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ΤΜΗΜΑΤΟΣ ΕΦΑΡΜΟΣΜΕΝΗΣ ΠΛΗΡΟΦΟΡΙΚΗΣ

ΤΟ MOBILE SHOPPING ΚΑΤΑ ΤΗ ΔΙΑΡΚΕΙΑ ΤΗΣ ΑΠΑΓΟΡΕΥΣΗΣ  
ΚΥΚΛΟΦΟΡΙΑΣ ΛΟΓΩ ΤΗΣ ΠΑΝΔΗΜΙΑΣ COVID-19

Διπλωματική Εργασία

της

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Θεσσαλονίκη, Φεβρουάριος 2022

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Πτυχίο Πληροφορικής και Τηλεπικοινωνιών, ΠΑΠΕΛ, 2021

Διπλωματική Εργασία

υποβαλλόμενη για τη μερική εκπλήρωση των απαιτήσεων του

ΜΕΤΑΠΤΥΧΙΑΚΟΥ ΤΙΤΛΟΥ ΣΠΟΥΔΩΝ ΣΤΗΝ ΕΦΑΡΜΟΣΜΕΝΗ  
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Εγκρίθηκε από την τριμελή εξεταστική επιτροπή την

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## Περίληψη

Η πανδημία COVID-19 έχει επιταχύνει τη μετάβαση προς έναν πιο ψηφιακό κόσμο, μιας και για πρώτη φορά, οι ψηφιακές τεχνολογίες προσέφεραν ένα εναλλακτικό κανάλι για συντήρηση των επιχειρηματικών δραστηριοτήτων, των κοινωνικών αλληλεπιδράσεων, αλλά και των αγορών σε περιόδους αυστηρών μέτρων προστασίας. Οι συνθήκες αυτές πυροδότησαν αλλαγές στις συμπεριφορές αγορών των καταναλωτών στο διαδίκτυο και παρατηρούνται άμεσες και έμμεσες επιπτώσεις στον τρόπο ζωής, την αγοραστική δύναμη, τις επιθυμίες και τη γενική κατανάλωση αγαθών και υπηρεσιών, που είναι πιθανό να έχουν διαρκή αποτελέσματα. Ο στόχος της διπλωματικής αυτής είναι η μελέτη και ανάλυση των αλλαγών στην αγοραστική συμπεριφορά των καταναλωτών κατά τη μετάβαση από τις αγορές σε φυσικά καταστήματα, στις διαδικτυακές αγορές, και συγκεκριμένα με τη χρήση κινητών συσκευών. Αναφέρονται οι ποικίλοι παράγοντες που επηρεάζουν τη συμπεριφορά των καταναλωτών κατά τη διάρκεια της πανδημίας, οι επιπτώσεις που επέφερε αυτή η αλλαγή στις επιχειρήσεις και οι καινοτομίες που εμφανίστηκαν στον κλάδο προκειμένου να γίνει προσαρμογή στα νέα δεδομένα. Επιπλέον, δεν θα μπορούσε να λείπει η σκιαγράφηση του πως εκτιμάται να είναι οι διαδικτυακές αγορές, μετά την εποχή των περιοριστικών μέτρων, καθώς και προτάσεις τεχνικών ανάκαμψης προς τις επιχειρήσεις. Γίνεται ξεχωριστή αναφορά στα δεδομένα της ελληνικής αγοράς κατά τη διάρκεια της πανδημίας, με σκοπό την ομαλή μετάβαση στο πρακτικό μέρος της έρευνας. Στη συνέχεια, δημιουργήθηκε και διαμοιράστηκε για συμπλήρωση ένα ερωτηματολόγιο προκειμένου να μελετηθεί η διαδικτυακή αγοραστικής συμπεριφοράς των καταναλωτών στη χώρα μας κατά τη διάρκεια της απαγόρευσης κυκλοφορίας λόγω της πανδημίας. Τα ευρήματα της έρευνας θα μπορούν να συμβάλλουν στη δημιουργία μιας βάσης γνώσεων, η οποία μπορεί να βοηθήσει στον καθορισμό ερευνητικών στόχων στη μελλοντική διαδικασία εξέτασης των επιπτώσεων της πανδημίας όσον αφορά τη συμπεριφορά των καταναλωτών, αλλά και τις επιχειρήσεις.

**Λέξεις Κλειδιά:** online shopping, mobile shopping, online buying behavior, consumer purchase behavior, online commerce, mobile commerce, lockdown, COVID-19

## **Abstract**

The COVID-19 pandemic has accelerated the transition to a more digital world, as for the first time, digital technologies have provided an alternative channel for maintaining business activities, social interactions, and markets in times of strict protective measures. These conditions have triggered changes in consumers' online shopping behaviors and direct and indirect effects on lifestyles, purchasing power, desires and general consumption of goods and services can be observed, which are likely to have a lasting impact. The objective of this dissertation is to study and analyze the changes in consumer purchasing behavior during the transition from physical store shopping to online shopping, specifically using mobile devices. The various factors affecting consumer behavior during the pandemic, the impact this change had on businesses and the innovations that appeared in the industry in order to adapt to the new situation are discussed. In addition, the outline of what online shopping is expected to look like after the era of restrictive measures, as well as suggestions of recovery techniques for businesses, could not be missing. A separate reference is made to the Greek market data during the pandemic, in order to ensure a smooth transition to the practical part of the research. Then, a questionnaire was created and distributed for completion, in order to study the online shopping behavior of consumers in Greece during the lockdown periods. The findings of the survey will be able to contribute to the creation of a knowledge base, which can help define research objectives in the future process of examining the impact of the pandemic on consumer behavior and also on businesses.

**Keywords:** online shopping, mobile shopping, online buying behavior, consumer purchase behavior, online commerce, mobile commerce, lockdown, COVID-19

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# **1 Introduction**

## **1.1 Problem – Importance of the issue**

From late 2019, the world has suffered impeccable challenges due to the Coronavirus disease (or simply COVID-19). The infectious nature of the pandemic made it nearly impossible to control its spread, as it is transmitted easily from person-to-person through droplets that come into contact with the skin, are inhaled, or through any other physical contact with infected surfaces. As a result, several preventive and controlling measures were enforced by governments across the globe, which included the restrictions of movement of people and goods to minimize contact and prevent the spread of the illness. Due to these policy and legislative directives enforced to regulate the virus, consumers worldwide were forced to embrace the internet as a source of information and a trading mechanism to enable them to maintain their daily lives. As expected, the changes triggered variations in consumption patterns, which subsequently produced significant impacts on online shopping, and especially on mobile shopping. This dissertation provides a conceptual and systematic analysis of the COVID-19 pandemic and its impact on consumer behavior and the online shopping industry.

Specifically, this study provides a comprehensive analysis of online shopping before the pandemic, including its determinants and driving factors; it analyzes consumer behavior from the lens of deterministic buying, including the factors that influence consumption during the pandemic; and it gives an overview of the Greek online shopping market before and during the pandemic, with an evaluation of policy, regulatory, environmental, and other factors, and prorated issues into the future. By analyzing the immediate effect of the pandemic on businesses, this dissertation highlights a plethora of issues, such as the impact of global trade laws, digital readiness, and organizational and environmental readiness on the success of online shopping enterprises during the pandemic. The research also provides a theoretical analysis of the future implications of the pandemic on mobile shopping, including but not limited to the technological, human capital, supply chain, and organizational implications to mobile shopping businesses and the proposed measures to address any such potential negative implications.

## **1.2 Purpose - Objectives**

The purpose of this dissertation is to study and analyze the changes in consumer purchasing behavior during the transition from physical store shopping to online shopping, specifically using mobile devices, during the lockdown periods that were enforced because of COVID-19. In fact, in order to have a clearer picture of how people are adapting to the new shopping reality, part of this research was an online survey where Greek consumers answered questions about their shopping habits and preferences, which are later showcased and analyzed.

## **1.3 Contribution**

This dissertation contributes to the existing literature by collecting and categorizing all the information related to the different aspects of online shopping and consumer behavior during the pandemic. Also, as far as the author is aware this is one of the first overviews of Greek consumers' online shopping habits during the lockdown periods. With that being said, with the findings resulting from the survey analysis, the ambition of the author is to contribute to the development of a qualitative knowledge base for continuous research, which could help in the field of innovation in management, crisis communication and marketing approaches during similar challenging times.

## **1.4 Basic terminology**

Electronic commerce, abbreviated as e-commerce, represents the economic activity of buying and selling products and services through online platforms. E-commerce includes a wide range of economic activities such as retail stores, online banking services, transport and hotel booking services, money transfer, online payments, digital content, etc. (Pantelimon, Georgescu & Posedaru, 2020). Similar definitions come from (Sharma, 2020, Iriani & Andjarwati, 2020): Electronic commerce, commonly written as ecommerce is the trading (buying and selling) of products and services using computer networks, such as the internet. For this dissertation, online shopping will be conceptualized as a form of electronic commerce that enables customers to purchase goods and services directly from suppliers over the internet.

Mobile commerce can be viewed as a subset of e-commerce and refers to any transaction with monetary value that is conducted via a mobile network (Ngai & Gunasekaran, 2007). A similar definition comes from (Pantelimon, Georgescu & Posedaru, 2020) and is the following: Mobile commerce, or m-commerce, represents all the activities mentioned above that are performed using a portable device such as a phone, a tablet or even newer devices such as smart wearables.

Customer behavior is defined as the behavior that the consumer highlights in the search for buying or using goods, services and ideas, which he expects will satisfy his desires or needs according to his available purchasing capabilities (Hashem, 2020).

## **1.5 Structure of the dissertation**

The second chapter of this dissertation is the literature review in which topics such as but not limited to the pandemic, factors that affect consumer behavior during the pandemic, mobile shopping, factors that influence customer perception towards mobile shopping, the impact of the pandemic on businesses, and measures to facilitate online/mobile shopping are covered. The third chapter refers to the methodology that concerned the online survey, followed by the fourth chapter where all the collected data about the online habits of Greek consumers during the lockdown periods are showcased and analyzed. Lastly, the fifth chapter is the epilogue and it consists of the results and conclusions of the dissertation, the limitations that this research faced and some future research implications.

## **2 Bibliographic review – Theoretical background**

### **2.1 Overview of the pandemic**

The World Health Organization declared the Coronavirus pandemic in early 2020, plunging the world into a series of health, economic, and social issues that continue to paralyze almost every country. Coronavirus (COVID-19) is a type of novel virus that infects humans, usually leading to an upper respiratory infection (URI). There are a lot of variants of coronavirus and unfortunately, more are expected to make an appearance, since the virus strain adapts and changes. The viruses are spread through the droplets by air from coughing and sneezing of an infected person, close personal contact, touching an object or surface contaminated with the virus and in some rare cases, by fecal contamination (Dionysiou et al., 2021). The physical symptoms caused by most coronaviruses are characterized by runny nose, sore throat, feeling unwell, cough, and fever (Alam, 2020).

Governments from all over the globe have implemented various containment measures geared towards preventing the spread of the disease, such as mandatory self-distancing and isolation. Part of the attendant results of the social distancing actions includes the closure of businesses and other social facilities offering public services.

Researchers have established that the pandemic, which has paralyzed the societal order, transcends beyond a health crisis; it is a universal casualty that has unexpectedly changed everyday life. From its impact on income to the levels of expenditure, COVID-19 relatively affects consumer behavior (Accenture, 2020 & Dionysiou et al., 2021). Various publications analyzed in this study indicate that the need to prevent physical human contact and contact with other potentially infected surfaces has fueled people's need for online shopping.

Over the past few decades, online shopping has gained increasing dominance as consumers and the industry shift towards a more reliable, effective and convenient consumption paradigm. With the expansion of the internet, global businesses and consumers have adopted online shopping strategies to tap into the global marketplace (Ngai & Gunasekaran, 2007). However, online shopping has notably expanded during the COVID-19 pandemic as most businesses strive to respect the pandemic prevention

regulations, while also fulfilling their business needs (Verweijmeren, 2020). Alam (2020) posited a proportional relationship between the pandemic and the rise in online shopping and vice versa. (Nguyen et al., 2020) reiterated this assertion by concluding that the pandemic has definitely heightened the demand for online shopping. Nevertheless, it was also established that there had been some hiccups in online shopping during recent months, due to increased cases of identity theft, non-delivery of the purchased goods, and differing quality and/or quantity of products.

