

THE CHANGES IN TURKISH CONSUMERS' ONLINE SHOPPING BEHAVIOR
DURING THE EARLY DAYS OF COVID-19 PANDEMIC



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BY

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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ABSTRACT

E-Commerce is one of the undeniably dominating sectors. It has been rapidly growing for ages yet the coronavirus pandemic has accelerated the process of e-commerce growth. Since there are different factors affecting the electronic commerce, the online consumer behavior should be evaluated from different aspects. In this respect there have been conducted several studies about the online consumer behavior. However, the pandemic changed the “traditional” as we knew before, and turned everything into “digital”.

Within this context, this study aims to measure and understand the changes in terms of consumer behavior and preferences during the early days of pandemic, the panic period. In relation to the research, a survey technique, which was conducted on 267 online consumers in Turkey, is used as a part of descriptive analysis.

In addition to the secondary data, which is included in the literature review, the primary data was used to understand the changes based on the demographic and emotional factors. In order to do so, descriptive tables are used. As a result, it is safe to state that there have been changes in terms of preferences of online consumers in Turkey during the particular period.

Keywords: E-Commerce, Online Consumption, Online Consumer Behavior, Covid-19 Pandemic, Online Shopping

ÖZET

E-Ticaret tartışmasız olarak dominant sektörlerden biridir. Yıllardır süregelen hızlı büyümesi koronavirüs pandemisi ile daha da hızlandı. Elektronik ticareti etkileyen faktörler farklı olduğu için, çevrimiçi tüketici davranışının da farklı açılardan ele alınması gerekmektedir. Bu bağlamda, çevrimiçi tüketici davranışlarını inceleyen çok fazla çalışma bulunmakta. Ama, pandemi daha önceden “geleneksel” olarak bildiğimiz şeyi değiştirip, her şeyi “dijital” bir hale getirdi.

Bu bağlamda, bu çalışma pandeminin başında tüketici davranışlarında ve tercihlerinde yaşanan değişimleri anlamaya ve ölçmeyi hedeflemektedir. Araştırma ile ilgili olarak betimsel analizin bir parçası olarak Türkiye’deki 267 çevrimiçi tüketici üzerinde gerçekleştirilen anket tekniği kullanılmıştır.

Literatür taramasında yer alan ikincil verilere ek olarak, demografik ve duygusal faktörlere dayalı değişiklikleri anlamak için birincil veriler kullanılmıştır. Bunun için tanımlayıcı tablolar kullanıldı. Sonuç olarak, Türkiye’de çevrimiçi tüketicilerin tercihlerinde ilgili dönemde değişiklik olduğunu söylemek doğrudur.

Anahtar kelimeler: E-Ticaret, Çevrimici Tüketim, Çevrimiçi Tüketici Davranışı, Covid-19 Pandemisi, Çevrimici Alışveriş



To my mother, for being who you
are and being always there for
me.

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1. INTRODUCTION

Since the beginning of the internet which dates back to 1950s, human-race succeeded and faced several “inventions” related with the internet, yet the e-commerce has been one of the most important ones, also the one evolved most dramatically, particularly since the outbreak of coronavirus pandemic.

Coronavirus first appeared in Wuhan City of China in December 2019. The disease caused by the coronavirus has been a huge threat to our lives. Apart from that, it has affected world dramatically in terms of economy. Although the pandemic had a negative impact on the most of the sub-branches of the economy, electronic commerce achieved a 5 or 6 year growth in one year.

While governments kept people at home with curfews and various restrictions, the fear of the virus or the disease caused many people to avoid public areas, physical contact. Also, people preferred to stay at home, especially in the very beginning of the pandemic. When all of these came together, it became inevitable for people to shop through online channels.

The pandemic caused by coronavirus spurred the already-existing expansion of online shopping to new enterprises, customers, and also product categories. Consumers have been offered with a wide range of products within the comfort and safety of their own homes, also businesses have been able to continue their operations and production in the face of bans and restrictions (OECD, 2020). Aside from the rapid acceleration of e-commerce and technology, the pandemic changed the perception of online shopping. Consumers’ habits changed, the products they had purchased through online channels before the pandemic changed, the demographics of internet users and online shoppers also changed.

In line with all these, the evolution of online consumer behavior during the pandemic period is evaluated in terms of products, product groups, demographics and psychological aspects. In this descriptive research, the data gathered through a survey and a popular marketplace in Turkey are examined, in addition to reviewing global and local publications, news, and academic papers.



2. LITERATURE REVIEW

2.1. The Emergence and Development of E-Commerce: A Brief History

E-commerce, which has been developing over the years, has become a strong fact, though once it was a developing trend which gave a brand chance to firms as well as customers (Bonson-Fernandez & Escobar-Rodriguez, 2017). As the internet grew, the e-commerce has become more popular. Therefore, it is important to have knowledge about the history of internet, particularly the developments related to e-commerce.

The history of Internet dates back to 1950s when the invention of computers had occurred. At that time, it was not invented to conduct shopping activities or whatsoever. In the beginning, internet's only purpose was to support communication process in the event of a nuclear attack to the United States of America (Cohen-Almagor, 2011). In 1969, ARPA (United States Department of Defense Advanced Research Projects Agency) was established and its own network system ARPANET became the first example of Internet (Wikipedia Contributors, 2020). Back in the 70s, ARPANET was seized by the MIT and Stanford's students to execute the very first electronic commerce action which included cannabis, however due the fact that the financial transaction was not online, this event is not accepted as e-commerce by some (Tefula, 2018). As stated by the author, there are two distinguished views on that matter.

Tim Berners-Lee, a British scientist, invented the World Wide Web (WWW) in 1989, while working at CERN. 1991 was the year he launched "World Wide Web" and at the end of the year it became global (CERN, 2020). The year 1991 was the year National Science Foundation deregulated usage of net for

commercial purposes (Miva, 2016). However, trading activities on the internet were legally prohibited until the spring of 1995, whereas the first safe online purchase occurred in 1994 since the legislation of the National Science Foundation in the USA (Gilbert, 2004) and it led humanity to a new era in terms of commercial activities. Even if the invention of the internet and web dates back to earlier period, since the beginning there have been concerns about the security of online shopping. In 1994, Netscape 1.0 solved the security problem with a protocol which is named “Secure Socket Layer (SSL)”. Transferring money in either way was secured by SSL which also encrypted the personal data on the web. This quickly led to the establishment of the third-party firms which dealt with the processing of credit cards (csponline, 2016). Notwithstanding that the development did not fully take the heat out of e-commerce or online transactions, it was a promising development. According to the Joe McFerrin, “After the formative years of the Internet, advancements began to take hold that increased its commercial use (McFerrin, 2020). As the New York Times author Peter H. Lewis stated in his article in 1994, “At noon yesterday, Phil Brandenberger of Philadelphia went shopping for a compact audio disk, paid for it with his credit card and made history” (Lewis, 1994). A major event like this gave the futuristic business people a chance to take advantage of the recently developed trend (Simakov, 2020). Amazon and eBay came into view in 1995 and e-commerce gained momentum after that particular incident (Hagiu & Wright, 2014). Narrow the online consumption was before the early ages of third millennium, even the world was ready to face the new tool of consumption. Being present in the e-commerce scene was only possible for the big companies and the great brands due to their assets, yet customizing was not a matter of concern as well as localization

(Gagliardi, 2019). It is because of the fact that computer technology and access to the internet was not affordable for small business or individuals at that time.

The period between 1996-2001, in other words the booming era of the Internet, was believed to be remembered as “the most dramatic communications growth period in history” (Esch Jr, 2002). Though, right after 2001-2002 period when the dot.com system faced a failure that made executive managers require IT professionals to justify their capital investment for internet business activities and to share more quantifiable outcomes that were representing success (University of California, 2003). Ten years since its introduction as a massive worldwide communication medium, just as the other business practices, the Internet faced a certain level of transparency and financial oversight (Ariguzo, Mallach, & White, 2006). The market collapsed, yet there were no long-term negative effects on electronic commerce trend (The Three Waves of Electronic Commerce., 2017). 40% of remaining dotcoms and 70% of electronic stores in the United States of America generated profit at the end of 2002 (UNCTAD, 2004). It was 2003 when Amazon recorded its first full-year profit after continuing to invest aggressively on growth (History.com Editors, 2015). For the following few years, electronic trading revenues began to grow. Electronic commerce sales contributed to 3.4% of trade sales globally by the end of 2007 (Simakov, 2020). 2005-2015 period included major developments, which shaped e-commerce (E-Commerce 101 + History of Online Shopping, 2020) , included the launch of Amazon Prime membership, BigCommerce in 2005 along with Etsy and Square, Inc. Digital payments methods were also introduced during the period. In 2011, Facebook’s digital advertisement model was presented to business page owners. Google Wallet was born in the very same year and three years after that Apple launched

its mobile payment tool. 2014 was also the year when Jet.com was launched by Marc Lore who had sold Diapers.com to Amazon.com (Bhalla, 2020). It is safe to state that the more e-commerce grew, the more tools and features were developed in order to be used in e-commerce.

A groundbreaking transformation in the way business and commerce are done over electronic networks occurred in the latest century. People gain access to the Internet by using mobile devices or terminals in the least-developed countries as well as developing countries. The Internet and smartphone application usage is projected to grow dramatically in the future (Sila, 2019). The access to the Internet, eventually increased the usage and growth of online consumption channels by using mobile devices.

Two decades ago, the level of consumer confidence in an online consumption model was not affected in a good way by the huge dot-com collapse, because of the fact that generation x and baby boomers were not familiar with it (Tran, 2020). Today's e-commerce is not different from the old one but the demographic profile of users is. In today's world, millenarians, who grow with the adaption of technology, form an important target group and highly use mobile devices (MILLENNIALS ARE TOP SMARTPHONE USERS, 2016). As mentioned above, during the dot-com collapse it was Generation X and baby boomers who did not put faith in online shopping system might be one of the reasons of that collapse. However, the next generations, particularly millenarians, who were born to a digital world, grew up and became potential consumers. Due to that fact, e-commerce was reborn (Tran, 2020). Consumption activities by using mobile devices steadily crumbled until 2017, when there was a click yet people have eventually reached a point where people have felt secure while shopping on

mobile devices. There might be a variety of factors at stake such as user-friendly electronic mail and web designs, bigger and higher mobile devices' screens, the development of mobile internet, and mobile payment systems turned a complex shopping system into something simple. The reason does not matter, mobile commerce unexpectedly grew (Greenspan, 2019). A study shows that \$600billion were spent globally by using mobile devices in 2018. M-Commerce became an official trend (Blaise, Halloran, & Muchnick, 2018). According to E-Commerce Foundation Report 2018, mobile devices' popularity exceeded PCs in some parts of the world (Natour, 2019). This was mainly caused by the need for mobility (Oreku, 2013). Mobile commerce has the ability to become the biggest customer platform with a far better internet technologies, yet it still needs to have particular business strategy rather than being considered as a part of e-commerce (Tran, 2020). The optimizations in mobile technology, apps, also affected the businesses and their relation with customers, also selling their goods and services (Augment, 2019). In order to understand the development of mobile commerce throughout the years 2014-2019, see the figure (Figure 1).

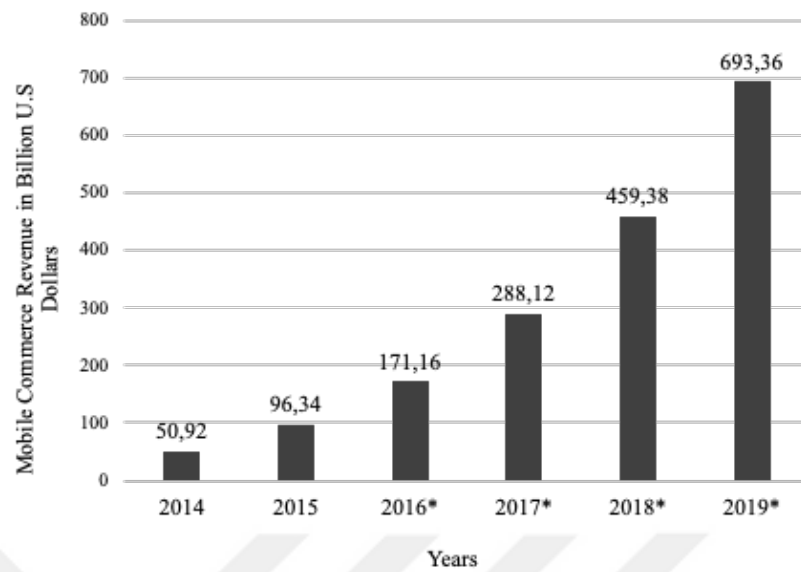


Figure 1 Transaction value of global m-commerce sales from 2014 to 2019 in billion U.S. dollars. (Statista, 2016)

In last decade, until Covid-19 Pandemic, due to rapid developments in technology, electronic commerce has had new game changers that increased e-commerce volume. According to the author (Moffat, 2017), the important improvements that affected positively online shopping process are customers' feedback and CRM, designing web sites responsively and UX, new devices, payment methods, new logistic methods, and social media. Due to these improvements, online consumers started constantly searching for sales beyond their borders and this led to increase in "global e-commerce" or "borderless e-commerce" (Orendorff, 2019). 1.92 people went online for shopping in 2019 (Statista, 2021). People have started shopping through online channels without thinking about the locations or time zones, anything the consumers wanted to purchase was a just a click away. The figure (Figure 2.2) also explains in a numeric way e-commerce sales' rapid increase in the last six years.

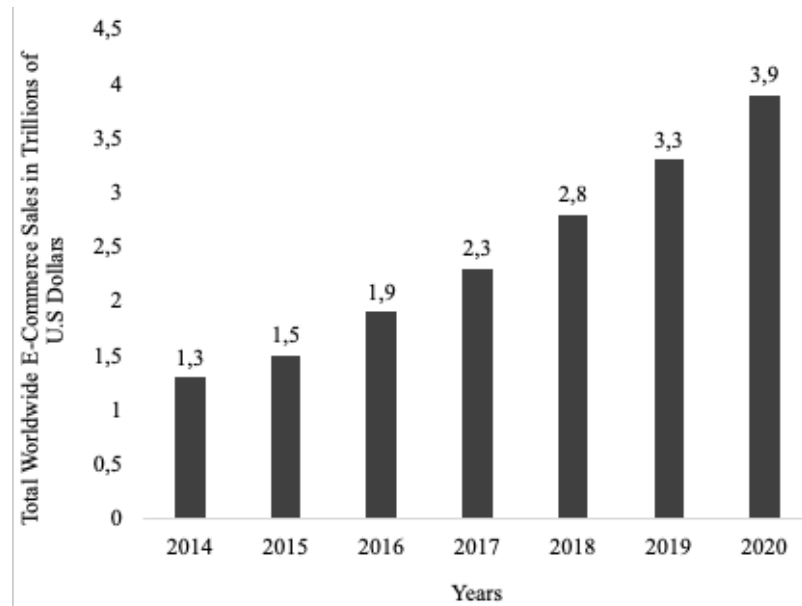


Figure 2 Worldwide e-commerce sales between 2014-2020 (Jacques, 2019).

According to the analyze, (Lewis E. , 2018), based on the companies' level of influence, Amazon, Wal-Mart Stores Inc., Alphabet, Alibaba, and Facebook were the top 5 companies.

Table 1

Top E-Commerce Web Sites During the Covid-19 Pandemic

Website	\$ (Millions)
amazon.com	4059
ebay.com	1227
rakuten.co.jp	804
samsung.com	648
walmart.com	614
appel.com	562
aliexpress.com	532
etsy.com	395

homedepot.com	292
allegro.pl	272

Note: Source: (Adrienko, 2020)

Covid-19 crisis made online consumption flourish. Global retailing's new leader has become electronic commerce (Wang, Dang, Nguyen, & Le, 2020). In the middle of Covid-19 crisis, in June 2020, the online shopping traffic hit 22 billion visits all around the world (Clement, 2020). E-Commerce was already growing until the pandemic, yet the unfortunate event boosted that growth.

Internet is becoming more available worldwide, therefore online consumption is growing quickly. Local businesses are moving to the online and this is causing extending their reach to more customers as well as still remaining in the competition. All developments mentioned above also turned online shopping into a desirable activity for shoppers (Kerick, 2019). Since the early ages of internet, there are on-going developments. As a result, the humanity has witnessed several new products or services, of which e-commerce is one, related to the technology. The digitalization is changing the way people prefer to shop, communicate, and so on, that is the reason, as the researcher, it is our duty to pay attention to developments as well as the changes in the consumer behavior depending on the internet technologies' improvements.

2.1.1. The Concept of E-Commerce

E-Commerce is defined as the “production, marketing, sale or delivery of goods and services by electronic means” by the World Trade Organization (WTO, 2020). In a more scientific approach, e-commerce is defined as “a modern business technology that addresses the needs of organizations, traders, and consumers to reduce transaction costs while improving the quality of goods and

services, and increasing delivery speed, can also be used when using computer networks to search for and retrieve information to support human or institutional decision-making.” (Plesea, 2000). According to authors (Chang & Li, 2003), dedication and ability to use modern technology (specifically the Internet) were one of the key components of electronic commerce concept. Moreover, highlighting trademarks and increasing the level of consumer satisfaction all over the business processes as a result of altering the framework of operation into a more network-leveraged model rather than company-oriented model was also vital. Also, authors stated that electronic commerce consists of 2 main types which were B2B (business-to-business) and B2C (business-to-consumer). As it is stated by the authors in 2003, two main concepts were enough to cover e-commerce activities. However, as the technology developed, then-current concepts were not sufficient. Brahm Canzer suggested that there were 3 segments in electronic commerce concept which are B2B, B2C, and C2C (Canzer, 2003). Among all e-trade types, B2B has been the greatest one (Ariguzo, Mallach, & White, 2006). Authors (Barnes-Vieyra & Claycomb, 2001) defined business-to-business in e-trade as buying and selling products and services, or data between companies in a safe way via the Internet. It was also divided by them into 5 models which are:

- “One seller to many buyers”,
- “Many sellers to one content aggregator to many buyers”,
- “One seller to one broker to many buyers”,
- “Many sellers to one buyer” and,
- “Many sellers to many buyers”.

In today's world, distribution, manufacturing, retailing, and wholesaling and their professionals are important components of various activity plans (Intuit Inc, 2020). As the competition increased so did the factors that made a difference.

It is challenging to attain accurate information about the beginning period (1994-1997) of B2B e-trade (Ariguzo, Mallach, & White, 2006). In the report (UNCTAD, 2003), it was stated that B2B proceeds in 2001 accounted for \$6676 billion, and online B2B revenue was \$995 billion. In other words, online B2B transactions were the 14.9% of the total amount globally. At the time of its beginning, 1998, B2B of online retail market in the USA was around \$43 billion, yet in 2003, it reached to \$1.3 trillion (Zank & Vokurka, 2003). According to a research (Hoar, Freeman-Evans, Wu, & Milender, 2015), it was assumed that B2B e-commerce would account for \$1 trillion in USA by 2020.

B2B activities in electronic trade represented immense portion of e-trade revenue in the USA, over and above that the supremacy of B2B in other countries was established as stated by the UNCTAD (UNCTAD, 2015). Based on the report (UNCTAD, 2015), business-to-business operations were mass majority however, B2C was growing quick, in particular, in the USA the percentage of B2B activities in e-trade increased from 2.6% to 4.5% between 2002 and 2012. UNCTAD's report of 2004 (UNCTAD, 2004) stated that the B2C transactions only represented 7% of overall e-trade activities, yet the online B2C was growing 7 times faster than the traditional methods (Willis, 2004). For an online B2C strategy, company focuses on a network that can be easily changed to satisfy evolving consumer demands with no service delays (Hassey, 2021).

Electronic mailing systems and search engines, which are vitally important in order to achieve success in BC2 e-commerce, have been evolving as a result of the

Internet's breakneck progress as well as integrated B2C systems (Mahadevan , 2000). The more the Internet usage in houses increased, the faster B2C e-trade grew since it was instantly linked to the Internet usage (Fornfeld, Delaunay, & Elixmann, 2008). Eventually speed of the Internet in the household uplifted online consumption along with the Internet usage. In European Union zone, the 58% of Internet users made online purchases in a one-year period of time in 2011 (Drigas & Leliopoulos, 2013). Between 2008 and 2012, the online shopping sector in China boosted thanks to the increase in the number of Internet users (Li & Fung Research Centre China Chain Store & Franchise Association, 2011). For almost a decade, between 2002-2011, B2C e-trade sales in the USA rose as an inevitable result of escalating Internet user numbers (Winters, Davie, & Weidenhamer , 2012). The literature proves that apart from the developments on the Internet, the increase in the number of internet users triggered the growth of B2C e-commerce. Up to date improvements in online payment, supplying and transportation systems, etc. enabled consumers to interact with each other while conducting online consumption (Lu, Zhao, & Wang, 2010). Many new online shopping trends arose to keep up with this development, such as consumer-to-consumer (C2C) e-commerce, which is basically electronically mediated purchases between customers via external parties, in other words C2C platforms. This enabled market participants to profit from cheaper costs, increased income, and more choices in this manner (Du, Yu, Fang, & Wang, 2012). eBay, which offers an online auctioning opportunity to its users, was founded in 1995. From its very early days, it has been one of the pioneers in the C2C model of electronic trade. Based on the statistics, its yearly income was multiplied by two from 2008 to 2013. Hence, it has become a quickest-growing business in e-commerce (Statista, 2014). C2C

purchases and connections are open on Etsy, eBay, Craigslist, Amazon, and Kickstarter. Since 2004, the growth of the C2C has risen significantly. This rise in market share can be due to C2C's success and acceptance over the years (Dan, 2014). There are also other studies (Kinder, 2002) indicating that, is possible to divide electronic commerce into 6 different models which were B2B, B2C, C2C, B2PA (Business-to-Public Administration), PA2PA (Public Administration-to-Public Administration), PA2C (Public Administration-to-Consumer).

The more the Internet's presence is getting, the more forms of future e-trade purchases emerge (Ariguzo, Mallach, & White, 2006). As it can be understood from all the information given above, the developments within the e-commerce environment will affect many components in the e-commerce environment including the types of it.

2.1.2. The Development of E-Commerce in Turkey

1993 was the year Turkey met with the Internet thanks to a famous university called METU (Middle East Technical University). The internet connection provided by METU had been the only channel for a long period of time. The Internet using organizations were supposed to connect via only using METU's link. Although, in 1996 there were several other internet providers starting with STRCT (Scientific and Technological Research Council of Turkey) and TR-NET. Nowadays, in Turkey there are many more servers and providers that are enabling the usage of the Internet for daily activities as well as business purposes. The concept of e-commerce was first mentioned in a meeting in August 1997, and then the decision to set up a task force to establish an electronic commerce network and make it mainstream in Turkey was made. Following this action, the ETKK (Electronic Commerce Coordinating Committee – ECCC) was formed. Judicial,

technological and financial groups emerged at the ETKK (ECCC) on February 16th, 1998 (Kadı & Peker, 2015). 4 long term priorities for the growth e-commerce in Turkey was set by the ECCC (Electronic Commerce Coordinating Committee) (Gökmen, 2012):

- Establishment of critical technological and organizational infrastructure,
- Instituting the regulatory system,
- Taking basic action to enhance e-commerce,
- Bringing together regional and global e-commerce strategies and technologies.

In 1998, Hepsiburada.com, the first Turkish e-commerce website, was founded (Erdör, 2019). In the very same year, total amount of online transactions was \$8.5 million and the expectation for 2000 was \$25 million. Computer products, which had 27% share in total e-commerce volume in Turkey, was followed by travel industry with a 24% share (Çak & Hiperlink (firm), 2002).

Even the first projects in Turkey began almost simultaneously with the world in 90s, Turkey's e-commerce infrastructure was not adequate. So, first years of e-commerce in Turkey were spent on improving the infrastructure. Along with the infrastructure improvements, the widespread usage of the Internet in 2000s, that period became critical for Turkey in terms of e-commerce transactions (Elibol & Kesici, 2004). The first online auction website in Turkey, gittigidiyor.com founded in 2001, was invested by eBay. It was one of the milestones in the field of e-commerce in Turkey (Dereli, 2015). With this development, the volume of e-commerce started increasing gradually. In order to find solution to the problems experienced in e-commerce and to eliminate the deficiencies regarding legal

regulations, the e-commerce companies organized and established the Association of E-Commerce Operators (*Elektronik Ticaret İşletmecileri Derneği*). This association is also a significant step for the development of e-commerce in Turkey (Arslandere, 2010). The poor financial system of Turkey triggered the 2001 economic crisis, and the 2008 global economic crisis started in the housing industry in the United States and impacted the world. Several companies declared bankruptcy, and those who succeeded started looking for alternative ways to cut costs as well as reach into new areas because either financial trouble had a major negative effect on the economy of Turkey (Temiz & Gökmen, 2010). In spite of all bad effects of the global crisis, the severity and frequency of e-commerce sales grew between 2008-2009. It might also suggest that performing online market processes, engaging in e-trade as well in digital economy would minimize the transaction fees and encourage the expansion of commerce output (Gökmen, 2012). Apart from all the critical turning points mentioned above, the new “private e-retailing” trend proved that e-commerce in Turkey was evolving. In this context, significant investments like trendyol.com, lidyana.com, limango.com, etc. played an important role in the development of e-commerce in Turkey (Arslan, 2019). It was suggested by the authors (Demirdöğmez, Gültekin, & Taş, 2018) that e-commerce transactions volumes of countries could be affected directly by the economic variables and developments in internet Infrastructure. On the report of 2011, the share of e-commerce in the retail trade volume of Turkey reached 6.3%, exceeding the USA and the EU on proportional basis, and turkey with then-population of 76 million was the 3rd in Europe following Germany and Russia. The fact that Turkey ranked 12th in the world with approximately 35 million internet users and that the rate of internet usage of the youth was at the level of

65.8% meant great potential (Çam, 2014). The increase in the number of internet users can be seen from the figure (Figure 3), based on the previous studies and researches, it is safe and accurate to say that as the internet users increased, the volume of e-commerce increased on global and local scale.

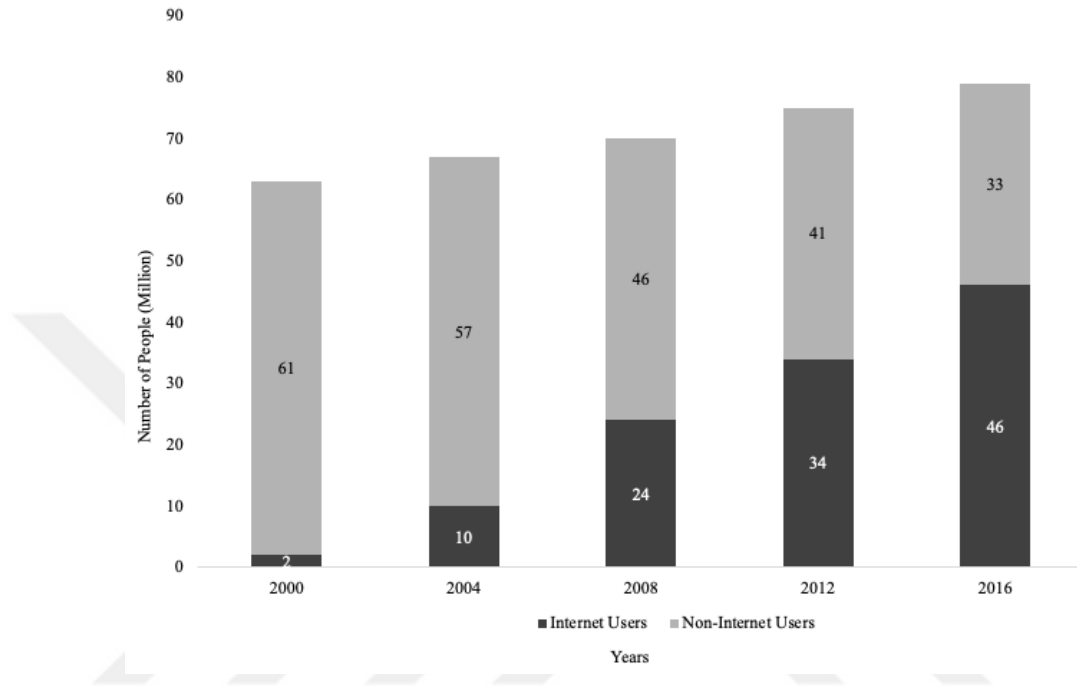


Figure 3 Number of Internet Users and Internet Penetration in Turkey (Kantarç, Özalp, Sezinsoy, Özaşkınlı, & Cavlak, 2017).

According to BKM (*Bankalararası Kart Merkezi – Internbank Card Center*) data (Bankalararası Kart Merkezi (BKM), 2011), in 2003, Turkey’s e-commerce volume was accounted for 260 million Turkish lira. But in 2009, that number reached 10 billion Turkish lira by almost doubling each year. By the time, in December 2011 the e-commerce volume of Turkey exceeded 23 billion Turkish lira. In 2011, the sector achieved a financial volume of 22.8 billion Turkish lira in total, and the 35.5% growth was achieved in 2012. In terms of transaction numbers in 2012, 162 million online shopping transactions were recorded.

According to author (Şat Sezgin, 2013) of the report by İşbank (Türkiye İş Bankası), there were twelve thousand e-commerce websites had been operating in 2012/2013. Apart from the private companies, some e-commerce platforms belonging to different legal entities such as NGOs and sports clubs also existed. The domestic e-commerce market was mostly focused on B2C in 2012. As it can be seen from the table (Table 2) below, the e-commerce turnover in terms of internet retail was around 4.7 billion Turkish Lira in 2012. Compared to the previous year, the average annual growth rate of turnover is around 40-45%.

Table 2

Domestic Market Volume of the E-Commerce Sector

Category	Online Shopping Amount (Million Turkish Lira)
Electric-electronic equipment, computer	2.215
Furniture and decoration	621
Markets and shopping centers	529
Clothing and accessories	332
Health / health products / cosmetics	244
Jewelers	236
Education / stationery / office supplies	188
Food	188
Building materials, hardware, hardware	105
Various food	31
Total	4.689
Travel agencies/transportation	1.507

Telecommunication	1.397
Accommodation	417
Total	8.010

Note: Source: (Şat Sezgin, 2013)

These are called “pure players” who prefers to go to create their own brands. Private shopping clubs also known as “private shopping” provide users with a discount or coupon on the items they purchase. Customers can get exclusive items, such as boutique style, in addition to discounts. The systems work as a closed-circuit method which is also known as free membership. In these systems, there are many products from different categories such as clothing & accessories, furniture & decoration, electronics etc. Websites that market goods like clothing, shoes, decoration, accessories and so on have now evolved into a platform for following trends. “Daily deal websites” are platform where a large number of products or services are offered for sale with special discounts in a certain period of time. These platforms offer activity options that provide price advantages to consumers in many areas from entertainment to health. Websites that provide food service to the houses or offices act as an intermediary between the consumer and many companies in the position of vendors. In addition to them, websites that focus on specific areas like event tickets, books, CD/DVD, flower or fruit baskets and souvenir, holiday or travel tickets are also included in the “daily deal sites”. Based on the TUSİAD Report in 2017 (Kantarıcı, Özalp, Sezinsoy, Özaşkın, & Cavlak, 2017), Turkey had 58% Internet penetration by 2016, with 46.2 million Internet users. Turkey, which was then-the 19th most populated country in the world with a population nearly 80 million, rose to the 17th most powerful country in the world with a total 46.2 million internet users as a result of that growth in

Internet usage. In the same report it is stated that Turkey was above the world average of 60% with a 65% of smartphone penetration in 2016. Smartphone penetration rapidly increased its share in the mobile e-commerce in Turkey, yet it was around at the level of 19% when the world average of mobile e-commerce was at the level of 44%. However, the data gathered from the report (TÜBİSAD, 2019), indicates that even within a year (2017-2018) there has been a significant increase in shopping through both online and mobile channels in Turkey.

