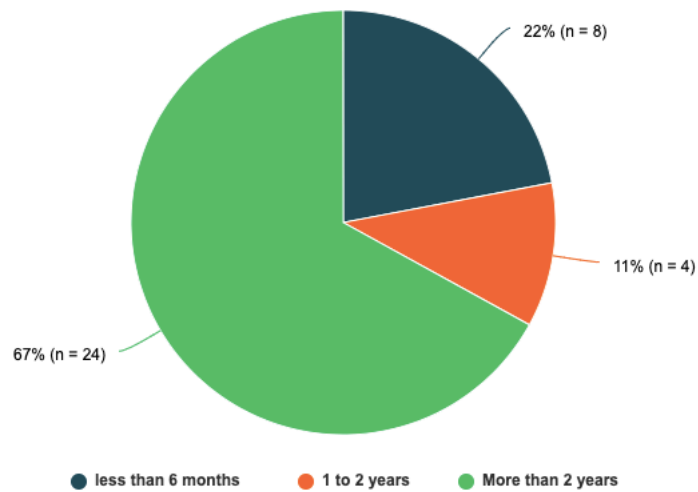


FIGURE 8. Living time in Finland

This question shows that the majority of respondents are living and working in Finland (67%)(FIGURE 8). This partly indicates the consumption of the products sold on the network in Finland. 22% of people live in Finland less than 6 months are students who will go to Finland to study abroad in the next semester or people from other countries.

5. Are you a student in Centria UAS?

Number of respondents: 36

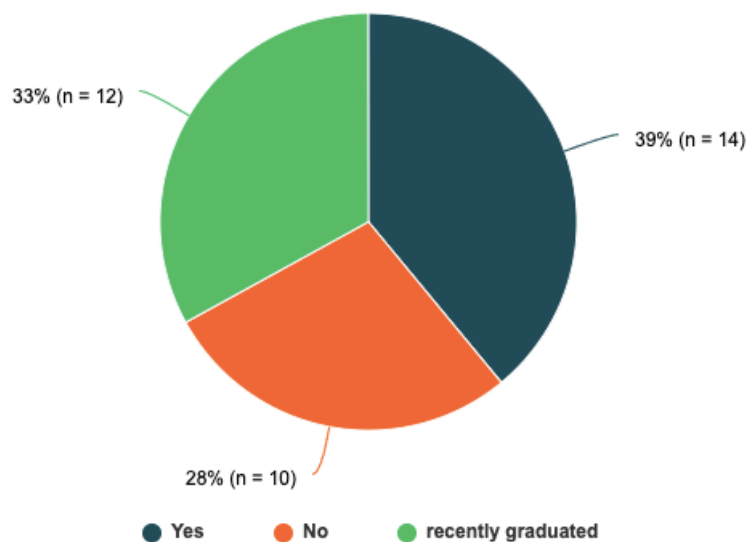


FIGURE 9. Student statistics

Most of the respondents are Centria UAS students, including 14 students who have graduated and 12 students who are still studying (FIGURE 9). The remaining 10 respondents came from other universities or went to work. Figure 8 once again shows the diversity in feedback and objectivity coming from young people from different places, especially Centria UAS.