One of the most puzzling concerns is whether consumers will permanently alter their consumption behavior due to social distancing and lockdowns or whether the consumption patterns will return to the old ones when the pandemic ends. Will consumers acquire new habits due to the regulations and containment measures for the pandemic? Will they come to the conclusion that the new normal, as it is popularly called, is a better option compared to the old habits? Only time will tell.

## **2.2 Online shopping and consumer behavior**

### **2.2.1 Categories of Online Shopping**

Online shopping is divided based on the different shopping categories existent on the platforms. With the advancement of technology, manufacturers and suppliers continue to study and exploit different purchasing trends based on the various categories of products and services. Online shopping is significantly popular among numerous market segments, such as fashion, food, personal care, furniture and appliances, electronics and media, toys, hobbies, and DIY products (UNCTAD, 2020).

A recent study in Croatia ranked fashion (clothes, footwear and accessories) as the most common online shopping category, accounting for 75.7% of the sample. Next came DIY products, toys, and kids equipment in general, in order to keep the children entertained at home while on lockdown (58.6%). Of course, respondents also had to stock up on groceries (31.4%), as well as medical aids (17.1%). Electronics and media, personal care products, furniture and appliances are also big categories in the global e-commerce market (Herceg, 2021).

## **2.2.2 Types of Online Shopping Customers**

Online shopping is a popular form of trade whose consumers and sellers possess unique characteristics that necessitate a virtual trade. Because of the lack of physical contact between the seller and the buyer during the transactions, both parties take a leap of faith in trusting the person on the other end of the transaction. These shoppers, uniquely driven in their motivation for online shopping, are categorized based on different categories of prices, experience, motivation, and trends. To start with, price-sensitive online shoppers are susceptible to the price of online goods and services, and any significant deviations in the anticipated price of the item discourage them from purchasing the goods (Ožanić & Frančić, 2020). They are lured by affordable prices, discounts, and even loyalty plans given to loyal customers. Experience shoppers, on the other hand, are the buyers with prior knowledge and experience in online shopping who have a deep understanding of the virtual marketplace (Groß, 2015). Similarly, ready-to-buy shoppers are online buyers with a high willingness to purchase an item driven by an urgent need or want to ensure that they purchase the item. They are less willing to negotiate prices and highly capable of purchasing an item on the spot. Additionally, some buyers wish to stay in trend and therefore need to purchase the latest products to keep at par with the prevailing trends in fashion and even pop culture (Galhotra & Dewan, 2020). Another category of online shoppers is driven by the need to research the marketplace to choose the best product that best suits their taste, preferences, quality, price, and other purchasing needs. Other shoppers go to the marketplace purely for research purposes with less desire and willingness to purchase the items they view.

## **2.2.3 Overview of the consumer behavior**

Consumer behavior refers to the individual behaviors directly involved in the obtaining, consumption (or use), and determination of goods and services. This process also includes the steps of making decisions that come before and after the purchasing actions. The theory of utilization proposed by Cox (1967) helps understand how customers process hints about products in assessing the quality of the product. The Cue utilization theory argues that the products are represented as arrays of cues that serve as quality indicators for the consumers and as signals to the buyer to influence their decision-making.

Baudrillard (1998) proposed the consumption theory that asserts that modern society is wasteful in that it consists of individuals that constantly consume products and services. However, the theory also argues that consumption has shifted from being an activity merely used for meeting the basic needs of humanity as consumption alone is not sufficient for survival. The culture of consumption has a profound impact on the daily lives and structures of society.

Another theory to discuss consumer behavior was developed in 1980 by Ajzen under the fundamental assumption that human behavior is a conscious process that considers all the available information. The theory of reasoned action argues that individuals can opt to behave in a certain manner or not depending on their perceived intention (Dakduk et al., 2017). These intentions are driven by two fundamental factors: attitudes and social factors such as subjective norms (Dinesh, 2020).

Additionally, the theory of planned behavior was advanced from the reasoned action theory (Li et al., 2020). The theorist Ajzen added the construct of the ability to control the perceived behaviors to comprehend the limitations of a person in accomplishing certain behaviors. Conceptually, the planned action theory argues that whether a behavior is performed or not depends on the subjective norms and attitudes as mentioned above and the individual's view of the level of control they can exert from their belief in that power (Showrav et al., 2021).

Consumer behavior is both contextual and habitual. Arguably, consumption habits develop over time as customers are conditioned on what, where, and when to consume. Customer behavior is increasingly predictable, and various models predict consumption patterns based on previous repetitive buying behavior. The context of consumption is crucial as four critical contexts govern consumer habits. First, changes in the social context are caused by life events like childbirth, marriage, and relocation. Secondly, the technological context, in that advancements in technology alters old habits forcing a shift in the consumption behavior. The third contextual factor influencing mobile shopping is the legal and regulatory framework, especially concerning unhealthy product de-consumption and sharing of public spaces. For instance, products such as cigarettes, firearms, and alcohol are limited by consumption location. Rules and public policies also encourage the consumption of goods and services termed as societally good, for example, electric vehicles, solar energy, vaccines, and insurance services. The fourth contextual

factor influencing consumption comprises natural occurrences like hurricanes, earthquakes, and even pandemics, such as the current Coronavirus pandemic (Hao et al., 2020).

#### **2.2.4 Consumer behavior in online shopping**

Consumer behavior in mobile shopping refers to the purchase of goods and services through the internet. While online shopping has existed for decades, it gained widespread popularity in the 20<sup>th</sup> and 21<sup>st</sup> centuries through technological advancements and the expansion of mobile shopping technologies. The internet plays a crucial role in enabling consumers to search, evaluate, compare, and purchase products. Mobile shopping behavior is the tendency of an individual to perceive and evaluate an online product. The shopping behavior is made up of five crucial components: the electronic store, logistics and support, product description, technological elements, website, and the home page. Like traditional shopping, online shopping comprises five stages that form the online shopping cycle. These stages are;

- **Identification of the products**

During this stage, the customer identifies the desired product based on the perceived usefulness and satisfaction for the product.

- **Search for information about the product**

Identifying the products is the second stage in the mobile shopping process. It involves the customer researching for information about the product from the online store or platform. During this stage, the consumer identifies the exact product or one that best fits their desires.

- **Comparing Alternatives**

The third stage in the online shopping cycle involves comparing the product with its alternatives in terms of quality, price, usefulness, and other consumer preferences.

- **Evaluation of the Product**

The customer evaluates the product during this stage to assess whether it is best suited to their consumption needs or opt for a different product.



- **Product Purchase**

After comparing the products and evaluating the chosen product, the consumer then buys the product that best suits their needs.

### **2.2.5 Factors that affect consumer behavior during the pandemic**

- **Perceived Usefulness of the Products**

The underlying principle behind mobile shopping is the perceived importance of the product to the consumers, often characterized by the customer's need or want for the product. Studies by (Iriani & Andjarwati, 2020 & Troise et al., 2020) posit that the willingness of consumers to accept and/or purchase new and existing products through the internet highly depends on the perceived usefulness of the products. The success of an online product can be measured by the degree of usefulness gained by the customer. Perceived usefulness is also measured by the level of belief that the use of a particular product can improve their performance.

Further argue that the perceived usefulness of a product to the consumers depends on their perception towards price, quality, and the importance of the product to meeting the customer expectations. Consumer buying behavior during the Covid-19 pandemic has received increased attention as researchers ponder the dynamics of supply and demand. (Tang, 2019 & Akram & Khan, 2020) illustrated that perceived product usefulness has a positive and considerable relationship with the customer's willingness to purchase and use mobile shopping. Whether or not a product satisfies the consumer expectations of performance, quality, and relevance significantly influences the customer's perception of its usefulness, as well.

- **Ease of Use**

(Iriani & Andjarwati, 2020) argue that ease of use is the user's belief that the product can be used easily and with no problems. The study analyzed the relationship between perceived ease of technology use and the sale of technologies. The findings are supported by (Dakduk et al., 2017), (Dinesh, 2020) and (Verweijmeren, 2020), who argue that the user's frequency of using mobile shopping also indicates ease of use. Mobile systems and products commonly used indicate that they are well-known and easier to interact with and use (Akram & Khan, 2020). Ease of use also increases customer acceptance of

products and services and eventually affects the mobile shopping decision (Salem & Nor, 2020 & Rahi & Ishtiaq, 2021 & Zhang et al., 2020). While ease of use of mobile shopping impacts the mobile shopping decision, the level of impact is not as high as the aforementioned perceived usefulness.

- Mobile Skillfulness

Online shopping involves the use of technologies and the internet to conduct trading activities. Therefore, several skills and resources go into ensuring that the online shopping process is successful. Saprikis et al. (2018) alluded that when consumers possess adequate mobile technology skills, they can employ them in conducting online shopping. Mobile skillfulness affects the ease of use of mobile shopping applications and systems and hence, customer satisfaction with the online shopping experience. Mobile shopping during the pandemic has increased the demand for mobile shopping skills to help customers make informed purchasing decisions.

- Perceived Risk

The level of unintended consequences and uncertainty associated with online shopping affects the mobile shopping decision (Aji et al., 2020). Consumers perceive certain risks associated with online shopping, thus affecting their purchasing decisions (Salem & Nor, 2020). (Srivastava, 2020) and (Lins & Aquino, 2020) expounded this assertion to establish that perceived risk positively impacts online shopping, while (Iriani & Andjarwati, 2020) found that these risks negatively affect online purchases.

- Financial Risk

Mobile shopping involves trading over the internet without necessarily having physical contact between the buyer and the seller. Therefore, financial risk is a crucial factor that influences online shopping as consumers tend to be attracted to products with fewer financial risks than those that can lead to the loss of money. The fear of financial loss is less common among millennials and more common among the older generations, especially due to the increasing cases of fraud associated with online shopping (Srivastava, 2020). Similar findings by (Bhatti et al., 2020) indicate that there are, indeed, cases of fraud where people experience financial loss during mobile shopping. The implied fear among consumers that they may lose their money reduces their trust in online shopping, thus increasing their preference for physical shopping. Online fraud

during shopping is associated with the increasing cases of online threats such as hacking, blackmail, impersonation, and theft that challenge the security of online shopping sites. Unsecure mobile shopping platforms threaten the sustainability of the mobile shopping industry as fraudsters gain access to the personal and financial details of the buyers and use them to conduct malicious activities (Pantelimon, Georgescu & Posedaru, 2020). There is a need for businesses in the mobile shopping industry to embrace advanced technologies that emphasize the security and protection of their consumers against fraudulent activities. Additionally, there is a need for increased sensitization of consumers and other players in the mobile shopping industry on the importance of information and data security and confidentiality. Part of the solution is achieved by using advanced security tools like passwords, two-factor authentications, and secure platforms to complete online transactions.

- Product Risk

Online shopping gives customers a limited probability of examining the product. Therefore, online shopping is risky in that consumers do not get to touch the product but instead rely on graphical and advertisement representations to gauge it. The risk of not coming in contact with the product poses a challenge when buying, thus influencing consumer behavior for making an online purchase. Product risks such as unreliable product standards affect the purchasing decision (Ur-Rehman et al., 2020). Also, the product risk has a resultant impact on the satisfaction of consumers, because customers can experience a loss of money when the products do not satisfy their expectations. Other product risks such as limited product information, limited stock, delivery of wrong products, delivery delays, and the variations between the online product and the actual item, also affect the purchasing decisions and customer satisfaction with online shopping (Bhatti et al., 2020).