Table 3

Turkey E-Commerce Data for 2017 and 2018: Comparison

Years	Online Retail / Total Retail	Online Shoppers	Mobile Shoppers	Population (Million)
2017	4,1%	43%	30%	80.8
2018	5,3%	67%	50%	82.00

Note: Source: (TÜBİSAD, 2019)

In 2018, the electronic commerce sector in Turkey reached 59.9 billion Turkish lira with an increase in size by 42%. The average annual growth rate of the sector between 2014-2018 was 33%. The percentage of internet purchases in Turkey's overall retail market was calculated to be 5.3% while the average in developed countries was 11.1% and the average in the developing countries was 5.9% (Deloitte , 2019). The marketplaces, which came into existence with GittiGidiyor.com in Turkey, was improved after major players like Hepsiburada.com and N11 started using this model. Trendyol, which received investment from Alibaba Group in 2018 and transformed its business model from shopping club structure to marketplace model, stood out as an important player.

Furthermore, the fact that N11 Pro platform, which is one of the few examples of B2B open marketplace model, began operating the year before has demonstrated that Turkey had a lot of opportunity and demand in this sector (Deloitte Digital & TUSİAD, 2019). Kaan Tuncalı (Tuncalı, 2020) stated that the volume of e-commerce in Turkey in 2019 reached 13.9 billion USD and grew at the level of 23% comparing to the previous year. Thus, online shopping's share increased from 5.3% in 2018 to 6.2% in 2019 while the share of e-commerce in the total retail market was 12.3% in developed countries, it was 6.7% in developing countries. Even if Turkey's ratio increased comparing to the previous year, Turkey was still below the average. This situation indicated that the domestic market had a significant growth potential. The main factors supporting the development of e-commerce in Turkey were its young and dynamic population, and the increasing usage of Internet, mobile devices and, credit cards.

2.2. E-Commerce Sector During the Early Period of Covid-19 Pandemic

In December 2019, it was reported by the health authorities in China that there was a rise in the pneumonia problems caused by a new virus that had been initially discovered in Wuhan, China. The illness identified as Covid-19, derived from the virus known as SARS-CoV-2 (CDC , 2020). According to the author (Koonin, 2020), whilst the majority of cases were initially linked to travelling from Wuhan City, person-to-person transmission of the virus was found in several regions in China, as well as the other parts of the world. There were reported cases recorded from three countries other than China: Thailand, Japan, and South Korea. Many of these cases had been brought from China. On 21st January, The USA reported its first case. Two days later, on 23rd January, Wuhan City was locked down. The first case of Europe was reported from France on 24th January

2020. Both cases, from the USA and Europe, were associated with travel from China (ECDC, 2020). The World Health Organization (WHO) declared the quickly spreading epidemic a “Public Health Emergency of International Concern (PHEIC)” on January 30, 2020. The WHO stated on February 28, 2020 that “we have now increased our assessments of the risk of spread and the risk of impact of COVID-19 to very high at a global level”. On 8th March 2020, Italy was the first country to issue a decree to install strict public health measures such as social distancing, lockdown (World Health Organization, 2020). There have been prohibitions, which are also known as “stay-at-home” directives, “shelter-in-place” orders, sanitary cordons, shutdowns and lockdowns in addition to quarantines and curfews in many countries all around the globe as a result of pandemic. Prohibitions’ aim was avoiding the spread of Covid-19, which is caused by “the extreme acute respiratory syndrome” SARS-CoV-2. Only about 3.9 billion individuals in more than 90 countries were requested or told to stay at home by the authorities by April 2020, placing almost 50% of the global population on lockdown (COVID-19 lockdowns, 2020).

Prior epidemics triggered lockdown and anxiety phases that affected economic development, the atmosphere and lifestyle. The policies implemented in response to epidemics that endanger humanity have had an economic impact on governments and citizens. Shopping malls and shops, where social distancing is hard to manage and encounters take place, were temporarily closed, and public institutions have been kept to a minimum (Kayakuş & Çevik, 2020). Throughout Covid-19, the most of the people, who remain indoors until entirely essential, is socially isolated. Covid-19 has had affected electronic commerce, technology, tourism and economic systems (Hasanat, et al., 2020) Despite the fact that the

world economy is in recession, certain markets, such as e-trade, are seeing a rise in demand. Consumer demand in physical retailers has fallen dramatically as a result of isolation interventions and guidelines (PANTELIMON, GEORGESCU, & POSEDARU, 2020). The e-trade market was still growing rapidly, with online shopping revenues expected to hit \$6.5billion by 2023. However, ever since the pandemic, internet shopping has taken off like a rocket. Even the world's biggest stores are having difficulty keeping up with overwhelming market demand (Jones, 2020). Companies and shoppers gradually "went digital", like ordering and supplying more products digitally, when the lockdowns turned into the new standard. E-trade's share in global retail trading increased from 14% in 2019 to 17% in 2020 (How COVID-19 triggered the digital and e-commerce turning point, 2021). Over the past decade, average increase in the online purchases in the USA varied between 13% and 18% comparing to the offline growth of less than 4% since 2005. As a result, by the beginning of 2020, there had already been major investments that included marketplaces, apps, and omnichannel initiatives. As the Covid-19 pandemic started spreading widely in the USA, consumers shifted to the Internet, and e-trade was prepared for the growth. In 2020, online consumption revenue hit \$791.70 billion, increasing 32.4% from the previous year with \$598.02 billion. It is the largest yearly increase in online revenue (Ali, 2021).

There is an on-going and inevitable change, which Covid-19 pandemic boosted, in Europe's e-commerce which can be seen from the table (Table 4).

Table 4 *E-Commerce Increase Due to Coronavirus in Europe in 2020*

Country	Rate
Spain	44%
Belgium	41%
Italy	37%
Netherlands	33%
Poland	33%
UK	30%
Germany	29%
France	27%
Sweden	26%
Finland	25%
Norway	22%
Denmark	19%

Note: Source: (Statista, 2021)

Numerous customers have started to buy online, even for the very first time. In contrast to 2019, there was 15% rise in total revenue per individual in 2020. The share of online consumers was greater in the areas with high pandemic risk. Italy, Spain, and Belgium were among the top countries with the greatest rise in online consumption interest. Though fear was not the only factor caused that increase which was also a result of closed shops in countries, such as Italy and Spain, where e-commerce had not been particularly strong before the pandemic started (Edwards, 2020). It was stated by the authors (Totolo & Baijal, 2020), due to Covid-19, there was volatility in many ways, yet one trend has emerged: it has significantly enhanced digitalization. Apart from only few instances, where every

single form of economic practices, along with e-commerce, were limited by the lockdown measures, there was a rise in unique internet shoppers almost all around the world. Data indicate that most countries, from the USA to Africa and the Middle East, are experiencing growth, which is altering consumer behavior and business operations. It was reported from MercadoLibre from Latin America, that there was 100% year-on-year rise in demand for basic commodities and pharmaceutical supplies in the first few weeks since the Covid-19 crisis hit. Jumia announced that the grocery sales in Africa quadrupled.

It was stated by the authors (Bhatti, Khan, & Akram, 2020) the online shoppers number increased in emerging economies like Malaysia, Singapore, Thailand and Pakistan as well as developed countries. E-commerce began in Pakistan in 2000s, though it was slow to catch on, with only 3% of the population shopping online. However, in the midst of pandemic, it was reported that e-commerce in Pakistan was rising by 10% on a regular basis, with a 15% growth in internet users. The demand for goods increased by 30-40%.

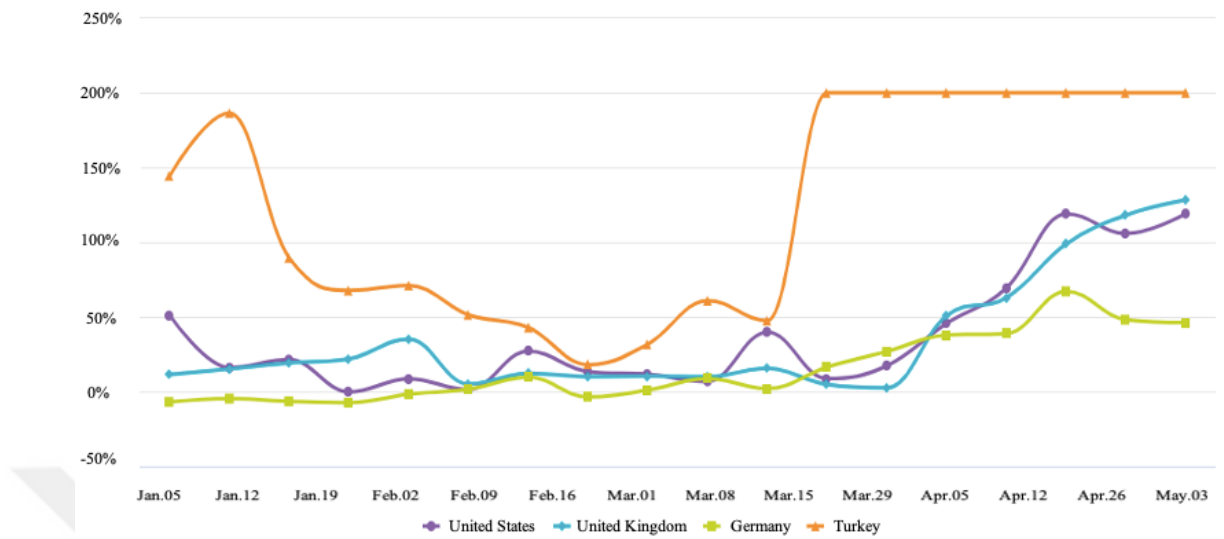


Figure 4 Changes in E-Commerce Volume in Different Countries in the Covid-19 Pandemic (CC Insight, 2020).

When the chart (Figure 4) among four countries is studied, especially after March 11, which is the date Turkey reported its first case, a significant increase can be seen. This rise reached up to 200%. The weakening of quarantine measures in Germany has resulted in a decrease in the rise. While there was some fluctuation in the United States and the UK until March 15, with the recognition of the severity of the outbreak and the beginning of the quarantine process, a significant rise in the number of online shopping customers began to be seen (GÜVEN, 2020). E-commerce in Turkey reached 91.7billion Turkish Lira within the first 6-month period of Covid-19 pandemic (Kaya, 2021). 91 billion Turkish Lira of the total amount was domestic expenditures. The imported goods of Turkey accounted for 4.5billion Turkish Lira while the export amounted to 3.7billion Turkish Lira within the first 6-month period. It is also stated by the

author (Ulukan, 2020), the e-commerce volume of Turkey increased by 64% compared to the same period previous year.

According to a survey, in the very beginning of the pandemic, the 3rd party marketplaces with entirely online business structures appeared to be more effective than the e-commerce firms (United Nations, 2021). Leading up to Covid-19 pandemic, Amazon was expected to earn \$81.2billion in sales in the second quarter of 2020. Due to the pandemic, Amazon spent more money by \$4 billion in order to protect shoppers and staff and also to maximize the supply after putting only important goods in the first place. The revenue of Amazon at the end of second quarter of 2020 hit \$88.9 billion, representing a 40% increase comparing to the previous year (Davis & Toney, 2020). Considering the market places in Turkey, the data obtained and stated in the figure (Figure 2.5) indicate that although the leadership rank did not change between 2019 and 2020, six of the players in the sector lost some share in the web site traffic in 2020. These losses are thought to be due to the impact of pandemic.

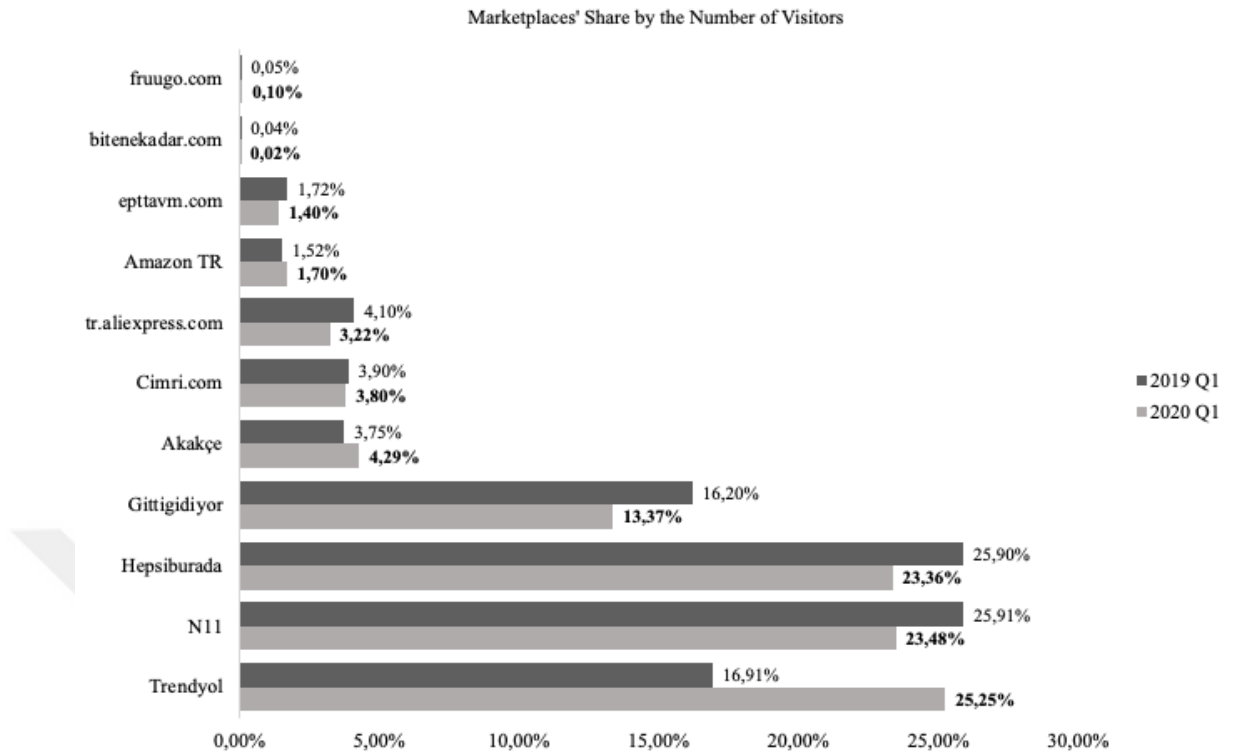


Figure 5 The Changes in Traffic Shares of Websites in the Industry (Aktuğ, 2020).

The Covid-19 outbreak has caused many marketplace companies all around the world as well as in Turkey to change their priorities. Along with these changes, they turned into a solidarity movement aiming to develop small companies. Trendyol, in Turkey, is one of the examples in this regard. It has implemented the SME Support Package of 80 million Turkish Lira in order to enable its business partner SMEs to run their businesses smoothly during the pandemic. Supporting SMEs in the global market has also continued with new developments. According to the latest information from Amazon, the company has announced support programs for SMEs to overcome the pandemic (ZEO Agency, 2020). Studies and researches in the related field during the pandemic, that affected the most of the business in a negative way, shows us that

marketplaces has grown due to the fact that including different types of product categories has made online shopping experience a lot easier for people in the time of panic and anxiety.

2.3. Online Consumer Behavior Before Covid-19 Pandemic

“Consumer behavior is the study of individuals, groups, or organizations and all the activities with the purchase, use and disposal of goods and services, how the consumer’s emotions, attitudes, and preferences affect buying behavior. The study of consumer behavior formally investigates individually qualities such as demographics, personality lifestyles, and behavioral variables in an attempt to understand people’s wants and consumption patterns” (Wikipedia, the free encyclopedia, 2004). The analysis of consumer behavior has gained a different dimension due to e-commerce. The internet structure and functioning created a new type of consumer different from the traditional consumer (Arslan & Koçum, 2020). Online consumers, who are more conscious than the traditional consumers, have experience in using the virtual environment and information technologies. In addition to that, they follow the technological trends, take risks and tend to find best product at the best price in the shortest time. These people also share their opinions, satisfaction or dissatisfaction about a product or service on social networks, as well as taking the others into account (Marangoz, 2018). Considering the volume of e-commerce and the increasing trend of consumers’ interest in online shopping, it is important to determine factors affecting the consumers’ behavior and the amount that they spend while shopping online (Marangoz, Özkoç, & Aydın, Tüketicilerin İnternet Üzerinden Alışveriş Davranışlarının Açıklanmasına Yönelik Bir Çalışma, 2019). According to the author (Lin, 2007), it is important to understand consumers’ decisions regarding online shopping and

the factors that affect decision process in order to make decisions about the applications to be developed to facilitate online transactions and services.

Based on the authors' research (Na & Zhang, 2002) , there are ten important factors, which are possible to be divided into five independent factors including environmental, demographical, personal features, or the quality of product or retailer, that have an effect on consumer behavior. However, when the online consumer behavior is studied, the website quality and the whole online experience are considered to be an important factor (Bhatnagar, Misra, & Rao, 2000).

It has been determined by the author (Burke, 2002), that demographic factors such as age, gender, income and education level have effect on the tendency to shop online. It is stated by the authors (Li, Kuo, & Rusell, 1999) that internet users differ from each other demographically. Also, even there was a decrease in the sex-based differences, it still did exist. In a study (Ermeç Sertoglu, Örs, & Catli, 2017), that unlike the previous studies that show men are more prone to online shopping, the participants showed a balanced distribution regarding gender in terms of online shopping. The reason for the fact that male population's tendency to shop online is higher than the female population, is probably because men are more prone to learn and use computers and other devices, and they have more opportunities to gain or have access to technology more than women. Back in 1999, female population purchased less than male population through online channels. The current balanced distribution is likely to be caused by the fact that back in time, the online content mostly did strike men's fancy. Yet, there are more women going online day-by-day and they are able to find content that interests them. Age is another variable included in the demographic factors. There a few studies that report internet users are mostly young people. But the recent studies

(Aksu Armağan & Turan, 2014), also imply that the gap between the young and older people gradually closing. It is also stated in some researches that the young online consumers are more likely to conduct research and compare products on the Internet before purchasing than the older consumers. Yet, a study (Teo, 2006) shows that people who shop online are older and have more income than the young internet users. Another study (Sim & Koi, 2002) also proves that people, who own credit card and have higher monthly income, can more easily adapt to online consumption. Both studies lead us to the point where it is possible to say that even if the younger people who are more likely to shop online in terms of internet usage, the older internet users who make more money are the online consumers.

The early researches state that the online consumers were more well-educated than the non-online consumers in the beginning of millennium. In addition to that, people, who worked in the fields related to information technologies, were more likely to shop online (Teo, 2006), (Burroughs & Sabherwal, 2002), (Swinyard & Smith, 2003). Another study (Naseri & Elliott, 2011) also proves that education level has a positive effect on the process of adapting the online shopping, and apart from that, the level English skills also affects the adaption. It was stated by the authors (Bellman, Lohse, & Johnson, 1999) that even if the people who were online were younger, making more money and with a higher level of education, the disparities were steadily diminishing. And in modern world being online in terms of shopping does not require being young and wealthier. Particularly with the launch of marketplaces, online shopping enables people to purchase cheaper products in an efficient period of time and with the improvements in UX and payment technologies it is easier to complete online transactions for everyone.

There are many studies about the factors affecting the online shopping behavior of consumers with various approaches. Apart from the demographic characteristics of consumers, there are approaches that state:

- price,
- technological developments,
- socio-cultural,
- psychological factors

that also affect online consumer behavior (Marangoz, Özkoç, & Aydın, Tüketicilerin İnternet Üzerinden Alışveriş Davranışlarının Açıklanmasına Yönelik Bir Çalışma, 2019). There are limited number of studies focusing on the external/environmental factors in online consumption. One of these studies (Borchers, 2001) states that the term “environmental” is associated with the external variables that influence consumers’ perceptions and buying behavior when they buy online. According to the same research it has three aspects. To begin with, the very first one is the current regulatory system, which prevents users against such a failure in online purchases. The second one is the “3rd Party Recognition” scheme, through which multiple third-party verification bodies work to guarantee the reliability of online retailers. Both factors are directly related with the relation between consumers and online shops. Yet, third factor refers to the volume of competition within the market among the online retailers which offer the same service and merchandise (Lee, Kim, & Moon, 2000). The tendency to shop through online channels varies depending on:

- the characteristics of consumers,
- perceived personal values,
- the design of the websites,

- the quality of the product (Lian & Lin, 2008).

The marketing guru Philip Kotler also states in his book that the most important factor affecting consumer behavior is personal factors (Kotler, 2002). The studies on the personal factors playing an important role in the buying process can be divided into sub-categories including “*characteristic of online consumers*” (O’Cass & Fenech, 2003), “*personal benefit*” (Eastin, 2002) (Vrechopoulos, Siomkos, & Doukidis, 2001), and “*the level of adapting new technologies*” (Childers, Carr, Peck, & Carson, 2000) (Citrin, Sprott, Silverman, & Stem, 2000). The researches on this topic mostly result as that people who are more prone to online shopping are more “*convenience oriented*”, less “*experience-oriented*”, and “*time-constrained*”. Yet, the physical interaction with the products to be purchased do not matter to online consumers. Quality of the product or service or retailer affects both online and conventional consumer behavior. The term refers to the attributes of online retailers, the goods they offer, and the services provided to facilitate purchases (Li & Zhang, 2002). Literature shows that the measurements used in the researches about the quality of vendor include:

- real existence of physical stores,
- store reputation and size,
- reliability,
- number of online visitors,
- assurance-building mechanism,
- use of testimonials (Heijden, Verhagen, & Creemers, 2001),
(Bhatnagar, Misra, & Rao, 2000), (Kim, Eom, & Uoo, 2001),
(Lowengart & Tractinsky, 2001).

The studies prove that, in terms of the quality of product:

- variety of goods,
- product performance and availability,
- price,
- social presence requirement,
- product presence requirement,
- dependability of product,
- brand

are the characteristics of commodity affecting online consumer behavior (Jahng, Jain, & Ramamurty, 2001). Since the early days of studying and researching online consumer behavior, website quality's impact on consumers' purchasing decision has remarked. The early studies did evaluate the impact from different perspectives such as:

- easiness to use (Gefen & Straub, 2000),
- users' satisfaction or dissatisfaction (Zhang & von Dran, 2000),
- website's content and media richness (Grandon & Ranganathan, 2001),
- Technical features,
- navigation,
- security (Koufaris, Kambil, & Labarbera, 2002), (Lohse & Spiller, 1998).

To conclude the outcomes of past researches, quite a number of "*website quality*" indicators have been shown to greatly affect online shoppers' perceptions and behaviors. A high-quality website is able to help customers make purchases seamlessly and entice them to return to online store (Na & Zhang, 2002). There are several similarities between the conventional and online consumer behavior, yet the web experience is one of the significant differences. As stated by the

author (Kotler, 2002) **“The web experience is in this sense a new, additional input in the traditional buying behavior frameworks found in marketing textbooks.”** It is also important to realize that web experience is a static factor that is rapidly evolving as the technology improves. A research (Constantinides, 2004) emphasizes the importance of web experience as **“Developments in the in the virtual marketplace, changing customer technographics and technological innovation will present e-marketers with new tools and methods for enhancing their customers’ online experience.”**

The idea that there are multiple choices for each product category on the Internet, that certain costs are less, and that the most recent items can be found, provides highly appealing opportunities for customers who do not have access to the conventional shopping centers or enough time to shop in a traditional way (Aksu Armağan & Turan, 2014). An early research (Peterson, Balasubramanian, & Bronnenberg, 1997) indicates that the most important factor in tendency to online shopping is the goods and services offered: it is stated that it depends on various features such as “search goods” *which are defined as the goods with several attributes such as price that help consumers to evaluate before purchasing*, or “experience goods” *which are defined as the goods where the attributes like price and quality remain unknown until the purchasing*, price, differentiation degree, etc. According to studies from previous and separate times, it is stated that the most preferred products for online shopping are books, CDs, and travel packages (Anderson, 1997), (Horrigan & Rainie, 2002). Along with these products, computer hardware and software, flowers and gifts, clothes and accessories, food and beverage, health and beauty products are considered to be top products purchased through digital channels (Teo, 2006). In 2013, PwC

conducted a research among several countries, to be particular among more than 10.000 respondents from different parts of the world. As it is seen from the figure (Figure 2.6), internet users preferred in-store experience to purchase grocery, furniture and clothing products which were “googled” before the purchasing.

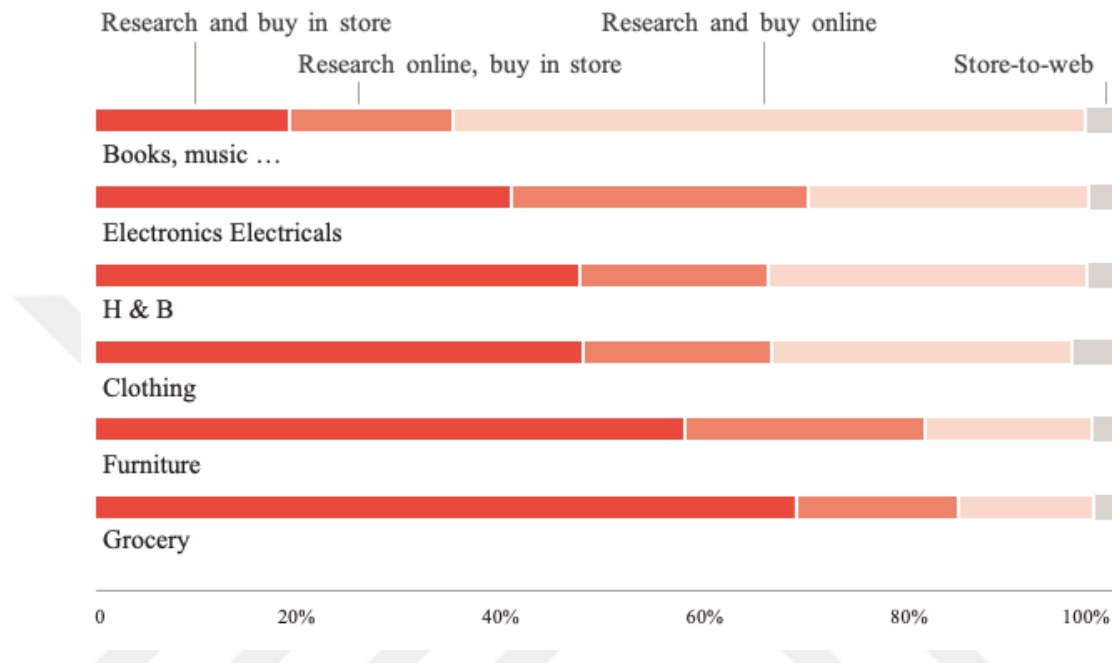


Figure 6 The Purchase Journey Across Selected Categories (PwC, 2013)

Since the beginning of online consumption, it has been determined that, in online shopping, “search goods” are more preferred than “experience goods” (So, Wong, & Sculli, 2005). As a result, goods requiring less manual control are better fit for online platforms (Klein, 1998) comparing to the products that address emotions and motives because in that case, face-to-face relationship is much more important. In the very same research, it is stated that consumers’ purchasing intention for music CDs and clothing are different from each other (Vijayasathiy & Jones, 2000). In a study to investigate the consumer behavior of Internet users in Turkey (Usta, 2006), it is revealed that the computer and electronic products ranked first. It also revealed that these products are followed by books, Sports

equipment, hotel reservations & travel tickets and clothing. Though the studies and researches mentioned above cover the early stages of online consumption. In today's world, especially with the pandemic, it is inevitable to buy everything through online channels.

When more up-to-date reports and research are examined, it is seen that the gap between books/CDs and clothing is gradually closing. A global report (Şat Sezgin, 2013) states that in the global markets, where grocery shopping is still done in supermarkets, it is observed that products such as books and music are highly purchased online. It is understood that in-store purchases are still the most preferred method in health, beauty and apparel industries, however, online shopping has also improved recently in these industries. In contrast to global data, the products with the most online sales are clothing and sports products in **Turkey**. It is followed by electronic devices, household goods and food, and daily use material such as flowers and beauty products. The recent studies, focusing on both Turkish and global markets, it can be seen that clothing industry is leading in the product groups purchased online. Between 2018 and 2019, 59% of online consumers in the USA bought apparel through digital channel. Books, movies, music, and consumers electronics trailed (Estay, 2020). According to the survey (Kantarç, Özalp, Sezinsoy, Özaşkınlı, & Cavlak, 2017), **cheapness** is the most important factor in motivation of consumers prefer online shopping in Turkey. While consumers in Brazil and Australia also have a similar expectation, for other countries the expectation of convenience and comfort comes before the cheapness.

The recent researches also focus on the mobile channels while studying consumer behavior in e-commerce and one the studies (Kantarç, Özalp, Sezinsoy, Özaşkınlı, & Cavlak, 2017) state that in the last 5 years, the rise of smartphones

has transformed the way businesses do business, and this has affected the computer sales as well. By 2011, worldwide sales of mobiles exceeded the computer sales and smartphones, or in other words, mobile devices, started to overtake computers. In 2016, global computer sales fell to 258 million units, the lowest level in recent years. Despite decrease in computers sales, rising smartphones revenues and rapidly growing mobile internet penetration have begun to transform e-commerce, making mobile one of the most significant e-commerce platforms. And that's because mobile's share in e-commerce which was 10% in 2012, rose to 44% in just four years. **With the rise of smartphone apps, a growing number of e-commerce businesses are offering mobile shopping services, allowing their customers to access their goods and services from an external mobile platform** (Huang, Lu, & Ba, 2016). With the rapid developments in mobile technology, smartphones are getting more and more affordable and that leads us to the fact that people are using smartphones more than computers for day-to-day activities including e-commerce.

2.3.1. The Changes in Online Consumer Behavior During the Early Days of Covid-19 Pandemic

Since the beginning of 2020, Covid-19 pandemic's affected e-commerce as well as anything all around world. All studies researches indicate that, due to the lockdowns and fear of going out and have a physical contact with anyone, consumer behavior trend is shifting offline to online.

The previous researches also indicate that there have dramatic changes to lifestyle affecting consumer behavior (see Figure 7).

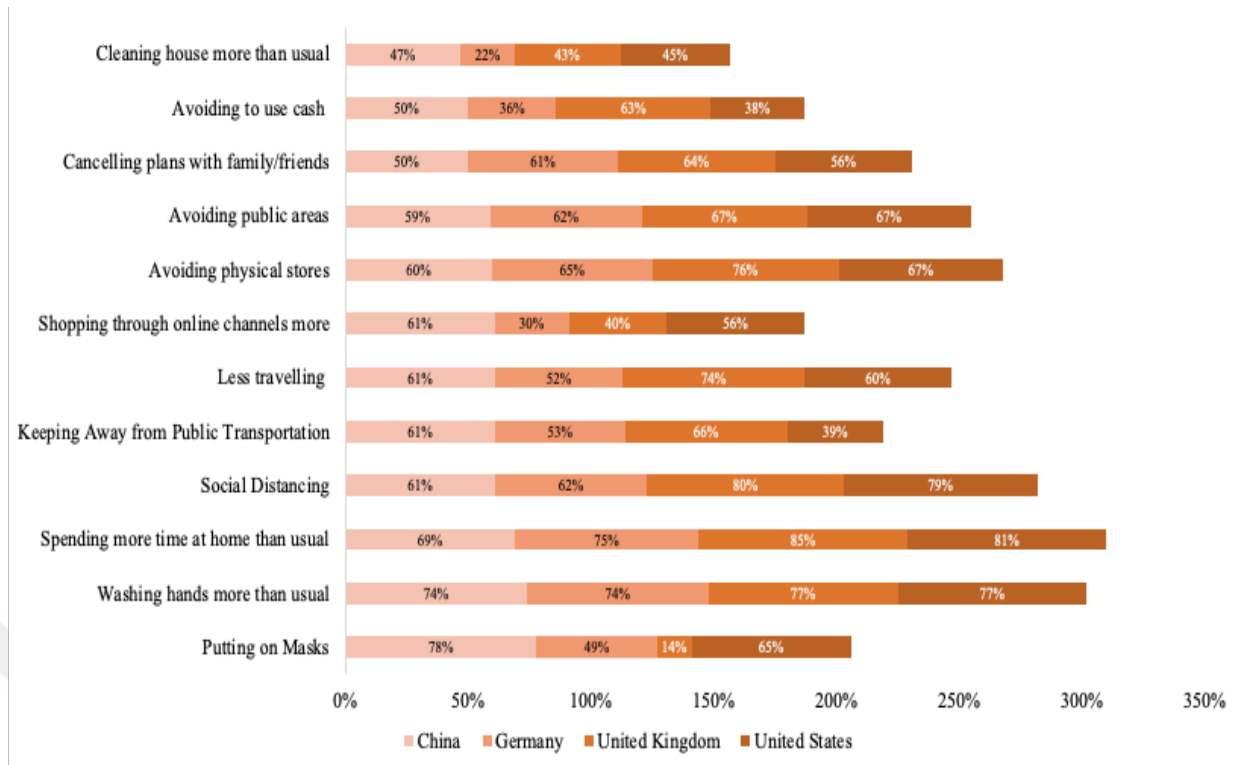


Figure 7 The Changes to General Lifestyle due to Covid-19 (Statista, 2020).