6. How often do you shop online?

Number of respondents: 36

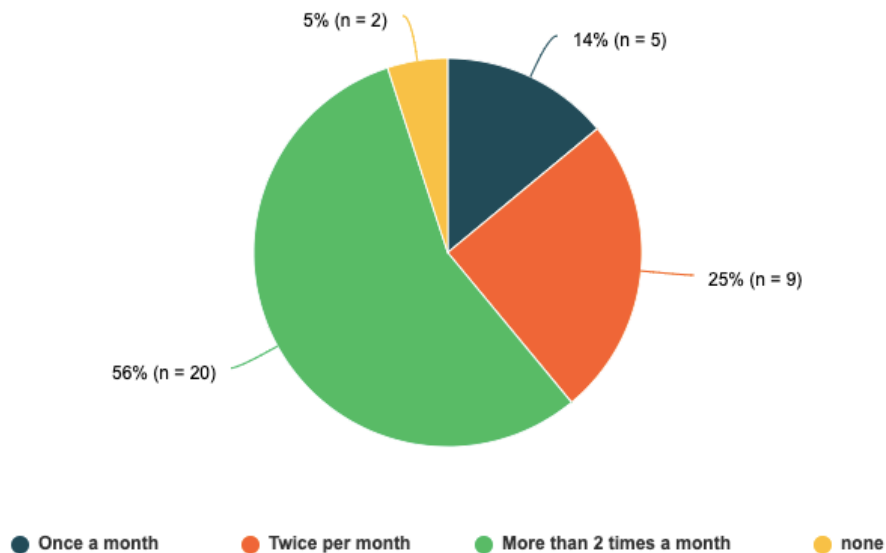


FIGURE 10. Purchasing frequency

The shopping frequency chart (FIGURE 10) shows that more than half of respondents responded shopping twice a month with 56% equivalent to 20 people. In addition, the number of shoppers twice a month also accounts for a significant proportion with 25% equivalent to 9 people. Through the above data, it can be seen that the shopping week of the surveyed group is very frequent. Again this confirms the consumption of products consumed online.

7. Which kind of product did you buy online? (Multiple)

Number of respondents: 36 , Number of selected replies: 67

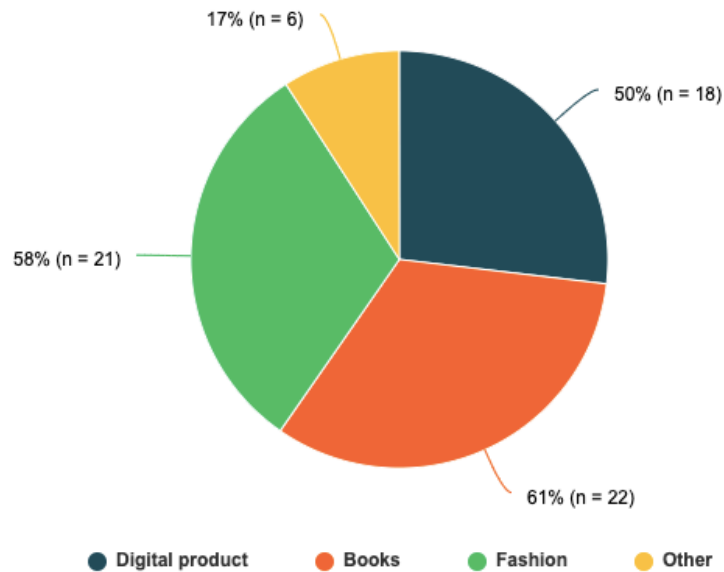


FIGURE 11. Typical e-commerce product

Digital products, books and fashion are typical products sold on sales websites because of their applicability. These items are mostly fixed with series numbers, welding customers can easily get information from other sources to make sure they get what they want. In addition, these products can easily be tested or even tried in local showrooms before they order it on the web at a much cheaper price. This is the key factor to attract online shopping customers. With only 17% of other products, the figures show books, electronics and fashion almost accounted for the entire proportion of items sold online (FIGURE 11).