- Variations in the Actual Products

Mobile shopping is often conducted through contactless means. Therefore, the buyers do not have the chance to physically verify the products to determine the actual quality, quantity, and other product characteristics before completing the transactions. Traditional stores give customers the laxity of seeing and touching products to verify their quality before purchase (Srivastava, 2020). Customers in the mobile market lack that advantage

regardless of the various strategies created to give customers the feeling of being in a physical store (Bhatti et al., 2020). Online stores attempt to account for this deficiency by providing product descriptions, visual illustrations, and other customer reviews to help customers make purchasing decisions. However, in some cases, these attempts do not solve the inadequacy in totality, leading to non-satisfaction with the products. In these cases, consumer purchasing behavior is hugely influenced by the customer satisfaction with the product informed by online reviews, product descriptions, and visual aids such as videos and images of the product. It comes as no surprise that the pandemic has highlighted the inadequacies in customer satisfaction with the delivered products.

- Convenience

Even before the pandemic, mobile shopping was perceived based on the convenience of the purchase. Most online customers require convenience because of their work, location, and preference. Arguably, the pandemic has reiterated the importance of convenience in making purchases as customers demand products that can be delivered conveniently to their homes without incurring additional costs, time, and even distance. After all, it makes sense that consumers have a higher preference for products that are convenient to their price range, delivery times, and distance and or location of delivery (Zhang et al., 2020 & Troise et al., 2020). Additionally, mobile shopping allows customers to purchase products from different world regions without requiring for them to be physically present in the store (Sardjono et al., 2021). Mobile shopping became more than a convenient outlet during the pandemic, since most customers were forced to purchase products through online stores because of the restrictions on movement and the need to practice social distancing (Hashem, 2020 & Ur-Rehman et al., 2020 & Sardjono et al., 2021).

- Risk of Non-Delivery of products

Online shopping is conducted using virtual assistants and services, and thus the customer should wait for the delivery of the purchased item (Srivastava, 2020). The prevalence of the pandemic necessitated the need for customers to purchase their products online, but the urgent need for some products such as medications and essential products, like food and toiletries demand stores to ensure speedy delivery of products to fulfill the daily needs of the consumers. Most mobile shopping platforms provide customers with estimated timeframes of delivery, in order for them to plan their purchases accordingly.

As a result, the popularity of online shopping, and especially via mobile devices has experienced significant growth during the pandemic as customers continue to make online purchases to adhere to the COVID-19 guidelines and regulations. However, some fraudsters took advantage of the pandemic to exploit unsuspecting consumers by luring them with attractive deals without delivering the purchased product.

- Policies on Return of Products

As mentioned above, mobile shopping does not involve a physical inspection of products. Therefore, in some instances, customers may need to return the products to the seller based on the perceived usefulness, actual quality and appearance, and customer satisfaction with the product (Srivastava, 2020). The various containment measures for the pandemic may hinder the ability of the customer to return the product to the pick-up station or the online store. When buying products, the availability of return policies within the buyer and seller agreements allows consumers to return products that do not satisfy their consumption needs to the seller within a given time limit. That's why, customers prefer to purchase products with better protection on product return during the pandemic (Showrav et al., 2021 & Bhatti et al., 2020).

In addition, return policies allow customers to return low-quality and defective products to the manufacturers in exchange for new ones, especially when the defects result from defaults on the seller's side. Some companies include return policies as part of product warranties to protect buyers against indemnities occasioned by the seller and vice versa. Sellers that provide for returns and refunds of unsatisfactory and or defective products recorded an increase in sales during the pandemic. On the other hand, customers shun products and manufacturers that do not provide adequate policies on product returns, refunds, or replacements. Return policies on products guarantee the security of the buyer's funds and ensure that no money is lost during online purchases.

- Cultural Factors

Cultural differences play a critical role in informing purchases on mobile shopping. Different consumers have different tastes and preferences that influence their decision to buy a product (Srivastava, 2020). For instance, some customers prefer high-quality products regardless of the price, while others want high-quality, yet cheaper products. Mobile shopping, especially during the pandemic, has highlighted these discrepancies in

consumer cultures, thus creating the need for sellers to attune their products and services to the various consumer groups. The pandemic has seen sellers rush to conduct market studies to establish the various consumer needs and wants, to inform the deployment of products and marketing strategies to the specific consumer categories.

- **Perceived Value in Mobile Shopping**

Consumption decisions are influenced by various factors that affect the desire of a customer to purchase an online product. The perceived quality and value of mobile shopping have a significant impact on the satisfaction of consumers, which then influences their loyalty to the brand. Higher perceived value increases the relationship between customer satisfaction and loyalty instead of low perceived value. Findings by Srivastava (2020) suggest that rational and emotional beliefs affect consumer loyalty in mobile shopping. E-service quality attracts consumers to retailers before purchasing the product, and thus sellers capitalize on the emotional qualities. Besides, sellers analyze rational attributes such as perceived value because they play a critical role in strengthening the relationship between the consumers and the brand. Because customers can make choices at various purchasing stages depending on their preference, it is crucial to analyze the relationships between satisfaction and brand loyalty by identifying the impact of perceived value.

## **2.3 Mobile shopping**

### **2.3.1 Overview of Mobile Shopping**

Online shopping conducted via a mobile device, or simply mobile shopping, is a growing form of shopping where buyers use online platforms such as websites, applications, and other social sites to access and purchase goods and services without necessarily having physical engagements with the sellers (Groß, 2015). Mobile shopping as a form of trade has gained increasing prominence with the advancement of internet technologies. The growth of mobile shopping as a popular trading medium has definitely increased trade and market shares for businesses. In 2018, already one third of the world's e-commerce business was conducted through mobile devices, and the numbers have definitely gone up since then (Saprikis et al, 2018). Through this approach, the internet provides buyers with a range of product options and information to compare prices, features, and products

before making purchasing decisions. Additionally, consumers have access to various suppliers from which they can purchase products. There exists a relationship between convenience and ease of access to products and services to consumer buying behavior. Customers have a higher preference for easily accessible and convenient products, and their willingness to purchase items is hugely influenced by the ability of the seller, supplier, and or store to deliver the desired item at an affordable price and within a convenient timeframe (Showrav et al., 2021). All in all, the decision to purchase from a particular online store is influenced by the customer's confidence in the store, measured through the existence of secure payment options through well-known and secure carriers, the availability of low product prices and in-store offers, the ease and efficiency of navigation through the virtual store, the range of products, the information that is provided and overall a satisfying customer experience (Ožanić & Frančić, 2020). There is no doubt that customers are influenced by good store reviews through public forums and blogs, the online store's usability, and the seller's ability to deliver good customer service. Reports indicate that online shopping is perceptive, implying that customers are highly influenced by the formed opinions influenced by the opinions of others and their perceptions about the product or the seller. More so, popular eCommerce giants such as eBay, Amazon, and Alibaba, among others, are some of the most commonly used mobile stores (Elrhim & Elsayed, 2020). Among other competitive advantages, these stores benefit from expansive global outreach with great reviews and a wide variety of products that attract various customer interests.

What's more, purchases via a computer will be completely overtaken by m-commerce by 2023, according to a recent study (Pollak & Konecny, 2021). The same study found that the volume of m-commerce is expected to reach 44.3 billion euros by 2022, with an impressive 16% annual increase. According to (Saritas et al., 2021), two-thirds of the world's population now have a mobile phone with the majority of them being a smartphone and these devices accounting for 48% of total Internet time. It comes as no surprise that because of the widespread implementation of mobile and wearable technologies, as well as growing Internet coverage enabled by mobile Internet, m-commerce around the world is set to flourish even more.

### **2.3.2 Factors that influence customer perception towards mobile shopping**

Arguably, due to the diversity and multiplicity of online products and retailers, making purchasing decisions is cumbersome and sometimes overwhelming. Accordingly, (Yadav et al., 2020) indicate that online shopping is influenced by an assortment of factors that affect consumer choice, such as but not limited to price, quality, the trustworthiness of the seller, online product reviews, brand image, and loyalty, product characteristics and popularity, and customer loyalty.

The product's price affects the consumer preference for online shopping as most customers have a higher preference for cost-effective products that fulfill their needs. Unfortunately, one of the outcomes of the product shortages many businesses faced, was the increase in price for such items and services. Additionally, due to the ability to compare prices of the same product among different suppliers, buyers can easily opt for a cheaper seller offering the same product and, or opt to visit a physical store with a more reasonable price. What's more, product quality influences the willingness of the customer to purchase products online. High-quality products are highly purchased through online shopping platforms, thus increasing sales and the satisfaction of customers. The seller's trustworthiness and ability to legitimately deliver the purchased goods, also impact mobile shopping. Customers gauge the seller's legitimacy through reviews by other customers and the duration of existence on the online shopping platform. Reputable brands with well-established customer loyalty have a consumer base with a high preference for their products. As a result, brand popularity affects mobile shopping decisions. Lastly, product characteristics and descriptions impact consumers' purchasing decisions as they prefer products that meet their consumption needs (Zhang et al., 2020). Let's dive into some of these factors a bit more:

- Trust

The success of online markets is highly dependent on trust (Yadav et al., 2020 & Kim, 2020). The existence of trust in online shopping indicates that an online vendor will oblige by some agreements based on the customer's confidence (Akram & Khan, 2020). Trust is represented as both the belief in a vendor's trustworthiness and the behavioral desire to depend on them in times of need (Troise et al., 2020). Consumers' confidence in



mobile shopping will continue increasing due to the growing popularity of online shopping systems and platforms.

- Complexity

The perceived level of difficulty in understanding and using mobile shopping affects its use. (Yadav et al., 2020) found that complexity negatively affects the customers' adoption of mobile shopping and positively impacts resistance.

- Trialability

The level of experimentation of online shopping is called its trialability. Consumers use it to immerse themselves in the thought of what online products are like when the mobile shopping sites allow consumers to interact with and test product functions (Yadav et al., 2020).

- Observability

Observation gives customers a deeper view into the world of mobile shopping and thus positively impacts purchasing decisions. (Yadav et al., 2020) argues that when new consumers observe mobile shopping as a tangible resource, they are more likely to adopt mobile shopping.

- Relative Advantage

The relative advantage of mobile shopping as opposed to shopping in physical stores positively affects mobile shopping decisions. The relative advantage of using mobile shopping during the COVID-19 pandemic is visible through the ability to prevent physical contact and exposure to the virus, saving time that could have been spent on long queues in physical stores, and other perceived benefits (Yadav et al., 2020).

## **2.4 Online/Mobile shopping and COVID-19**

### **2.4.1 Overview of online shopping before the COVID-19 pandemic**

The evolution of the internet has prompted significant changes in production, consumption, and exchange of goods and services. The shift in global trade patterns focused on online shopping to enhance convenience and accessibility of products and

services and increased the significance of online shopping in the overall economy. Admittedly, the global penetration of mobile shopping is unevenly distributed, with global trade giants such as China and the United States occupying the largest share of the global market. Africa and Latin America, and the Caribbean account for the most negligible proportion of online trade (Dakduk et al., 2017).

The differences in the spread of online trade between economies indicate the different maturity levels of the supportive enabling environment for electronic commerce and digitization among the economies. Such differences are the quality and affordability of digital connectivity, the reliability of the logistic systems and frameworks for facilitating trade, the expansion of digital forms of payment, the level of trust associated with digital transactions among consumers and traders, the availability of active online marketplaces and platforms, and the digital skills and literacy necessary to facilitate online trade.

#### **2.4.2 Overview of online shopping during the COVID-19 pandemic**

The incidence of the pandemic resulted in a surge in the need for people to gain access to essential goods and services. However, with the pandemic guidelines and restriction of movement, consumers were limited in access to and availability of the desired products and services (Herceg, 2021). Global supply chains experienced disruptions occasioned by the limitations of movement across borders, be it road transport, maritime travel, or air transport, thus significantly affecting global e-commerce. Global shipping companies experienced a decline in total orders occasioned by the restrictions on international movement and the exchange of goods and services to contain the spread of the virus. Lack of adequate information and uncertainty about the duration and extent of the containment measures and the shift in rules and regulations guiding the flow of goods and services further worsened the state of trade, causing border congestion and delays. However, with the evolution of the pandemic, there was less uncertainty and efficiency in addressing logistical difficulties across borders, causing businesses to adjust to the new normal, and ultimately increasing the volume of international online trade.