A detailed research (Tuncali, 2020) suggests that since the pandemic caused sudden changes and rapid transformations in the spending habits of consumers, the products whose sales increased and decreased the most in e-commerce have changed on a global scale. While hygiene, health and food products are at the top of the list with high growth rates, spending on travel and holiday products has been the group with the sharpest decline in the world. During this period, the traffic of worldwide e-commerce sites was at a historically high level with 14.3 billion visits. The same study also states that during the pandemic period, the rapid decreases in card expenditures were recorded in clothing, accommodation, airlines and travel agencies / transportation groups, while expenditures for the market and electrical-electronics groups increased. Looking at the shares of sectors in total expenditures as of August 7, 2020, it is seen that the share of marketplaces increased by 3 points compared to the same period of the previous year and ranked first with 19.4%, and the shares of travel agencies /

transportation, airlines and accommodation expenditures decreased significantly.

A study, (Ayittey, Ayittey, Chiwero, Kamasah, & Dzuovor, 2020) analyzing the global economic effect of Covid-19 pandemic by using SEO tools, states that

“major changes in search behavior have been observed in the fashion sector.

Fashion brand normally receive a significant proportion of their traffic through branded search. In the example, one UK-based fashion retailer’s branded search traffic drops by approximately 40% after strict new measures were introduced in mid-March to combat the Covid-19 virus. During this period, the same website’s generic traffic also dropped, indicating a general downturn in demand for fashion items.” The literature does mostly focus on the product groups sold online during the pandemic. According to the author (Muratoğlu, 2020), the market, health, cosmetics, book, stationery, donation and online education categories, which sell the products and services that consumers need at home, came to the fore. Based on the data collected in Turkey; there was an increase of 186% in the grocery category, 168% in the health category, 108% percent in the cosmetics category, 69% in the book / stationery category, and 42% in the nuts category comparing February and March 2020 (see Figure 8).

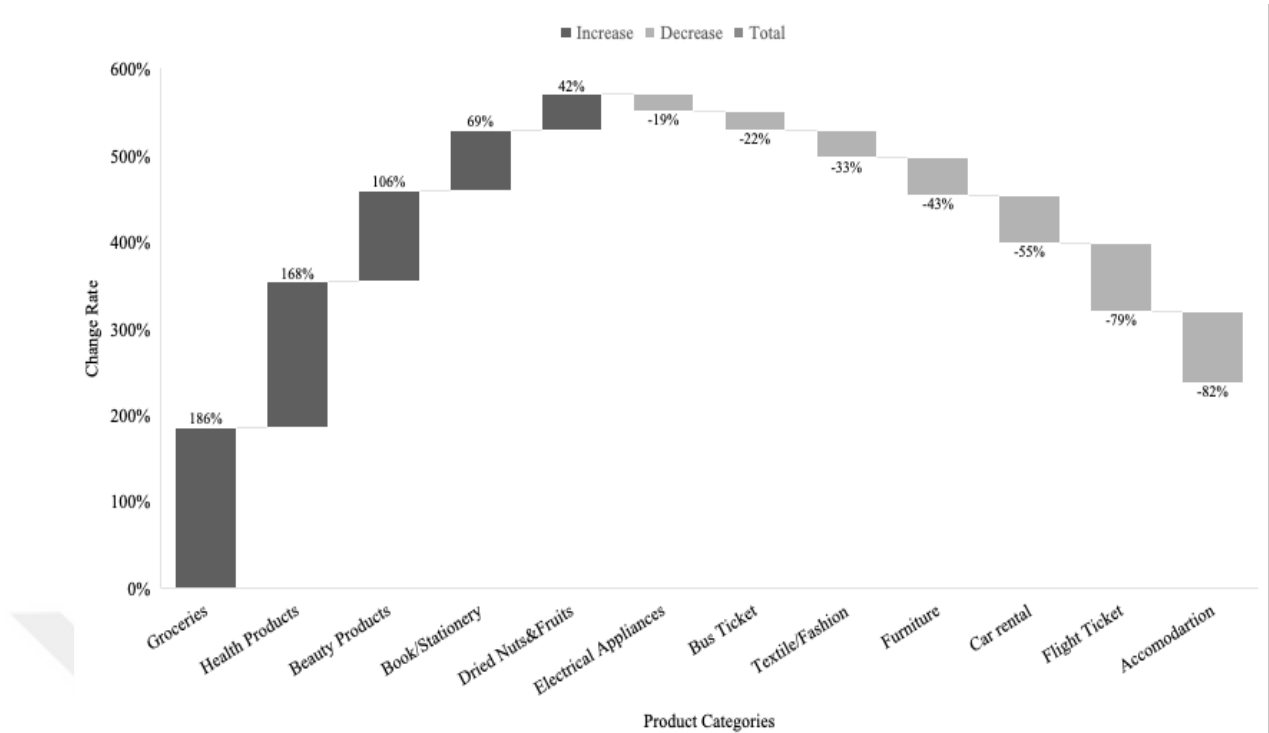


Figure 8 The Change in the Products Sold Online: Comparing February and March 2020 (Muratoğlu, 2020).

A research (Styrk, 2020), analyzing the first period of the U.S e-commerce market, shows that during the pandemic the first products that consumers rushed to purchase were toilet paper, canned food and other household cleaning products. One of the categories with the fastest increase in demand was disposable gloves with 670%, bread making machines with a 652% increase, and cough and cold product groups ranked third. However, suitcases and briefcases are ranked as e-commerce products that have experienced the biggest decrease in sales by 77% since March last year. Meanwhile, cameras (-64%) experienced significant declines in demand for swimsuits (-64%) and bridal gowns (-63%). Since the beginning it is stated by the scientists that herbal products, vitamins and doing exercise have boosting effect on immune system. That is why consumers purchased products that will enable them to have strong immune systems, and

equipment to use while exercising at home, it is also stated by the author (Meral, 2020) that there was a 45% increase in the sales of herbal products through online channels and an 85% increase in the sales of Vitamin C. On the other hand, there is an average increase of 10% in sports products. As the most of the studies (Güven, 2020) on consumer behavior during the Covid-19 pandemic indicates that in the COVID-19 pandemic crisis, there has been a trend in e-commerce that has spread around the world, resulting from people closing home. When compared with the previous year's data, it is seen that the volume of e-commerce has increased in Turkey and in the world based on the same periods. However, during this period, a significant increase trend was observed in the demand of some product groups, while the demand for some products decreased. During the epidemic period, consumers turned to especially health, personal care and cleaning products. There has been a decrease in the demand for clothing and accessories products and luxury consumption products.

Due to the limited number of studies analyzing the demographics in the consumer behavior during Covid-19 pandemic, there is a study (Al-maaitah, Majali, Alsoud, & Al-Maaitah, 2021) stating, based on the survey, that women are more likely to be worried about the consequences of Covid-19; however, data suggest that men's shopping habits are more likely to be affected. One-third of men, compared to 25% of women, said the pandemic had an effect on how much they spent on goods. Furthermore, 36% of men, compared to 28% of women, said it had an effect on how much they spent on interactions.

Apart from all, one of the most important shifts that occurred in both traditional and online consumer behavior is hoarding or in other words stockpiling. In the time of a crisis, people's attitudes and behavior are controlled

by the feelings like panic, anxiety, stress which are very normal human reactions. This behavior, hoarding or stockpiling is basically the act of amassing and stocking significant number of products or items for later purpose (Chu, 2018). Governments' restrictions affected and caused people to mostly behave in this way. The measurements and precautions taken by governments were constraining consumers' regular shopping behavior and in addition to governments' restrictions, supply-chain problems and social media also triggered this behavior. All around the world, there were pictures or video footages of people emptying market shelves, storing products like toilet papers, sanitizers, etc. also increased the amount of anxiety and fear of people who were not able to "stock" these products (Hall, Fieger, Prayag, & Dyason, Panic Buying and Consumption Displacement during COVID-19: Evidence from New Zealand, 2021). Based on the previous researches on *panic behavior* (Perry & Lindell, 2003), might be found rational and pro-social yet other studies also state that only small portion of the population is affected by others' panic buying and the process does not last for a long period of time (Ballantine, Zafar, & Parsons, 2013). Panic buying is defined differently based on different concepts by the authors. Some of them emphasizes on the impulsive buying behavior and the other focuses on the hoarding or stockpiling (Naeem, 2021), (Islam, et al., 2021), (Wang, An, Gao, Kiprop, & Geng, 2020). There different factors and variables that drive the panic behavior. Fear of future deficits, shortages of supply, as well as dread, fear, anxiety and it is safe to say that, for a large scale event like Covid-19 pandemic, all factors are considered to be relevant. As it is stated by the previous studies, it is normal to face that kind of panic behavior, however, thanks to the fact that e-

commerce managed to meet consumers' needs and demand, the hoarding and stockpiling period was easily circumvented.

2.3.2. Online Consumption During the Early Days of Covid-19 Outbreak in Turkey: The Data Provided by Hepsiburada

The pandemic started in China on December 30th, 2019 when the Chinese authorities announced the virus related case. 11 March 2020 is the date when authorities in Turkey confirmed the first coronavirus case in Turkey. Since that day, it is safe to say that so much has changed. Although, we typically attribute these changes as due to the pandemic, there are many economic and psychological factors behind that.

As stated by the research (Bigan & Erdoğan, 2020), Covid-19 has had a huge impact on consumers' income in Turkey. Apart from being worried about their and their loved ones' health, the Turkish consumers were also about the economy and the length of the pandemic. The apparent consequences, as well as the **uncertainty** surrounding the situation, were appearing in lower expenditure across a large range. Many studies also prove that, in the beginning of pandemic and in the light of curfews and restrictions, consumers generally preferred online channels and there were changes in the shopping priorities based on the conditions of that period.

In the data obtained from Hepsiburada company, the changes in the sales (piece-based) of the product categories on the selected dates are shown on a weekly basis. The pandemic has been lasted for more than a year and the data analyzed for this part covers the period between December 30th,2019 (the first outbreak date) – April 28th 2020, and the data is also divided into two sub-periods

based on the date of the first virus related case in Turkey (March 11th, 2020) and represented as Table 5 and Table 6.



Table 5

The Weekly Changes in the Piece-Based Sales Between December 30th 2019 – March 8th 2020

Categories	W1 vs W2	W2 vs W3	W3 vs W4	W4 vs W5	W5 vs W6	W6 vs W7	W7 vs W8	W8 vs W9	W9 vs W10
Gold Shop	-74%	-15%	270%	-79%	163%	-54%	116%	29%	-45%
Mother - Baby - Child	12%	39%	-32%	-5%	17%	16%	-19%	1%	-1%
Shoe - bag	13%	-3%	-24%	33%	16%	19%	-5%	14%	-4%
Computer	23%	13%	-11%	0%	13%	11%	-8%	1%	-4%
Consumer Electronics	5%	13%	-17%	-4%	35%	-4%	-11%	-3%	-9%
Home Textile Store	16%	4%	-24%	26%	23%	2%	2%	2%	1%
Photo & Camera	5%	-7%	-2%	14%	18%	7%	-20%	-6%	1%
Clothing	25%	34%	-33%	4%	21%	22%	-9%	-20%	19%
Hardware	11%	-2%	-5%	34%	-8%	-1%	13%	40%	-33%
Hobby Game	12%	19%	-18%	-10%	44%	-4%	-18%	12%	-21%
Book Products	41%	33%	-25%	-14%	36%	12%	13%	-5%	-10%
Cosmetic	17%	9%	-25%	9%	55%	-7%	-20%	70%	-31%
MDA	11%	-19%	-7%	-13%	24%	10%	-15%	2%	-13%
Furniture	8%	9%	-22%	6%	27%	6%	1%	-10%	-1%
Music Products	8%	18%	-21%	-2%	53%	18%	-21%	-10%	-5%
Office and Stationery	12%	-9%	-9%	4%	24%	5%	-3%	-8%	7%
Auto Accessories Store	8%	0%	-16%	4%	3%	9%	1%	3%	5%
Outdoor Sea	19%	15%	-16%	36%	-20%	6%	-7%	5%	-4%
Game Consoles	-3%	32%	-12%	-3%	-11%	5%	-14%	12%	2%
pet shop	33%	5%	-13%	-1%	10%	-9%	-2%	10%	4%
Watch&Glasses&Accessorie	25%	11%	-8%	26%	36%	5%	-41%	5%	37%
Health and Beauty	9%	-4%	-25%	20%	141%	-48%	-7%	56%	-26%
SDA	3%	9%	-10%	58%	-21%	11%	-15%	24%	-23%
Sports equipment	22%	-1%	-10%	12%	13%	2%	12%	2%	4%
Jewelry & Jewelry	5%	6%	-12%	11%	51%	14%	-34%	-12%	4%
Telephone	-19%	11%	-18%	7%	11%	6%	-4%	5%	-9%
Basic Consumption & Food	47%	20%	-20%	79%	-22%	-13%	-1%	5%	2%
Glassware	19%	-7%	-14%	14%	10%	-2%	-15%	11%	-6%

Table 5 shows that there is no consistent increase or decrease in any categories except for the “Health and Beauty” category. There is also one remarkable point is the dramatic change in the “Gold Shop” category from 3rd week to 4th week. This is caused by the fact that due to the coronavirus, investors turned to safe investment tools. The price of gold reached its highest level in the last seven years (BBC, 2020). The major changes in the shopping patterns and behavior occurred around the time of first case in Turkey. Many studies and researches approves that fact. Based on the report (Group M, 2020), following the identification of the first virus related case, it appears that home consumption grew. Cologne, vinegar, pasta and beans were also growing in popularity. Furthermore, the most popular product categories at that time did include biscuits, pasta, milk, beans, chocolate-coated goods, cheese and domestic hygiene products. Apart from detailed product based analyzes, the first impact of Covid-19 in Turkey to e-commerce:

- The visits to marketplaces (Hepsiburada, Trendyol, N11, Gittigidiyor, Morhipo, etc) rose by 30% through both mobile and desktop.
- *Personal Care* and *Retail* categories’ visits grew by 22%.
- *Textile* and *automobile* visits decreased dramatically.

As it can be seen from the Table 6 that covers the period, which includes the lockdowns, curfews, and #stayathome movements, right after the first virus related case in Turkey, there is a change in the amount of sales in the categories such as hobby, games consoles, decoration & home textile, consumer electronics, office & stationary, books, etc. It proves us that since consumers spent more time at home, it was inevitable not to realize the shortcomings. A report by Nielsen Company (Güler, 2020), states that Turkey and Turkish consumers went through that period not that much in a mood of panic comparing to other European

countries in which the shelves in brick-and-mortar stores were empty and there were several problems in terms of supply management. Turkish retailers were successful in terms of responding to consumers' needs by increasing the number of employees etc. Besides, the more people spent time at home, the more they got into cleaning home more frequently, cooking, particularly making bread. All these changes in their lifestyles, evidently changed the shopping habits on a permanent level since the pandemic has lasted for quite a long period of time. Prior to the pandemic, the shopping behavior was much more of a "consuming-oriented", however, after the outbreak it turned into "health-oriented" and as a consequence, the immune systems boosters and vitamins have been being purchased through digital channels. Additionally, Turkish online consumers have been more adapting to digitalization, new technologies such as virtual reality in shopping, augmented reality, and contactless payment options in shopping.

Table 6

The Weekly Changes in the Piece-Based Sales Between March 9th 2020 – April 26th

2020

Categories	W10 vs W11	W11 vs W12	W12 vs W13	W13 vs W14	W14 vs W15	W15 vs W16	W16 vs W17
Gold Shop	-9%	29%	-82%	15%	77%	109%	-10%
Mother Baby Child	23%	23%	11%	28%	10%	5%	-21%
Shoe bag	14%	-49%	11%	37%	33%	25%	2%
Computer	-1%	23%	35%	28%	-2%	2%	-22%
Consumer Electronics	11%	6%	34%	21%	10%	24%	-27%
Home Textile Store	-2%	-18%	33%	44%	22%	19%	-7%
Photo & Camera	-7%	0%	48%	23%	8%	10%	-16%
Clothing	2%	-17%	23%	55%	24%	36%	-4%
Hardware	53%	15%	-9%	22%	-13%	17%	-6%
Hobby Game	12%	56%	67%	3%	-3%	-7%	-18%
Book Products	-5%	20%	46%	14%	5%	9%	-14%
Cosmetic	6%	-30%	21%	29%	19%	9%	-13%
MDA	-7%	2%	0%	14%	10%	34%	-10%
Furniture	-6%	-13%	24%	22%	26%	21%	-9%
Music Products	-11%	18%	63%	21%	14%	2%	-6%
Office and Stationery	-6%	-2%	52%	33%	11%	-2%	-18%
Auto Accessories Store	5%	-28%	0%	7%	15%	21%	-11%
Outdoor Sea	13%	-10%	5%	8%	7%	15%	-5%
Game Consoles	38%	76%	31%	-5%	-9%	-7%	-15%
pet shop	2%	41%	-10%	17%	2%	-6%	-11%
Watch&Glasses&Accessories	5%	-34%	29%	-4%	7%	19%	-7%
Health and Beauty	117%	-1%	-7%	115%	-51%	-14%	-18%
SDA	3%	14%	74%	33%	29%	0%	-18%
Sports equipment	43%	37%	13%	-1%	-11%	-11%	-9%
Jewelry & Jewelry	7%	-16%	22%	12%	15%	20%	-3%
Telephone	-1%	-8%	10%	14%	13%	15%	-11%
Basic Consumption & Food	83%	26%	-18%	18%	-5%	-3%	-8%
Glassware	3%	-11%	48%	46%	23%	8%	4%

3. METHODOLOGY

3.1.Purpose and Importance

The main purpose of this research is to analyze the online consumer behavior in Turkey during the very early stage of Covid-19 pandemic. Online consumers' behavior during the first one-month period after the outbreak of Covid-19 pandemic in Turkey is the main focus of this research. Also the Turkish consumers' behavior during the period starting from the global outbreak until the first coronavirus case in Turkey is also studied and analyzed in this research. This research will make a useful contribution to the literature about the online consumer behavior of individuals under the pressure of Covid-19 pandemic.

While other studies on consumer behavior generally focus on the demographic factors, in this research studying and analyzing the impact of fear/threat on consumer behavior is also taken into account since it fear, panic and anxiety were among the top feelings during that dreadful period. This study also focus on the different time periods including the period between the global outbreak of the virus and the local outbreak, as well as the 1-month period after the local outbreak of virus. Hence, this research is a contribution to the literature by examining the factors affecting consumer behavior in Turkey both on a global and local scale. Apart from that, the changes in the products and product categories are also examined from both a consumer and brand perspective, specifically from the perspective of Hepsiburada which is one of the top five marketplaces in Turkey.

When the publications in Turkey are examined, it is seen that there are not many detailed studies of the relevant period and the particular subject. As a consequence, this study will surely be an important asset and contribution to this field due to its detailed and multi-point approach to the matter.

3.2. Research Method

The major goal of this study is to understand the consumer behavior in terms of product groups with dependent and independent variables including demographic factors, the impact of threat felt during the early days of pandemic by asking the question to understand and analyze the “what” part of the research. In order to do so, descriptive research method, “which is neither in the category of qualitative research nor in the class of quantitative research (Bhasin, 2019)”, with a survey research is to be the baseline of this research. Descriptive research method, which is as stated by the author (Fox & Bayat, 2008) has a goal to shed light on existing difficulties or problems through data collection process that allows researchers to describe the situation more thoroughly than would be feasible without using this method. This method will us to understand the changes in the buying behavior through online channels in the light of Covid-19 pandemic in Turkey from different aspects.

3.3. Participants and Sampling

Method for sampling of this is determined as convenience sampling, which is “non-probability sampling technique where samples are selected from the population only because they are easy to recruit” (Non-Probability Sampling: Definition, types, Examples, and advantages, 2018). In the context of this research, respondents were predicted to be shopping through online channels and were asked to participate by the researcher and other respondents. Apart from using a time-effective method, web-based recruitment, which allows participants to be completely anonymous, was preferred for this research.

Within the context of this research, the target group is determined as the Turkish consumers who know or have experienced online shopping and people located in Turkey during the specified time period.

A total of 267 individuals completed the questionnaire set in 1-month period of spring semester of 2020-2021 academic year. After the process of data screening, 267 cases remained for the analyzing process. The demographic information gathered from the respondents are shown in the following figures and tables:

- Age:

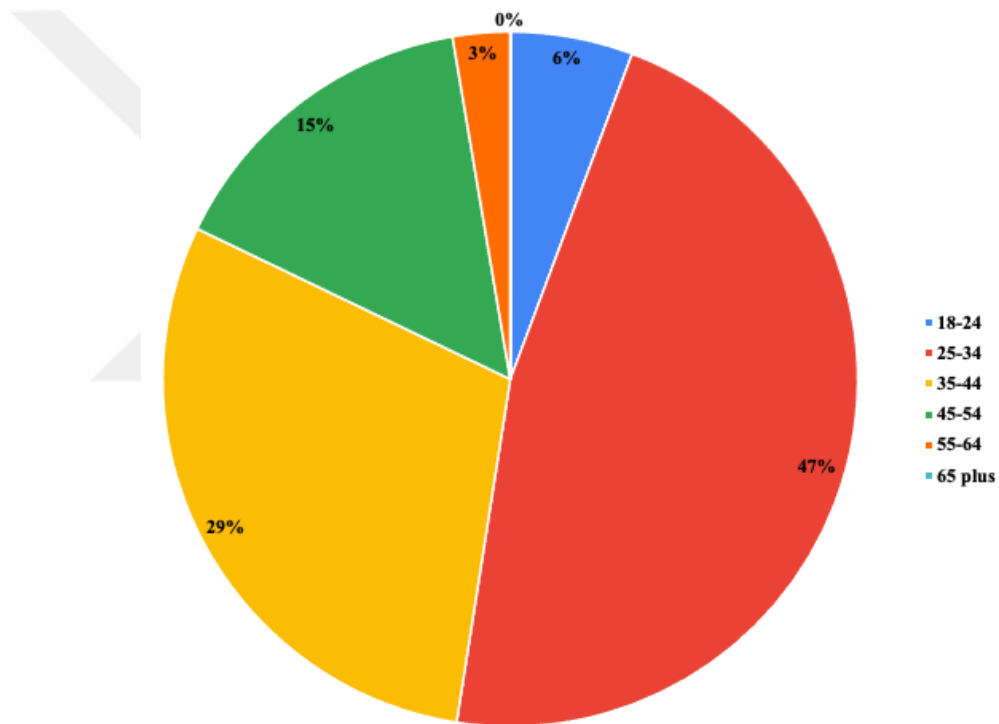


Figure 9 The Distribution of Respondents' Age

- Sex:

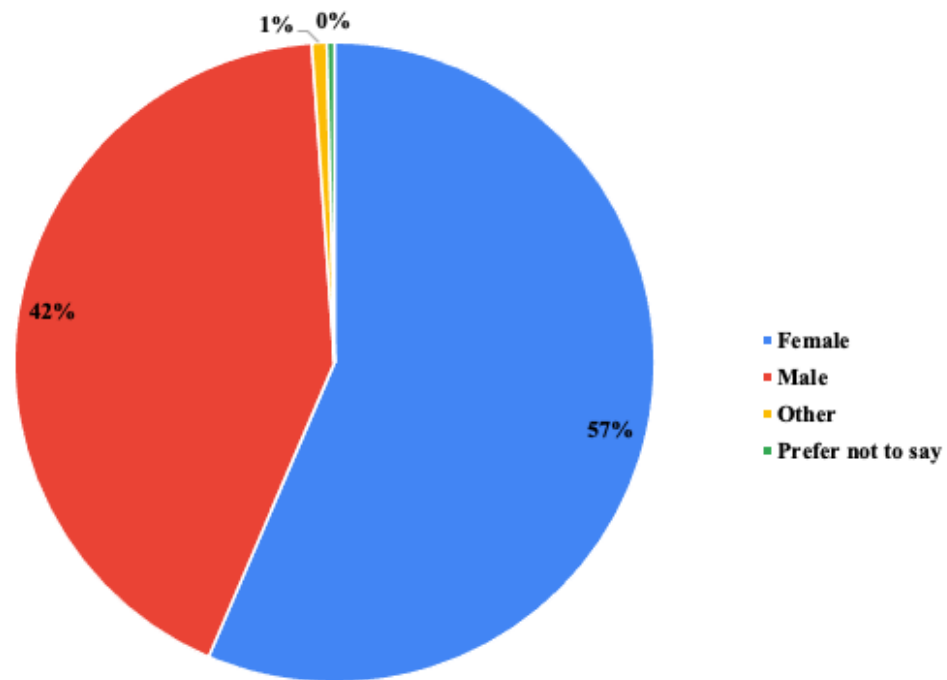


Figure 10 The Distribution of Respondents' Sex

- Marital Status:

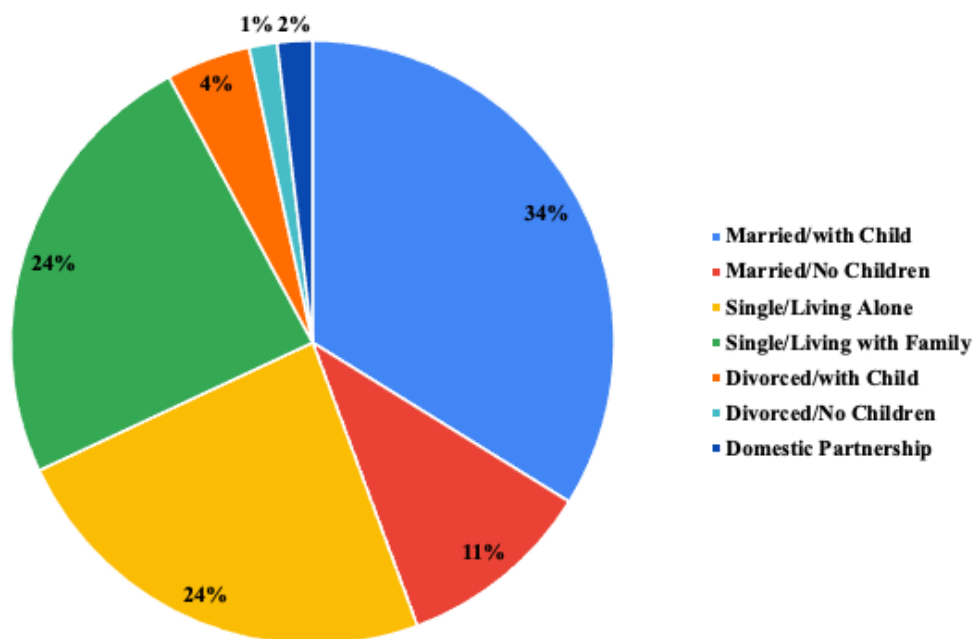


Figure 11 The Distribution of Respondents' Marital Status

- Occupation:

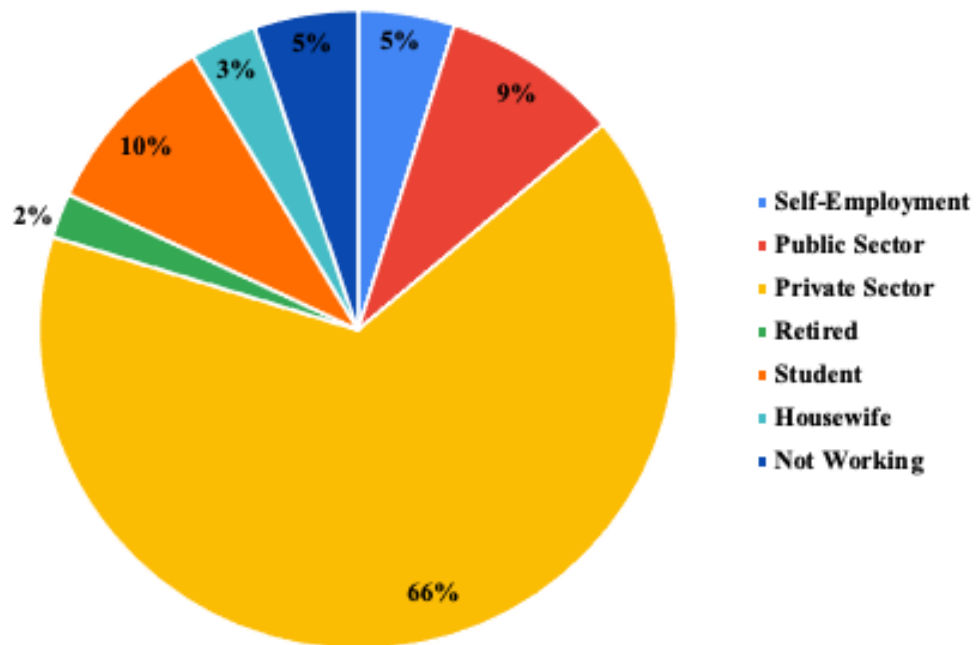


Figure 12 The Distribution of Respondents' Occupation

- Education Level

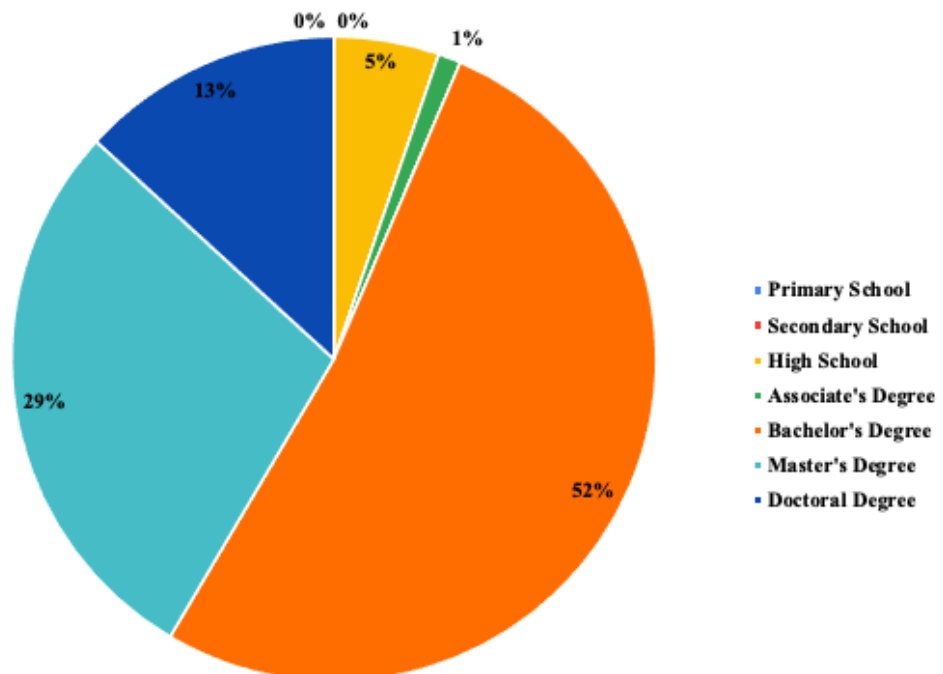


Figure 13 The Distribution of Respondents' Education Level

- Income Level

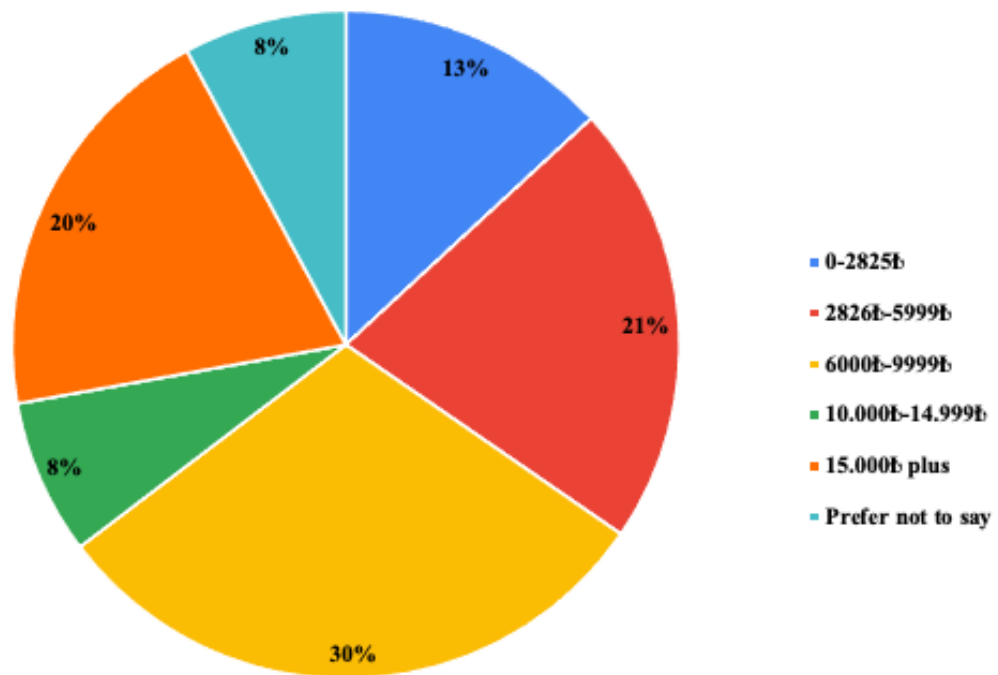


Figure 14 The Distribution of Respondents' Income Level

Also, the general characteristics of respondents are shown in the *Table 7*.