8. Which page below catches your attention? (Multiple)

Number of respondents: 36 , Number of selected replies: 61

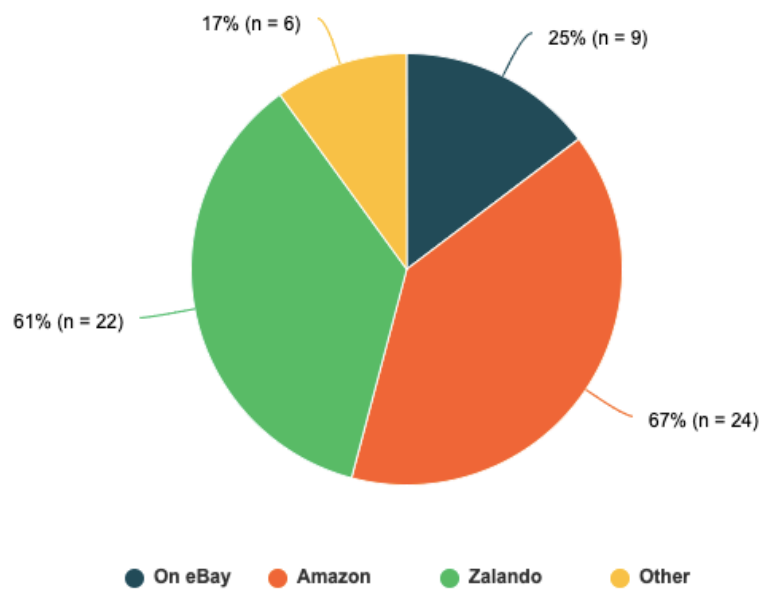


FIGURE 12. Popular e-commerce websites

Based on the data obtained, Amazon and Zalando are two brands trusted by consumers. With 67% belongs to Amazon and 61% belongs to Zalando showing that the customers of both sides are almost the same (FIGURE 12). However, these two sites do not have too much competition because Amazon tends to distribute books and electronics while Zalando distributes fashion primarily.

9. How Many You Spend Per Time Purchasing Online?

Number of respondents: 36

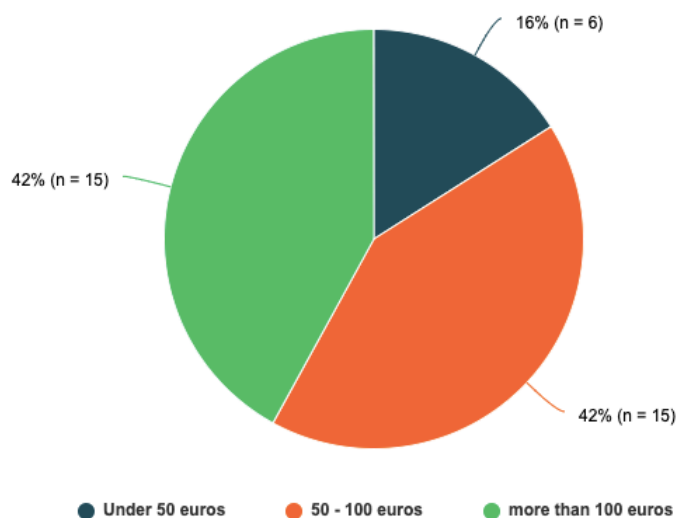


FIGURE 13. Price

Both groups spent between 50 and 100 euros and over 100 euros spent 42% in this survey question (FIGURE 13). The figure shows that customers have invested heavily in products online. This also indicates that purchasing power on online sites is quite large. Besides, the shopping group spent less than 50 euros each time, though it only accounted for 16% but it may not be caused by the customers' reservations, sometimes just because of small product value.

10. How Do You Prefer Online Shopping Than Showroom Purchasing?

Number of respondents: 36

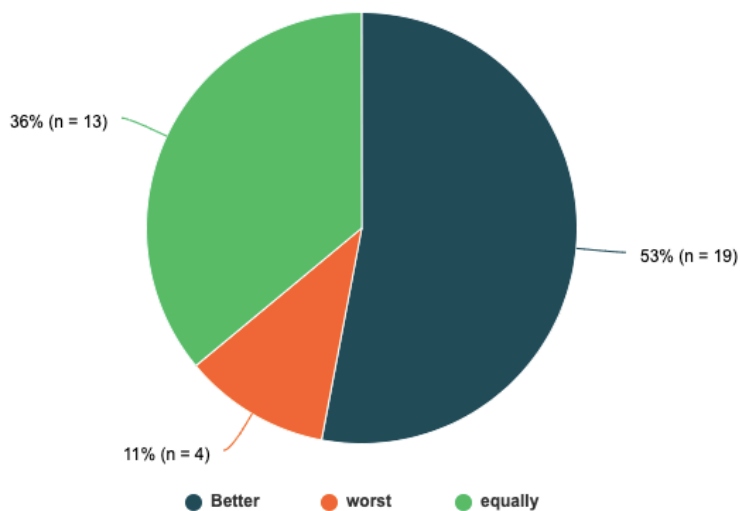


FIGURE 14. The comparison between website and B&M store

With an overwhelming percentage of 53% of respondents said they felt better shopping online than shopping at stores (FIGURE 14). This shows the preference of customers for current online shopping services. In addition, with 36% of respondents said they felt online shopping is equal to shopping at physical stores. It also means that inconveniences and disadvantages of remote purchases are gradually narrowing and gaining consumer trust.