As opposed to global online shopping, domestic mobile shopping experienced a sharp increase during the pandemic. Containment measures, such as lockdowns, restriction of movement, including non-essential workers, closure of social venues and schools, arrangements on working from home, and the enforcement of social distancing measures

contributed to a significant shift in consumer behavior and business operations, creating new patterns in online shopping consumption. There has been a substantial increase in digital purchase and consumption of goods and services, causing adjustments to the demand and supply sides with the evolution of the pandemic.

At the onset of the pandemic, significant cases of income loss were occasioned by the loss of jobs and other negative economic impacts of the pandemic. The economic shocks during the early stages of the Coronavirus led to reduced e-commerce activity in some economies. With the evolution of rules and regulations and the adjustment of working arrangements, there was a significant shift in online trade worldwide, as one would expect and hope.

Visibly, the impact of the COVID-19 pandemic on online shopping extends beyond the value created through increased sales to a more profound socioeconomic paradigm. The impacts range from the effect of the pandemic on the global supply chain to the popularity, downloads, and use of mobile shopping applications (Rahi & Ishtiaq, 2021), the differences in sales on online shopping platforms, and the changes in the legal and regulatory environment governing online shopping business and operations. When analyzed through a deeper economic lens, these impacts produce many positive and negative issues linked to the relationship between the pandemic and the shifts in online shopping. For ease of understanding of the impact of the pandemic on online shopping, this dissertation will analyze the various aspects of this global topic, ranging from the specific impacts on the consumers and the resultant effect on consumer behavior.

#### **2.4.3 Impact of COVID-19 on consumer behavior**

Consumer behavior and consumption patterns are historically dependent on market trends and the dynamism of the global market, and are also hugely based on location and time. Since the onset of the pandemic, the global supply chain has continued to experience rapid shifts caused by various factors in the marketplace (Dionysiou et al., 2021). Consumer behavior has been hugely impacted by the prevalence of the pandemic, as people continue to alter their consumption patterns to suit the prevailing economic, legal, and social conditions (Hasanat et al., 2020). The pandemic has had significant immediate impacts on consumer behavior, ranging from the increase in hoarding to the popularity of improvisation driven by the need to create products to meet urgent needs

(also known as Do-It-Yourself {DIY}) (UNCTAD, 2020). The following section highlights the immediate impacts of the Coronavirus pandemic on consumption behavior (Sheth, 2020).

- Increased Hoarding of Essential Products

From the moment that the first case of the disease was recorded to the World Health Organization (WHO) and the disease was declared as a pandemic, there was global tension arising from the uncertainty of the standard world order. As a result, hoarding cases of products globally increased as consumers rushed to acquire the necessary products and services to meet their consumption needs during that difficult time (Sheth, 2020 & Laato et al., 2020). Today, consumers continue to stockpile products for daily use causing temporary shortages and stockouts of products (Hao et al., 2020). For instance, in the United States, consumers rushed to stock up on essential products such as toilet paper, cleaning detergents, and other necessities, causing massive shortages. Other countries experienced similar scenarios as consumers struggled to ensure the sustainability of their families during the pandemic through panic buying (Lins & Aquino, 2020). Global shortages of water, cleaning and disinfecting products, and even meat have been, also, highly reported.

- Improvisation

The immediate impact of the pandemic on consumers and the electronic commerce industry was rapid, posing a threat to sustainability. Due to the increasing fear of product scarcity and unavailability, consumers and industry players have resorted to improvisation to meet the growing demand and urgent need for products and services. Limitations on the movement of goods and services, especially the restrictions on the exchange of goods to prevent physical contact as a containment measure against the spread of the virus, increased the need by consumers to improvise and innovate products to sustain their consumption needs (Sheth, 2020). As a result, consumers have adopted new habits while discarding the old ones. What's more, they have embraced creativity, while demonstrating resilience in responding to consumption constraints. For example, the scarcity of products made consumers opt for product alternatives and supplements to sustain their online buying needs. Some people resorted to purchasing cheaper products from physical and online stores, thus reducing the demand for online alternatives with

higher prices. Improvisation has become a common solution to managing shortages of goods and services, creating a significant research interest as scholars attempt to devise strategic implications for these types of intervention on mobile shopping. The recent growth in improvisation during the pandemic is linked to the expansive innovativeness, often creating an alternative option to location-centered consumption. Similar to research by (Kim, 2020), the global economy should expect dramatic shifts in consumer behavior due to the expeditious and universal embracement of advanced technologies fast-tracked by the Coronavirus pandemic. However, there is a lack of systemic scientific or empirical studies on the concept of improvisation. Arguments suggest that improvisation implies developing working solutions by overcoming barriers imposed by social occurrences or government policies or simply doing more with less by creating opportunities in crisis and thinking and behaving flexibly to adjust to the prevailing conditions.

- Pent-up Demand

The pandemic caused uncertainty and crisis, increasing the tendency of postponing purchases and consumption of products and services. The pent-up demand was vividly evident in the online sales of appliances, automobiles, homes, and other discretionary products like restaurants and bars, sporting activities, and concerts. This approach shifts the demand for such products and services, postponing their purchases from now into the future. The cause of this? Denied accessibility for the products and services within a short term.

- Enhanced Technological Adoption

Consumers and the larger market were forced to adopt various new technologies and applications out of utter necessity. For instance, many consumers embraced the use of communication systems and technologies such as Zoom. Video conferencing facilities have become popular communication tools used in telemedicine and e-health for learning, discussions, and other virtual interactions that mimic physical contact. Additionally, marketing and social media platforms and applications like Facebook, YouTube, WhatsApp, and WeChat have increased consumer popularity (Galhotra & Dewan, 2020). Companies have engaged social media influencers to advertise and promote their products, owing to the enhanced popularity of social influencers.

Businesses take advantage of the high following by social media stars to use them as creative marketing tools to enhance outreach and marketability (Ali Taha et al., 2021).

#### **2.4.4 Impact of the pandemic on businesses**

- Digital Readiness

The world was unexpectedly hit with waves of the Coronavirus pandemic, sending businesses and consumers into unwarranted economic and social challenges that continue to affect them up to today. With the sudden spread of the pandemic and the attendant impacts, such as the need to adopt promising strategies and technologies for services, the online shopping industry was affected by sudden shocks and demands to digitize services (Pantelimon, Georgescu & Posedaru, 2020). For companies to succeed in these tumultuous times, their levels of digital readiness to respond to the demands and changes caused by the pandemic became highly instrumental in facilitating transitions to provide services and resources that could protect the social and economic wellbeing of consumers. Digital readiness is the level of preparedness to provide adequate digital and technological solutions to issues and challenges that require unique technological interventions.

Innovation, especially during the pandemic, became a mandatory resource for organizations to succeed in the mobile shopping environment as there was increased demand for and use of online shopping platforms by consumers to complete their purchasing needs (Pantelimon, Georgescu & Posedaru, 2020). As a result, some companies were unable to sustain this sudden increase in demand and customers, causing some mobile shopping applications and websites to experience temporary or even permanent crashes due to the inability of their systems to handle the large volumes of users and demands. Additionally, due to the inability of some systems to handle large volumes of sales occasioned by the pandemic, some companies were unable to fulfill their trading obligations, because they had exhausted their stocks, rendering them incapable of supplying the needed goods and services to the consumers. Moreover, many mobile shopping platforms lacked the requisite digital preparedness to handle large product quantities to meet the growing consumer demands. Digital readiness, as noted by (Hosanat et al., 2020), plays a crucial role in the success of electronic commerce. Studies indicate that companies with adequate digital preparedness by installing relevant

advanced technologies and systems that facilitate online activities can better manage their supply and demand factors through record keeping and stocking to ensure adequate balance in the market. With the pandemic shocks, most companies had not anticipated the rapid increments in demand for the supply of goods and services, and especially through electronic channels. The resultant impact of the lack of adequate preparations includes the lack of adequate stock to meet the consumption needs, failure by the company to fulfill online purchases, and increasing cases of decline by some electronic commerce companies as consumers shun them due to their inability to fulfill their consumption requirements. Researchers further concluded that lack of adequate technological readiness and innovativeness to sustain online companies during the pandemic increases cases of technical failure occasioned by the lack of requisite advanced technologies to create innovative products and solutions to meet the growing demand for online shopping during the pandemic. The pandemic has highlighted the growing gap in digital preparedness by companies in the electronic commerce sector to strongly respond to issues and challenges that require strategic interventions and innovations to produce good solutions to the rapid shifts in technological requirements to handle trade and consumer demands. It's certain that companies need to embrace technological advancements and boost their systems and services to ensure adequate response to demands in the mobile shopping sector. Through relevant technological interventions, businesses offering mobile shopping services can provide the needed systems and services during the current pandemic and respond to future shifts in demand and supply requirements.

- Technological Readiness

The degree of readiness, willingness, and preparedness to respond to the issues arising from the spread of the pandemic affects organizational sustainability. The present dynamics and turbulence in the online business environment have caused businesses competing in the online environment to change their traditional business strategies to adapt to the new requirements (Mansour & Elsayed, 2020). Advancements in information and communication technology provide a wide avenue of business opportunities for online enterprises. As a result, companies should re-evaluate their business frameworks and quickly adopt new models centered around online shopping for success (Saritas et al., 2021 & Raja & Kannappan, 2020). Studies have established that

legal, financial, and technological infrastructure constraints affect the rapid diffusion of information communication technologies in facilitating electronic commerce. Organizations can use tools geared towards measuring organizational readiness to embrace information communication technologies. As many enterprises continue to embrace the opportunities for technological integration in business during the pandemic, countries and jurisdictions should ensure adequate policies to manage and encourage digital readiness to respond to the prevailing challenges and requirements.

Technological readiness, or simply e-readiness, determines the level of maturity in online trade. The "Model Stage of growth" phenomenon defines how organizations integrate information and communication technologies in business, starting with the initiation stage to the contagion stage, then the stage of technological control, and eventually to the integration stage in which the organization experiences diverse technological innovations. The planning and execution of mobile businesses in the era of COVID-19 require careful consideration of various crucial issues. Decisions regarding the technological aspects of mobile shopping should be integrated to create a strategy that wholly satisfies the principles of consistency, coherency, and completeness (Pousttchi et al., 2020).

- Company Readiness

The readiness of an enterprise to respond to the dynamic changes in the mobile shopping environment, as experienced during the pandemic, shows the association between performance management and systems, processes, and people within the organization. The aftermath of the pandemic on businesses in the online environment is the increasing need for synchronizing and coordinating activities. The lack of these qualities indicates the unpreparedness of the company to implement successful mobile trading. Resultantly, companies should consider and adequately plan their organizational resources to promote enhanced adoption of online shopping (Biskanaki et al., 2020).

Company readiness represents the resources and characteristics of the company, such as the existence of coherent relationships between workers, communication structures, and organizational resources, among other factors. Organizational readiness affects the adoption of mobile shopping in various ways. Strategies that interconnect internal organizational processes encourage innovation in online shopping (Verweijmeren, 2020).



The availability of adequate and competent human resources and technologies can enhance technological diffusion in the innovation and implementation of progressive strategies to integrate mobile shopping into a company's business structure successfully. Technological and organizational readiness should be assessed to provide crucial managerial insights into developing responsive mechanisms to ensure technological transition during the new pandemic era. Arguably, enhanced information and communication technology readiness within an organization enhances the adoption and expansion of electronic shopping.

In contrast, low levels of readiness reduce the ability of the company to compete favorably in the market. Technological readiness represents the existence of enough financial, human capital, and technological resources to facilitate the adoption and development of online business strategies. Moreover, the size of an organization plays a crucial role in determining its readiness to embrace and improve online shopping to meet the changing consumer demands through the supply of adequate resources and products to the growing number of online consumers. Company size translates to its capacity to supply certain products, both in terms of financial and human capital resources. Large businesses have higher capabilities of providing the requisite resources and high probabilities of adopting advanced technologies.

- Environmental Readiness

Environmental factors, such as the regulated movements during the pandemic have played a crucial role in shaping the mobile shopping environment. Government regulations on the management of the pandemic and the targets of minimizing the casualties caused by the virus increasingly influenced the spread of online shopping. Additionally, governments restricted movements as a preventive measure to protect healthcare systems and cushion the economy from long-term and short-term shocks that could otherwise impose damaging implications to economic sustainability. While some studies have revealed that these restrictions have negatively impacted businesses, others indicate that viewing them broadly unravels a promising future as they can be viewed as enablers of electronic shopping.