Table 7

Respondents' Demographic Characteristics

Variable	n	%
Age		
18 – 25	15	5,6
25 – 34	123	46,1
35 – 44	78	29,2
45 – 54	40	15,0
55 - 64	7	2,6
Sex		
Male	112	41,9
Female	149	55,8
Other	2	0,7
Marital Status		
Married	118	44,2
Single	127	47,6
Separated	15	5,6
Living with a partner	5	1,9
Having child(ren) or not		
Yes	103	38,6
No	162	60,7
Number of child		
1	60	58,3
2	40	38,8

3 and more	3	2,9
Education Level		
High school and lower	15	5,6
Associate's Degree	3	1,1
Bachelor's Degree	138	51,7
Master's Degree	74	27,7
Doctoral Degree	35	13,1
Occupation		
Self-Employment	13	4,9
Public Sector	24	9,0
Private Sector	174	65,2
Retired	6	2,2
Student	25	9,4
Housewife	9	3,4
Not Working	14	5,2
Income Level		
2825TL or lower	35	13,1
2826 – 5999TL	57	21,3
6000 – 9999TL	80	30,0
10000 – 14999TL	41	15,4
15000TL or higher	52	19,5

N=267

3.4.Data Collection and Analysis

When it comes to scientific research, there are two main ways to collect data.

One of them is primary data which is about the data collected through the research

by the researched and the second one is the secondary data which is obtained from the prior studies (Coşkun, Altunışık, Yıldırım, & Bayraktaroğlu, 2012). The primary data collection technique used for this research, as stated above, is the survey technique. The participants were asked 19 questions in order to understand their online shopping behavior before and during the outbreak of Covid-19 pandemic in Turkey. 7 questions are to determine the demographics of respondents, and the following questions are to understand the online consumption habits before and during the pandemic. There also questions to understand the impact of fear or threat due to the pandemic on the respondents' online consumption habits. However, the final one, question number 19, is to determine whether the respondents are to keep the online shopping habit in the coronavirus-free future.

Within the context of this research, there is data about the change in the number of sales of products and product categories received from Hepsiburada, one of the top 5 marketplaces in Turkey, is also included in the literature review.

The research question flowing from the research problem is: *“What are the changes in the online buying behavior of Turkish consumers during the early days of Covid-19 pandemic?”*

Following the main question, the research questions which aim to understand the change in the top 3 product categories might be written as:

- What kind of change occurred during the period between December 31st 2019 and March 11th 2020 in the top 3 product groups that each **gender group** bought through the digital channels before the pandemic?

- What kind of change occurred during the 1-month period starting from March 11th 2020 in the top 3 product groups that each **gender group** bought through the digital channels before the pandemic?
- Based on the **age**, what kind of change occurred during the period between December 31st 2019 and March 11th 2020 in the top 3 product groups purchased through the digital channels before the pandemic?
- Based on the **age**, what kind of change occurred during the period 1-month period starting from March 11th 2020 in the top 3 product groups purchased through the digital channels before the pandemic?
- Depending on the **level of education**, how did the “prior to the pandemic” preferences in terms of product categories of consumers changed during the periods between ‘December 31st 2019 - March 11th 2020’ and ‘March 11th 2020-April 2020’?
- How did **being a parent** change the online shopping behavior of Turkish consumers in terms of most bought products during the periods between ‘December 31st 2019 - March 11th 2020’ and ‘March 11th 2020-April 2020’ comparing to the times without the pandemic?
- Based on the **occupation**, what kind of change occurred during the period between December 31st 2019 and March 11th 2020 in the top 3 product groups purchased through the digital channels before the pandemic?
- Based on the **occupation**, what kind of change occurred during the period starting from March 11th 2020 in the top 3 product groups purchased through the digital channels before the pandemic?

Apart from these comparative questions to analyze the changes in product categories, there are questions to understand the consumers' new routines at home during the lockdowns since the outbreak in Turkey (March 11th 2020 and the following 1-month period), in order to do so the following question:

- What are the top 3 products purchased by respondents who chose “**I benefit from staying at home**” after March 11th 2020?

As it is stated above, one of the most important factors and variables is the level of threat felt by consumers during the early days of the pandemic.

Accordingly, following two questions' the main interest is understanding the consumers' choices based on the level of threat:

- Based on **the level of threat** felt by consumers, what kind of changes occurred in terms of product categories purchased by consumers through online channels between the selected dates?

4. RESULTS AND FINDINGS

4.1 The First Time of Being Informed about the Pandemic

In the questionnaire, the question “*when did you hear about the Covid-19 virus?*” is asked to the participants. The findings regarding their responses are shown in *Table 8*. According to the findings, most of the participants (62,2%) heard about the pandemic first between December 31st 2019 and March 11th 2020. 32,6% of the participants heard about the pandemic first before December 31st 2019. The rest of the participants (4,1%) heard about the pandemic after March 11th.

Table 8

The First Time of Being Informed about the Pandemic

Time	n	%
Before 31 st of December 2019	87	32,6
Between 31 st of December 2019 and 11 th of March 2020	166	62,2
After 11 th of March 2020	11	4,1
Missing	3	1,1

N=267

4.2 The Threat Level about the Pandemic before and After March'20

Using the questionnaire data were collected concerning the participants' perceived threat level about the pandemic for two different time periods: before and after March 11th 2020. In order to evaluate the change in the participants' threat perception about the pandemic, findings for both times are presented in *Table 9*. According to the findings, 36,3% of the participants perceived the threat of the pandemic high or very high before March 11th 2020. 34,1% of the

participants perceived the threat of the pandemic medium. The rest of the participants (27,7%) perceived the threat of the pandemic low or very low. When it comes to the participants' threat perceptions after March 11th 2020, it is clearly seen that the participants' threat perceptions increased. The percentage of the participants who felt the pandemic is highly or very highly dangerous increased from 36,3% to 69,2%. On the other hand, the percentage of the participants who felt the pandemic is lowly or very lowly dangerous decreased from 27,2% to 6,32%. These findings clearly show that the participants began to see the pandemic as a more severe threat after March 11th 2020.

Table 9

The Perceived Threat Level about the Pandemic Before and After March 11th 2020

Threat Level	Before 11 th of March 2020		After 11 th of March 2020	
	n	%	n	%
Very high	42	15,7	75	28,1
High	55	20,6	115	43,1
Moderate	91	34,1	56	21,0
Low	52	19,5	14	5,2
Very low	22	8,2	3	1,1
No idea	2	0,7	0	0
Missing	3	1,1	4	1,5
N=267				

4.3 The Frequency of Online Shopping Before the Pandemic

Table 10 shows the frequency of the participants online shopping habit.

According to the table, 34,8% of the participants often shop online and 43,9% of them sometimes shop online. On the other hand, the percentage of the participants who rarely or never shop online is 21,2%.

Table 10

The Frequency of Online Shopping Before the Pandemic

Frequencies	n	%
Often	92	34,8
Sometimes	116	43,9
Rarely	51	19,3
Never	5	1,9
Missing	3	1,1

N=267

4.4 The Types of Products Purchased Through Online Channels in Different Phases of the Pandemic

Using the questionnaire the participants were asked what kind of products they purchased online three times for three different time periods concerning the pandemic: before 31st of December 2019, between 31st of December and 11th of March 2020, and after 11th of March. Findings regarding these three different time periods are given in *Table 11*. The table shows what the participants more frequently purchased online and how their preferences changed in accordance with these three time periods. Also, the results of Chi-Square test (X^2) regarding the change occurred from the 2nd time period to the 3rd time period are shown in the table.

According to the findings, before 31st of December 2019 the most frequently purchased three products were clothing and accessories (74,2%); education, books and stationery (45,3%); and electronics and computers (42,3%). On the other hand, in the same time of period the least frequently purchased three products were disinfectant and mask (3,7%); constructional materials (3,7%); and baby products (5,6%).

When it comes to the findings for the time period between 31st of December 2019 and 11th of March 2020, it is clearly seen that the participants' online purchasing preferences were changed. In terms of the most frequently purchased three products, clothing and accessories (52,1%), and education, books and stationery (40,1%) are still on the list. However their percentages clearly decreased. Supermarket and food products (49,1%) entered to the list on the second place. The least purchased three products, which are constructional materials (5,2%), and baby products (4,9%), are still on the list. The percentage of disinfectant and mask products (26,6%) increased seven times and this type of products replaced the products of travel and accommodation on the list. In this time period, the products that have an increasing preference percentage are disinfectant and mask; super market and food; health; and constructional materials. All other nine products were less frequently purchased for the specified time period.

For the last time period, after 11th of March 2020, the findings showed that the participants' online shopping preferences changed again. Supermarket and food products (63,7%) became the most frequently purchased products. Products of clothing and accessories (47,2%) are the second most frequently purchased product. Products of disinfectant and mask (32,2%) is the third most frequently

purchased product. The least frequently purchased three products of this time period were baby products (1,9%); constructional materials (3,7%); and travel and accommodation (4,9%). In this time period, the preference percentages of the products of disinfectant and mask; super market and food; and health continued to rise. Excluding constructional materials, the preference percentages of all other nine products were continued to decline. According to the findings, the significant changes in terms of the ratios of the purchases from the second time period to the third were seen only in the products of super market and food ($\chi^2=7,9, p<0,01$), travel and accommodation ($\chi^2=5,5, p<0,05$), health ($\chi^2=5,9, p<0,05$) and baby products ($\chi^2=12,9, p<0,01$).

To sum up, the findings show that the participants' online purchasing behaviors changed during the period of the pandemic. During these particular periods, the most distinctive changes are seen on three types of products. Travel and accommodation products decreased from 30,7% to 4,9%. On the other hand, health products increased from 7,1% to 31,5%. Finally, the percentage of products in disinfectant and mask category increased from 3,7% to 32,2%.

Table 11

The Products Purchased Through Online Channels in Different Phases of the Pandemic

Product Types Purchased Online	Before 31 st of December 2019		Between 31 st of December 2019 and 11 th of March 2020		After 11 th of March 2020		X ²
	n	%	n	%	n	%	
Clothing and accessories	198	74,2	139	52,1	126	47,2	1,5
Electronics and computers	113	42,3	86	32,2	83	31,1	0,1
Cosmetics	77	28,8	69	25,8	63	23,6	0,7
Super Market and Food	84	31,5	131	49,1	170	63,7	7,9**
Furniture and Decoration	37	13,9	33	12,4	33	12,6	0,0
Education, Books and Stationery	121	45,3	107	40,1	81	30,3	5,5*
Constructional Materials	10	3,7	14	5,2	10	3,7	0,9
Travel and accommodation	82	30,7	25	9,4	13	4,9	5,9*
Health	19	7,1	53	19,9	84	31,5	12,9**
Baby products	15	5,6	13	4,9	5	1,9	4,8*
Disinfectant and mask	10	3,7	71	26,6	86	32,2	2,7
Hobbies	57	21,3	51	19,1	46	17,2	0,2
Sporting goods	40	15,0	31	11,6	25	9,4	0,3
Missing	5	1,9	9	3,4	6	2,2	

N=267

*The difference between second and third time was significant at 0,05 level.

**The difference between second and third time was significant at 0,01 level.

4.5 The Changes in the Digitally Purchased Products Based on the Respondents' Demographics

4.5.1 The Changes Based on the Respondents' Age

In order to see the types of products purchased online change in based on the participants' age, the related findings are presented in *Table 12*. The percentages of each age group, which are already shown in Table 7, are given for a better evaluation.

In terms of the products of clothing and accessories category, 74,2% of the participants preferred to purchase this products online before 31st of December 2019. Of all these participants, the participants from the age group 25-34 did more than half of all these purchases (40,0% of 74,2%). The smallest group of participants purchasing clothing and accessories online is the 55 – 64 age group (1,2%). 35 – 44 age group is the second, 45 – 54 age group is the third and the 18 – 24 age group is the fourth. Nevertheless, the dispersion of percentages of purchasing clothing and accessories are similar to the dispersion of percentages of age groups. For the other two time periods, the sequences in the age groups have not changed. The total purchases of the products of clothing and accessories continuously decreased. Similarly, these decreases are seen in all the age groups relatively. Chi-Square test results shows that only in the first time period there is a significant difference among the age group ($\chi^2=10,1$, $p<0,05$). However, there is

not a significant relationship between age group and the second and third time period ($\chi^2=1,9$, $p>0,05$).

The same is relevant for the products of electronics and computer. When it comes to the cosmetic products, the initial sequence in the age groups is the same. In other words, this type of products were most frequently purchased by the participants from the age group of 25 – 34 (16,2% of 28,8%). 35 – 44 age group purchased 9,2%, 45 – 54 purchased 2,7%, 18 – 24 purchased 0,8%, and 55 – 64 purchased 0,4%. However, the findings regarding the second and the third time periods picture a different shape. The total cosmetics purchases decreased from 28,8% to 25,8%, then to 23,6%. But, this continuous decline is not seen in terms of age groups. The participants from the 18 – 24 age group did not change their purchasing rate in the second period, but they doubled in the third period. The participants from the 15 – 34 age group decreased their purchasing rate regularly in the second period (11,3%), then in the third period (8,9%). The participants from the 35 – 44 age group increased their purchasing rate in the second period (12,1%), but decreased a little in the third period (10,4%). Conversely, the participants from the 45 – 54 age group decreased their purchasing rate in the second period (2,3%), but increased a little in the third period (3,1%). Finally, the participants from the 55 – 64 age group decreased their purchasing rate in the second period (0%), and stayed still (0%). Chi-Square test results do not show any significant relationship among the groups and between the time periods.

The dispersion of online purchasing of the products of supermarket and food in terms of age groups is the same for the first time period as it is seen in the other types of products. Total purchases of this type of products increased continuously in the second and the third time period. Similar increases are seen in

all age groups without breaking the sequence. Chi-Square test results shows that in the second and the third time period there are a significant difference among the age groups ($\chi^2=13,0, p<0,01$ and $\chi^2=8,2, p<0,02$). However, there is not a significant relationship between age group and the second and third time period ($\chi^2=3,0, p>0,05$).

The pattern of online purchasing of furniture and decoration in terms of age groups is different. The initial sequence of age groups is the same. When it comes to the second and third time periods, the age groups of 18 – 24 and 55 – 64 did not change their purchasing rates. The participants from the 25 – 34 age group decreased their purchasing rate in the second period from 7,3% to 4,3%, but increased a little in the third period to 5,4%. Conversely, the participants from the 35 – 44 age group increased their purchasing rate in the second period from 4,6% to 5,5%, but decreased a little in the third period to 3,9%. The participants from the 45 – 54 age group increased their purchasing continuously (1,5%, 2,3% and 2,7% respectively). Chi-Square test results do not show any significant relationship among the groups and between the time periods.

The findings about the dispersion of online purchasing of educational products in terms of age groups show that the ratios of purchasing belonging to age groups are similar to ratios of age groups of all participants. The sequences of ratios did not change for the three time periods. However, the percentage of the online purchasing of educational products decreased for all age groups excluding the age group of 45 – 54. The participants from the 35 – 44 age group increased their purchasing rate in the second period from 8,1% to 8,6%, they stayed still in the third period. Chi-Square test results shows that only in the third time period there is a significant difference among the age groups ($\chi^2=9,2, p<0,05$). However, there

is not a significant relationship between age group and the second and third time period ($\chi^2=4,7$, $p>0,05$).

The age group purchasing constructional materials most frequently is the 25 – 34 age group and this true for three time periods (1,9%, 2,0% and 1,9% respectively). The participants from the age group 55 – 64 did not purchase this types of products in all time periods. The participants from the age group of 18 – 24 purchased only in the second time period (0,8%). The participants from the 35 – 44 age group increased their purchasing rate in the second period from 0,8% to 2,0%, but decreased a little in the third period to 1,2%. The participants from the 45 – 54 age group decreased their purchasing rate in the second period from 1,2% to 0,8%, and they stayed still in the third period. Chi-Square test results do not show any significant relationship among the groups and between the time periods.

In terms of travel and accommodation products, the dispersion of the ratios of online purchasing regarding the age groups is similar to the dispersion of ratios of age groups of all participants. The percentages of online purchasing of these products declined continuously in three time periods for all age groups without breaking the sequence. Chi-Square test results do not show any significant relationship among the groups and between the time periods.

When it comes to health products, it is seen from the table that the participants from all age groups increased their health products purchasing in the second and the third time periods. The dispersion of the ratios of online purchasing regarding the age groups is similar to the dispersion of ratios of age groups of all participants. The same pattern is relevant for the products of disinfectant and mask.

The findings about baby products show that these products are mostly purchased by the participants from the age group of 25 – 34 and 35 – 44 in all three time periods. Both age groups' purchasing percentage similarly decreased from the first time period (2,7% and 3,1% respectively) to the second (0,8% and 0,8%).

The findings about products related hobbies show that this type of products are mostly purchased by the participants from the age groups 25 – 34 and 35 – 44 in three time periods. While the percentages of purchasing of 35 – 44 age group decreased in times, the percentages of purchasing of 25 – 34 age group almost stayed the same. Another interesting finding is about the age group of 45 – 54. While all other age groups' purchasing percentages decreased in some degree, this group's purchasing percentage increased a little (from 1,5% to 2,3%). Chi-Square test results shows that in the first time period there is a significant difference among the age groups ($\chi^2=10,3$, $p<0,05$). However, there is not a significant relationship between age group and the second and third time period ($\chi^2=1,2$, $p>0,05$).

The final finding regarding the age groups is about the products of sports. There is a general decline in the percentages of these products' purchasing in three times of period. According to the findings, these products are generally purchased by the participants from the age groups 25 – 34 and 35 – 44 in three time periods. The participants from the 25 – 34 age group increased their purchasing rate in the second period from 6,2% to 7,0%, but decreased in the third period to 5,0%. The participants from the 35 – 44 age group decreased their purchasing rate in the second period from 5,8% to 1,6%, but they increased their purchasing rate to 3,1% in the third period. Chi-Square test results shows that in the second time

period there is a significant difference among the age groups ($\chi^2=10,3$, $p<0,05$).

Additionally, there is a significant relationship between age groups and the second and third time period ($\chi^2=8,8$, $p<0,05$).

Table 12

The Changes Based on the Respondent's Age

Product Types Purchased Online and the Age Groups			Before 31 st of December 2019		Between 31 st of December 2019 and 11 th of March 2020		After 11 th of March 2020		χ^2
			n	%	n	%	n	%	
Clothing and accessories			198	74,2	139	52,1	126	47,2	1,9
18 - 24	(5,6%)		10	3,8	5	2,0	7	2,7	
25 – 34	(46,1%)		104	40,0	67	26,2	60	23,2	
35 – 44	(29,2%)		53	20,4	46	18,0	38	14,7	
45 – 54	(15,0%)		26	10,6	18	7,0	18	6,9	
55 – 64	(2,6%)		3	1,2	1	0,4	1	0,4	
χ^2			10,1*		4,6		0,7		
Electronics and computers			113	42,3	86	32,2	83	31,1	3,9
18 - 24	(5,6%)		4	1,5	4	1,6	6	2,3	
25 – 34	(46,1%)		63	24,2	47	18,4	36	13,9	
35 – 44	(29,2%)		31	11,9	21	8,2	26	10,0	
45 – 54	(15,0%)		12	4,6	11	4,3	13	5,0	
55 – 64	(2,6%)		2	0,8	2	0,8	1	0,4	

X^2		7,5		2,8		1,3		3,0
Cosmetics		77	28,8	69	25,8	63	23,6	
18 - 24	(5,6%)	2	0,8	2	0,8	4	1,5	
25 - 34	(46,1%)	42	16,2	29	11,3	23	8,9	
35 - 44	(29,2%)	24	9,2	31	12,1	27	10,4	
45 - 54	(15,0%)	7	2,7	6	2,3	8	3,1	
55 - 64	(2,6%)	1	0,4	0	0	0	0	
X^2		5,9		13,0**		8,2*		2,2
Super Market and Food		84	31,5	131	49,1	170	63,7	
18 - 24	(5,6%)	6	2,3	7	2,7	10	3,9	
25 - 34	(46,1%)	40	15,4	70	27,3	82	31,7	
35 - 44	(29,2%)	22	8,5	33	12,9	50	19,3	
45 - 54	(15,0%)	12	4,6	15	5,9	22	8,5	
55 - 64	(2,6%)	2	0,8	5	2,0	5	1,9	
X^2		1,3		4,0		0,9		1,7
Furniture and Decoration		37	13,9	33	12,4	33	12,6	
18 - 24	(5,6%)	2	0,8	2	0,8	2	0,8	
25 - 34	(46,1%)	19	7,3	11	4,3	14	5,4	
35 - 44	(29,2%)	12	4,6	14	5,5	10	3,9	
45 - 54	(15,0%)	4	1,5	6	2,3	7	2,7	
55 - 64	(2,6%)	0	0	0	0	0	0	
X^2		1,3		3,9		0,6		4,7
Education, Books and Stationery		121	45,3	107	40,1	81	30,3	
18 - 24	(5,6%)	6	2,3	5	2,0	2	0,8	

25 – 34	(46,1%)	55	21,2	41	16,0	34	13,1	
35 – 44	(29,2%)	36	13,8	38	14,8	23	8,9	
45 – 54	(15,0%)	21	8,1	22	8,6	22	8,5	
55 – 64	(2,6%)	3	1,2	1	0,4	0	0	
X²		1,1		7,8		9,2*		
Constructional Materials		10	3,7	14	5,2	10	3,7	
18 - 24	(5,6%)	0	0	2	0,8	0	0	
25 – 34	(46,1%)	5	1,9	5	2,0	5	1,9	
35 – 44	(29,2%)	2	0,8	5	2,0	3	1,2	2,3
45 – 54	(15,0%)	3	1,2	2	0,8	2	0,8	
55 – 64	(2,6%)	0	0	0	0	0	0	
X²		1,9		3,2		0,6		
Travel and accommodation		82	30,7	25	9,4	13	4,9	
18 - 24	(5,6%)	3	1,2	1	0,4	0	0	
25 – 34	(46,1%)	38	14,6	11	4,3	4	1,5	
35 – 44	(29,2%)	24	9,2	8	3,1	6	2,3	
45 – 54	(15,0%)	13	5,0	4	1,6	2	0,8	3,0
55 – 64	(2,6%)	3	1,2	0	0	0	0	
X²		1,0		0,2		3,0		
Health		19	7,1	53	19,9	84	31,5	
18 - 24	(5,6%)	0	0	1	0,4	2	0,8	
25 – 34	(46,1%)	10	3,8	34	13,3	47	18,1	
35 – 44	(29,2%)	5	1,9	11	4,3	25	9,7	4,6
45 – 54	(15,0%)	2	0,8	6	2,3	7	2,7	
55 – 64	(2,6%)	2	0,8	1	0,4	3	1,2	

χ^2		1,5		7,4		6,1	
Baby products		15	5,6	13	4,9	5	1,9
18 - 24	(5,6%)	0	0	0	0	0	0
25 - 34	(46,1%)	7	2,7	4	1,6	2	0,8
35 - 44	(29,2%)	8	3,1	8	3,1	2	0,8
45 - 54	(15,0%)	0	0	1	0,4	1	0,4
55 - 64	(2,6%)	0	0	0	0	0	0
χ^2		6,5		6,9		0,5	
Disinfectant and mask		10	3,7	71	26,6	86	32,2
18 - 24	(5,6%)	0	0	1	0,4	4	1,5
25 - 34	(46,1%)	8	3,1	49	19,1	52	20,1
35 - 44	(29,2%)	2	0,8	12	4,7	18	6,9
45 - 54	(15,0%)	0	0	8	3,1	11	4,2
55 - 64	(2,6%)	0	0	1	0,4	1	0,4
χ^2		5,1		18,2**		8,9*	
Hobbies		57	21,3	51	19,1	46	17,2
18 - 24	(5,6%)	7	2,7	1	0,4	1	0,4
25 - 34	(46,1%)	25	9,6	24	9,4	24	9,3
35 - 44	(29,2%)	20	7,7	19	7,4	14	5,4
45 - 54	(15,0%)	4	1,5	6	2,3	6	2,3
55 - 64	(2,6%)	1	0,4	1	0,4	0	0
χ^2		10,3*		2,9		2,0	
Sporting goods		40	15,0	31	11,6	25	9,4
18 - 24	(5,6%)	3	1,2	4	1,6	0	0
25 - 34	(46,1%)	16	6,2	18	7,0	13	5,0

0,9

2,7

1,2

8,8*

35 – 44	(29,2%)	15	5,8	4	1,6	8	3,1
45 – 54	(15,0%)	5	1,9	2	0,8	2	0,8
55 – 64	(2,6%)	0	0	1	0,4	0	0
X²		2,5		9,9*		3,1	
Missing		7	2,6	11	4,1	8	3,0

N=267

*The difference between second and third time was significant at 0,05 level.

**The difference between second and third time was significant at 0,01 level.

4.5.2 The Changes Based on Respondents' Sex

Table 13 shows the changing of the types of products purchased online in accordance with the participants' genders. The percentages of each gender in general, which are already showed in *Table 7*, are given for a better evaluation.

Findings show that most of the clothing and accessories products are purchased by female participants in all three time periods (45,6%, 33,1% and 29,2% respectively). However, this is coherent with the gender dispersion of all participants. There is a general decline of this type of products purchasing in times. This decline is true for each gender group, as well. Chi-Square test results do not show any significant relationship among the genders and between the time periods.

When it comes to the products of electronics and computers, most of the purchasing is done by the male participants in all time periods (28,7%, 21,8% and 20,5% respectively). On the other hand, all gender groups' purchases declined in time. Chi-Square test results shows that in all of time periods there are a significant difference between genders ($X^2=49,5$, $p<0,01$, $X^2=31,0$, $p<0,01$ and

$\chi^2=27,1, p<0,01$). However, there is not a significant relationship between genders and the second and third time period ($\chi^2=0,1, p>0,05$).

The female participants more frequently purchased cosmetics online in all time periods (19,9%, 19,1% and 16,5% respectively). Their purchasing percentages are always greater than the male participants' more than twice. On the other hand, all gender groups' cosmetics purchases declined in time. Chi-Square test results shows that in all of time periods there are a significant difference between genders ($\chi^2=49,5, p<0,01$, $\chi^2=31,0, p<0,01$ and $\chi^2=27,1, p<0,01$). However, there is not a significant relationship between genders and the second and third time period ($\chi^2=0,1, p>0,05$).

Similarly, the female participants more frequently purchased products of supermarket and food online in all three time periods (18,8%, 30,0% and 38,5% respectively). For these types of products, all gender groups' purchases increased in time. Chi-Square test results do not show any significant relationship among the genders and between the time periods.

Furniture and decoration products have a different pattern. Initially, the female participants more frequently purchased these products than the male participants (7,3% and 6,1% respectively). However, the male participants' purchases are greater than the female participants for the second and third time periods. The male participants' purchases increased from 6,1% to 7,4% in the second time period, but declined to 6,5% in the third period. The female participants' purchases decreased from 7,3% to 5,1% in the second time period, but increased to 5,8% in the third period. Chi-Square test results shows that only in the second time periods there is a significant difference between genders ($\chi^2=4,5, p<0,05$).

However, there is not a significant relationship between genders and the second and third time period ($\chi^2=0,4$, $p>0,05$).

In terms of the products of education, books and stationery, the female participants more frequently purchased these types of products online in all time periods (26,4%, 23,3% and 17,3% respectively). For these types of products, all gender groups' purchases increased in times. This is true for baby products, as well. Chi-Square test results do not show any significant relationship among the genders and between the time periods.

The findings showed that, the male and the female participants equally purchased constructional materials in the beginning (1,9%). In the second time period, both gender groups' purchases increased (2,3% and 3,1%), but the female participants' percentages were higher. In the third time period, both gender groups' purchases decreased (1,5% and 2,3%), but the female participants' purchasing percentages were still higher. Chi-Square test results do not show any significant relationship among the genders and between the time periods.

The products of travel and accommodation have a different pattern. Initially, the female participants (16,9%) more frequently purchased these types of products than the male participants (14,2%). Although both participants' purchases declined in the second and the third time periods, the male participants' purchases (6,6% and 3,8%) became greater than the female participants (3,1% and 1,2). Chi-Square test results shows that in the second and the third time periods there are significant differences between genders ($\chi^2=7,6$, $p<0,01$ and $\chi^2=6,7$, $p<0,01$). However, there is not a significant relationship between genders and the second and third time period ($\chi^2=3,0$, $p>0,05$).

Conversely, the initial purchases of health products done by male participants (4,6%) are greater than the purchases done by the female participants (2,7%). This is true for the second time period (10,5% and 9,3% respectively). However, this pattern changed in the third time period, and the female participants' purchases (16,9%) became higher than the male participants' (14,6%). This pattern is almost the same for the products of Sports equipment.

When it comes to the products of disinfectant and mask, initially the male and female participants equally purchased these types of products (1,9%). However, the purchasing rates of these products increased for both gender groups in the second and third time periods. On the other hand, the ratio of increase of the female participants' purchasing (16,0% and 20,8%) is greater than the male participants' (11,7% and 11,7%). Chi-Square test results do not show any significant relationship among the genders and between the time periods.

The findings show that, the ratios of products purchases related to hobbies done by the female participants stayed almost the same for three time periods (10,7%, 9,7% and 10,0%). Although the initial purchasing ratio of the male participants (10,7%) is the same with the female participants', the male participants' purchasing ratio declined regularly in the second (9,7%) and third time periods (6,9%). Chi-Square test results do not show any significant relationship among the genders and between the time periods.

Finally, the initial purchases of sporting products done by male participants (9,2%) are greater than the purchases done by the female participants (5,7%). This is true for the second time period (7,4% and 4,7% respectively). However, this pattern changed in the third time period, and the female participants' purchases (5,0%) became higher than the male participants' (4,6%).

Chi-Square test results shows that in the first and the second time periods there are significant differences between genders ($\chi^2=6,7, p<0,01$ and $\chi^2=5,3, p<0,05$).

Additionally, there is a significant relationship between genders and the second and third time period ($\chi^2=10,9, p<0,05$).