11. Which Are The Most Important Factors For Purchasing Online? (Multiple)

Number of respondents: 36 , Number of selected replies: 69

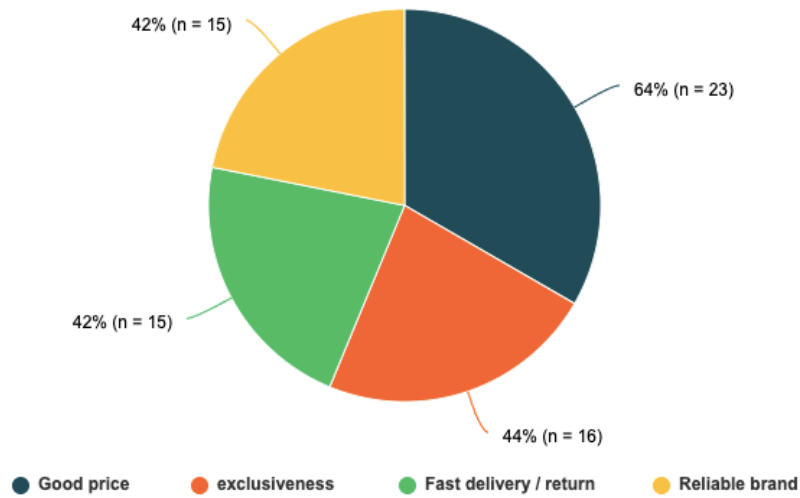


FIGURE 15. Factors impact customer's experience

There are many factors that influence the customer experience while shopping online, but there are 4 main factors that promote price, uniqueness, shipping speed and the prestige of brands. Specifically, including 64% good price, 44% exclusiveness, 42% fast delivery / return and 42% reliable brand (FIGURE 15). At the end of the day, the good price is still the key factor to attract customer.

12. How often does a product meet your expectation?

Number of respondents: 36

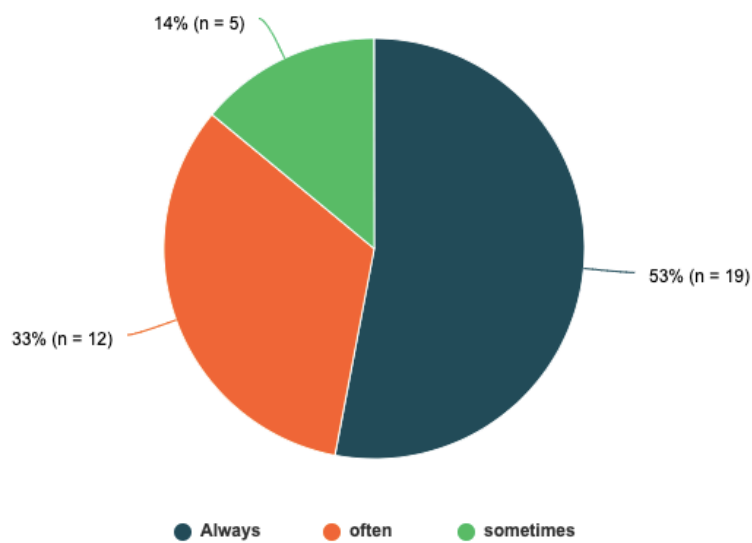


FIGURE 16. Frequency of meeting customer's expectation

53% customer admit that online product meet their expectation, 33% often and 14% sometimes (FIGURE 16). The overwhelming rate shows that the quality of the product is improving and improving. In addition, the related services are also gradually connected to create a strict system from finding raw materials to finished products to customers' homes.