Environmental factors are external forces such as increased consumer pressure, high levels of competition, and other external factors that affect the adoption of online

shopping. Consumers can exert pressure on small and medium enterprises to embrace new technologies through the various demands and expectations.

Pressure from other competitors in the online shopping environment, especially through the adoption and use of advanced online shopping technologies, motivates other firms to embrace similar or advanced technologies to boost business growth and improve their competitive advantage. Increased competition among online shopping firms during the pandemic has increased the adoption and improvement in the industry, as many companies strive to retain or gain a competitive advantage over their competitors in the market (Raja & Kannappan, 2020).

- Post COVID-19 Sustainability

Consumers and businesses experienced various social and economic shocks that continue to threaten the sustainability and performance of businesses in the future. As a result of the sudden shifts in demand and supply requirements, customers and businesses readjusted their consumption patterns and business models respectively to respond to the dynamism in the business and broader global environment. Research on the sustainability of businesses after the pandemic focuses on business sustainability issues through the lens of the ability to meet the growing demand or how businesses will adjust their systems and services due to reduced cost demand. The future of the consumption patterns is uncertain. Thus business managers are left with the challenging reality of predicting the future supply and demand shifts in the online shopping environment to inform their development of strategies and initiatives that will protect their businesses. The challenges of business sustainability beyond the pandemic are analyzed in the following section:

- Future Demand Shifts

Increased demand for products and services during the pandemic has caused many companies to increase their supply and stock of online products and services to meet the growing consumption rates. However, these consumption levels may vary in the future, requiring businesses to adjust their internal and supply chain processes. Businesses face the uncertainty of the future, as they cannot fully project the business environment in the future. Therefore, companies have not developed adequate sustainability mechanisms to address future demand issues due to uncertainties in estimating consumer demands and other requirements in the business environment.

- Future Supply Shifts

Experts posit that supply and demand are intertwined factors that have a mutual effect on each other. The sustainability of supply requirements was analyzed by (Raja & Kannappan, 2020), who concluded that companies could not forecast their supply chain into the future, due to the uncertainties surrounding the pandemic. On one hand, supply will probably decrease in the future because the pandemic will hopefully end, and customers will go back to their past consumption behavior, specifically to the preference for shopping in physical stores (Raja & Kannappan, 2020). However, (Guthrie et al., 2021) further argue that most of the consumption patterns will be retained long-term as consumers will adapt to the new normal of using mobile shopping as a go-to shopping preference, causing a need for increased supply of online goods and services.

Additionally, the scope of online shopping is rapidly growing to include goods and services like healthcare, education, psychology, therapy, religion, social services, and other resources that were traditionally considered to require physical interaction. To date, therapists have embraced online therapy sessions, schools have adopted virtual curriculums, churches conduct online services, and the ideas of telehealth and telemedicine have become regular practices. The attendant impact of digitizing these services is the growing demand for mobile applications and websites that provide consumers with access to these services for free or at a cost. Part of the evidence suggests that demand for mobile shopping will decrease in the future, but at the same time, extensive evidence also suggests that mobile online shopping will become the new normal, increasing the need for digitization of goods and services. However, there is no conclusive evidence on whether the demand heightened by the pandemic will be retained or even increase in the future or whether some consumers may revert to their previous physical consumption preferences. Additional research is necessary for these areas to provide a systematic and conceptual overview of the potential changes in supply on mobile businesses after the pandemic (Sheth, 2020).

- Technological Requirements

Technology and the internet continue to evolve, with innovations and improvements being proposed daily to address the changing ecosystem that requires the rapid integration of information and communication technologies into daily activities. Various

technology integration models have been proposed to assist businesses and organizations in integrating the technology into various organizational and business processes. One of the most significant challenges to online businesses during the COVID-19 pandemic is the constant need for technological evolution and integration into business models (McKinsey, 2020). The adoption of new technologies into company processes requires reallocation of resources and capital that could have otherwise been used to support other aspects of the business, such as improving the supply chain processes. Still, with the prevalence of the pandemic, online companies were exposed to the threat of business obsolescence due to the inability to compete within the online shopping environment technologically (Dakduk et al., 2017).

Furthermore, the pandemic exposed online shopping companies' insufficient use of advanced technologies to fulfill their business obligations. Many companies were unexpectedly caught in the fluidly demanding business environment. They had to increase their supply, expand their supply chain, and embrace the use of technology as the major business tool. As alluded by (Sheth, 2020), these sudden requirements stretched many online businesses beyond their capacity, and some were unable to keep up with the rapid technological changes. Increased demand caused an increase in the number of orders, a demand for larger stocks of some products and services, and a need to revamp business purchasing and delivery models to suit the prevailing industry and consumer requirements and preferences.

- Legal and Regulatory Changes

As a result of the pandemic, governments have instituted policies and regulations that seek to contain the incidence and impact of the pandemic, while also supporting business sustainability and growth. Online businesses face strict legal and policy requirements that affect their operations, their attendance to customer needs, and the growth and sustainability of business operations. Implementing strict legal and regulatory changes during the pandemic caused businesses to readjust their operations to meet the dynamic requirements in the laws, regulations, and policies that guide their business operations. By the same token, policies in the Information and Communication Technology (ICT) sector affect the operations of a business through the internet. For instance, the requirements for a company to ensure that its technology is up-to-date and in compliance with other standards before expansion or roll-out of ICT business services affected the

implementation of mobile shopping technologies fast enough to respond to the dynamic changes in the business environment (Bhatti et al., 2020). Resultantly, many companies could not capitalize on the vast business opportunities created by the effects of the pandemic.

Besides that, the acquisition of the requisite business approvals and logistical support was highly compromised as a result of the attendant impact of the pandemic on working conditions and the efficiency of work. Delayed business processes caused by the changes in the legal and policy environment within the electronic commerce sector significantly impact the success and development of mobile shopping businesses. Some companies could not acquire the necessary legal, regulatory, and business approvals, causing them to miss out on exploring the vast mobile business potential during the pandemic. In the same manner, some mobile shopping businesses were terminated due to their inability to meet the online shopping space's desired legal and business operation requirements. The implications of the pandemic on policies and legislation governing online shopping are discussed through studies which illustrated the policies and laws such as the requirements of e-readiness, technological advancements, conformity to health standards, guidelines on global trade, and other regulations.

- Organizational Requirements

Studies across various online businesses indicate that some online shops have small office spaces with few employees because most of their business operations are automated and can be operated by few personnel.

- Human Capital Shifts

Electronic shopping enterprises have experienced significant human capital shifts during the pandemic, including the need for additional human resources to ensure an adequate supply of products and services to meet the growing consumption needs. Because of the increasing number of orders and the growing stock-keeping, businesses were forced to enhance their human capital resources to process the high numbers of orders, address the stocking requirements, and ensure business continuity even with the prevailing regulations and conditions. In contrast, some online shopping companies were forced to scale down the number of their employees due to business challenges during the

pandemic. The immediate impact of the need for enterprise downscaling to respond to the inevitable financial difficulties was the cause of unemployment for some workers.

#### **2.4.5 Impact of the pandemic on online shopping**

- **Impact of the Pandemic on Direct Sales**

The economic recession caused by the COVID-19 pandemic has presented various global implications, such as the impact on consumption patterns and the overall consumer behavior. (Alam, 2020) analyzed the effect of the pandemic on direct sales in mobile shopping in Bangladesh. The study concluded that the pandemic had a significant impact on the direct sales of various products. Beauty products, food and medication are products that experienced a significant increase in direct purchases using mobile shopping platforms. Many consumers rushed to stock products during the early stages of the pandemic, causing an increase in direct sales and purchases of these products. Additionally, online medication sales increased significantly due to the growing need for telehealth and electronic health facilities (Galhotra & Dewan, 2020).

Direct sales of clothing and other fashion products also increased as consumer choice and preference for mobile shopping increased due to the pandemic (Sharma, 2020). Mobile shopping companies selling clothing, footwear, and other fashion products recorded significant increments in sales and profitability from electronic commerce shopping products (Naeem, 2021 & Ožanić & Frančić, 2020).

- **Impact on the Number & Type of Online Shopping Channels Used**

Mobile shopping during the pandemic saw a significant increase in the use of online shopping channels, as many consumers rushed to purchase consumption goods and services to sustain them during lockdowns and other pandemic regulation measures. Increased digital literacy and the growing industry demand for online shopping forced a rapid evolution in electronic commerce channels to conduct trading activities. Mobile shopping through Facebook and other online shopping websites has significantly increased since the pandemic's onset (Pollak & Konecny, 2021). The report shows that various electronic commerce and mobile shopping companies increased their use of various trading channels to complete trading goods and services. (Ali Taha et al, 2021) analyzed the role of social media in economic activities, especially its profound impact on electronic commerce. The study established that the potential of social media as a

marketplace for various goods and services is promising, concluding that many consumers use at least one of the social media sites (Facebook, Twitter, Instagram, Tik Tok) to conduct online trading. In general, social media plays an influential role in online shopping, with meta-analyses concluding that WhatsApp, Facebook, and other social channels are among the most commonly used trading channels. Online shopping companies employ the crucial resources of social media as a marketing tool to dispense information about their online shopping site, products, and other marketing properties (Hossain, 2019). Mobile shopping applications are also increasingly used in online shopping, while company websites performed fairly well as the preferred and some of the most used online shopping channels. Aside from social sites and company websites, online shopping enterprises also tapped into the growing significance and potential of using mobile phones as electronic purchasing channels. Consumers implored the use of text messages, USSD Codes, and telephone calls to substitute physical purchases. These channels, for instance, short text messages and phone calls, to complete online orders, track the delivery status, and facilitate communication between buyers and sellers in the purchasing process. Similar conclusions indicate that Facebook and company websites were the most preferred and widely used online shopping channels during the pandemic. Their significance and popularity will continue to rise due to the growing digital literacy, technological advancements, and shifting consumer preferences.

- Impact on Sales Composition

The pandemic has significantly influenced the sales composition of online shopping companies, with reports suggesting that various electronic commerce companies have experienced different trends in sales. The composition of sales during the pandemic was significantly analyzed by (Elrhim & Elsayed, 2020), who found a direct relationship between the pandemic, lockdowns, and other virus control mechanisms and the composition of mobile shopping sales. As expected, a significant percentage of mobile shopping enterprises experienced significant growth in their monthly sales (Naeem, 2021). Also, third-party online companies experienced a considerable rise in online sales, producing a corresponding rise in the total number of mobile shopping enterprises, sellers, and consumers in the online marketplace. Recent studies indicate that online sales have reduced significantly within the past months, with experts associating this decline with consumers' gradual return to normalcy. Part of the steps taken to manage the

pandemic, such as vaccinations and the enforcement of strategies to enhance business sustainability, have established a sustainable balance that has allowed consumers to return to their previous habits, including online consumption behavior. The variations in performance between electronic commerce companies and fully digital online businesses can be linked to the variations in the impact of the pandemic across the different subsectors and the sales composition.

- Impact on Payment Methods

The COVID-19 pandemic consequentially affected the use and advancement of electronic payment methods. Different electronic payment methods have reported significant growth, with mobile payment methods having significantly benefited from the pandemic surge. Before the pandemic, the use of mobile money payments was on the rise, but the outbreak has renewed the urgency. (Aji et al., 2020) established that cashless payments started becoming more popular even in developing countries, like Thailand, Vietnam and Indonesia. It is of great importance that advanced technologies in facilitating payment through mobile shopping channels should be embraced.

Nonetheless, since the pandemic started, online shopping companies have experienced a dynamic shift in payment systems. The World Health Organization recommended using cashless payment methods as a preventive measure against the spread of the pandemic. Therefore, electronic commerce companies embraced cashless payment out of necessity to comply with the prevailing measures for virus control. As a result, there is a growing increase in the use of mobile money methods, electronic banking, and the use of credit cards to complete online purchases (Bhatti et al., 2020)

(Dakduk et al., 2017) found an association between the rise in popularity of mobile payment to the expansion of online market segments that use credit cards and other online shopping payment methods. Still, some people prefer cash payments, raising concerns about customer trust in online transactions as consumers only have a paying preference when their orders are delivered (Aji et al., 2020). The persistence in the use of cash payments can be linked to the weak policies on financial inclusion in situations where cashless transactions would have been preferable.