Table 13

The Changes Based on Respondents' Sex

Product Types Purchased Online and the Gender Groups			Before 31 st of December 2019		Between 31 st of December 2019 and 11 th of March 2020				X ²
					of December 2019 and 11 th of March 2020		After 11 th of March 2020		
			n	%	n	%	n	%	
Clothing and accessories			198	74,2	139	52,1	126	47,2	0,1
Male	(41,9%)	76	29,1	52	20,2	49	18,8		
Female	(55,8%)	119	45,6	85	33,1	76	29,2		
Other	(0,7%)	1	0,4	1	0,4	0	0		
X ²		4,4		2,1		1,0			
Electronics and computers			113	42,3	86	32,2	83	31,1	0,1
Male	(41,9%)	75	28,7	56	21,8	54	20,8		
Female	(55,8%)	36	13,8	28	10,9	28	10,8		
Other	(0,7%)	1	0,4	1	0,4	0	0		
X ²		49,5**		31,0**		27,1**			
Cosmetics			77	28,8	69	25,8	63	23,6	0,1
Male	(41,9%)	24	9,2	18	7,0	18	6,9		
Female	(55,8%)	52	19,9	49	19,1	43	16,5		
Other	(0,7%)	0	0	0	0	0	0		
X ²		5,4*		8,6**		5,5*			
Super Market and Food			84	31,5	131	49,1	170	63,7	
Male	(41,9%)	34	13,0	52	20,2	67	25,8		

Female	(55,8%)	49	18,8	77	30,0	100	38,5	
Other	(0,7%)	0	0	0	0	1	0	0,1
X^2		0,1		0,4		1,0		
Furniture and Decoration		37	13,9	33	12,4	33	12,6	
Male	(41,9%)	16	6,1	19	7,4	17	6,5	
Female	(55,8%)	19	7,3	13	5,1	15	5,8	
Other	(0,7%)	1	0,4	1	0,4	1	0,4	0,4
X^2		0,2		4,5*		1,7		
Education, Books and Stationery		121	45,3	107	40,1	81	30,3	
Male	(41,9%)	50	19,2	46	17,9	36	13,8	
Female	(55,8%)	69	26,4	60	23,3	45	17,3	
Other	(0,7%)	0	0	0	0	0	0	0,1
X^2		0,1		0,1		0,2		
Constructional Materials		10	3,7	14	5,2	10	3,7	
Male	(41,9%)	5	1,9	6	2,3	4	1,5	
Female	(55,8%)	5	1,9	8	3,1	6	2,3	
Other	(0,7%)	0	0	0	0	0	0	2,3
X^2		0,2		0,0		0,1		
Travel and accommodation		82	30,7	25	9,4	13	4,9	
Male	(41,9%)	37	14,2	17	6,6	10	3,8	
Female	(55,8%)	44	16,9	8	3,1	3	1,2	
Other	(0,7%)	0	0	0	0	0	0	3,0
X^2		0,4		7,6**		6,7**		
Health		19	7,1	53	19,9	84	31,5	
Male	(41,9%)	12	4,6	27	10,5	38	14,6	5,1

*The difference between second and third time was significant at 0,05 level.

**The difference between second and third time was significant at 0,01 level.

4.5.3 The Changes Based on Respondents' Marital Status

Findings regarding the changing of the types of products purchased online in accordance with the participants' marital status are given in *Table 14*. The percentages of each marital status, which are already showed in Table 7, are given for a better evaluation.

According to the findings, clothing and accessories products were mostly purchased online by the single participants (39,7% of 74,2%) in the first time period. They are followed by married, separated, and living with a partner participants respectively (30,9%, 3,4% and 1,5%). This sequence is coherent to the sequence of ratios of all participants' marital status. Moreover, this sequence did not change in the second and the third time periods. Additionally, purchasing percentages of the participants from all marital status decreased from the first time period to the third time period (24,5%, 21,5%, 1,9% and 0,4% respectively). Chi-Square test results shows that only in the second time period there is a significant difference among marital status groups ($\chi^2=9,1, p<0,05$). However, there is not a significant relationship between marital status groups and the second and third time period ($\chi^2=0,1, p>0,05$).

The same pattern is seen for the products of electronics and computers excluding the separated participants' purchases. While the purchases of the participants from all other marital status decreased, the separated participants' purchases increased from the first time period (1,5%) to the third time period (3,1%). It is almost the same for cosmetic products. For this type of products, the separated participants' purchases stayed still for all time periods. Chi-Square test

results do not show any significant relationship among the marital status groups and between the time periods.

When it comes to the supermarkets and food products, the single participants most frequently purchased online this type of products again in the first time period (13,4%). And again married participants were the second (14,9%), separated participants were the third (3,8%), and the participants living with a partner were forth (0,0%). The purchases of all participants from all the marital status increased in time continuously. However, the purchases of the participants living with a partner increased from the first time (0,0%) to the second time (1,6%). However, the purchases decline again in the third time period (0,4%). Chi-Square test results shows that in all the time periods there are significant differences among marital status groups ($\chi^2=11,8, p<0,01$, $\chi^2=7,9, p<0,05$ and $\chi^2=10,5, p<0,05$). However, there is not a significant relationship among marital status groups and the second and third time period ($\chi^2=0,8, p>0,05$).

The pattern of furniture and decoration products is a little different. The sequence of the participants' marital status in accordance with the frequency of purchasing is the same for all the three time periods. However, each marital status pictured a different pattern in the three time periods. The purchases of the married participants decreased from 5,0% to 4,3%, but the purchases increased again to 5,4%. The purchases of the single participants decreased from 6,1% to 5,8%, and the purchases stayed still. The purchases of the separated participants decreased continuously from 2,3% to 1,9% and to 0,8%. The purchases of participants living with a partner did not change in time. Chi-Square test results shows that in first and the second time periods there are significant differences among marital status groups ($\chi^2=12,1, p<0,01$ and $\chi^2=10,0, p<0,05$). However, there is not a significant

relationship among marital status groups and the second and third time period ($\chi^2=2,9, p>0,05$).

The findings show a different pattern for the educational products. The married participants are always the most frequently buyers of these types of products in three time periods (21,8%, 19,8% and 14,9 respectively). The singles are the second, the separated ones are the third and the living with partner ones are fourth. The purchases percentages of all participants from the all marital status declined continuously in time excluding the purchases percentages of the participants from the separated marital status. Their purchases ratios stayed still for all time periods. Chi-Square test results do not show any significant relationship among the marital status groups and between the time periods.

Similar to the educational products, in terms of constructional materials the married participants mostly purchased these types of products for all the three time periods. The purchases rates for this marital status group did not change from the first time period (3,4%) to the second (3,4%). However, purchases rate decline in the third time period (2,3%). On the other hand, the purchases rate of the single participants increased from the first time period (0,4%) to the second (1,9%), but the rate decreased again (1,1%) in the third time period. Chi-Square test results shows that only in first time period there is a significant difference among marital status groups ($\chi^2=8,8, p<0,05$). However, there is not a significant relationship among marital status groups and the second and third time period ($\chi^2=3,1, p>0,05$).

The findings show that the dispersion of the participants' purchases percentages for the travel and accommodation products in terms of marital status is similar to the dispersion of the marital status groups in general for all the three

time periods. Additionally, a continuous decline is seen for all marital status groups during the three time periods. The most severe decline is seen for the single participants. Their purchases ratio decreased from 16,8% to 1,9%. Chi-Square test results do not show any significant relationship among the marital status groups and between the time periods

According to the findings, the dispersion of the participants' purchases percentages for health products in terms of marital status is similar to the dispersion of the marital status groups in general for all the three time periods. However, the percentages of the married (3,1%, 9,7% and 13,8% respectively) and single participants (3,1%, 8,5% and 15,3% respectively) are very close to each other. A continuous increase is seen for all marital status groups during the three time periods in terms of health products. The most distinctive increase is seen for the single participants whose purchases percentages increased from 3,1% to 15,3%. Chi-Square test results do not show any significant relationship among the marital status groups and between the time periods.

When it comes to baby products, the findings show that almost all purchases were done by the married participants in all three time periods. The purchases of married participants stayed the same in the second period, but they declined sharply from 5,0% to 1,9% in the third period. Chi-Square test results shows that in the first and the second time periods there are significant differences among marital status groups ($\chi^2=12,5$, $p<0,01$ and $\chi^2=17,6$, $p<0,01$). However, the relationship among marital status groups and the second and third time period could not be computed by Chi-Square test because there was no value for the marital status groups excluding married group. Chi-Square test results do not

show any significant relationship among the marital status groups and between the time periods.

Regarding the disinfectant and mask products, the dispersion of the purchases percentages in terms of marital status truly reflect the dispersion of the participants in terms of marital status in general in three time periods.

Additionally, a continuous increase of purchases of each marital status group is seen clearly, excluding a little decline belonging to the participants living a partner in the third period (from 1,2% to 0,8%). Chi-Square test results do not show any significant relationship among the marital status groups and between the time periods.

The dispersion of the participants' purchases percentages for hobbies products in terms of marital status has a different pattern. Almost all purchases were done by married and single participants. However, single participants' purchases rates (12,6%, 11,6% and 11,9% respectively) are almost twice greater than married participants (8,1%, 6,6% and 4,6% respectively). Moreover, while married participants decreased their purchases in time, the single participants did not change their purchases frequency. The other marital status groups almost did not change their purchases frequency, as well. Chi-Square test results shows that in the second and the third time periods there are significant differences among marital status groups ($\chi^2=9,7, p<0,05$ and $\chi^2=8,5, p<0,05$). However, there is not a significant relationship among marital status groups and the second and third time period ($\chi^2=1,5, p>0,05$).

The findings regarding the products of Sports equipment have a similar pattern with the findings regarding the products of hobbies. Almost all purchases were done by married and single participants. However, single participants' purchases

X^2	7,4		9,1*		3,3		
Electronics and computers	113	42,3	86	32,2	83	31,1	
Married (44,2%)	49	18,7	31	12,0	38	14,6	
Single (47,6%)	56	21,4	46	17,8	36	13,8	
Separated (5,6%)	4	1,5	8	3,1	8	3,1	3,5
Living with a partner (1,9%)	4	1,5	1	0,4	1	4	
X^2	4,6		5,5		4,2		
Cosmetics	77	28,8	69	25,8	63	23,6	
Married (44,2%)	30	11,5	29	11,2	28	10,7	
Single (47,6%)	39	14,9	33	12,8	30	11,5	
Separated (5,6%)	4	1,5	4	1,6	4	1,5	0,4
Living with a partner (1,9%)	4	1,5	3	1,2	1	0,4	
X^2	7,1		2,9		0,1		
Super Market and Food	84	31,5	131	49,1	170	63,7	
Married (44,2%)	39	14,9	52	20,2	71	27,2	0,8

Single	35	13,4	63	24,4	84	32,2	
(47,6%)							
Separated	10	3,8	12	4,7	14	5,4	
(5,6%)							
Living with a partner	0	0	4	1,6	1	0	
(1,9%)							
X²	11,8**		7,9*		10,5*		
Furniture and Decoration	37	13,9	33	12,4	33	12,6	
Married	13	5,0	11	4,3	14	5,4	
(44,2%)							
Single	16	6,1	15	5,8	15	5,7	
(47,6%)							
Separated	6	2,3	5	1,9	2	0,8	2,9
(5,6%)							
Living with a partner	2	0,8	2	0,8	2	0,8	
(1,9%)							
X²	12,1**		10,0*		3,5		
Education, Books and Stationery	121	45,3	107	40,1	81	30,3	
Married	57	21,8	51	19,8	39	14,9	
(44,2%)							
Single	53	20,2	46	17,8	34	13,0	0,6
(47,6%)							
Separated	8	3,1	8	3,1	8	3,1	
(5,6%)							

Living with a partner (1,9%)	3	1,1	2	0,8	0	0	
X^2	2,0		2,6		7,1		
Constructional Materials	10	3,7	14	5,2	10	3,7	
Married (44,2%)	9	3,4	9	3,5	6	2,3	
Single (47,6%)	1	0,4	5	1,9	3	1,1	
Separated (5,6%)	0	0	0	0	1	0,4	3,1
Living with a partner (1,9%)	0	0	0	0	0	0	
X^2	8,8*		3,1		1,8		
Travel and accommodation	82	30,7	25	9,4	13	4,9	
Married (44,2%)	33	12,6	11	4,3	8	3,1	
Single (47,6%)	44	16,8	12	4,7	5	1,9	
Separated (5,6%)	4	1,5	2	0,8	0	0	2,9
Living with a partner (1,9%)	1	0,4	0	0	0	0	
X^2	1,7		0,8		2,3		
Health	19	7,1	53	19,9	84	31,5	

Married	8	3,1	25	9,7	36	13,8	
(44,2%)							
Single	8	3,1	22	8,5	40	15,3	
(47,6%)							
Separated	2	0,8	4	1,6	6	2,3	0,5
(5,6%)							
Living with a partner	1	0,4	2	0,8	2	0,8	
(1,9%)							
X²	2,2		2,3		0,6		
Baby products	15	5,6	13	4,9	5	1,9	
Married	13	5,0	13	5,0	5	1,9	
(44,2%)							
Single	1	0,4	0	0	0	0	
(47,6%)							
Separated	1	0,4	0	0	0	0	
(5,6%)							
Living with a partner	0	0	0	0	0	0	
(1,9%)							
X²	12,5**		17,6**		6,5		
Disinfectant and mask	10	3,7	71	26,6	86	32,2	
Married	4	1,5	32	12,4	37	14,2	
(44,2%)							
Single	5	1,9	32	12,4	41	15,7	
(47,6%)							

Not computed because the variable is a constant

0,2

Separated	1	0,4	4	1,6	6	2,3	
(5,6%)							
Living with a partner	0	0	3	1,2	2	0	
(1,9%)							
X²	0,6		2,9		0,5		
Hobbies	57	21,3	51	19,1	46	17,2	
Married	21	8,1	17	6,6	12	4,6	
(44,2%)							
Single	33	12,6	30	11,6	31	11,9	
(47,6%)							
Separated	2	0,8	1	0,4	2	0,8	1,5
(5,6%)							
Living with a partner	1	0,4	3	1,2	1	0,4	
(1,9%)							
X²	3,0		9,7*		8,5*		
Sporting goods	40	15,0	31	11,6	25	9,4	
Married	14	5,3	8	3,1	7	2,7	
(44,2%)							
Single	25	9,5	22	8,5	17	6,5	
(47,6%)							
Separated	0	0	0	0	1	0,4	0,1
(5,6%)							
Living with a partner	1	0,4	1	1	0	1	
(1,9%)							
X²	5,7		8,6*		4,5		

Missing	6	1,9	9	3,4	6	2,2
N=267						

*The difference between second and third time was significant at 0,05 level.

**The difference between second and third time was significant at 0,01 level.

4.5.4 The Changes Based on Respondents' Parental Status

Findings regarding the changing of the types of products purchased online in accordance with the participants' parental status are given in *Table 15*. The percentages of each parental status in general, which are already showed in *Table 7*, are given for a better evaluation.

According to the findings, most of the purchases of clothing and accessories products are done by the participants who are not parents in all three time periods. Additionally, the purchases of both groups decreased continuously from the first time period to the third (50,0%, 34,5%, 29,9% and 25,6%, 19,4%, 18,4% respectively). This is exactly true for the products of education, books and stationery (26,0%, 23,3%, 16,9% and 20,2%, 18,2%, 14,2% respectively). It is also true for the products of travel and accommodation (18,7%, 6,2%, 2,3% and 12,6%, 3,5%, 2,7% respectively). Chi-Square test results shows that only in the first time period there is a significant difference between parental status groups ($\chi^2=7,6$, $p<0,05$). However, there is not a significant relationship between parental status groups and the second and third time period ($\chi^2=0,1$, $p>0,05$).

When it comes to the products of electronics and computer, the participants who are not parents purchased most frequently these types of products in all three time periods. Additionally, the purchases rates of this group regularly decreased in time (27,9%, 24,0% and 19,9% respectively). On the other hand, the participants who are parent decreased their purchasing frequency from 15,3% to 9,3%, but

increased again to 11,9% in the third time period. Chi-Square test results shows that only in the second time period there is a significant difference between parental status groups ($\chi^2=5,6, p<0,05$). However, there is not a significant relationship between parental status groups and the second and third time period ($\chi^2=3,1, p>0,05$).

The findings regarding cosmetic products show interesting results. According to the findings, the participants who are not parent more frequently purchased these types of products in all three time periods and their purchases rates decreased regularly in time (20,2%, 15,9% and 14,6% respectively). On the other hand, the participants who are parent increased their purchases from 9,2% to 10,9% in the second time period, but decreased a little to 9,6% in the third time period. Chi-Square test results do not show any significant relationship between the parental status groups and between the time periods.

Regarding the products of supermarket and food, the participants who are not parent did the greater amount of purchases in all three time periods again (18,7%, 32,9% and 39,5% respectively). Additionally, both groups' purchases increased continuously in time (parents: 13,4%, 17,8% and 25,7% respectively). Chi-Square test results do not show any significant relationship between the parental status groups and between the time periods.

In terms of furniture and decoration products, most of the purchases are done by the participants who are not parent again. While the purchases of the participants who are parent declined from 5,3% to 3,9%, and to 3,4%, their purchases stayed the same; moreover increased a little in the third time period (8,8%, 8,8% and 9,2% respectively). Chi-Square test results do not show any

significant relationship between the parental status groups and between the time periods.

The purchases of constructional materials have a different pattern. Initially, the participants who are parent more frequently purchased these types of products than the participants who are not parent (2,3% and 1,5% respectively). In the second time period, the places switched (2,3% and 3,1% respectively), and stayed the same in the third time period (1,1% and 2,7% respectively). On the other hand, while the purchases of the participants who are parent decreased in time, the purchases of the participants who are not parent increased. Chi-Square test results do not show any significant relationship between the parental status groups and between the time periods.

Regarding health products, most of the purchases are than by the participants who are not parent in all three time periods. Additionally, both groups' purchases increased in time. However, it is clearly seen that the increase rate of the participants who are not parent (4,2%, 11,6% and 19,2% respectively) is greater than the other group (3,1%, 8,9% and 13,0% respectively). Chi-Square test results do not show any significant relationship between the parental status groups and between the time periods.

The purchases of the products of disinfectant and mask have almost the same pattern. The purchases rates were the same at the beginning. However, while the purchases rate of the participants who are parent rose from 1,9% to 10,7%, the purchases rate of the participants who are not parent rose from 1,9% to 22,2%. Chi-Square test results shows that only in the second time period there is a significant difference between parental status groups ($X^2=4,0$, $p<0,05$). However, there is not a significant relationship between parental status groups and the The

findings show that the participants who are not parent purchased more frequently the products of hobbies than the participants who are parent in all three time periods. Additionally, the purchases rates of the participants who are not parent (15,6%, 14,3% and 13,8% respectively) are almost three times higher than the other group (6,1%, 5,4% and 3,8% respectively). On the other hand, both groups' purchases rates regularly declined in time. Chi-Square test results shows that only in the third time period there is a significant difference between parental status groups ($\chi^2=6,5, p<0,05$). However, there is not a significant relationship between parental status groups and the second and third time period ($\chi^2=1,7, p>0,05$).

The findings regarding the products of sporting goods have almost the same pattern with the purchases of hobbies products. Chi-Square test results shows that in the second and the third time periods there are significant differences between parental status groups ($\chi^2=5,1, p<0,05$ and $\chi^2=3,9, p<0,05$). However, there is not a significant relationship between parental status groups and the second and third time period ($\chi^2=0,1, p>0,05$).

When it comes to the purchases of baby products, almost all the purchases were done by the participants who are parents in all the three time periods. Chi-Square test results confirm the differences. However, the relationship between parental status groups and the second and third time period is not computed because there is no value for the participants who are not parents.

Table 15

The Changes Based on Respondents' Parental Status

Product Types Purchased Online and the Parental Status		Before 31 st of December 2019		Between 31 st of December 2019 and 11 th of March 2020		After 11 th of March 2020		X ²
		n	%	n	%	n	%	
Clothing and accessories		198	74,2	139	52,1	126	47,2	
Parent	(38,6%)	67	25,6	50	19,4	48	18,4	
Not parent	(60,7%)	131	50,0	89	34,5	78	29,9	0,1
X ²		7,6**		0,5		0,0		
Electronics and computers		113	42,3	86	32,2	83	31,1	
Parent	(38,6%)	40	15,3	24	9,3	31	11,9	
Not parent	(60,7%)	73	27,9	62	24,0	52	19,9	3,2
X ²		0,8		5,6*		0,1		
Cosmetics		77	28,8	69	25,8	63	23,6	
Parent	(38,6%)	24	9,2	28	10,9	25	9,6	
Not parent	(60,7%)	53	20,2	41	15,9	38	14,6	0,1
X ²		2,5		0,3		0,1		
Super Market and Food		84	31,5	131	49,1	170	63,7	
Parent	(38,6%)	35	13,4	46	17,8	67	25,7	
Not parent	(60,7%)	49	18,7	85	32,9	103	39,5	0,9
X ²		0,5		0,9		0,3		
Furniture and Decoration		37	13,9	33	12,4	33	12,6	
Parent	(38,6%)	14	5,3	10	3,9	9	3,4	
Not parent	(60,7%)	23	8,8	23	8,9	24	9,2	0,0

X²		0,0		0,9		1,9		
Education, Books and Stationery		121	45,3	107	40,1	81	30,3	
Parent	(38,6%)	53	20,2	47	18,2	37	14,2	
Not parent	(60,7%)	68	26,0	60	23,3	44	16,9	0,4
X²		2,6		2,7		2,7		
Constructional Materials		10	3,7	14	5,2	10	3,7	
Parent	(38,6%)	6	2,3	6	2,3	3	1,1	
Not parent	(60,7%)	4	1,5	8	3,1	7	2,7	1,7
X²		2,0		0,1		0,3		
Travel and accommodation		82	30,7	25	9,4	13	4,9	
Parent	(38,6%)	33	12,6	9	3,5	7	2,7	
Not parent	(60,7%)	49	18,7	16	6,2	6	2,3	0,8
X²		0,1		0,1		1,4		
Health		19	7,1	53	19,9	84	31,5	
Parent	(38,6%)	8	3,1	23	8,9	34	13,0	
Not parent	(60,7%)	11	4,2	30	11,6	50	19,2	0,1
X²		0,1		0,8		0,3		
Baby products		15	5,6	13	4,9	5	1,9	
Parent	(38,6%)	14	5,3	13	4,9	5	1,9	
Not parent	(60,7%)	1	0,4	0	0	0	0	
X²		20,2**		22,3**		8,2**		
Disinfectant and mask		10	3,7	71	26,6	86	32,2	
Parent	(38,6%)	5	1,9	20	7,8	28	10,7	
Not parent	(60,7%)	5	1,9	51	19,8	58	22,2	0,5

Not computed
because the variable
is a constant

X²		0,6		4,0*		1,8		
Hobbies		57	21,3	51	19,1	46	17,2	
Parent	(38,6%)	16	6,1	14	5,4	10	3,8	
Not parent	(60,7%)	41	15,6	37	14,3	36	13,8	1,7
X²		3,4		3,0		6,5**		
Sporting goods		40	15,0	31	11,6	25	9,4	
Parent	(38,6%)	13	5,0	6	2,3	5	1,9	
Not parent	(60,7%)	27	10,3	25	9,7	20	7,7	0,1
X²		0,7		5,1*		3,9*		
Missing		5	1,9	9	3,4	6	2,2	
N=267								

*The difference between second and third time was significant at 0,05 level.

**The difference between second and third time was significant at 0,01 level.

4.5.5 The Changes Based on the Respondents' Level of Education

Findings regarding the changing of the types of products purchased online in accordance with the participants' level of education are given in *Table 16*. The percentages of each level of education in general, which are already showed in *Table 7*, are given for a better evaluation.

According to the findings, Bachelor's degree (the respondents with a bachelor's degree) participants most frequently purchased clothing and accessories products in all three time periods (43,1%, 32,9% and 29,1% respectively). The participants having master's degree are the second, the participants having doctorate degree are the third, the participants having high school degree or lower are the fourth and the participants having associate's degree are the fifth in all three time periods. This sequence is coherent with the dispersion of the participants in terms of their level of education in general. The purchases of the participants from all educational levels decreased in time excluding the participants having doctorate degree. Their purchases rate decreased from 7,3% to 6,2% in the second time period, but increased again to 7,3% in the third time period. Chi-Square test results shows that in all the time periods there are significant differences among education groups ($\chi^2=13,4$, $p<0,01$, $\chi^2=12,2$, $p<0,01$ and $\chi^2=11,8$, $p<0,01$). However, there is not a significant relationship among education groups and the second and third time period ($\chi^2=2,5$, $p>0,05$).

When it comes to the purchases of electronics and computer products, Bachelor's degree (the respondents with a bachelor's degree) did most of the purchases again, and the rest of the sequence is the same. However, while a general decline is seen in terms of these types of products, the same decline is not seen in each educational level. The purchases of the participants having master's

degree and high school degree or lower sharply declined in time (from 15,3% to 7,3% and from 1,9% to 0,4% respectively). On the other hand, the decline of the Bachelor's degree participants' purchases is not sharp (from 19,5% to 17,2%). The purchases rate of the participants having associate's degree did not change (0,4%). Interestingly, while all other groups' purchasing declined the purchases of the participants having doctorate degree increased from 6,1% to 6,5%. Chi-Square test results shows that in the second and the third time periods there are significant differences among education groups ($\chi^2=10,5$, $p<0,05$ and $\chi^2=9,1$, $p<0,05$). However, there is not a significant relationship among education groups and the second and third time period ($\chi^2=0,0$, $p>0,05$).

Regarding the purchases of cosmetics, the frequencies of purchases done by different educational level groups in all three time periods are coherent with the general dispersion of the participants according to their educational level. However, while a general decline is seen in terms of these types of products, the same decline is not seen in each educational level. A continuous decline is seen in the purchases rates of the participants from master's degree, associate's degree and high school degree or lower (from 11,1% to 6,9%, from 0,8% to 0,0%, and from 1,9% to 1,1% respectively). On the other hand, Bachelor's degree participants decreased their purchases from 13,4% to 12,0% in the second time period, but they increased to 13,4% in the third time period again. Interestingly, doctorate graduate participants increased their purchases from 2,3% to 3,5% in the second time period, but decreased a little to 2,7% in the third time period. Chi-Square test results do not show any significant relationship among the education groups and between the time periods.

According to the findings, most of the purchases for supermarket and food products were done by the Bachelor's degree participants again (16,4%, 22,1% and 33,0% respectively), and the rest of the sequence is the same in all three time periods. Additionally, a continuous increase is seen in the purchases of the participants from each educational level group. Chi-Square test results shows that only in the second time period there is a significant difference among education groups ($\chi^2=8,1, p<0,05$). However, there is not a significant relationship among education groups and the second and third time period ($\chi^2=2,9, p>0,05$).

When it comes to the purchases of furniture and decoration products, the frequencies of purchases done by different educational level group in all three time periods are coherent with the general dispersion of the participants according to their educational level, excluding the initial situation of master's graduates whose purchases were a slightly greater than the purchases of the Bachelor's degrees in the first time period. While a general decline is seen in terms of these types of products, the same decline is not seen in each educational level. A continuous decline is seen in the purchase rates of the participants from master's degree, associate's degree and high school degree or lower (from 5,7% to 3,8%, from 1,5% to 0,0%, and from 0,4% to 0,0% respectively). On the other hand, Bachelor's degree participants' purchases stayed still during all three time periods (5,4%). Interestingly, doctorate graduate participants tripled their purchases in time from 1,1% to 2,7%, and to 3,4%. Chi-Square test results shows that only in the third time period there is a significant difference among education groups ($\chi^2=8,6, p<0,05$). However, there is not a significant relationship among education groups and the second and third time period ($\chi^2=1,6, p>0,05$).

According to the findings, most of the purchases for education, books and stationery products were done by the Bachelor's degree participants again (21,4%, 20,5% and 13,4% respectively), and rest of the sequence is the same in all the three time periods. Additionally, a continuous decrease is seen in the purchases of the participants from each educational level group, excluding the purchases of the participants having associate's degree whose purchase rates stayed still in all the three time periods (0,8%). Chi-Square test results do not show any significant relationship among the education groups and between the time periods.

The findings regarding constructional materials have a different pattern. Initially, more than the half of all purchases were done by Bachelor's degree participants (2,3% of 3,7%). However, their purchase rates declined to 0,4% in the third time period. On the other hand, the purchases of the participants from master's and doctorate degree rose in time (from 0,4% to 1,5% and from 0,4% to 1,1% respectively). The purchase rates of associate's degree and high school degree or lower did not change during the three time periods (0,0% and 0,8% respectively). Chi-Square test results shows that only in the third time period there is a significant difference among education groups ($\chi^2=9,0$, $p<0,05$). However, there is not a significant relationship among education groups and the second and third time period ($\chi^2=4,6$, $p>0,05$).

According to the findings, most of the purchases for travel and accommodation products were done by the Bachelor's degree participants again (16,4%, 5,4% and 2,3% respectively), and the rest of the sequence is the same in all three time periods. Additionally, a continuous decrease is seen in the purchases of the participants from each educational level group excluding the purchases of the participants having high school degree or lower whose purchase rates

decreased from 0,8% to 0,4% in the second time and increased again to 0,8%.

Chi-Square test results do not show any significant relationship among the education groups and between the time periods.

The findings show that most of the purchases for health products were done by the Bachelor's degree participants again (3,1%, 9,3% and 16,9% respectively), and rest of the sequence is the same in all three time periods. Additionally, a continuous increase is seen in the purchases of the participants from each educational level group. Chi-Square test results do not show any significant relationship among the education groups and between the time periods.

The same is true for the products of disinfectant and mask, excluding the initial purchase rates of the participants having master's degree whose purchase rates (2,7% and 1,1% respectively) were twice higher than the Bachelor's degree participants in the first time period. Chi-Square test results shows that in all the time periods there are significant differences among education groups ($\chi^2=9,4$, $p<0,05$, $\chi^2=8,3$, $p<0,05$ and $\chi^2=7,9$, $p<0,05$). However, there is not a significant relationship among education groups and the second and third time period ($\chi^2=1,1$, $p>0,05$).

When it comes to the baby products, the Bachelor's degree participants are the most frequent buyers, and their purchase rates stayed still in the second time period, but decreased from 2,3% to 0,8% in the third time period. The purchase rates of the participants having master's and associate's degree declined in time, as well (from 1,9% to 0,4% and from 0,8% to 0,0% respectively). The purchase rates of the doctorate degree rose from 0,8% to 1,2%, but dropped to 0,4% in the end. Chi-Square test results do not show any significant relationship among the education groups and between the time periods

According to the findings, the most of the purchases were done by Bachelor's degree participants (12,6%, 8,5% and 8,8% respectively). The participants having master's degree and the participants having doctorate degree followed them. The other two levels of education degree did few purchases. The participants having college degree decreased their purchases from 12,6% to 8,5% in the second time period, but increased slightly to 8,8% in the third time period. The participants having master's degree increased their purchases from 4,6% to 7,0% in the second time period, but decreased again to 4,2% in the third time period. The participants having doctorate degree decreased their purchases regularly from 3,8% to 3,4%, and to 3,1%. Chi-Square test results do not show any significant relationship among the education groups and between the time periods.

Finally, regarding Sports equipment almost all purchases were done by the participants having college and master's degree in all three time periods. The participants having college degree decreased their purchases continuously from 11,1% to 7,8%, and to 6,1. When it comes to the participants having master's degree, they increased their purchases from 3,1% to 3,9% in the second time period, but decreased again to 3,1% in the third time period. The participants having doctorate degree decreased their purchases from 1,1% to 0,0% in the second time period, and stayed there. Chi-Square test results shows that only in the first time period there is a significant difference among education groups ($\chi^2=9,3, p<0,05$). However, there is not a significant relationship among education groups and the second and third time period ($\chi^2=0,1, p>0,05$).