13. Are you likely to return goods that aren't satisfying you?

Number of respondents: 36

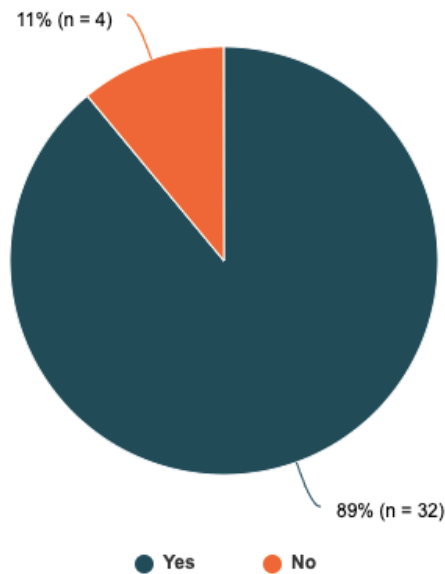


FIGURE 17. Possibility of returning good

This survey clearly shows the possibility that customers will be willing to return the product if it does not meet their requirements. This is a special feature that has recently been possible. The reason is that before shipping is a time-consuming process, in addition, it also requires a lot of complicated procedures that make customers feel uncomfortable when exchanging returns and waiting too long. Especially when the value of the item is not too big. Since then make customers shy when ordering new products for the first time. That problem was solved when today's technology went into logistics, making shipping process faster and more convenient than ever. Customer feel more comfortable to exchange or return the good. It is evident that up to 89% of customers are willing to return unwanted products (FIGURE 17).

14. What is your payment method? (Multiple)

Number of respondents: 36 , Number of selected replies: 60

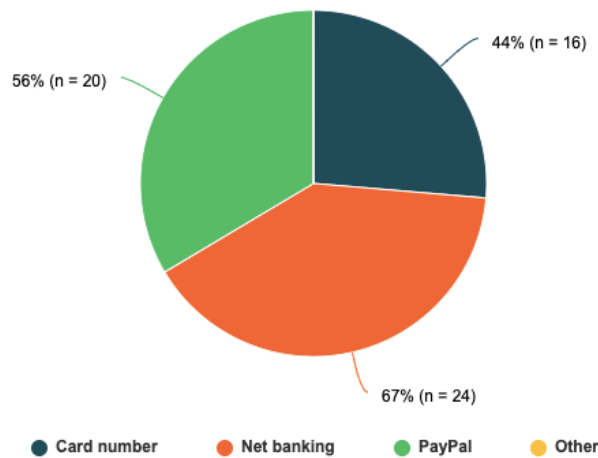


FIGURE 18. Payment method

Currently, there are many payment methods for online shopping, but the most popular ways including by card number, net banking, and Paypal. In the survey, 67% paid by Net banking, 56% paid by PayPal and 44% paid by card number (FIGURE 18). The question allows to choose multiple answers because today customers pay in many ways to meet the flexibility of international trading. Since most respondents live in Finland for at least a while, the use of net banking for payment is very common. This is a strong point of online commerce in Finland because of the simplicity and convenience of net banking.

15. What Is The Most Annoying Problem Of Purchasing Online? (Multiple)

Number of respondents: 36 , Number of selected replies: 64

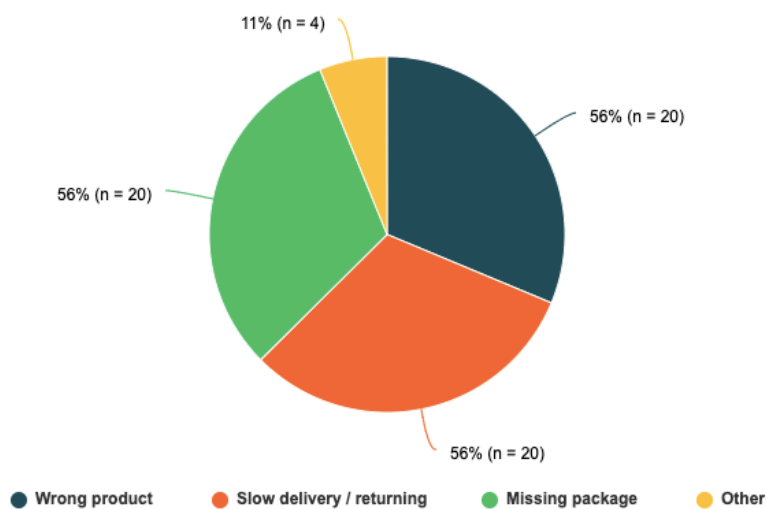


FIGURE 19. Problem in purchasing online

Figure 18 shows the factors that make customers feel the most uncomfortable when shopping online. Specifically, all three issues include missing package, slow delivery / returning and product delivery, all receiving 56% complaints from customers (FIGURE 19). Through figures, it can be seen that major customers feel bothered with problems affecting delivery time.