- Impact on General Business (Costs and Workforce)



The impact of the pandemic has been increasingly realized through its profound effect on enterprise costs and workforce structures. The various aspects of the virus have significantly affected the costing structures and size of organizational workforce sizes. Companies experienced a significant increase in organizational costs as a result of the pandemic. The rise in costs is linked to technological costs due to the need to upgrade organizational and supply chain systems and structures to sustain the business requirements (Chayomchai et al., 2020). Companies have incurred high costs in their efforts to strengthen the overall response to shocks.

#### **2.4.6 Challenges for online shopping during the pandemic**

- Customer safety and protection

The consumption preference significantly shifted during the pandemic, as electronic commerce and mobile shopping were adopted as the preferred purchasing methods. As a result, consumers were exposed to the dynamic world of the internet in which they entrusted strangers and electronic systems with their personal and financial information. To put it simply, customers make virtual payments and purchases through online shopping and direct strangers to deliver the purchased products to their doorsteps. So, financial data submitted through online purchasing channels are also vulnerable to malicious access and use, thus challenging the safety of online consumers. Consumer protection in mobile shopping has been extensively researched, with studies indicating that most online shopping platforms lack adequate strategies to protect their customers against malicious exploitation through their physical, personal and locational details. Online shopping is one of the riskiest trading methods by evaluating Chinese online consumers. Another study by (Aji et al., 2020) further explored the relationship between consumer safety and protection on the success of online commerce. Many consumers do not feel safe while shopping online and that most of the online consumers have been maliciously exploited during mobile shopping, thus negatively affecting their perception, preference, and choice for online shopping.

Additional evidence suggests that electronic commerce shops continue to exploit unsuspecting consumers through price hiking, product quality, and quantity variations, and selling undesired and harmful products that have negative consumption consequences. These challenges were especially heightened during the global COVID-19

pandemic, as most malicious parties took the opportunity to skim the unsuspecting consumers and businesses.

- Strategies to address consumer safety and protection challenges

China has one of the most expansive and mature electronic commerce markets, giving it a global competitive edge in implementing online shopping strategies and policies. The study found that the Chinese market implements advanced online shopping protection laws and policies protecting customers and sellers against data breaches, exploitation, and blackmail. Therefore, governments should enforce improved laws and policies on consumer protection and safety in online shopping. Additionally, there is a need for adequate sensitization and consumer awareness on the potential threats in online shopping and the appropriate preventive and controlling mechanisms. Educating consumers on the possible challenges they can face in online shopping equips them with adequate knowledge and skills on how to respond to such threats.

Arguably, there is a need for businesses and policy-makers to address consumer vulnerabilities in online shopping to ensure successful operations and enhance consumer satisfaction and preference for online shopping. Technological advancements have also been shown to facilitate consumer protection. Advanced technologies prevent system vulnerabilities in online shopping and enhance verification and authentication of documents, customers, and even sellers before completing online purchases. Global electronic commerce firms such as Amazon, eBay, and Alibaba have integrated advanced technologies into their operations and functionalities to detect internal and external system vulnerabilities and protect the consumers against potential threats.

- Other Challenges

The pandemic has caused various challenges for online shopping businesses. However, most of the challenges mobile shopping businesses face are deeply entrenched in pre-existing challenges. An additional sphere of the challenges experienced in mobile shopping during lockdowns is the limitation on logistical processes for electronic shopping companies and buyers that results from movement restrictions and the pandemic containment measures. The prevalence of the pandemic has highlighted a systematic issue on the existing challenges facing the online shopping industry. Addressing these challenges remains a priority measure in the path towards enhancing

the readiness of the country's mobile shopping environment with regards to electronic trade for the key policy areas. These policy areas are strategy and assessment of electronic commerce readiness, information and communication technology services and infrastructure, facilitation and logistics of trade, payment, legal and regulatory frameworks, development of electronic commerce skills, and financing access. Policy difficulties in addressing online payments on electronic shopping channels significantly affect the sector's performance (Hew, 2017), and these difficulties were particularly heightened during the pandemic. Financing difficulties, such as liquidity and access to finances, negatively influence the online shopping process by affecting the capability of the electronic commerce shop to access the desired resources and finances to sustain and improve business operations. Also, electronic payment methods charge high transaction fees on online purchases and thus affect the profitability and preference for online payments. Many mobile shopping companies lack sufficient schemes for compensating business losses during the pandemic and thus suffer the negatives of having a business.

The pandemic negatively affected the capacity of online shopping businesses to invest and expand their operations, even with the growth in demand. The difficulty to invest is linked to the limited capital and cash flows to enhance operations. Future business uncertainty regarding new investments and the unavailability of sufficient human capital resources to support expanded investments are also causing the reduced investment in online shopping.

Gaps in information and communication technology further magnified the paralyzing challenges of the pandemic of online shopping. Consumers in remote areas were highly affected, as the lack of adequate supporting ICT infrastructure negatively affected access to mobile markets. Such consumers also have low levels of digital literacy that hinders the adoption and use of online shopping. These challenges are also consistent in urban areas. There is also a growing preference among consumers to pay cash upon delivery of products. As businesses continue to adopt the new normal of facilitating contactless purchase and delivery, concerns have been raised regarding the risk of exposure of delivery workers to the virus (Gao et al., 2020).

#### **2.4.7 Measures to facilitate online/mobile shopping**

The pandemic challenges on business continuity have escalated the urgent need for measures and strategies to address the negative threats and provide growth opportunities. To start with, the governments and private enterprises have adopted various measures to address the negative impact of the pandemic on online shopping. The surge in the pandemic and its social and economic impacts demonstrated the need to develop an effective online shopping strategy to facilitate business continuity and recovery (Hasanat et al., 2020). There is significant growth in marketing and advertising to enhance the performance and profitability of mobile commerce (Hashem, 2020). Additionally, training and skills development should be enhanced within the online shopping sector to educate the public on the vast opportunities presented by mobile shopping and the overall digital economy. It is crucial that the government and other financing entities should support online shopping companies by providing liquidity assistance and financial support to fund business growth and expansion. Policies on effective logistical management and support should also be developed to enhance sectoral performance. There are growing efforts by consumers, businesses, and other stakeholders in the online shopping industry to strengthen the efficiency of businesses and unlock new market segments (Hasanat et al., 2020). Continuing awareness programs on mobile shopping and its contribution to flattening the COVID-19 curve have amplified the acceptability and use of mobile shopping. Thus, online businesses have developed greater strategies to capitalize on the growing popularity of online commerce through expeditious marketing strategies. Part of the strategies employed by governments, consumers, and online shopping enterprises include expanding internet access and encouraging mobile business transactions by reducing transaction costs and reduced internet bandwidth costs have provided a significant opportunity for using the internet and other financial services. Moreover, some governments took measures to address the disruptions in business supply chains by extending business operation hours and unlimited movement of logistics personnel to ensure continuity of supply chain operations and product deliveries.

- Public-private cooperation and private sector initiatives and financing

Private sector initiatives and public-private partnerships have become significant factors in the fight towards economic recovery from COVID-19. As the pandemic continues to paralyze global businesses, enterprises and policy experts have realized that the creation

of effective partnerships between governments and private entities to leverage financing resources, expand market penetration and consumer awareness, and strengthen supply chains through the improvement of logistics and other business processes. Besides, the internet has become an important tool for communication and businesses, providing an opportunity to explore the significant marketing and business opportunities presented through online markets and the use of technologically integrated supply chains.

Partnerships between private entities and the public sector enterprises have demonstrated great resilience in providing aggressive measures against economic shocks and recessions. One such key application for the effective use of public-private partnerships is its use in developing recovery measures against shocks and challenges presented by the pandemic. Collaborations enhance the availability of resources and finances to sustain business continuity. In addition, such partnerships enhance business synergies by facilitating supply chain recovery and enhancing online business sustainability.

- Managerial implications

The COVID-19 pandemic has presented a significant challenge for business managers. Management of businesses requires critical thinking, decision-making, and research to develop adequate business continuity measures. However, due to the pandemic, business managers faced many challenges and operational questions that negatively impacted their decision-making. As a result, the financing dilemma created by the pandemic requires critical analysis, in order to create effective responses to manage the business. Additional managerial challenges were seen through the human resource difficulties, as most managers were left with indecisiveness of whether or not to reduce their human capital costs. Not only that, but integrating new technologies and adopting new online business models requires careful managerial consideration, especially owing to the future uncertainties related to the business. Additional considerations made by business managers are the choice of the adequate online shopping channel, platform, and payment method that could produce adequate economic and financial returns for the business.

- Skills development

Challenges associated with the pandemic have exposed a significant gap in the requisite skills for online shopping. One such key intervention to address this gap is the use of extensive research on skills deficiencies in mobile shopping, the design of effective skills

development strategies and programs, and the design of adequate skills management and development strategies such as mass awareness to enhance skill sets necessary for online shopping. Technological competency skills, financial management skills, managerial skills, marketing and advertising, and other online business skills are crucial for enhancing the sector. As such, businesses and governments should develop and implement policies geared towards skills management and development to enhance the operationality and performance of mobile shopping businesses.

## **2.5 Online shopping in Greece**

### **2.5.1 Overview of online shopping in Greece before COVID-19**

Greece is one of the most rapidly advancing economies in Europe, potentially becoming a leading global market. The country is characterized by rapid growth and revolutionary innovations in information and communication technology, healthcare, agriculture, and other sectoral developments that promise to propel the country to greater economic achievements. With an estimated population of nearly 10.57 million people in 2021 (Central Intelligence Agency, 2021), the potential of the Greek market in providing substantive resources for the global economy is unlimited and promising. People aged between 15-64 years constitute about 63.04% of the country's population, while adults aged 65 years and above make up 22.43% of the total population (Central Intelligence Agency, 2021). This distribution of population, and especially because a higher percentage of the total population that are considered to be young are in the high consuming age bracket, and especially online consumers, the potential of the Greek online market provides a conducive platform for expansive growth.

Over the past years, the Greek electronic commerce market has experienced significant growth, and experts estimate that the upward trend will continue even in the coming years (Besis & Pepelasis, 2020). While other markets have experienced significant declines in electronic commerce in the past years, specifically during the COVID-19 pandemic, the online market in Greece has continued to flourish, with experts noting that it has become one of the most competitive and productive markets. Greece is one of the most rapidly evolving global economies. The country's online population had reached nearly 4 million consumers, with online sales surpassing 6.15 billion dollars in 2018, representing a 25% growth from the previous year (Export.gov, 2019). However, the

expansiveness of the eCommerce sector in Greece is not as advanced as in other European countries.

A report published by the European Commission on the "2018 Digital Economy and Society Index" ranked Greece among the lowest in terms of use of internet services and integration of digital technology among the EU28 member states (European Commission, 2018). These statistics highlight the inefficiency of the Greek economic and digital paradigms in responding and adapting to changes in technology, market structures, and economic policies to maintain a standard performance.

### **2.5.2 Current trends in online shopping in Greece**

Electronic commerce is one of the most popular sectors in the market, constituting a significant proportion of the total trading activities in Greece. With technological advancements and economic revolutions, using the internet as a trading medium has gained critical economic significance. Various studies note that many economies encourage widespread adoption of online trade to enhance the market reach and increase consumer satisfaction. Research by the School of Business and Economics at Athen University concluded that Greece's demand for electronic commerce has increased despite the various financial backdrops that threaten economic sustainability (Export.gov, 2019). The growing demand for online shopping is attributed to reductions in consumer income. The same study also established that income reductions increase the sensitivity of consumers to prices, increase capital regulations, and increase the number of high-quality local online stores, which play a critical role in the expansion of online trade.