Table 16

The Changes Based on the Respondents' Level of Education

Product Types Purchased Online and the Levels of Educations		Before 31 st of December 2019		Between 31 st of December 2019 and 11 th of March 2020		After 11 th of March 2020		X ²
				n	%	n	%	
Clothing and accessories		198	74,2	139	52,1	126	47,2	2,5
High school and lower	(5,6%)	9	3,4	5	1,9	6	2,3	
Associate degree	(1,1%)	2	0,8	1	0,4	1	0,4	
College graduate	(51,7%)	113	43,1	85	32,9	76	29,1	
Master's	(27,7%)	55	21,0	32	12,4	24	9,2	
Doctorate	(13,1%)	19	7,3	16	6,2	19	7,3	
X ²		13,4**		12,2**		11,8**		
Electronics and computers		113	42,3	86	32,2	83	31,1	0,0
High school and lower	(5,6%)	5	1,9	1	0,4	1	0,4	
Associate degree	(1,1%)	1	0,4	1	0,4	1	0,4	
College graduate	(51,7%)	51	19,5	47	18,2	45	17,2	
Master's	(27,7%)	40	15,3	20	7,8	19	7,3	
Doctorate	(13,1%)	16	6,1	17	6,6	17	6,5	
X ²		6,3		10,5*		9,1*		
Cosmetics		77	28,8	69	25,8	63	23,6	2,0
High school and lower	(5,6%)	5	1,9	4	1,6	3	1,1	

Associate degree	(1,1%)	2		0,8	0	0	0	0	
College graduate	(51,7%)	35		13,4	31	12,0	35	13,4	
Master's	(27,7%)	29		11,1	25	9,7	18	6,9	
Doctorate	(13,1%)	6		2,3	9	3,5	7	2,7	
X²		7,3			2,3		1,0		
Super Market and Food		84		31,5	131	49,1	170	63,7	
High school and lower	(5,6%)	5		1,9	10	3,9	10	3,8	
Associate degree	(1,1%)	2		0,8	2	0,8	3	1,1	
College graduate	(51,7%)	43		16,4	57	22,1	86	33,0	2,9
Master's	(27,7%)	24		9,2	45	17,4	49	18,8	
Doctorate	(13,1%)	10		3,8	17	6,6	22	8,4	
X²		0,5			8,1*		1,2		
Furniture and Decoration		37		13,9	33	12,4	33	12,6	
High school and lower	(5,6%)	4		1,5	1	0,4	0	0	
Associate degree	(1,1%)	1		0,4	0	0	0	0	
College graduate	(51,7%)	14		5,3	14	5,4	14	5,4	1,6
Master's	(27,7%)	15		5,7	11	4,3	10	3,8	
Doctorate	(13,1%)	3		1,1	7	2,7	9	3,4	
X²		7,5			3,8		8,6*		
Education, Books and Stationery		121		45,3	107	40,1	81	30,3	
High school and lower	(5,6%)	4		1,5	4	1,6	3	1,1	
Associate degree	(1,1%)	2		0,8	2	0,8	2	0,8	
College graduate	(51,7%)	56		21,4	53	20,5	35	13,4	3,2
Master's	(27,7%)	43		16,4	34	13,2	26	10,0	
Doctorate	(13,1%)	16		6,1	14	5,4	10	5,7	

χ^2		6,8		1,3		4,5	
Constructional Materials		10	3,7	14	5,2	10	3,7
High school and lower	(5,6%)	2	0,8	2	0,8	2	0,8
Associate degree	(1,1%)	0	0	0	0	0	0
College graduate	(51,7%)	6	2,3	5	1,9	1	0,4
Master's	(27,7%)	1	0,4	5	1,9	4	1,5
Doctorate	(13,1%)	1	0,4	2	0,8	3	1,1
χ^2		4,0		2,1		9,0*	
Travel and accommodation		82	30,7	25	9,4	13	4,9
High school and lower	(5,6%)	2	0,8	1	0,4	2	0,8
Associate degree	(1,1%)	2	0,8	0	0	0	0
College graduate	(51,7%)	43	16,4	14	5,4	6	2,3
Master's	(27,7%)	24	9,2	8	3,1	4	1,5
Doctorate	(13,1%)	11	4,2	2	0,8	1	0,4
χ^2		0,8		1,1		2,1	
Health		19	7,1	53	19,9	84	31,5
High school and lower	(5,6%)	2	0,8	6	2,3	7	2,7
Associate degree	(1,1%)	0	0	0	0	1	0,4
College graduate	(51,7%)	8	3,1	24	9,3	44	16,9
Master's	(27,7%)	7	2,7	17	6,6	25	9,6
Doctorate	(13,1%)	2	0,8	6	2,3	7	2,7
χ^2		4,3		2,7		4,2	
Baby products		15	5,6	13	4,9	5	1,9
High school and lower	(5,6%)	0	0	1	0,4	1	0,4
Associate degree	(1,1%)	2	0,8	1	0,4	0	0

4,6

2,0

0,9

0,1

College graduate	(51,7%)	6	2,3	6	2,3	2	0,8	1,1
Master's	(27,7%)	5	1,9	2	0,8	1	0,4	
Doctorate	(13,1%)	2	0,8	3	1,2	1	0,4	
X²		1,6		3,4		1,9		
Disinfectant and mask		10	3,7	71	26,6	86	32,2	2,3
High school and lower	(5,6%)	0	0	6	2,3	6	2,3	
Associate degree	(1,1%)	0	0	2	0,8	2	0,8	
College graduate	(51,7%)	3	1,1	38	10,5	34	13,0	
Master's	(27,7%)	7	2,7	26	10,1	30	11,5	
Doctorate	(13,1%)	0	0	10	3,9	14	5,4	
X²		9,4*		8,3*		7,9*		0,1
Hobbies		57	21,3	51	19,1	46	17,2	
High school and lower	(5,6%)	1	0,4	0	0	3	1,1	
Associate degree	(1,1%)	1	0,4	2	0,8	1	0,4	
College graduate	(51,7%)	33	12,6	22	8,5	23	8,8	
Master's	(27,7%)	12	4,6	18	7,0	11	4,2	
Doctorate	(13,1%)	10	3,8	9	3,5	8	3,1	
X²		4,2		3,9		1,5		0,1
Sporting goods		40	15,0	31	11,6	25	9,4	
High school and lower	(5,6%)	0	0	1	0,4	1	0,4	
Associate degree	(1,1%)	0	0	0	0	0	0	
College graduate	(51,7%)	29	11,1	20	7,8	16	6,1	
Master's	(27,7%)	8	3,1	10	3,9	8	3,1	
Doctorate	(13,1%)	3	1,1	0	0	0	0	
X²		9,3*		6,5		4,9		

Missing	5	1,9	9	3,4	6	2,2
N=267						

*The difference between second and third time was significant at 0,05 level.

**The difference between second and third time was significant at 0,01 level.

4.5.6 The Changes Based on Respondents' Occupation

Findings regarding the changes in the types of products purchased online in accordance with the participants' occupations are given in *Table 17*. The percentages of each occupation in general, which are already showed in *Table 7*, are given for a better evaluation.

According to the findings, most of the clothing and accessories products purchases were done by the participants working in private sectors in all three time periods (51,1%, 36,8% and 33,3% respectively). The participants working in public sector, being student, not working, being self-employed, being house wife, and being retired followed them. The purchases of each occupational group declined in time. Chi-Square test results do not show any significant relationship between the occupation groups and between the time periods.

The same is almost true in terms of the products of electronics and computers, excluding the student participants. While other participants' purchases declined in some degree, student participants' purchases increased from 3,1% to 3,9% in the second time period, but decreased slightly to 3,4% in the third time period. Additionally, the sharpest decline is seen in the private sector from %30,9 to 21,1%. Chi-Square test results do not show any significant relationship between the occupation groups and between the time periods.

When it comes to the purchases of cosmetics, the participants working in the private sectors did a great majority of the purchases in all three time periods.

Additionally, their purchase rates decreased regularly in time from 21,8% to 19,4, and to 16,9%. The purchases of retired participants also decreased. However, other occupational groups pictured different patterns. Self-employed kept their purchase rates the same in the second time period, but declined slightly from 1,6% to 1,1% in the third time period. Public sector workers kept their purchase rates the same in the second time period, but increased from 1,9% to 3,1% in the third time period. Students declined their purchase rates from 1,5% to 0,8%, but increased slightly to 1,1% in the third time period. House wives increased their purchase rates from 0,4% to 0,8%, and stayed still in the third time period. House wives increased their purchase rates from 1,9% to 2,3%, but declined to 1,1% in the third time period. Chi-Square test results do not show any significant relationship between the occupation groups and between the time periods.

The findings show that the dispersion of purchase percentages of the supermarket and food products by the participants from each occupational groups is similar to the dispersion of the participants in terms of occupations.

Additionally, the purchase rates of each occupational group increased in time.

Chi-Square test results shows that only in the second time period there is a significant difference among occupation groups ($\chi^2=15,4, p<0,05$). However, there is not a significant relationship between occupation groups and the second and third time period ($\chi^2=4,8, p>0,05$).

According to the findings about furniture and decoration products, the participants working in the private sectors did a great majority of the purchases in all three time periods. Additionally, their purchase rates decreased regularly in time from 10,3% to 8,1, and to 7,7%. Retired participants did not performed any purchases in all three time periods. Self-employed performed only 1 purchase in

the second time period, and house wives performed only 1 purchase in the first time period. Public sector workers increased their purchase rates from 1,5% to 2,3%, and stayed still in the third time period. Similarly, students increased their purchase rates from 0,8% to 1,6%, and stayed still in the third time period. Not working participants declined their purchase rates from 1,1% to 0,4%, but increased again to 1,1% in the third time period. Chi-Square test results do not show any significant relationship between the occupation groups and between the time periods.

The findings show that the dispersion of purchase percentages of the educational products by the participants from each occupational groups is similar the dispersion of the participants in terms of occupations. Additionally, the purchase rates of each occupational group decreased in time. This is also true for the products of travel and accommodation. Chi-Square test results shows that only in the second time period there is a significant difference among occupation groups ($\chi^2=13,5$, $p<0,05$). However, there is not a significant relationship between occupation groups and the second and third time period ($\chi^2=3,9$, $p>0,05$).

The purchases of constructional materials have a different pattern. Because the purchase numbers are small, it is difficult to read the data meaningfully. There are slight differences between time periods. Most of the purchases are done by the participants working in private sectors, working in public sector and being student. According to the findings, their purchases increased in the second time period and backed to the earlier rate in the third time period in general. Chi-Square test results shows that in the first and the third time period there are significant differences among occupation groups ($\chi^2=14,1$, $p<0,05$ and $\chi^2=12,9$,

$p < 0,05$). However, there is not a significant relationship between occupation groups and the second and third time period ($\chi^2 = 8,2$, $p > 0,05$).

According to the findings, the dispersion of purchase percentages of the health products by the participants from each occupational groups is similar to the dispersion of the participants in terms of occupations. Additionally, the purchase rates of each occupational group increased in time, excluding the self-employed and retired participants. The purchases of the self-employed stayed still during the three time periods (0,4%). The purchases of retired participants declined from 0,8% to 0,0%, but increased again to 0,8% again in the third time period. Chi-Square test results do not show any significant relationship among the occupation groups and between the time periods

When it comes to the baby products, almost all of the purchases were performed by the participants working in private and public sectors respectively. Additionally, the purchase rates of both groups declined regularly during the three time periods (4,2%, 3,5%, 1,1%, and 1,5%, 1,2%, 0,4%). Chi-Square test results do not show any significant relationship among the occupation groups and between the time periods. Chi-Square test results do not show any significant relationship among the occupation groups and between the time periods.

Regarding the products of disinfectant and mask, a massive amount of the purchases was done by the participants working in private sectors. Additionally, the purchase rates of this participant group rose continually in time (3,1%, 17,8% and 21,8%). Clear increases are seen in the purchase rates of other occupational groups, excluding the participants who are not working. This group of participants increased their purchased from 0,8% to 3,1%, but decreased again to 1,1%. Chi-

Square test results do not show any significant relationship among the occupation groups and between the time periods.

The findings pictured a different pattern for the purchase rates of the products of hobbies. A great majority of the purchases were done by the participants from private sectors, and their purchase rates decreased regularly during the three time periods (13,4%, 12,8% and 11,5% respectively). Retired participants performed only one purchase in each time period. Other occupational groups do not have a regular pattern. Self-employed increased their purchase rates from 0,8% to 1,2%, and stayed still in the third time period. Conversely, students decreased their purchase rates from 2,3% to 0,4%, and stayed still in the third time period. The participants from public sectors declined their purchase rates from 2,7% to 1,6%, but increased again to 1,9% in the third time period. Conversely, house wives and not working participants increased their purchase rates in the second time period (from 0,8% to 1,2%, and from 1,5% to 2,3% respectively), but decreased again to the earlier rates. Chi-Square test results do not show any significant relationship among the occupation groups and between the time periods.

Finally, according to the findings most of the purchases were done by the participants from private sectors. Additionally, the purchase rates decreased from 9,9% to 6,6, but increased again to 8,0%. However, the purchase rates of other occupational groups indicate a decline during the three time periods in general. Chi-Square test results shows that only in the second time period there is a significant difference among occupation groups ($\chi^2=9,2, p<0,05$). Additionally, there is a significant relationship between occupation groups and the second and third time period ($\chi^2=16,8, p<0,01$).

Table 17

The Changes Based on the Respondents' Occupation

Product Types Purchased Online and the Occupations		Between						X ²
		Before		31 st of		After 11 th		
		31 st of		December		of March		
		December		2019 and		2020		
		2019		11 th of		March 2020		
		n	%	n	%	n	%	
Clothing and accessories		198	74,2	139	52,1	126	47,2	
Freelancer	(4,9%)	9	3,4	8	3,1	6	2,3	
Public Sector	(9,0%)	19	7,3	15	5,8	11	4,2	
Private Sector	(65,2%)	134	51,1	95	36,8	87	33,3	
Retired	(2,2%)	2	0,8	0	0	0	0	1,1
Student	(9,4%)	17	6,5	9	3,5	10	3,8	
House Wife	(3,4%)	5	1,9	5	1,9	4	1,5	
Not Working	(5,2%)	12	4,6	7	2,7	8	3,1	
X ²		11,5		11,0		7,0		
Electronics and computers		113	42,3	86	32,2	83	31,1	
Freelancer	(4,9%)	6	2,3	6	2,3	5	1,9	
Public Sector	(9,0%)	11	4,2	10	3,9	10	3,8	
Private Sector	(65,2%)	81	30,9	55	21,3	55	21,1	3,6
Retired	(2,2%)	3	1,1	1	0,4	1	0,4	

Student	(9,4%)	8	3,1	10	3,9	9	3,4	
House Wife	(3,4%)	0	0	1	0,4	0	0	
Not Working	(5,2%)	4	1,5	3	1,2	3	1,1	
X²		10,2		5,9		7,5		
Cosmetics		77	28,8	69	25,8	63	23,6	2,5
Freelancer	(4,9%)	4	1,5	4	1,6	3	1,1	
Public Sector	(9,0%)	5	1,9	5	1,9	8	3,1	
Private Sector	(65,2%)	57	21,8	50	19,4	44	16,9	
Retired	(2,2%)	1	0,4	0	0	0	0	
Student	(9,4%)	4	1,5	2	0,8	3	1,1	
House Wife	(3,4%)	1	0,4	2	0,8	2	0,8	
Not Working	(5,2%)	5	1,9	6	2,3	3	1,1	
X²		6,6		10,2		5,1		4,8
Super Market and Food		84	31,5	131	49,1	170	63,7	
Freelancer	(4,9%)	3	1,1	4	1,6	7	2,7	
Public Sector	(9,0%)	5	1,9	6	2,3	13	5,0	
Private Sector	(65,2%)	58	22,1	93	36,0	119	45,6	
Retired	(2,2%)	3	1,1	5	1,9	5	1,9	
Student	(9,4%)	11	4,2	15	5,8	16	6,1	
House Wife	(3,4%)	2	0,8	3	1,2	3	1,1	
Not Working	(5,2%)	2	0,8	5	1,9	7	2,7	
X²		6,7		15,4*		9,1		3,0
Furniture and Decoration		37	13,9	33	12,4	33	12,6	
Freelancer	(4,9%)	0	0	1	0,4	0	0	
Public Sector	(9,0%)	4	1,5	6	2,3	6	2,3	

Private Sector	(65,2%)	27	10,3	21	8,1	20	7,7	
Retired	(2,2%)	0	0	0	0	0	0	
Student	(9,4%)	2	0,8	4	1,6	4	1,5	
House Wife	(3,4%)	1	0,4	0	0	0	0	
Not Working	(5,2%)	3	1,1	1	0,4	3	1,1	
X²		5,3		6,4		8,7		
Education, Books and Stationery		121	45,3	107	40,1	81	30,3	
Freelancer	(4,9%)	6	2,3	8	3,1	5	1,9	3,9
Public Sector	(9,0%)	11	4,2	9	3,5	7	2,7	
Private Sector	(65,2%)	85	32,4	69	26,7	57	21,8	
Retired	(2,2%)	2	0,8	0	0	0	0	
Student	(9,4%)	10	3,8	11	4,3	7	2,7	
House Wife	(3,4%)	4	1,5	7	2,7	4	1,5	
Not Working	(5,2%)	3	1,1	3	1,2	1	0,4	
X²		4,3		13,5*		8,3		
Constructional Materials		10	3,7	14	5,2	10	3,7	
Freelancer	(4,9%)	1	0,4	0	0	1	0,4	8,2
Public Sector	(9,0%)	1	0,4	3	1,2	3	1,1	
Private Sector	(65,2%)	4	1,5	6	2,3	3	1,1	
Retired	(2,2%)	1	0,4	0	0	1	0,4	
Student	(9,4%)	0	0	2	0,8	0	0	
House Wife	(3,4%)	2	0,8	2	0,8	1	0,4	
Not Working	(5,2%)	1	0,4	1	0,4	1	0,4	
X²		14,1*		10,1		12,9*		
Travel and accommodation		82	30,7	25	9,4	13	4,9	

X²		9,5		6,5		5,8		
Disinfectant and mask		10	3,7	71	26,6	86	32,2	
Freelancer	(4,9%)	0	0	3	1,2	3	1,1	7,6
Public Sector	(9,0%)	0	0	7	2,7	13	5,0	
Private Sector	(65,2%)	8	3,1	46	17,8	57	21,8	
Retired	(2,2%)	0	0	1	0,4	1	0,4	
Student	(9,4%)	0	0	3	1,2	5	1,9	
House Wife	(3,4%)	0	0	3	1,2	4	1,5	
Not Working	(5,2%)	2	0,8	8	3,1	3	1,1	
X²		8,1		10,9		8,9		
Hobbies		57	21,3	51	19,1	46	17,2	
Freelancer	(4,9%)	2	0,8	3	1,2	3	1,1	3,0
Public Sector	(9,0%)	7	2,7	4	1,6	5	1,9	
Private Sector	(65,2%)	35	13,4	33	12,8	30	11,5	
Retired	(2,2%)	1	0,4	1	0,4	1	0,4	
Student	(9,4%)	6	2,3	1	0,4	1	0,4	
House Wife	(3,4%)	2	0,8	3	1,2	2	0,8	
Not Working	(5,2%)	4	1,5	6	2,3	4	1,5	
X²		2,1		10,7		4,9		
Sporting goods		40	15,0	31	11,6	25	9,4	
Freelancer	(4,9%)	0	0	0	0	1	0,4	16,8**
Public Sector	(9,0%)	5	1,9	2	0,8	1	0,4	
Private Sector	(65,2%)	26	9,9	17	6,6	21	8,0	
Retired	(2,2%)	1	0,4	1	0,8	0	0	
Student	(9,4%)	5	1,9	7	2,7	2	0,8	

House Wife	(3,4%)	0	0	0	0	0	0
Not Working	(5,2%)	3	1,1	4	1,6	0	0
X²		5,6		15,1*		5,3	
Missing		5	1,9	9	3,4	6	2,2
N=267							

*The difference between second and third time was significant at 0,05 level.

**The difference between second and third time was significant at 0,01 level.

4.5.7 The Changes Based on Respondents' Income Level

Findings regarding the changing of the types of products purchased online in accordance with the participants' levels of income are given in *Table 18*. The percentages of each level of income in general, which are already showed in *Table 7*, are given for a better evaluation.

According to the findings regarding clothing and accessories products, these products were mostly purchased by the participants from 6000 – 9999 income group in all three time periods (22,5%, 17,1% and 16,5%). The participants from 2826 – 5999 group, and then the participants from 15000 or higher group, and then the participants from 10000 – 14999 group, and then the participants from 2825 or lower group followed them. This dispersion is exactly coherent with the general dispersion of the participants in accordance with their levels of income. The purchase rates of these products for all income levels deceased continuously during the three time periods. Chi-Square test results do not show any significant relationship among the income groups and between the time periods.

When it comes to the electronics and computer products, the participants from 6000 – 9999 income group performed most of the purchases. However, the purchase rates of the participants from 15000 or higher group are very close to

theirs, even greater in the third time period. Both of these groups' purchase rates declined in time (from 13,0% to 8,4%, and from 12,6% to 8,8% respectively). The purchase rates of the participants from 2826 – 5999 group declined, as well (from 6,9% to 5,0%). On the other hand, the purchase rates of the participants from 2825 or lower group increased from 4,6% to 5,7%. The purchase rates of the participants from 10000 – 14999 group declined from 6,1% to 2,7%, but slightly increased again to 3,8%. Chi-Square test results shows that in all the three time periods there are significant differences among income groups ($\chi^2=13,8$, $p<0,01$, $\chi^2=9,9$, $p<0,05$ and $\chi^2=9,5$, $p<0,05$). However, there is not a significant relationship between income groups and the second and third time period ($\chi^2=2,0$, $p>0,05$).

Regarding cosmetic products the findings show that each income group drew a different pattern. While a continuous decline is seen in purchases of these types of products in total, a clear decline is seen in only the purchases of participants' from 2826 – 5999 income group (from 7,6% to 4,7% and to 2,7%). The participants from 2825 or lower income group increased their purchases from 2,3% to 3,1%, but decreased slightly to 2,7%. Similarly, the participants from 10000 - 14999 income group increased their purchases from 3,4% to 3,9%, but decreased again to 2,7%. On the other hand, the participants from 6000 - 9999 income group decreased their purchases from 11,1% to 10,5%, but increased slightly to 10,7%. Similarly, the participants from 15000 or higher income group decreased their purchases from 5,0% to 4,7%, but increased to 5,4%. Chi-Square test results shows that only in the third time period there is a significant difference among income groups ($\chi^2=11,8$, $p<0,05$). However, there is not a significant relationship between income groups and the second and third time period ($\chi^2=3,3$, $p>0,05$).

The findings about supermarket and food products show that although the participants from 6000 – 9999 have the highest number among other income groups, 2826 – 5999 income group performed the most frequent purchases excluding in the third time period (9,5%, 9,7% and 15,3%). The dispersion of other groups in terms of the purchase rates of this types of products is coherent with the general dispersion of income groups in participants. Additionally, a regular increase is seen in each income groups' purchases in time. Chi-Square test results shows that only in the second time period there is a significant difference among income groups ($\chi^2=22,6$, $p<0,01$). However, there is not a significant relationship between income groups and the second and third time period ($\chi^2=8,7$, $p>0,05$).

According to the findings about furniture and decoration products, the most frequent purchases were performed by the participants from 6000 – 9999 income group (4,2%, 4,3% and 3,8%). While a continuous decline is seen in purchases of these types of products in total, a clear decline is seen in only the purchases of participants' from 2826 – 5999 income group (from 2,7% to 0,8% and to 0,4%). On the other hand, the participants from 2825 or lower income group decreased their purchases from 2,3% to 1,9%, but increased again to 2,3%. Similarly, the participants from 10000 - 14999 income group decreased their purchases from 1,9% to 0,8%, but increased again to 2,3%. Conversely, the participants from 6000 - 9999 income group did not change their purchase rates in the second time period, but decreased slightly to 3,8% in the third period. Similarly, the participants from 15000 or higher income group increased their purchases from 3,1% to 5,0%, but decreased to 3,8% in the third time period. Chi-Square test results shows that only in the second time period there is a significant difference

among income groups ($\chi^2=15,0$, $p<0,01$). However, there is not a significant relationship between income groups and the second and third time period ($\chi^2=5,6$, $p>0,05$).

The findings about education, books and stationery products show that the participants from 6000 – 9999 income group performed the most frequent purchases (13,4%, 13,2% and 7,3%). The dispersion of income groups in terms of the purchase rates of these types of products is coherent with the general dispersion of income groups in participants. Additionally, a decrease is seen in each income groups' purchases in time. Chi-Square test results do not show any significant relationship among the income groups and between the time periods.

This is also true for the purchase rates of the products of travel and accommodation. While the sharpest decline is seen in the 6000 – 9999 income group, the slightest decline is seen in 15000 or higher income group. Chi-Square test results do not show any significant relationship among the income groups and between the time periods.

The findings regarding constructional materials pictured a different pattern which is not clear. The participants from 2825 or lower income group increased their purchases from 0,4% to 1,2%, but decreased again to 0,4%. Similarly, the participants from 10000 - 14999 income group increased their purchases from 0,4% to 1,2%, but decreased again to 0,0%. On the other hand, the participants from 6000 - 9999 income group did increased their purchase rates regularly from 0,8% to 1,6% and to 2,3%. Conversely, the participants from 2826 – 5999 income group decreased their purchase rates regularly from 1,5% to 0,8% and to 0,4. The participants from 15000 or higher income group did not change their purchase

rates during the three time periods (0,8%). Chi-Square test results do not show any significant relationship among the income groups and between the time periods.

The findings about health products show that the dispersion of income groups in terms of the purchase rates of these types of products is coherent with the general dispersion of income groups in participants. Additionally, a regular increase is seen in each income groups' purchases in time. This is also true for the purchase rates of disinfectant and mask products. Chi-Square test results do not show any significant relationship among the income groups and between the time periods.

When it comes to baby products, it seems that the dispersion of income groups in terms of the purchase rates of these types of products is not coherent with the general dispersion of income groups in participants. On the other hand each income group purchase rates declined from the first time period to the third time period. Chi-Square test results do not show any significant relationship among the income groups and between the time periods.

According to the findings about hobby related products, the most frequent purchases were performed by the participants from 6000 – 9999 income group in total (5,3%, 5,0% and 6,5%). However, purchase rates of the participants from 15000 or higher income group are close to theirs. While a continuous decline is seen in purchases of these types of products in total, a clear decline is seen in only the purchases of the participants from 2825 or lower income group and the participants' from 2826 – 5999 income group (from 3,8% to 1,9% and to 0,8%, and from 5,0% to 2,7% respectively). Other income groups' purchase rates drew different patterns. The participants from 6000 - 9999 income group decreased their purchases from 5,3% to 5,0% in the second time period, but increased to

6,5% in the third time period. The participants from 10000 - 14999 income group stayed still in the second time period, but increased their purchase rates to 3,8% in the time period. The participants from 15000 or higher income group increased their purchases from 4,6% to 7,0%, but decreased to 3,8% in the third time period. Chi-Square test results shows that only in the second time period there is a significant difference among income groups ($\chi^2=12,0$, $p<0,05$). However, there is not a significant relationship between income groups and the second and third time period ($\chi^2=4,1$, $p>0,05$).

Finally, the findings about Sports equipment show that the dispersion of income groups in terms of the purchase rates of these types of products is coherent with the general dispersion of income groups in participants. On the other hand, each income group purchase rates declined from the first time period to the third time period, excluding the purchases of the participants from 10000 – 14999 income group whose purchase rates regularly increased from 0,4% to 0,8% and to 1,1% during the three time periods. Chi-Square test results do not show any significant relationship among the income groups.

Table 18

The Changes Based on Respondents' Level of Income

Product Types Purchased Online and the Income Groups	Before 31 st of December 2019	Between 31 st of December 2019 and 11 th of March 2020				After 11 th of March 2020	X ²
		n	%	n	%	n	
Clothing and accessories	198	74,2	139	52,1	126	47,2	
2825TL or lower (13,1%)	27	10,3	17	6,6	16	6,1	
2826 – 5999TL (21,3%)	45	17,2	34	13,2	25	9,6	
6000 – 9999TL (30,0%)	59	22,5	44	17,1	43	16,5	2,1
10000 – 14999TL (15,4%)	27	10,3	20	7,8	21	8,0	
15000TL or higher (19,5%)	40	15,3	24	9,3	21	8,0	
X ²	2,4		1,7		3,0		
Electronics and computers	113	42,3	86	32,2	83	31,1	
2825TL or lower (13,1%)	12	4,6	14	5,4	15	5,7	2,0

2826 – 5999TL	18	6,9	16	6,2	13	5,0
(21,3%)						
6000 – 9999TL	34	13,0	26	10,1	22	8,4
(30,0%)						
10000 – 14999TL	16	6,1	7	2,7	10	3,8
(15,4%)						
15000TL or higher	33	12,6	23	8,9	23	8,8
(19,5%)						

X²	13,8**		9,9*		9,5*	
Cosmetics	77	28,8	69	25,8	63	23,6
2825TL or lower	6	2,3	8	3,1	7	2,7
(13,1%)						
2826 – 5999TL	20	7,6	12	4,7	7	2,7
(21,3%)						
6000 – 9999TL	29	11,1	27	10,5	28	10,7
(30,0%)						
10000 – 14999TL	9	3,4	10	3,9	7	2,7
(15,4%)						
15000TL or higher	13	5,0	12	4,7	14	5,4
(19,5%)						
X²	6,3		3,5		11,8*	
Super Market and Food	84	31,5	131	49,1	170	63,7
2825TL or lower	10	3,8	19	7,4	23	8,8
(13,1%)						

3,3

8,7

2826 – 5999TL	25	9,5	41	15,9	40	15,3	
(21,3%)							
6000 – 9999TL	20	7,6	25	9,7	50	19,2	
(30,0%)							
10000 – 14999TL	14	5,3	19	7,4	23	8,8	
(15,4%)							
15000TL or higher	15	5,7	27	10,5	34	13,0	
(19,5%)							
X²	5,9		22,6**		2,5		
Furniture and Decoration	37	13,9	33	12,4	33	12,6	
2825TL or lower	6	2,3	5	1,9	6	2,3	
(13,1%)							
2826 – 5999TL	7	2,7	2	0,8	1	0,4	
(21,3%)							
6000 – 9999TL	11	4,2	11	4,3	10	3,8	
(30,0%)							5,6
10000 – 14999TL	5	1,9	2	0,8	6	2,3	
(15,4%)							
15000TL or higher	8	3,1	13	5,0	10	3,8	
(19,5%)							
X²	0,7		15,0**		9,0		
Education, Books and Stationery	121	45,3	107	40,1	81	30,3	
2825TL or lower	13	5,0	15	5,8	10	3,8	2,9
(13,1%)							

2826 – 5999TL	21	8,0	16	6,2	16	6,1	
(21,3%)							
6000 – 9999TL	35	13,4	34	13,2	19	7,3	
(30,0%)							
10000 – 14999TL	24	9,2	19	7,4	16	6,1	
(15,4%)							
15000TL or higher	28	10,7	23	8,9	20	7,7	
(19,5%)							
X²	7,7		5,8		4,7		
Constructional Materials	10	3,7	14	5,2	10	3,7	
2825TL or lower	1	0,4	3	1,2	1	0,4	
(13,1%)							
2826 – 5999TL	4	1,5	2	0,8	1	0,4	
(21,3%)							
6000 – 9999TL	2	0,8	4	1,6	6	2,3	
(30,0%)							7,9
10000 – 14999TL	1	0,4	3	1,2	0	0	
(15,4%)							
15000TL or higher	2	0,8	2	0,8	2	0,8	
(19,5%)							
X²	2,2		1,8		5,5		
Travel and accommodation	82	30,7	25	9,4	13	4,9	
2825TL or lower	8	3,1	3	1,2	1	0,4	8,6
(13,1%)							

2826 – 5999TL	21	8,0	2	0,8	2	0,8	
(21,3%)							
6000 – 9999TL	26	9,9	11	4,3	2	0,8	
(30,0%)							
10000 – 14999TL	15	5,7	3	1,2	2	0,8	
(15,4%)							
15000TL or higher	12	4,6	6	2,3	6	2,3	
(19,5%)							
X²	4,0		4,7		6,5		
Health	19	7,1	53	19,9	84	31,5	
2825TL or lower	4	1,5	9	3,5	11	4,2	
(13,1%)							
2826 – 5999TL	5	1,9	13	5,0	17	6,5	
(21,3%)							
6000 – 9999TL	4	1,5	13	5,0	29	11,1	
(30,0%)							4,2
10000 – 14999TL	2	0,8	10	3,9	11	4,2	
(15,4%)							
15000TL or higher	4	1,5	8	3,1	16	6,1	
(19,5%)							
X²	2,2		2,9		1,5		
Baby products	15	5,6	13	4,9	5	1,9	
2825TL or lower	0	0	0	0	0	0	0,9
(13,1%)							

2826 – 5999TL	2	0,8	2	0,8	1	0,4	
(21,3%)							
6000 – 9999TL	5	1,9	5	1,9	2	0,8	
(30,0%)							
10000 – 14999TL	5	1,9	2	0,8	0	0	
(15,4%)							
15000TL or higher	3	1,1	4	1,6	2	0,8	
(19,5%)							
X²	6,0		3,4		2,8		
Disinfectant and mask	10	3,7	71	26,6	86	32,2	
2825TL or lower	3	1,1	12	4,7	12	4,6	
(13,1%)							
2826 – 5999TL	3	1,1	20	7,8	21	8,0	
(21,3%)							
6000 – 9999TL	2	0,8	22	8,5	30	11,5	
(30,0%)							3,2
10000 – 14999TL	0	0	12	4,7	11	4,2	
(15,4%)							
15000TL or higher	2	0,8	5	1,9	12	4,6	
(19,5%)							
X²	4,6		10,2*		4,4		
Hobbies	57	21,3	51	19,1	46	17,2	
2825TL or lower	10	3,8	5	1,9	2	0,8	4,1
(13,1%)							

2826 – 5999TL	13	5,0	7	2,7	7	2,7	
(21,3%)							
6000 – 9999TL	14	5,3	13	5,0	17	6,5	
(30,0%)							
10000 – 14999TL	8	3,1	8	3,1	10	3,8	
(15,4%)							
15000TL or higher	12	4,6	18	7,0	10	3,8	
(19,5%)							
X²	2,2		12,0*		6,8		
Sporting goods	40	15,0	31	11,6	25	9,4	
2825TL or lower	6	2,3	8	3,1	1	0,4	
(13,1%)							
2826 – 5999TL	8	3,1	5	1,9	5	1,9	
(21,3%)							
6000 – 9999TL	15	5,7	11	4,3	12	4,6	
(30,0%)							11,2*
10000 – 14999TL	1	0,4	2	0,8	3	1,1	
(15,4%)							
15000TL or higher	10	3,8	5	1,9	4	1,5	
(19,5%)							
X²	6,7		7,0		5,3		
Missing	5	1,9	9	3,4	6	2,2	
N=267							

*The difference between second and third time was significant at 0,05 level.