5.3 Research summary

The main finding of this research is the huge purchasing capacity of customers and the potential of online sales. The respondents in the survey are all potential customers and they have clearly stated their necessary and sufficient values to decide on shopping in a brand. Specifically, to meet customer needs, online business brands should choose the right products that customers have high reference needs such as books, fashion, and technology items. In addition, because of the diversity in global trade, these products need to have superiority in price, uniqueness and reliable brand. Current and typical sales sites such as Amazon, Zalando, eBay account for overwhelming proportions in the pie chart. That means they are ideal models for developing shopping websites for start-up businesses. In addition, prices are no longer a problem in online shopping because today people are willing to spend more than 100 euros for online shopping. Not to mention this is only the purchasing capacity of the group of students who are students and students after graduation. 86% of consumers said online shopping matched their expectations (FIGURE 16). That once again confirms the success of e-commerce market penetration. Finally, a completely automated payment method is the success of EFT technology. In summary, this research shows the current experiences and conditions of potential customers for online shopping with the support of technology in recent years. The result shows a good respond from customer and a high potential of future e-commerce. Hopefully, it will be helpful for researchers to understand the current market and their customers.

6 CONCLUSION

To summarize, the original goal of this work was to introduce the theory of technologies that exist in e-commerce. In addition, the research section was done to learn about the customer experience while shopping online. Questions about customer experience had been answered that they are interested in online shopping. It is an indispensable part of life as a true routine.

The author managed to achieve certain results during the process of the thesis topic: Technology contribution in electronic commerce development. The thesis was made both of theory and practical part. In the theoretical part, the most influential technologies for the online business were analyzed based on many reliable sources of information. Different sources of information were in opposition. That helped the author with a deeper insight into the special issue of the variability of today's technology. In the practical part, the author was shown more clearly about the applicability that the technology brings through the improvement in customer experience compared to the time before these technologies appear. Plus, the result introduced a big opportunity in e-commerce path due to customer's positive responding.

This work proved that technology has a big impact on e-commerce. It helps improve the customer shopping experience and eliminates the limitations that exist. In other words, technology is a premise and an e-commerce development factor. Technology solves problems for both buyers, consumers and goods distributors. It helps sellers minimize operating costs and maximize profits. The stages are interconnected smoothly and seamlessly thanks to the ability to communicate and exchange information on platforms and systems. For customers, the technology helps them to find out more about goods, compare items with other suppliers, exchange information between customers, review products to eliminate unreliable sources and poor quality. In addition, online shopping is also the premise of product diversification because today people can trade globally.

As a result, technology has a lot of support in sales and sales department employees should get this done in time to update. In addition, speaking in customer's perspective, the wise use of information resources is the efficient use of spending.

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CUSTOMER EXPERIENCE TOWARD ONLINE SHOPPING

1. What is your gender?

- a) Male b) Female c) Other

2. How old are you?

- a) 16 – 21 b) 22 – 28 c) 29 – above

3. What is your nationality?

- a) European b) American c) African d) Asian e) Other

4. How long have you live in Finland?

- a) less than 6 months b) 1-2 years c) over 2 years

5. Are you a student at Centria UAS?

- a) yes b) no c) recently graduated

6. How often you shop online?

- a) Once per month b) Twice per month c) More than 2 times per month d) None

7. Which kind of product you bought online? (Multiple)

- a) Digital products b) Books c) Fashion d) Other

8. Which page below catches your attention? (Multiple)

- a) eBay b) Amazon c) Zalando d) Other

9. How many you spend per time purchasing online?

- a) Under 50 euros b) 50 – 100 euros c) More than 100 euros

10. How do you prefer online shopping than showroom purchasing?

- a) Better b) Worst c) Equally

11. Which is the most important factor purchasing on website? (Multiple)

- a) Good price b) Exclusiveness c) Fast delivery/ Return d) Reliable brand

12. How often product meets your expectation?

- a) Always b) Often c) Sometimes

13. Are you likely to return goods which is not satisfy you?

- a) Yes b) No

14. What is your payment method? (Multiple)

- a) Card number b) Net-banking c) PayPal d) Other

15. What is the most annoying problem purchasing online? (Multiple)

- a) Wrong product b) Slow delivery/ Returning c) Missing package
d) Other

THANK YOU