There is increased sensitivity to prices among Greek consumers, to enhance the realization that online shopping can provide them with the advantage of having access to a wide product range within a short period and increased customer loyalty programs such as discounts and offers. Challenges of economic instability experienced in the past continue to affect Greek consumers' shopping trends and patterns. Research has demonstrated that the most significant factor driving mobile shopping is hunting for bargains.

### **2.5.3 Factors that influence mobile shopping behavior in Greece**

Just as is the case in other markets, online shopping in Greece is driven by various factors resulting from various economic factors. Online consumers are special buyers with great sensitivity to price, quality, and convenience (Troise et al., 2020). Studies have concluded that mobile shopping behavior is influenced by market studies, price comparison, and the considerable rise in mobile banking influenced by capital controls. Mobile shoppers in Greece purchase 50% of their products from physical stores after searching for them online and comparing prices. The resultant influence of this trend is the increase in business expenditure on brand advertising and digital marketing to attract many consumers. Consequently, 20% of online consumers in Greece purchase items after visiting the physical stores. The alarming impact of this type of consumer behavior is the emergence of broad strategies for upgrading consumer experience in shops by using mobile applications and advanced technologies (Export.gov, 2019).

### **2.5.4 The legal framework for electronic commerce in Greece**

Like any other country, Greece has various legal and regulatory policies that govern mobile trading activities within the economy and the country's jurisdiction. Some regulations have played a crucial role in facilitating a conducive environment to foster the growth in mobile shopping. In contrast, others inhibit the expansion of online shopping activities through various restrictions on imports and exports and the country's taxation policies. The Greek consumer protection law governs online shopping. It sets the standard for all online retail activities and protects sellers and consumers against exploitation from each other. The laws that govern online trade, that is, the law that incorporates the Ecommerce Directive 2000/31/EC together with the "Joint Ministerial Decision Z1-891/13-06-2013 (that also incorporated the Consumer Rights Directive 2011/83/EU), provide a legislative basis for electronic commerce in Greece. These legislations encourage free and unlicensed mobile trading activities and produce valid electronic contracts for mobile trade. The Greek online shopping environment protects the end-user privacy through the data protection law (Law 2472/1997 and 3471/2006). The Data Protection Law included the applications of directives 95/46/EC and 2002/58/EC (Export.gov, 2019).

Plausibly, "Directive 2000/31/EC" has provided a fundamental legal basis for conducting online services, such as local online trade. The directive aims to remove barriers to



international mobile shopping in the European Union and provide legal assurance to citizens and enterprises in global online trade. The "Electronic Commerce Directive 2000/31/EC", implemented in 2000, establishes a domestic market framework for online trade, thus providing legal assurance for consumers and industries alike. The directive also creates synchronized regulations on issues like information principles for electronic service providers and transparency, commercial communication, mobile contracts, and restrictions on the liability of the secondary agents. Additionally, the law improves administrative coherence between member countries and the importance of self-regulation. The above legal and regulatory policies notwithstanding, mobile shopping in Greece is also governed by the prevailing laws in the respective countries and those regulations guiding electronic shopping globally. As a result, businesses wishing to conduct mobile shopping are required to oblige by these regulations, failure to which they are penalized for violating these provisions. However, some restrictive regulations prevent the expansion of online shopping, such as laws with limitations on capital and financial wellness to participate in online trade (Export.gov, 2019).

### **2.5.5 Online shopping in Greece during Covid-19**

The first case of Coronavirus in Greece, appeared on February 26, 2020 in the city of Thessaloniki. From that point on the cases kept increasing, and so in order for the situation to become more contained, the government decided to take drastic actions following the recommendations of professionals from EODY (Greek Public Health Organization). Some of the restrictive measures were the closure of schools, universities and most stores, the cancellation of events, and the directive for people to work from home if possible. Consequently, on March 22, the Greek authorities declared a general lockdown by condoning travel within and from or towards the country. As an exception to the rule, people were allowed to go and shop for essential things, work out or take their pet for a walk for short periods of time, only after sending a text to a government issued number, in order for the officials to be able to monitor the limited movements. Admittedly, as one would expect, this situation led people to search for other options to cover their shopping habits and that's why there was such a sudden increase in online shopping not only in Greece, but worldwide (Dionysiou et al., 2021).

According to (Fragouli, 2021) in a study made by SEPE, it was revealed that not only the habits of Greek shoppers changed conjuncturally due to the pandemic, but it seems like the shift to online shopping is actually solidifying. To put this more into perspective, the study highlighted that one in two Internet users (50%) have resulted in doing their shopping online, when the corresponding ratio in 2019 was one in five (21%). These percentages prove that the systematic tendency to shop online in general has more than doubled since 2019 and the numbers have stabilized, which further supports the claim of the shift solidification. In a different study, the Hellenic Statistical Authority calculated that during the first trimester of 2021, 6 out of 10 people aged between 16 and 74 used an ecommerce platform to make an online purchase or order goods and services. By comparing these numbers to the ones of the first trimester of 2020, there is an impressive increase of 22% of the users who did online shopping (WebNewsTeam, 2021).

The ELTRUN laboratory of the Athens University of Economics and Business conducted a nationwide survey that determined 50% of small and medium-sized enterprises in Greece were in the early stages of digital development in 2019 and 2020. Having to adjust to the pandemic crisis, 8 out of 10 small and medium-sized businesses were forced to make significant changes in their operations and, in fact, 70% used digital technologies to cope with the impact of COVID-19. Still, 1 out of 3 businesses had to suspend their operations completely and indefinitely. Diving into the survey's findings, it was disclosed that even though the use of digital tools and infrastructure by small and medium-sized enterprises was improved during 2020, it was obvious in many cases, businesses have opted for amateur solutions, mainly due to a lack of resources. Based on the ranking in the Digital Readiness Index, 1 in 2 Greek small and medium-sized businesses is currently in the early stages of maturity (Basic), while only 1 in 8 is classified as Advanced and none as Ideal. "It is clear from the survey findings that the digital maturity of some small and medium-sized enterprises has acted as a buffer against the devastating effects of the crisis. Businesses that had already adopted digital tools before the onslaught of COVID-19 were able to recover more easily and to a greater extent." said the Director of ELTRUN, George Doukidis. However, the additional aim of the study was for the findings to contribute to the development of small and medium-sized entrepreneurship in Greece, always using technology and innovation as a driving force (Naftemporiki, 2020).

### **3 Methodology**

In addition to the theoretical part of this dissertation, an online questionnaire survey was developed, in order to see with actual numbers the effect of COVID-19 on consumer behavior and mobile shopping during the lockdown periods in Greece (see Appendix). For the data collection, the questionnaire was comprised of 20 questions, which appeared in three main sections; the first took into account the demographics of the study sample, the second proposed some introductory questions and the third focused specifically on the consumer buying behavior during lockdown due to COVID-19. Closed-ended, multiple choice and five-point Likert scale were used as answering methods. A random sample of Greek individuals were exposed to the online version of the questionnaire which was uploaded on Google forms and distributed through various social media channels, mainly Facebook. After leaving the questionnaire for 6 weeks online, a total of 534 correctly filled ones were obtained.

## 4 Data analysis

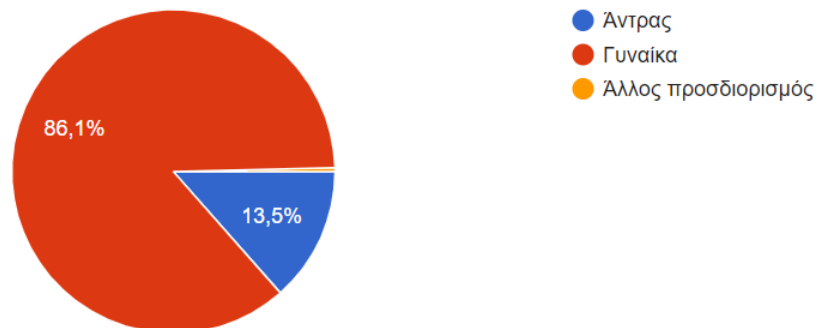
A) Demographic characteristics - Respondent profile:

**Table 1: Gender of the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Gender	Male	72	13,5	13,5
	Female	460	86,1	99,6
	Other identification	2	0,4	100,0
	Total	534	100,0	

Φύλο:

534 απαντήσεις



**Figure 1: Gender of the sample.**

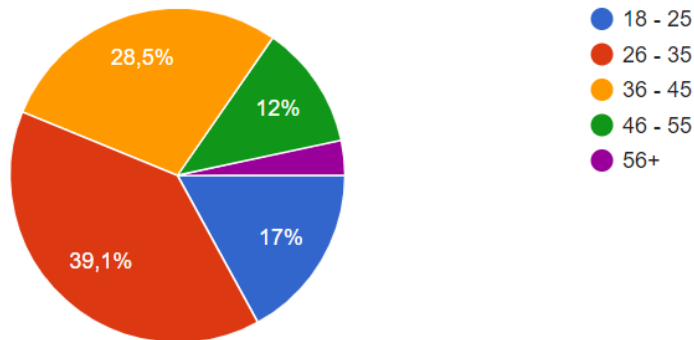
According to the answers that were obtained, 72 (13,5%) of the respondents were male, 460 (86,1%) were female and 2 (0,6%) use a different identification, making a total of 534 people who submitted the online questionnaire via Google forms.

**Table 2: Age of the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Age	18 - 25	91	17,0	17, 0
	26 - 35	209	39,1	56,1
	36 - 45	152	28,5	84,6
	46 - 55	64	12,0	96,6
	56+	18	3,4	100,0
	Total	534	100,0	

Ηλικία:

534 απαντήσεις



**Figure 2: Age of the sample.**

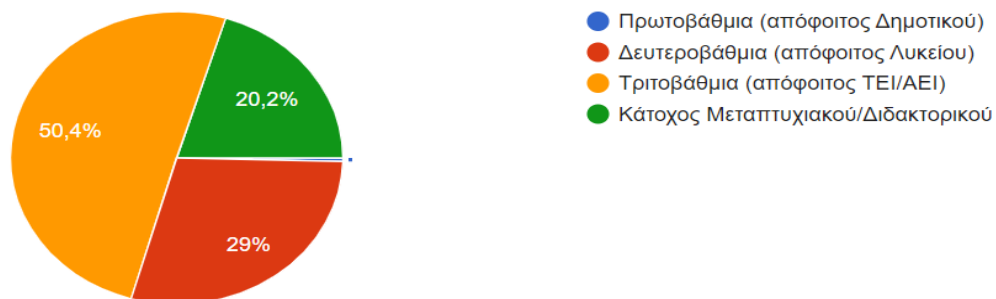
From the 534 respondents, 91 (17%) are between the ages of 18 – 25, 209 (39,1%) are between the ages of 26 – 35, 152 (28,5%) are between the ages of 36 – 45, 64 (12%) are between the ages of 46 – 55 and finally, 18 (3,4%) are in the age group of 56+. It is obvious that the vast majority of the answers came from the younger generations, probably because they are more technologically literate and were more familiar with an online survey such as the one distributed for this research.

**Table 3: Level of education of the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Level of education	Primary (elementary school graduate)	2	0,4	0,4
	Secondary (Lyceum graduate)	155	29,0	29,4
	Bachelor's degree	269	50,4	79,8
	Master and / or PhD degree	108	20,2	100,0
	Total	534	100,0	

Επίπεδο εκπαίδευσης:

534 απαντήσεις



**Figure 3: Level of education of the sample.**

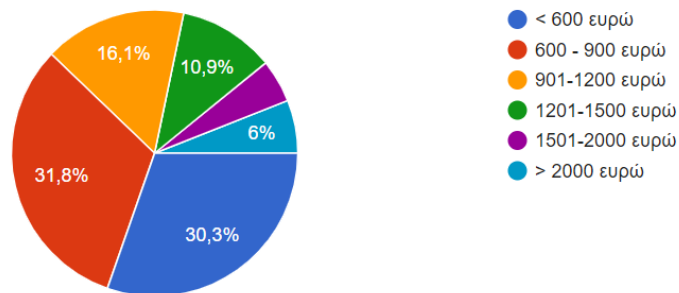
From the 534 respondents, 2 (0,4%) of them only have a primary level education, 155 (29%) have a secondary level of education, 269 (50,4%) have a Bachelor's degree, and 108 (20,2%) have a Master's and / or PhD degree. We can see that more than 70% of the sample has been educated in a higher institution.