**The difference between second and third time was significant at 0,01 level.

4.6 The Changes in the Digitally Purchased Product Based on the Perceived Threat During the Pandemic

Findings regarding the changing of the types of products purchased online based on the participants' threat perceptions on pandemic are given in *Table 19*.

According to the findings regarding clothing and accessories products, most of the purchases were performed by the participants evaluating the threats of pandemic high in all three time periods (31,8%, 23,3% and 19,7% respectively). The participants from very high group, medium group, low group and very low group followed them in order. This dispersion is coherent with the dispersion of the participants in accordance with their threat evaluation of pandemic in general. A decline of purchase rates is seen in each perception group from the first time period to the third.

The findings about electronic and computer products show that the participants evaluating the threats of pandemic high were the most frequent buyers again (31,8%, 23,3% and 19,7% respectively). Additionally, their purchase rates decline regularly during the three time periods. The purchase rates of the participants evaluating the threats of pandemic very high (from 12,6% to 8,5%) declined from the first time period to the third, as well. However, the purchase rates of the participants from medium and low perception groups increased in time (from 9,2% to 10,0% and from 1,5% to 2,3% respectively).

When it comes to the cosmetic products, the participants evaluating the threats of pandemic high were the most frequent buyers again in all three time periods (11,5%, 11,3% and 9,3% respectively). Including this group of participants, the participants from other perception groups decreased their purchases from the first

time period to the third. Only exception is the medium perception group. The participants from this group kept their purchase rates the same (5,0%).

As expected, the participants evaluating the threats of pandemic high were the most frequent buyers of supermarket and food products in all three time periods (14,6%, 20,6% and 30,5% respectively). The purchase rates of other perception groups are coherent with the dispersion of all participants in accordance with their threat perception of pandemic in general. Additionally, a regular increase of purchase rates is seen in each perception group excluding the very low perception group.

The findings regarding furniture and decoration products pictured a different pattern. Most of the purchases were done by the participants evaluating the threats of pandemic high in the first and the second time period, but they switched the first place with the participants from very high perception group in the third time period. Moreover, while the purchase rates of the high perception group were decreasing continuously (8,0%, 6,2% and 4,2%), the purchase rates of very high perception group increased in time (3,1%, 3,1% and 5,0%). The purchase rates of the participants from medium perception group increased in time from 2,3% to 3,5% as well. On the other hand, the purchase rates of the participants from low perception group decreased in time from 0,8% to 0,0%.

According to the findings about education, book and stationery products, the participants evaluating the threats of pandemic high were the most frequent buyers in all three time periods (22,2%, 20,2% and 15,4% respectively). The purchase rates of other perception groups are coherent with the dispersion of all participants in accordance with their threat perception of pandemic in general. Additionally, a

decline of purchase rates is seen in each perception group from the first time period to the third.

Regarding constructional materials the findings indicate a complicated pattern. Because the purchase numbers of these types of products is low, it is hard to read the results meaningfully. The participants from very high perception group decreased their purchases regularly from 1,5% to 1,2% and to 0,8% in time. The participants from high perception group increased their purchases from 1,5% to 2,7%, but decreased again to 1,5%. The participants from medium and very low perception groups increased their purchases from 0,4% to 0,8% and from 0,0% to 0,4% respectively in the second time period, and stayed still in third time period. The participants from low perception group kept their purchases still.

When it comes to the findings about travel and accommodation products, the purchase rates of perception groups are coherent with the dispersion of all participants in accordance with their threat perception of pandemic in general. Additionally, a regular decline of purchase rates is seen in each perception group from the first time period to the third, excluding in the very low perception group, from which the participants did not purchase any.

Regarding health products, the findings indicate interesting results. Unlike the general dispersion of the participants in terms of threat perception of the pandemic, the purchase rates of the participants from very high perception group (3,1%, 8,2% and 13,1% respectively) are greater than the purchase rates of the participants from high perception group (1,9%, 7,0% and 13,9% respectively) in general. A clear increase of purchase rates is seen in each perception group excluding the very low perception group. On the other hand, the increase ratios of high and very high perception groups are greater than the other groups'.

The findings regarding the products of disinfectant and mask are very similar to the findings regarding health products. The purchase rates of the participants from very high perception group (1,1%, 10,1% and 13,5% respectively) are very close to the purchase rates of the participants from high perception group (1,9%, 12,1% and 14,3% respectively) in general. A clear increase of purchase rates is seen in each perception group excluding the very low perception group.

According to the findings about baby products, the purchase rates of all perception groups are coherent with the dispersion of all participants in accordance with their threat perceptions of pandemic in general. Additionally, a general decrease of purchase rates is seen in each perception group excluding the low and the very low perception groups. The participants from the low perception group increased their purchase rates from 0,0% to 0,4% and stayed still. The participants from the low perception group did not purchase in any time period.

According to the findings about hobby related products, the participants evaluating the threats of pandemic high were the most frequent buyers in all three time periods (9,2%, 9,7,2% and 8,5% respectively). Although there is a slight increase in their purchases in the second time period, the purchase rates decreased in the third time under the rates of first time period. Similarly, declines are seen in the medium and low perception groups. However, the purchase rates of very low perception group increased from 0,0% to 0,8% in time. The purchase rates of very high perception group decreased from 6,5% to 3,4% in second time period, but increased to 5,4% in the third time period.

When it comes to Sports equipment finally, the findings show that the participants evaluating the threats of pandemic high were the most frequent buyers in all three time periods (8,0%, 6,6% and 5,0% respectively). The purchase rates

of other perception groups are coherent with the dispersion of all participants in accordance with their threat perception of pandemic in general. Additionally, a general decline of purchase rates is seen in each perception group from the first time period to the third.



Table 19

*The Changes in the Digitally Purchased Products Based on the Perceived Threat
During the Pandemic*

Product Types Purchased Online and the Levels of Educations		Between 31 st of December 2019 and 11 th of March 2020					
		Before 31 st of December 2019		December 2019 and 11 th of March 2020		After 11 th of March 2020	
		n	%	n	%	n	%
Clothing and accessories		198	74,2	139	52,1	126	47,2
Very high	(28,1%)	57	21,8	34	13,2	35	13,5
High	(43,1%)	83	31,8	60	23,3	51	19,7
Moderate	(21,0%)	46	17,6	34	13,2	33	12,7
Low	(5,2%)	9	3,4	10	3,9	5	1,9
Very low	(1,1%)	2	0,8	0	0	1	0,4
Electronics and computers		113	42,3	86	32,2	83	31,1
Very high	(28,1%)	33	12,6	20	7,8	22	8,5
High	(43,1%)	52	19,9	34	13,2	28	10,8
Moderate	(21,0%)	24	9,2	27	10,5	26	10,0
Low	(5,2%)	4	1,5	5	1,9	6	2,3
Very low	(1,1%)	0	0	0	0	0	0
Cosmetics		77	28,8	69	25,8	63	23,6
Very high	(28,1%)	28	10,7	21	8,2	22	8,5
High	(43,1%)	30	11,5	29	11,3	24	9,3
Moderate	(21,0%)	13	5,0	14	5,4	13	5,0
Low	(5,2%)	4	1,5	3	1,2	3	1,2
Very low	(1,1%)	2	0,8	2	0,8	1	0,4

Super Market and Food		84	31,5	131	49,1	170	63,7
Very high	(28,1%)	26	10,0	44	17,1	58	22,4
High	(43,1%)	38	14,6	53	20,6	79	30,5
Moderate	(21,0%)	14	5,4	26	10,1	26	10,0
Low	(5,2%)	5	1,9	6	2,3	7	2,7
Very low	(1,1%)	0	0	1	0,4	0	0
Furniture and Decoration		37	13,9	33	12,4	33	12,6
Very high	(28,1%)	8	3,1	8	3,1	13	5,0
High	(43,1%)	21	8,0	16	6,2	11	4,2
Moderate	(21,0%)	6	2,3	9	3,5	9	3,5
Low	(5,2%)	2	0,8	0	0	0	0
Very low	(1,1%)	0	0	0	0	0	0
Education, Books and Stationery		121	45,3	107	40,1	81	30,3
Very high	(28,1%)	36	13,8	27	10,5	25	9,7
High	(43,1%)	58	22,2	52	20,2	40	15,4
Moderate	(21,0%)	19	7,3	19	7,4	12	4,6
Low	(5,2%)	6	2,3	7	2,7	3	1,2
Very low	(1,1%)	1	0,4	1	0,4	0	0
Constructional Materials		10	3,7	14	5,2	10	3,7
Very high	(28,1%)	4	1,5	3	1,2	2	0,8
High	(43,1%)	4	1,5	7	2,7	4	1,5
Moderate	(21,0%)	1	0,4	2	0,8	2	0,8
Low	(5,2%)	1	0,4	1	0,4	1	0,4
Very low	(1,1%)	0	0	1	0,4	1	0,4
Travel and accommodation		82	30,7	25	9,4	13	4,9
Very high	(28,1%)	26	10,0	6	2,3	4	1,5
High	(43,1%)	39	14,9	13	5,1	5	1,9
Moderate	(21,0%)	15	5,7	5	1,9	3	1,2

Low	(5,2%)	2	0,8	1	0,4	1	0,4
Very low	(1,1%)	0	0	0	0	0	0
Health		19	7,1	53	19,9	84	31,5
Very high	(28,1%)	8	3,1	21	8,2	34	13,1
High	(43,1%)	5	1,9	18	7,0	36	13,9
Moderate	(21,0%)	3	1,1	9	3,5	9	3,5
Low	(5,2%)	2	0,8	3	1,2	4	1,5
Very low	(1,1%)	1	0,4	2	0,8	1	0,4
Baby products		15	5,6	13	4,9	5	1,9
Very high	(28,1%)	5	1,9	5	1,9	1	0,4
High	(43,1%)	7	2,7	3	1,2	1	0,4
Moderate	(21,0%)	3	1,1	4	1,6	2	0,8
Low	(5,2%)	0	0	1	0,4	1	0,4
Very low	(1,1%)	0	0	0	0	0	0
Disinfectant and mask		10	3,7	71	26,6	86	32,2
Very high	(28,1%)	3	1,1	26	10,1	35	13,5
High	(43,1%)	5	1,9	31	12,1	37	14,3
Moderate	(21,0%)	2	0,8	11	4,3	10	3,9
Low	(5,2%)	0	0	0	0	2	0,8
Very low	(1,1%)	0	0	2	0,8	1	0,4
Hobbies		57	21,3	51	19,1	46	17,2
Very high	(28,1%)	17	6,5	10	3,9	14	5,4
High	(43,1%)	24	9,2	25	9,7	22	8,5
Moderate	(21,0%)	14	5,4	13	5,1	7	2,7
Low	(5,2%)	2	0,8	1	0,4	1	0,4
Very low	(1,1%)	0	0	2	0,8	2	0,8
Sports equipment		40	15,0	31	11,6	25	9,4
Very high	(28,1%)	10	3,8	6	2,3	5	1,9

High	(43,1%)	21	8,0	17	6,6	13	5,0
Moderate	(21,0%)	8	3,1	7	2,7	7	2,7
Low	(5,2%)	0	0	0	0	0	0
Very low	(1,1%)	1	0,4	0	0	0	0
Missing		6	2,2	10	3,7	8	3,0

N=267

4.7 The Indirect Factor Affecting the Online Consumer Behavior

Using the questionnaire the participants were asked what they had experienced in their life because of the pandemic after 11th of March. The findings about the actions taken by the participants against pandemic are given in *Table 20*.

According to the findings the three most frequently taken actions against the pandemic are those: staying home except for jobs and needs (72,3%), refraining from getting inside physical stores (39,3%), and benefiting from staying home (37,1%). On the other hand, the three least frequently taken actions against the pandemic are those: fearing of inability of purchasing what is needed (4,5%), not knowing what to do (5,2%), and decreasing spending because of the risk of losing jobs (6,4%).

Table 20

Actions Taken After March 11th 2020

Actions	n	%
I stay home except for my job and needs.	193	72,3
I refrain from getting inside physical stores	105	39,3
I benefit from staying home.	99	37,1
Going outside causes fear and anxiety on me.	69	25,8
I feel as if I am caged	69	25,8

I am working on new routines for my security.	65	24,3
I have decreased my spending because of the risk of losing my job	17	6,4
I do not know what to do.	14	5,2
I am afraid of inability of purchasing what I need	12	4,5
Missing	4	1,5

N=267

4.8 The Reasons to Choose Digital Channels to Shop After March 11th

2020

The findings about why participants shopped online after 11th of March are presented in *Table 21*. According to the findings, the first reason for shopping online is refraining from going to stores physically (69,7%). The second reason is availability of purchasing the same products online for less amount of money (43,8%). The third reason is availability of finding whatever is needed on the same platform (39,3%). The third reason is that online shopping is faster than traditional shopping (37,1%). The final reason for preferring online shopping is that online stores do not have a stock problem (22,8%).

Table 21

The Reasons to Choose Digital Channels to Shop After March 11th 2020

Reasons	n	%
I do not want to go to stores physically	186	69,7
I can purchase the same products online for less amount of money	117	43,8

I can find whatever I need on the same platform	105	39,3
Online shopping is faster than traditional shopping	99	37,1
Online stores do not have a stock problem	61	22,8
Missing	3	1,1
N=267		

4.9 The Online Shopping Channels Preferred by the Respondents

The findings about the channels preferred by the participants for shopping online are shown in *Table 22*. According to the findings, the participants mostly preferred shopping online through online marketplace such as hepsiburada.com, trendyol.com, and n11.com (67,4%). The participants' second choice was products' or brands' own websites (22,1%). The participants' third choice was online shopping by telephones (5,6%). The final choice of the participants for online shopping was through social media platforms (2,2%).

Table 22

The Online Shopping Channels Preferred by the Respondents

Digital Channels	n	%
Marketplaces such as Hepsiburada, Trendyol etc.	180	67,4
Brands' Websites	59	22,1
By telephone	15	5,6
Social media platforms	6	2,2
Missing	7	2,6
N=267		

4.10 The Most Preferred Marketplaces After March'20

As mentioned above, the most frequently preferred online shopping channel was online marketplaces. Findings regarding the preferences of the participants among these marketplaces are given in *Table 23* in order. According to the findings, the most frequently preferred online marketplace is trendyol.com (58,1%). Hepsiburada.com (29,2%), amazon.com (5,2%), n11.com (4,1%), and gittigidiyor.com (2,2%) followed it.

Table 23

The Most Preferred Marketplaces After March 11th 2020

Online Markets	n	%
Trendyol	155	58,1
Hepsiburada	78	29,2
Amazon Turkey	14	5,2
N11	11	4,1

Gittigidiyor	3	1,1
Missing	6	2,2
N=267		

4.11 The Intention to Continue Online Shopping in the Post-Pandemic Future

Finally, the findings about the participants' intention to continue online shopping in the post-pandemic future are given in *Table 24*. According to the table, a great majority of the participants (70,4%) agreed with the idea on continuing online shopping after the pandemic. 17,6% of the participants are neutral about the idea. However, 10,9% of the participants disagreed with the idea on continuing online shopping after the pandemic.

Table 24

The Intention to Continue Online Shopping in the Post-Pandemic Future

Level of Agreement	n	%
Strongly agree	77	28,8
Agree	111	41,6
Neutral	47	17,6
Disagree	20	7,5
Strongly disagree	9	3,4
Missing	3	1,1
N=267		

5. CONCLUSION AND DIRECTIONS FOR FURTHER RESEARCH

5.1 Discussion

Understanding the online consumer behavior is crucially important for both researchers and the businesses' decision makers. As it is stated in the previous chapters, e-commerce has been growing rapidly since its beginning, yet it grew more rapidly than ever since the beginning of the coronavirus pandemic.

Literature shows that during the pandemic, the global reaction in terms of online shopping has been pretty much the same. Due to the lockdowns and curfews, the tendency to shop online rose. Also other studies state that for a short period of time "stockpiling" behavior was observed in the very beginning.

When the changes in the product groups purchased through online channels are analyzed, the literature states that the health, food, hygiene products are at the top of the list. Also, the electronics & technology products, sports equipment and some particular hobby products such as cooking etc. have been sold more than ever. People spent more time at home, so this fact tripled the bread making machine sales in the beginning. Unfortunately, there is not enough literature focusing on the demographics of this particular period. However, the relevant studies state that female shoppers were most likely to be affected in emotional aspects of the pandemic than the men yet the men's shopping behavior shifted more. Since this study's main goal is to understand the Turkish consumers' online shopping behavior in the early days of the pandemic, fair amount of literature was studied in order to do so. The literature shows that the economics conditions and uncertainty affected the general consumer behavior. Generally, people preferred keeping the money instead of spending. The time period selected for this study is the dates between 31st December 2019- 11th March 2020 and the period after

March 11th 2020. The data obtained from Hepsiburada shows that, for the first period, there was not a dramatic change in terms of products' sales numbers. The data representing the 2nd period shows that hygiene, canned and long-lasting food, personal care and cleaning products were mostly preferred and also there was increase in the categories console games, hobby products, decoration, etc.

However, when the results and findings are examined, there are some similarities naturally, yet there are also differences. Generally, the respondents answers show that **the decreasing** categories are: *clothing & accessories, electronics & technology, education-book-stationary, travel & accommodation, hobby, constructional and sports*; **the increasing categories**: *grocery and supermarket goods, health, hygiene, masks, disinfectant*. Interestingly, *cosmetics and furniture* are the categories with the stable percentages throughout the whole period. The demographic results prove that the whole categories' tendency is pretty much the same, obviously there are some exceptions which be seen from the results and findings chapter.

Apart from the demographics, this period has been quite emotional for all people. Fear and anxiety were among the top feelings. The questions asked to understand the emotional aspect show that people felt anxious to go out, to go to the physical stores. Also some people preferred online due to the conveniency and inexpensiveness of marketplaces. Trendyol is the leading marketplace in Turkey, both the literature and survey prove.

Even there are slight differences, it is safe to state that the online shopping is at its peak currently and studies prove that, this change is to be a permanent. Consumers are more likely to adapt to e-commerce because of the conditions of today's world.

5.2 Conclusion

Even if its beginning dates back to earlier times, e-commerce, which gained momentum and grew with the presence of players such as Amazon, eBay, since the mid-90s, experienced the fastest growth in its history thanks to the unfortunate event, coronavirus pandemic. Despite the fact that the global usage of the internet has risen as a result of technologic developments, and therefore the volume of e-commerce has increased day by day, the majority in the societies were not “online shoppers”.

Products purchased through online channels, the demographics of “online shoppers”, etc. actually all of them were some stereotypes, as studies have shown over the years. The same stereotyping was also valid for consumers in Turkey.

However, the coronavirus pandemic, which began in China at the end of 2019 and shook the world in every sense, there have been significant and permanent changes both in traditional and online consumer behavior.

In this context, these developments and changes in e-commerce, which can also be defined as “panic buying”, before and during the one-month period of the pandemic were analyzed and examined in this research.

When the research results are examined, it is seen that the basic priorities of the consumers have changed in terms of product categories. In the research, which is divided on different time periods, as the threat level increases, the products that consumers purchase through online channels also comply with the general consumption trend during the pandemic.

Once the demographic variables in the research are examined, the findings reveal that demographic factors are not that effective comparing to the pre-pandemic period.

It is an undeniable fact that the pandemic has caused several changes in our lives. Beyond the research, some of these changes, which every individual who has gone through this process as a consumer are aware of, are permanent but some are temporary. What is important for researchers is to understand the factors and reasons behind these changes and to be able to predict which change is permanent. Thus, in this process, we can understand habits that are beneficial for individuals and the world from a consumers and brand perspective.

5.3 Suggestions for Future Research

This descriptive research enables researchers and business to understand the changes in the beginning of the pandemic, particularly in Turkey. For further research, the factors and variables should be analyzed in a more detailed approach. Also the following periods should be analyzed depending on the results of this research.

Apart from the panic buying, the same respondents' online consumption habits should be studied as a future research.

This study, as mentioned above, analyzed the relevant period in a descriptive research method. The same subject should be also analyzed in a quantitatively in future studies.

REFERENCES

- Adrienko, O. (2020, April 20). *Ecommerce & Consumer Trends During Coronavirus*. Retrieved January 2021, from Semrush: <https://www.semrush.com/blog/ecommerce-covid-19/>
- Aksu Armağan, E., & Turan, A. H. (2014). Internet Shopping: The Effect of Demographic Factors and Individual Requirements: An Empirical Assesment. *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 28(3).
- Aktuğ, M. (2020). *Online Pazar Yerleri 2019-2020 Q1 Sektör Raporu*. ZEO Agency. Istanbul: ZEO Agency.
- Al-maaitah, T. A., Majali, T., Alsoud, M., & Al-Maaitah, D. A. (2021, November 1). The Impact of COVID-19 on the Electronic Commerce Users Behavior. *Journal of Contemporary Issues in Business and Government*, 27(1), 784-793.
- Ali, F. (2021, March 22). *Data dive: How COVID-19 impacted ecommerce in 2020*. Retrieved March 2021, from Digital Commerce 360: <https://www.digitalcommerce360.com/article/coronavirus-impact-online-retail/>
- Anderson, C. (1997, May 8). *In search of the perfect market*. Retrieved March 2021, from The Economist: <https://www.economist.com/special-report/1997/05/08/in-search-of-the-perfect-market>
- Ariguzo, G. C., Mallach, E., & White, D. S. (2006, January). The first decade of e-commerce. *International Journal of Business Information Systems*, 239-255.
- Arslan, B. (2019). Türkiye'de E-Ticaretin Ülke Ekonomisi Üzerine Etkisi (Master's Thesis). *Türkiye'de E-Ticaretin Ülke Ekonomisi Üzerine Etkisi* . Tekirdağ, Turkey.
- Arslan, İ. K., & Koçum, M. (2020, September). IMPACTS OF E-COMMERCE ON THE PURCHASING BEHAVIOUR OF CONSUMERS. *İstanbul Ticaret Üniversitesi Girişimcilik Dergisi* , 4(7), 67-80.

- Arslandere, M. (2010). Elektronik ticaret ve Karaman'daki KOBİ'ler üzerine bir araştırma (Master's Thesis). Karaman, Karaman, Turkey.
- Augment. (2019, December 1). *The evolution of E-commerce over the last decade*. Retrieved January 2021, from Singularity: <https://singularity.com/blog/our-blog-1/post/the-evolution-of-e-commerce-over-the-last-decade-7>
- Ayittey, F. K., Ayittey, M. K., Chiwero, N. B., Kamasah, J. S., & Dzuovor, C. (2020, February 12). Economic impacts of Wuhan 2019-nCoV on China and the World. *Journal of Medical Virology*, 92(5), 473-475.
- Ballantine, P. W., Zafar, S., & Parsons, A. G. (2013). Changes in retail shopping behaviour in the aftermath of an earthquake. *The International Review of Retail, Distribution and Consumer Research*, 1-13.
- Bankalararası Kart Merkezi (BKM). (2011). *Kart Monitor 2011*. Retrieved March 2021, from Bankalararası Kart Merkezi (BKM): https://bkm.com.tr/raporlar-ve-yayinlar/yayinlar/kart_monitor_2011/
- Barnes-Vieyra, P., & Claycomb, C. (2001, May 1). Business-to-Business E-Commerce: Models and Managerial Decisions. *Business Horizons*, 44(3), 13-20.
- BBC. (2020, February 24). *Altın fiyatları koronavirüs kaygısıyla son 7 yılın zirvesinde*. Retrieved February 2021, from BBC: <https://www.bbc.com/turkce/haberler-dunya-51613989>
- Bellman, S., Lohse, G. L., & Johnson, E. J. (1999, December). Predictors of Online Buying Behavior. *Communications of ACM*, 42(12), 32-38.
- Bhalla, P. (2020, December 15). *The History of eCommerce and its Evolution – the Timeline*. Retrieved January 2021, from Shiprocket: <https://www.shiprocket.in/blog/ecommerce-history-evolution-timeline/>

- Bhasin, H. (2019, December 29). *Descriptive Research – Characteristics, Methods, Examples, Advantages*. Retrieved May 2021, from Marketing91:
<https://www.marketing91.com/descriptive-research/>
- Bhatnagar, A., Misra, S., & Rao, H. R. (2000, November). On Risk, Convenience, and Internet Shopping Behavior. *Communications of the ACM*, 43(11), 98-105.
- Bhatti, A., Khan, A. U., & Akram, H. (2020, June). E-commerce trends during COVID-19 Pandemic. *International Journal of Future Generation Communication and Networking*, 13(2), 1449-1452.
- Bigan, İ., & Erdoğan, C. (2020, April 26). *Survey: Turkish consumer sentiment during the coronavirus crisis*. Retrieved April 2021, from McKinsey & Company:
<https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/survey-turkish-consumer-sentiment-during-the-coronavirus-crisis>
- Blaise, R., Halloran, M., & Muchnick, M. (2018, February 20). Mobile Commerce Competitive Advantage: A Quantitative Study of Variables that Predict M-Commerce Purchase Intentions. *Journal of Internet Commerce*, 17(2).
- Bonson-Fernandez, R., & Escobar-Rodriguez, T. (2017). Analysing online purchase intention in Spain: fashion e-commerce. *Information Systems and e-Business Management (ISeB)*, 599-622.
- Borchers, A. (2001). Trust in Internet shopping: A test of a measurement instrument. *Trust in Internet shopping: A test of a measurement instrument* (pp. 799-803). Proceedings of the 7th Americas Conference on Information Systems.
- Burke, R. R. (2002, October). Technology and the Customer Interface: What Consumers Want in the Physical and Virtual Store. *Journal of the Academy of Marketing Science*, 30(4), 411-432.

- Burroughs, R. E., & Sabherwal, R. (2002). Determinants of Retail Electronic Purchasing: a Multi-Period Investigation. *INFOR: Information Systems and Operational Research*, 40(1), 35-56.
- Çak, M., & Hiperlink (firm). (2002). *Title: Dünya'da ve Türkiye'de elektronik ticaret ve vergilendirilmesi*. Istanbul: Hiperlink.
- Çam, E. (2014). Yesterday, Today and Tomorrow: Problems Encountered and Solution Offers (Master's Thesis). Malatya, Turkey.
- Canzer, B. (2003). *E-Business, Strategic Thinking and Practice*. Boston: Houghton Mifflin.
- CC Insight. (2020, May 1). *Trends by Location*. Retrieved December 2020, from CC Insight: <https://ccinsight.org/trends-by-location/#regional-trends>
- CDC . (2020, February 11). *Coronavirus Disease 2019 (COVID-19)*. Retrieved 2021, from Centers for Disease Control and Prevention: <https://www.cdc.gov/coronavirus/2019-ncov/index.html>
- CERN. (2020, August 15). *CERN*. Retrieved January 2021, from A short history of the Web: <https://home.cern/science/computing/birth-web/short-history-web>
- Chang, T.-l. S., & Li, P. (2003, February 1). How to succeed in e-business by taking the Haier road: formulating e-business strategy through network building. *Competitiveness Review*, 13(2), 34-45.
- Childers, T. L., Carr, C. L., Peck, J., & Carson, S. (2000, August). Hedonic and utilitarian motivations for online retail shopping behavior. *Journal of Retailing*, 77(4), 511-535.
- Chu, C. (2018). *Psychological Ownership in Hoarding*. Cham, Switzerland: Springer.
- Citrin, A. V., Sprott, D. E., Silverman, S. N., & Stem, D. E. (2000). Adoption of Internet shopping: the role of consumer innovativeness. *Industrial Management & Data Systems*, 100(7), 294-300.

- Clement, J. (2020, November 3). *Coronavirus impact on retail e-commerce website traffic worldwide as of June 2020, by average monthly visits*. Retrieved February 2021, from Statista: <https://www.statista.com/statistics/1112595/covid-19-impact-retail-e-commerce-site-traffic-global/#:~:text=COVID%2D19%20impact%20on%20global,commerce%20site%20traffic%202019%2D2020&text=%20Overall%2C%20retail%20websites%20generated%20almost,global%20>
- Cohen-Almagor, R. (2011). Internet History. *International Journal of Technoethics*, 2(2), 45-64.
- Constantinides, E. (2004, April). Influencing the online consumer's behavior: the Web experience. *Internet Research*, 14(2), 111-126.
- Coşkun, R., Altunışık, R., Yıldırım, E., & Bayraktaroğlu, S. (2012). *Sosyal Bilimlerde Araştırma Yöntemleri (SPSS Uygulamalı)*. Sakarya: Sakarya Yayıncılık.
- COVID-19 lockdowns. (2020, March 24). Retrieved March 2021, from Wikipedia: https://en.wikipedia.org/wiki/COVID-19_lockdowns#cite_note-2
- csponline. (2016, July 28). *CONCORDIA ST. PAUL BLOG & NEWS UPDATES*. Retrieved January 2021, from Concordia University, St. Paul Online: <https://online.csp.edu/blog/business/history-of-ecommerce/>
- Dan, C. (2014). Consumer-To-Consumer (C2C) Electronic Commerce: The Recent Picture. *International Journal of Networks and Communications*, 4(2), 29-32.
- Davis, S., & Toney, L. (2020, March 12). *How Coronavirus (COVID-19) Is Impacting Ecommerce*. Retrieved March 2021, from ROI REVOLUTION: <https://www.roirevolution.com/blog/2021/03/coronavirus-and-ecommerce/>
- Deloitte . (2019, April 24). *Deloitte Article Page - Türkiye'de E-Ticaret 2018 Pazar Büyüklüğü*. Retrieved March 2021, from Deloitte:

- <https://www2.deloitte.com/tr/tr/pages/technology-media-and-telecommunications/articles/turkiyede-e-ticaret-2018-pazar-buyuklugu.html>
- Deloitte Digital & TUSİAD. (2019). *E-Ticaretin Gelişimi, Sınırların Aşılması ve Yeni Normlar*. Istanbul: Deloitte.
- Demirdöğmez, M., Gültekin, N., & Taş, H. Y. (2018, August). Development of E-Commerce Sector In Turkey By Years. *International Journal of Society Researchers*, 8(15), 2218-2237.
- Dereli, D. D. (2015). Yeni Ekonomide Elektronik Ticaret ve Türkiye’de Elektronik Ticaretin Boyutu ve Vergilendirilmesi. *İktisadi Yenilik Dergisi*, 2(2), 56-71.
- Drigas, A., & Leliopoulos, P. (2013, October). Business to Consumer (B2C) E-Commerce Decade Evolution. *International Journal of Knowledge Society Research*, 4(4), 1-10.
- Du, H. S., Yu, H., Fang, Y., & Wang, S. (2012, February). Empirical Investigation of EachNet: The eBay Model of C2C Online Auction in China. *IEEE Transactions on Engineering Management*, 59(1), 160-175.
- E-Commerce 101 + History of Online Shopping*. (2020, September 29). Retrieved January 2021, from BigCommerce: Ecommerce for a New Era: <https://www.bigcommerce.com/articles/ecommerce/>
- Eastin, M. S. (2002, August). Diffusion of e-commerce: an analysis of the adoption of four e-commerce activities. *Telematics and Informatics*, 19(3), 251-267.
- ECDC. (2020, September 22). *Timeline of ECDC's reponse to COVID-19*. Retrieved March 2021, from European Centre for Disease Prevention and Control: <https://www.ecdc.europa.eu/en/covid-19/timeline-ecdc-response>
- Edwards, K. (2020, November 25). *Key insights from the E-commerce in Europe 2020 Report by PostNord*. Retrieved March 2021, from E-commerce Germany News:

<https://ecommercegermany.com/blog/key-insights-from-the-e-commerce-in-europe-2020-report-by-postnord>

Elibol, H., & Kesici, B. (2004). Çağdaş İşletmecilik Açısından Elektronik Ticaret. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 303-329.

Erdör, M. (2019, March 20). *E-ticaret tarihine kısa bir yolculuk*. Retrieved February 2021, from CNN Türk: <https://www.cnnturk.com/yazarlar/guncel/murat-erdor/e-ticaret-tarihine-kisa-bir-yolculuk>

Ermec Sertoglu, A., Örs, H., & Catli, O. (2017). An empirical study to determine the e-shopping behaviors of consumers. *An empirical study to determine the e-shopping behaviors of consumers*. 3, pp. 281-289. Istanbul: PressAcademia Procedia (PAP).

Esch Jr, A. (2002). Internet II: the adventure continues. *Information Management Journal*, 36(2), 31-37.

Estay, B. (2020, February 27). *16 Online Shopping Statistics: How Many People Shop Online?* Retrieved April 2021, from Big Commerce:

<https://www.bigcommerce.com/blog/online-shopping-statistics/#5-essential-online-shopping-statistics>

Fornfeld, D., Delaunay, G., & Elixmann, D. (2008). *The Impact of Broadband on Growth and Productivity. A study on behalf of the European Commission*. Düsseldorf: DG Information Society and Media.

Fox, W., & Bayat, M. S. (2008). *A Guide to Managing Research*. Cape Town: Juta Academic.

Gagliardi, J. (2019, December 12). *The Ever-Changing Face of E-Commerce: 1995-2020*. Retrieved January 2021, from E-Commerce Times:

<https://www.ecommercetimes.com/story/86413.html>

- Gefen, D., & Straub, D. (2000, October). The relative importance of perceived ease of use in IS adoption: a study of e-commerce adoption. *Journal of the Association for Information Systems*, 1(8), 1-28.
- Gilbert, A. (2004, August 11). *E-Commerce turns 10*. Retrieved January 2021, from ZDNet : <https://www.zdnet.com/article/e-commerce-turns-10/>
- Gökmen, A. (2012, March). Virtual business operations, e-commerce & its significance and the case of Turkey: current situation and its potential. *Electronic Commerce Research*, 12(1), 31-51.
- Grandon, E. E., & Ranganathan, C. (2001). The impact of content and design of web sites on online sales. *Proceedings of the 7th Americas Conference on Information Systems*, (pp. 920-926).
- Greenspan, S. (2019, December 18). *The eCommerce decade: How the 2010s changed online shopping*. Retrieved January 2021, from Jilt: <https://jilt.com/blog/decade-ecommerce-2010s/>
- Group M. (2020, March 30). *COVID – 19 IN TURKEY*. Retrieved June 2021, from MMA Global: https://www.mmaglobal.com/files/131_covid-19_-_effects_implications_30.03.2020.pdf.pdf
- Güler, H. (2020, September 13). *E-commerce traffic keeps up momentum as COVID-19 transforms behaviors*. Retrieved May 2021, from Daily Sabah: <https://www.dailysabah.com/business/tech/e-commerce-traffic-keeps-up-momentum-as-covid-19-transforms-behaviors>
- GÜVEN, H. (2020). COVID-19 PANDEMİK KRİZİ SÜRECİNDE E-TİCARETTE MEYDANA GELEN DEĞİŞİMLER. *Eurasian Journal of Researches in Social and Economics (EJRSE)*, 7(5), 251-268.

- Güven, H. (2020). COVID-19 PANDEMİK KRİZİ SÜRECİNDE E-TİCARETTE MEYDANA GELEN DEĞİŞİMLER. *Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi*, 251-268.
- Hagiu, A., & Wright, J. (2014, November 21). Marketplace or Reseller? *Management Science*, 61(1), 184-203.
- Hall, C., Fieger, P., Prayag, G., & Dyason, D. (2021, April 1). Panic Buying and Consumption Displacement during COVID-19: Evidence from New Zealand. *Economies*, 9(46).
- Hasanat, M., Hoque, A., Shikha, F., Anwar, M., Hamid, A., & Tat, H. (2020). The Impact of Coronavirus (Covid-19) on E-Business in Malaysia. *Asian Journal of Multidisciplinary Studies*, 3(1), 85-90.
- Hassey, K. (2021, January 19). *4 eCommerce Business Models, Trends, & Strategies you Need to Focus on for Success*. Retrieved February 2021, from Elasticpath: <https://www.elasticpath.com/blog/4-ecommerce-business-models-b2b-b2c>
- Heijden, H., Verhagen, T., & Creemers, M. (2001). Predicting online purchase behavior : replications and tests of competing models. *Proceedings of the 34th Hawaii International Conference on System Sciences*, (pp. 10-pp). Amsterdam.
- History.com Editors. (2015, November 4). *Amazon opens for business*. (A. T. Networks, Producer) Retrieved January 2021, from HISTORY: <https://www.history.com/this-day-in-history/amazon-opens-for-business>
- Hoar, A., Freeman-Evans, P., Wu, S., & Milender, J. (2015). *US B2B eCommerce Forecast: 2015 To 2020*. Cambridge: Forrester.
- Horrigan, J. B., & Rainie, L. (2002, March 3). *Getting serious online*. Retrieved March 2021, from Pew Research Center: <https://www.pewresearch.org/internet/2002/03/03/getting-serious-online/>

How COVID-19 triggered the digital and e-commerce turning point. (2021, March 15).

Retrieved March 2021, from UNCTAD: <https://unctad.org/news/how-covid-19-triggered-digital-and-e-commerce-turning-point>

Huang, L., Lu, X., & Ba, S. (2016, March). An empirical study of the cross-channel effects between web and mobile shopping channels. *Information & Management*, 53(2), 256-278.

Intuit Inc. (2020, May 1). *10 Guides to Mastering Commerce*. Retrieved February 2021, from TradeGecko: <https://www.tradegecko.com/b2b-ecommerce>

Islam, T., Pitaifi, A. H., Arya, V., Wang, Y., Akhtar, N., Mubarik, S., & Xiaobei, L. (2021). Panic buying in the COVID-19 pandemic: A multi-country examination. *Journal of Retailing and Consumer Services*, 59.

Jacques, B. (2019, August 13). *Top eCommerce Stats for 2020*. Retrieved May 2021, from Spaceshop: <https://spaceshopcommerce.com/top-ecommerce-stats-for-2020/>

Jahng, J., Jain, H., & Ramamurty, K. (2001). The Impact of Electronic Commerce Environment on User Behavior: The Case of a Complex Product. *e-Service Journal*, 1(1), 41-53.

Jones, K. (2020, April 8). *The Pandemic Economy: What are Shoppers Buying Online During COVID-19?* Retrieved March 2021, from Visual Capitalist: <https://www.visualcapitalist.com/shoppers-buying-online-ecommerce-covid-19/>

Kadı, F., & Peker, C. (2015, November). Analyzing the Factors Affecting E-Commerce in Turkey. *International Journal of Management, Accounting and Economics*, 2(11), 1319-1339.

Kantarıcı, Ö., Özalp, M., Sezinsoy, C., Özaşkın, O., & Cavlak, C. (2017). *Dijitalleşen Dünyada Ekonominin İtici Gücü: E-Ticaret*. Istanbul: TÜSİAD.

Kaya, H. (2021, February). TÜRKİYE'DE Kİ E-TİCARETİN GÜNCEL DURUMU.

- Kayakuş, M., & Çevik, K. K. (2020, August 30). Estimation the Number of Visitor of E-Commerce Website by Artificial Neural Networks During Covid19 in Turkey. *Turkish Studies*, 15(4), 616-631.
- Kerick, F. (2019, August 3). *The Growth of Ecommerce: The Rise of Online Stores*. Retrieved January 2021, from TechTimez: <https://techtimize.com/business/growth-of-ecommerce/>
- Khushbu, K., & Suniti, Y. (2018). Linear regression analysis study. *CURRICULUM IN CARDIOLOGY - STATISTICS*, 4(1), 33-36.
- Kim, E., Eom, S., & Uoo, S. (2001). Effective User Interface Design for Online Stores in the Asia Pacific Region: A Survey Study. *Proceedings of the 7th Americas Conference on Information Systems*, (pp. 867-872).
- Kinder, T. (2002, September). Emerging e-commerce business models: an analysis of case studies from West Lothian, Scotland. *European Journal of Innovation Management*, 5(3), 130-151.
- Klein, L. R. (1998, March). Evaluating the Potensial of Interactive Media Through New Lens: Search Versus Experience Goods. *Journal of Business Research*, 41(3), 195-203.
- Koonin, L. M. (2020, February 18). Novel coronavirus disease (COVID-19) outbreak: Now is the time to refresh pandemic plans. *Journal of Business Continuity & Emergency Planning*, 13(4), 1-15.
- Kotler, P. (2002). *Marketing Management*. London: Prentice Hall.
- Koufaris, M., Kambil, A., & Labarbera, P. A. (2002). Consumer behavior in Web-based commerce: and empirical study. *International Journal of Electronic Commerce*, 6(2), 115-138.
- Lee, J., Kim, J., & Moon, J. Y. (2000). What makes Internet users visit cyber stores again? key design factors for customer loyalty. *Proceedings of the SIGCHI conference on*

- Human Factors in Computing Systems* (pp. 305-312). New York: Association for Computing Machinery.
- Lewis, E. (2018, January 21). *The 30 Most Influential E-Commerce Players in the World*. Retrieved February 2021, from Dealhack: <https://dealhack.com/30-most-influential-e-commerce#trends>
- Lewis, P. H. (1994, August 12). Attention Shoppers: Internet Is Open. *The New York Times*, 1.
- Li & Fung Research Centre China Chain Store & Franchise Association. (2011). *Purchasing strategies of chain retailers in China and implications to wholesale distributors*. Hong Kong: Li & Fung Research Centre.
- Li, H., Kuo, C., & Russell, M. G. (1999, December 1). The Impact of Perceived Channel Utilities, Shopping Orientations, and Demographics on the Consumer's Online Buying Behavior. *Journal of Computer-Mediated Communication*, 5(2).
- Li, N., & Zhang, P. (2002). CONSUMER ONLINE SHOPPING ATTITUDES AND BEHAVIOR: AN ASSESSMENT OF RESEARCH. *CONSUMER ONLINE SHOPPING ATTITUDES AND BEHAVIOR: AN ASSESSMENT OF RESEARCH* (pp. 508-517). Americas Conference on Information Systems (AMCIS) 2002 Proceedings.
- Lian, J.-W., & Lin, T.-M. (2008, January). Effects of consumer characteristics on their acceptance of online shopping: Comparisons among different product types. *Computers in Human Behavior*, 24(1), 48-65.
- Lin, H.-F. (2007). Predicting consumer intentions to shop online: An empirical test of competing theories. *Electronic Commerce Research and Applications*, 6(4), 433-442.
- Lohse, G. L., & Spiller, P. (1998). Electronic shopping. *Communications of ACM*, 41, 81-87.

- Lowengart, O., & Tractinsky, N. (2001). Differential Effects of Product Category on Shoppers' Selection of Web-based Stores: A Probabilistic Modeling Approach. *Journal of Electronic Commerce Research*, 2(4), 142-156.
- Lu, Y., Zhao, L., & Wang, B. (2010, July-August). From virtual community members to C2C e-commerce buyers: Trust in virtual communities and its effect on consumers' purchase intention. *Electronic Commerce Research and Applications*, 9(4), 346-360.
- Mahadevan , B. (2000, July 1). Business Models for Internet-Based E-Commerce: An Anatomy. *California Management Review*, 42(4), 1-32.
- Mahatanankoon, P., & Vila-Ruiz, J. (2007, January). Why Won't Consumers Adopt M-Commerce? An Exploratory Study. *Journal of Internet Commerce*, 113-128.
- Marangoz, M. (2018). *İnternette Pazarlama*. İstanbul: Beta Basım Yayın.
- Marangoz, M., Özkoç, H. H., & Aydın, A. E. (2019, March). Tüketicilerin İnternet Üzerinden Alışveriş Davranışlarının Açıklanmasına Yönelik Bir Çalışma. *Tüketici ve Tüketim Araştırmaları Dergisi / Journal of Consumer and Consumption Research*, 11(1), 1-22.
- McFerrin, J. (2020, September 17). *The History of eCommerce: How Did it All Begin?* Retrieved January 2021, from IWD Agency:
<https://www.iwdagency.com/blogs/news/the-history-of-ecommerce-how-did-it-all-begin>
- Meral, B. (2020, March 27). *E-ticarette corona virüs (Covid-19) etkisi*. Retrieved April 2021, from Techinside: <https://www.techinside.com/e-ticarette-corona-virus-covid-19-etkisi/>
- MILLENNIALS ARE TOP SMARTPHONE USERS. (2016, November 15). Retrieved January 2021, from Nielsen Global Media:
<https://www.nielsen.com/us/en/insights/article/2016/millennials-are-top-smartphone-users/>

- Miva. (2016, October 26). *The History Of Ecommerce: How Did It All Begin?* Retrieved June 2020, from Miva E-Commerce Platform: <https://www.miva.com/blog/the-history-of-ecommerce-how-did-it-all-begin/>
- Moffat, B. (2017, June 12). *Top 10 e-commerce game changers over the last decade.* Retrieved January 2021, from The Future of Customer Engagement and Experience: <https://www.the-future-of-commerce.com/2017/06/02/top-10-e-commerce-game-changers-over-the-last-decade/>
- Muratoğlu, C. (2020, April 7). *Covid-19'la birlikte Türkiye'de online harcama tutarında nasıl bir değişim yaşandı?* Retrieved April 2021, from Webrazzi: <https://webrazzi.com/2020/04/07/covid-19-la-birlikte-turkiye-de-online-harcama-tutarinda-nasil-bir-degisim-yasandi/>
- Na, L., & Zhang, P. (2002, October). *Consumer Online Shopping Attitudes and Behavior: An Assessment of Research.* Toronto.
- Naeem, M. (2021, February 15). Understanding the customer psychology of impulse buying during COVID-19 pandemic: implications for retailers. *International Journal of Retail & Distribution Management*, 49(3), 377-393.
- Naseri, M. B., & Elliott, G. (2011, May 23). Role of demographics, social connectedness and prior internet experience in adoption of online shopping: Applications for direct marketing. *Journal of Targeting, Measurement and Analysis for Marketing*, 19(2), 69-84.
- Natour, W. A. (2019). *Critical Factors in the Development and Introduction of E-commerce: A Global Approach.* Dissertation, Cardiff University.
- Non-Probability Sampling: Definition, types, Examples, and advantages.* (2018, April 30). Retrieved May 2021, from QuestionPro: <https://www.questionpro.com/blog/non-probability-sampling/>

- O'Cass, A., & Fenech, T. (2003). Web retailing adoption: exploring the nature of internet users Web retailing behaviour. *Journal of Retailing and Consumer services*, 10(2), 81-94.
- OECD. (2020, October 7). *E-commerce in the time of COVID-19*. Retrieved January 2021, from OECD: <https://www.oecd.org/coronavirus/policy-responses/e-commerce-in-the-time-of-covid-19-3a2b78e8/>
- Oreku, G. S. (2013). Mobile Technology Interaction to E–Commerce in Promising of U–Commerce. *African Journal of Business Management*, 7(2), 85-95.
- Orendorff, A. (2019, February 14). *Global Ecommerce Statistics and Trends to Launch Your Business Beyond Borders*. Retrieved January 2021, from Shopify: <https://www.shopify.com/enterprise/global-ecommerce-statistics>
- PANTELIMON, F.-V., GEORGESCU, T.-M., & POSEDARU, B.-Ş. (2020). The Impact of Mobile e-Commerce on GDP: A Comparative Analysis between Romania and Germany and how Covid-19 Influences the e- Commerce Activity Worldwide. *Informatica Economică*, 24(2), 27-41.
- Perry, R. W., & Lindell, M. K. (2003, May 19). Understanding Citizen Response to Disasters with Implications for Terrorism. *The Journal of Contingencies and Crisis Management*, 11(2), 73-92.
- Peterson, R. A., Balasubramanian, S., & Bronnenberg, B. J. (1997, September). Exploring the Implications of the Internet for Consumer Marketing. *Journal of the Academy of Marketing Science*, 25(4), 329-346.
- Plesea, D. (2000). *Domotica*. Bucharest: Editura ASE, Academiei de Studii Economice din Bucuresti.
- PwC. (2013). *Demystifying the online shopper 10 myths of multichannel retailing*. New York: PwC.

- Şat Sezgin, A. G. (2013). *Dünyada ve Türkiye'de E-Ticaret Sektörü*. İşbank, İktisadi Araştırmalar . İstanbul: İşbank.
- Sim, L. L., & Koi, S. M. (2002). Internet Shoppers and Their impact on Traditional Shopping Patterns. *Journal of Retailing and Consumer Services*, 115-124.
- Simakov, V. (2020). HISTORY OF FORMATION OF E-COMMERCE ENTERPRISES AS SUBJECTS OF INNOVATIVE ENTREPRENEURSHIP. *Three Seas Economic Journal*, 1(1), 77-83.
- Şit, A. C. (2013, January 21). *BKM verilerine göre Türkiye e-ticareti 2012 yılını 30.6 milyar TL ile kapattı*. Retrieved March 2021, from Webrazzi:
<https://webrazzi.com/2013/01/21/turkiye-eticaret-2012-30-6-milyar-tl/>
- Sıla, I. (2019, January-March). Antecedents of Electronic Commerce in Developing Economies. *Journal of Global Information Management*, 27(1), 66-92.
- So, W. M., Wong, T. D., & Sculli, D. (2005, December 1). Factors affecting intentions to purchase via the internet. *Industrial Management & Data Systems*, 105(9), 1225-1244.
- Statista. (2014, March 15). *C2C E-Commerce*. Retrieved February 2021, from Statista:
<https://www.statista.com/markets/413/topic/983/c2c-e-commerce/>
- Statista. (2016, February 23). *Global mobile commerce transaction value 2015-2019*
Published by Statista Research Department, Feb 23, 2016 This statistic presents the projected global m-commerce transaction value from 2014 to 2019. According to the source, worldwide mobile commerce rev. Retrieved January 2021, from Statista:
<https://www.statista.com/statistics/557951/mobile-commerce-transaction-value-worldwide/>
- Statista. (2020). *Coronavirus impact on online traffic of selected industries worldwide in week ending April 26, 2020*. Online: Statista.

- Statista. (2021, April 4). *Share of respondents in selected European countries who shopped online more often due to the coronavirus pandemic in 2020*. Retrieved 2021, from Statista: <https://www.statista.com/statistics/1189076/covid-19-e-commerce-growth-europe-country/>
- Statista. (2021, February 20). *E-Commerce Worldwide—Statistics & Facts*. Retrieved February 2021, from Statista: <https://www.statista.com/topics/871/online-shopping/>
- Styrk, J. (2020, March 31). *Top 100 Fastest Growing & Declining Categories in E-commerce*. Retrieved March 2021, from Stackline: <https://www.stackline.com/news/top-100-gaining-top-100-declining-e-commerce-categories-march-2020>
- Swinyard, W. R., & Smith, S. M. (2003, July). Why people (don't) shop online: A lifestyle study of the internet consumer. *Psychology & Marketing*, 20(7), 567-597.
- Tefula, M. (2018, July 31). *A Brief History of E-commerce*. Retrieved from Medium: <https://michaeltefula.medium.com/a-brief-history-of-e-commerce-c4692a3b2cd9>
- Temiz, D., & Gökmen, A. (2010). The comparative effects of 2001–2002 financial crises and 2008 global crisis on the Turkish economy. *International Journal of Economic and Administrative Studies*, 2(4), 1-24.
- Teo, T. S. (2006, December). To buy or not to buy online: adopters and non-adopters of online shopping in Singapore. *Behaviour & Information Technology*, 25(6), 497 – 509.
- The Three Waves of Electronic Commerce*. (2017, September 13). Retrieved January 2021, from study.com: <https://study.com/academy/lesson/the-three-waves-of-electronic-commerce.html>
- Totolo, E., & Baijal, H. (2020, December 22). *How a pandemic-induced boom in e-commerce can reshape financial services*. Retrieved March 2021, from World Bank

Blogs: <https://blogs.worldbank.org/psd/how-pandemic-induced-boom-e-commerce-can-reshape-financial-services>

Tran, H. D. (2020, July 9). M-Commerce, From E-Commerce to. *Journal of Textile Science and Fashion Technology*, 6(1).

TÜBİSAD. (2019). *Türkiye’de E-Ticaret 2018 Pazar Büyüklüğü*. Istanbul: TÜBİSAD.

Tuncalı, K. (2020). *E-Ticaret Sektöründe Son Dönemde Yaşanan Gelişmeler*. Istanbul: İşbank.

Ulukan, G. (2020, August 20). *2020'nin ilk 6 ayında e-ticaret hacmi, geçen yıla göre yüzde 64 artarak 91,7 milyar TL oldu*. Retrieved March 2021, from Webrazzi: <https://webrazzi.com/2020/08/20/turkiye-eticaret-2020-ilk-6-ay>

UNCTAD. (2003). *E-Commerce and Development Report 2003*. New York & Geneva : UNITED NATIONS PUBLICATION.

UNCTAD. (2004). *E-Commerce and Development Report 2004*. New York, Geneva: United Nations.

UNCTAD. (2015). *Information Economy Report 2015*. United Nations.

United Nations. (2021). *COVID-19 AND E-COMMERCE A GLOBAL REVIEW*. United Nations, United Nations Conference on Trade and Development. New York: United Nations.

University of California. (2003). *The UCLA Internet Report – “Surveying the Digital Future.” Year Three*. Los Angeles: UCLA Center for Communication Policy.

Usta, R. (2006). Tüketicilerin Demografik Özellikleri Ve İnternette Satın Alma Davranışı Üzerine Bir Araştırma. *Üçüncü Sektör Kooperatifçilik*, 41(3), 1-13.

Vijayarath, L. R., & Jones, J. M. (2000). Intentions to Shop Using Internet Catalogues: Exploring the Effects of Product Types, Shopping Orientations, and Attitudes Toward Computers. *Electronic Markets*, 10(1), 29-38.

- Vrechopoulos, A. P., Siomkos, G. J., & Doukidis, G. I. (2001, September 1). Internet shopping adoption by Greek consumers. *European Journal of Innovation Management*, 4(3), 142-153.
- Wang, C.-N., Dang, T.-T., Nguyen, N.-A.-T., & Le, T.-T.-H. (2020, December). Supporting Better Decision-Making: A Combined Grey Model and Data Envelopment Analysis for Efficiency Evaluation in E-Commerce Marketplaces. *Sustainability*, 12.
- Wang, E., An, N., Gao, Z., Kiprop, E., & Geng, X. (2020). Consumer food stockpiling behavior and willingness to pay for food reserves in COVID-19. *Food Sec.*, 739–747.
- Wikipedia Contributors. (2020). *İnternetin tarihi*. Retrieved January 2021, from Vikipedi, Özgür Ansiklopedi:
tr.wikipedia.org/w/index.php?title=%C4%B0nternetin_tarihi&oldid=24520348
- Wikipedia, the free encyclopedia. (2004, April 26). *Consumer behaviour*. Retrieved April 2021, from Wikipedia, the free encyclopedia:
https://en.wikipedia.org/wiki/Consumer_behaviour
- Wikipedia. (2020, March 26). *Türkiye'de COVID-19 pandemisi zaman çizelgesi*. Retrieved April 2021, from Wikipedia: https://tr.wikipedia.org/wiki/Türkiye%27de_COVID-19_pandemisi_zaman_çizelgesi
- Willis, J. (2004). *Federal Reserve Bank of Kansas City*, 89, 53-71.
- Winters, T., Davie, W., & Weidenhamer, D. (2012, February 16). *QUARTERLY RETAIL E-COMMERCE SALES 4th QUARTER 2011*. Retrieved February 2021, from Census.gov: <https://www2.census.gov/retail/releases/historical/ecommerce/11q4.pdf>
- World Health Organization. (2020, February 28). *WHO Director-General's opening remarks at the media briefing on COVID-19 - 28 February 2020*. Retrieved 2021, from WHO: <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---28-february-2020>

- WTO. (2020). *Understanding the WTO*. Retrieved 2020, from World Trade Organization Web Site: https://www.wto.org/english/thewto_e/whatis_e/tif_e/bey4_e.htm
- Zank, G. M., & Vokurka, R. J. (2003). The Internet: Motivations, deterrents, and impact on supply chain relationships. *S.A.M. Advanced Management Journal*, 68(2), 33-40.
- ZEO Agency. (2020). *Online Pazar Yerleri 2019-2020 Q1 Sektör Raporu*. Istanbul: ZEO Agency.
- Zhang, P., & von Dran, G. (2000). Satisfactor and dissatisfactorers: A two-factor model for website design and evaluation. *Journal of the American Society for Information Science*, 51(14), 1253-1268.

APPENDIX A – SURVEY FORM IN ENGLISH

This survey was prepared in order to measure the changes in your online shopping habits as of 31 December 2019, when the Covid-19 virus began to affect the world, and 11 March 2020, when the first cases and deaths were seen in our country. Your answers will be used for academic purposes only. In order to use it in the research, first demographic questions, and in the following sections, questions about your pre-pandemic and pandemic-period online shopping habits will appear.

1. Age?

☐ 18-24

☐ 25-34

☐ 35-44

☐ 45-54

☐ 55-64

☐ 65 and above

2. Gender?

☐ Female

☐ Male

☐ Other

☐ Prefer not to say

3. Marital Status?

- ☐ Married/with Child
- ☐ Married/ No Children
- ☐ Single/Living Alone
- ☐ Single/Living with Family
- ☐ Divorced/with Child
- ☐ Divorced/No Children
- ☐ Domestic Partnership

4. Do you have a child/children?

- ☐ Yes
- ☐ No

5. If the answer to the previous question is yes, how many children do you have?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4 and more

6. Education level?

- ☐ Primary School
- ☐ Secondary School
- ☐ High School
- ☐ Associate's Degree
- ☐ Bachelor's Degree
- ☐ Master's Degree
- ☐ Doctoral Degree

7. Occupation?

- ☐ Self-Employment
- ☐ Public Sector
- ☐ Private Sector
- ☐ Retired
- ☐ Student
- ☐ Housewife
- ☐ Not working

8. Income Level?

- ☐ 0-2823₺
- ☐ 2826₺-5999₺
- ☐ 6000₺-9999₺
- ☐ 10.000₺-14999₺
- ☐ 15.000₺ and more
- ☐ Prefer not to say

9. How often did you shop online before the pandemic?

- ☐ Often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

10. Which products would you buy more online before the pandemic? (Please select up to 5 product groups.)

- ☐ Clothing and Accessories
- ☐ Electronics and Computer
- ☐ Cosmetic

- ☐ Market and Food
- ☐ Furniture and Decoration
- ☐ Education-Book-Stationery
- ☐ Constructional Materials
- ☐ Travel and Accommodation
- ☐ Health products
- ☐ Baby products
- ☐ Disinfectant-Mask
- ☐ Hobby Products
- ☐ Sports equipment

11. When did you hear about the Covid-19 virus? (31 December 2019: China made informed the world about the pandemic. 11 March 2020: The first case was announced in Turkey.)

- ☐ Before 31 December 2019
- ☐ 31 December 2019 - 11 March 2020
- ☐ After March 11th , 2020

12. Between 31 December 2019 - 11 March 2020 (the first 3 months when the coronavirus was heard globally), how much of a threat did you think the coronavirus posed to you? (December 31, 2019: China informing the world of the epidemic. March 11, 2020: First case announced in Turkey)

- ☐ Very high
- ☐ High school
- ☐ Moderate
- ☐ Low
- ☐ Very low
- ☐ No idea

13. Which product groups did you purchase mainly through online channels between 31 December 2019-11 March 2020 (the first 3 months when the coronavirus was heard globally)? (Please select up to 5 product groups.)

- ☐ Clothing and Accessories
- ☐ Electronics and Computer
- ☐ Cosmetic
- ☐ Market and Food
- ☐ Furniture and Decoration
- ☐ Education-Book-Stationery
- ☐ Constructional Materials
- ☐ Travel and Accommodation
- ☐ Health products
- ☐ Baby products
- ☐ Disinfectant-Mask

☐ Hobby Products

☐ Sports equipment

14. When the first case was announced in Turkey on March 11, 2020, how much of a threat did the coronavirus pose to you?

☐ Very high

☐ High school

☐ Moderate

☐ Low

☐ Very low

☐ No idea

15. Which product groups did you buy, mainly through online channels, in the first month since the first case was announced in Turkey on March 11, 2020?

(Please select up to 5 product groups.)

- ☐ Clothing and Accessories
- ☐ Electronics and Computer
- ☐ Cosmetic
- ☐ Market and Food
- ☐ Furniture and Decoration
- ☐ Education-Book-Stationery
- ☐ Constructional Materials
- ☐ Travel and Accommodation
- ☐ Health products
- ☐ Baby products
- ☐ Disinfectant-Mask
- ☐ Hobby Products
- ☐ Sports equipment

16. Which statement(s) best describes the reasons for purchasing these products through online channels after the first case was announced on March 11, 2020? (Choose all as applicable.)

- ☐ Because I don't want to go to physical stores.
- ☐ Because I can get it cheaper online.
- ☐ Because there is no stock problem in online stores.
- ☐ Because I can reach every product I need on a single platform.
- ☐ Because the online shopping experience is completed faster than physical shopping.

☐ Other

17. Which channel did you use most for your online shopping in the first month since the first case was announced in Turkey on March 11, 2020?

☐ Website/application of the relevant brand

☐ Marketplaces (Trendyol, Hepsiburada, etc.)

☐ Order by phone (Orders made by calling)

☐ E-mail

☐ Social media platforms (Facebook shop, instagram shop etc.)

☐ Other

18. Which online marketplace did you use the most in the first month in Turkey?

☐ Trendyol

☐ N11

☐ Hepsiburada

☐ Amazon Turkey

☐ Gittigidiyor

☐ Other

19. Which one(s) best describes your experiences in the period when the number of deaths and cases increased rapidly after March 11, 2020? (Choose a maximum of 3.)

☐ I stay at home outside of necessities (eg food) or work.

☐ I take advantage of "stay at home".

☐ I'm working on new routines to be safe.

☐ Going out gives me fear and anxiety.

☐ I avoid going to physical stores.

☐ I feel like I'm caged.

- ☐ I am afraid of not getting the products I need.
- ☐ I reduced my expenses because of the risk of losing my job.
- ☐ I do not know what to do.
- ☐ Other

20. "I will continue my online shopping in the same way in the post-pandemic period." Do you agree with the statement?

- ☐ Strongly I agree
- ☐ I agree
- ☐ I neither agree nor disagree
- ☐ I do not agree
- ☐ I strongly disagree