**Table 4: Monthly income of the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Monthly income	< 600 euros	162	30,3	30,3
	600 - 900 euros	170	31,8	62,1
	901-1200 euros	86	16,1	78,2
	1201-1500 euros	58	10,9	89,1
	1501-2000 euros	26	4,9	94,0
	> 2000	32	6,0	100,0
	Total		534	100,0

Μηνιαίο εισόδημα:

534 απαντήσεις



**Figure 4: Monthly income of the sample.**

From the 524 respondents, 162 (30,3%) earn less than 600 euros per month, 170 (31,8%) earn between 600 – 900 euros per month, 86 (16,1%) earn between 901 – 1200 euros per month, 58 (10,9%) earn between 1201 – 1500 euros per month, 26 (4,9%) earn between 1501 – 2000 euros per month and 32 (6%) earn more than 2000 euros per month.

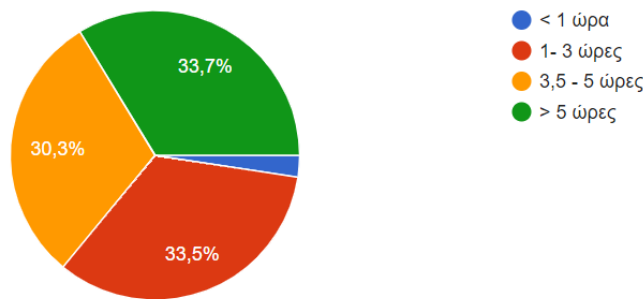
Evidently, more than 60% of the sample belongs to the first two categories, which means they have to delegate less than 900 euros per month for all their costs.

B) Introductory questions:

**Table 5: Daily online presence of the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Daily online presence of the sample	< 1 hour	13	2,5	2,5
	1 – 3 hours	179	33,5	36
	3.5 – 5 hours	162	30,3	66,3
	> 5 hours	180	33,7	100,0
	Total	534	100,0	

Πόσες ώρες την ημέρα είστε online;  
534 απαντήσεις



**Figure 5: Daily online presence of the sample.**

Regarding their online presence, 13 (2,5%) people spend less than an hour every day online, 175 (33,5) spend between 1 – 3 hours online per day, 162 (30,3%) spend between 3,5 – 5 hours online every day and 180 (33,7%) spend more than 5 hours online every day. The most outstanding outcome of this question is the fact that the highest percentage



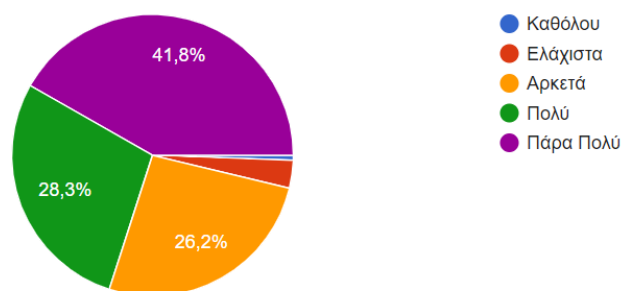
of the sample seem to be spending more than five hours online, giving them at least 300 minutes of screen time in a single day.

**Table 6: Smartphone use of the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Smartphone use of the sample	Not at all	3	0,5	0,5
	A little bit	17	3,2	3,8
	Enough	140	26,2	30
	A lot	151	28,3	58,3
	Very much	223	41,8	100,0
	Total	534	100,0	

Σε ποιο βαθμό χρησιμοποιείτε το έξυπνο κινητό τηλέφωνο (smartphone);

534 απαντήσεις



**Figure 6: Smartphone use of the sample.**

For this question, a modified version of the Likert scale was used to measure the extent of the smartphone use by each person of the sample. Turns out 3 (0,5%) of them don't use a smartphone at all, 17 (3,2%) use smartphones only a little bit, 140 (26,2%) use

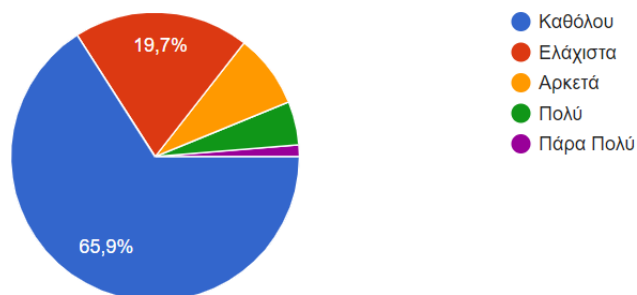
smartphones just enough, 151 (28,3%) use smartphones a lot and 223 (41,8%) use smartphones very much. These percentages come as no surprise, because as it was previously mentioned in chapter 2, two-thirds of the world's population now have a mobile phone with the majority of them being a smartphone and these devices accounting for 48% of total online time.

**Table 7: Tablet use of the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Tablet use of the sample	Not at all	352	65,9	65,9
	A little bit	105	19,7	85,6
	Enough	44	8,2	93,8
	A lot	26	4,9	98,7
	Very much	7	1,3	100,0
	Total	534	100,0	

Σε ποιο βαθμό χρησιμοποιείτε την ταμπλέτα (tablet);

534 απαντήσεις



**Figure 7: Tablet use of the sample.**

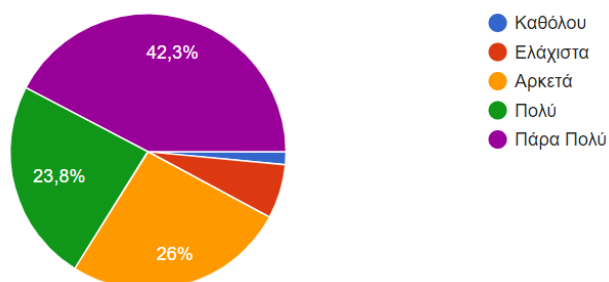
Using the same Likert modified scale as in the previous question, it was revealed that 352 (65,9%) people don't use a tablet at all, 105 (19,7%) use tablets only a little bit, 44 (8,2%) use tablets just enough, 26 (4,9%) use tablets a lot and 7 (1,3%) use tablets very much. It's pretty clear that people are not accustomed with tablets as they are with the smartphones, since more than 65% of the sample doesn't use them at all, even if the differences between these mobile devices are very few nowadays.

**Table 8: Mobile internet use of the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Mobile internet use of the sample	Not at all	8	1,5	1,5
	A little bit	34	6,4	7,9
	Enough	139	26,0	33,9
	A lot	127	23,8	57,7
	Very much	226	42,3	100,0
	Total	534	100,0	

Σε ποιο βαθμό χρησιμοποιείτε το mobile internet (δηλ. τη χρήση διαδικτύου μέσω κινητών συσκευών);

534 απαντήσεις



**Figure 8: Mobile internet use of the sample.**

Using the same measurement scale one last time, these answers portray how much the mobile internet is used by the sample. 8 (1,5%) people don't use mobile internet at all, 34 (6,4%) use mobile internet only a little bit, 139 (26%) use mobile internet just enough, 127 (23,8%) use mobile internet a lot and 226 (42,3%) use mobile internet very much. Seeing that more than 40% of the sample used mobile internet a lot, and judging by the previous answers about the user's daily online presence and smartphone use, we can safely assume that these behaviors are linked.

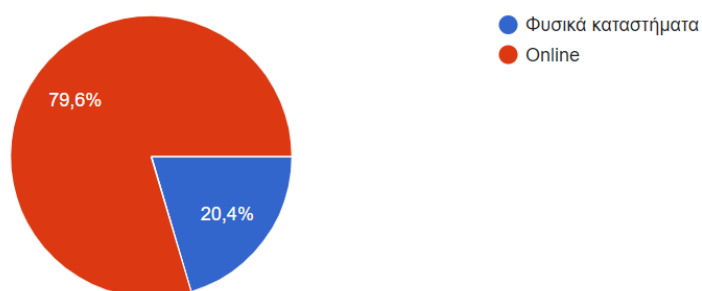
C) Specific questions concerning the intention of purchasing products / services during lockdown due to COVID-19:

**Table 9: Shopping ways of the sample during lockdown.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Shopping ways of the sample during lockdown	Physical stores	109	20,4	20,4
	Online	425	79,6	100,0
	Total	534	100,0	

Κατά τη διάρκεια της απαγόρευσης κυκλοφορίας, ψωνίζατε περισσότερο σε φυσικά καταστήματα ή online;

534 απαντήσεις



**Figure 9: Shopping ways of the sample during lockdown.**

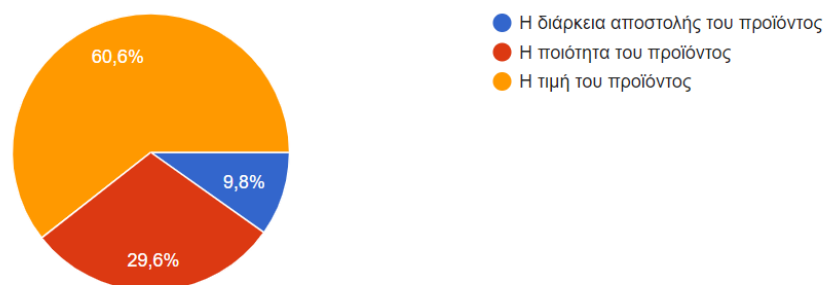
During the lockdown periods in Greece, 109 (20,4%) people out of the 534 shopped more frequently in physical stores and 425 (79,6%) opted to do their shopping online. This was quite an expected outcome, since due to government regulation most stores except from supermarkets, pharmacies and banks were closed, so people were somewhat forced to shop online any other goods. Because of social distancing and the sense of fear that came with the pandemic, some did their shopping exclusively online and didn't even want to go to the grocery store for the essentials.

**Table 10: Important product feature that could lead the sample to online purchase.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Important product feature that could lead the sample to online purchase	The shipping time of the product	52	9,8	9,8
	The product quality	157	29,6	39,4
	The price of the product	321	60,6	100,0
	Total	530	100,0	

Ποιο είναι για εσάς το πιο σημαντικό χαρακτηριστικό ενός προϊόντος για να το αγοράσετε online;

530 απαντήσεις



**Figure 10: Important product feature that could lead the sample to online purchase.**

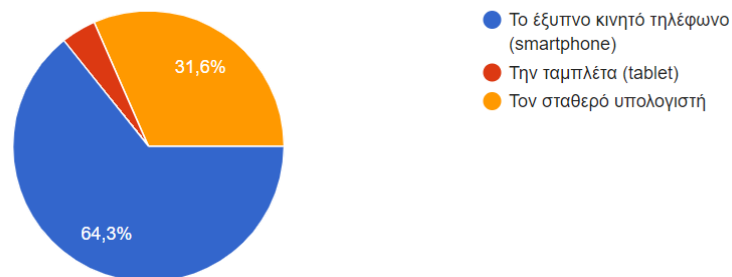
While asked what is the most important feature that could lead them to purchase a product online, 52 (9,8%) answered the time it would take for the product to be shipped, 157 (29,6%) answered the product quality and 321 (60,6%) said the price of the product. In Chapter 2 in the section about Greece, it was mentioned that the Greek consumers are very price sensitive and that really shows in this particular question, since more than 60% of the sample listed the price of the product as its most important feature that would persuade them to buy it.

**Table 11: Electronic device mostly used by the sample for online shopping.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Electronic device mostly used by the sample for online shopping	The smartphone	340	64,3	64,3
	The tablet	22	4,1	68,4
	The desktop computer	167	31,6	100,0
	Total	529	100,0	

Αν κάνατε online αγορές κατά τη διάρκεια του lockdown, ποια ηλεκτρονική συσκευή χρησιμοποιήσατε περισσότερο για την αγορά;

526 απαντήσεις



**Figure 11: Electronic device mostly used by the sample for online shopping.**

Even though some people, 167 (31,6%) in this case, still prefer to use their desktop computer to do their online shopping, the majority of the sample has switched and rely on their smartphones, in order to make their online purchases. Specifically, an impressive number of 340 (64,3%) people use their phone, while 22 (4,1%) shop via their tablet.

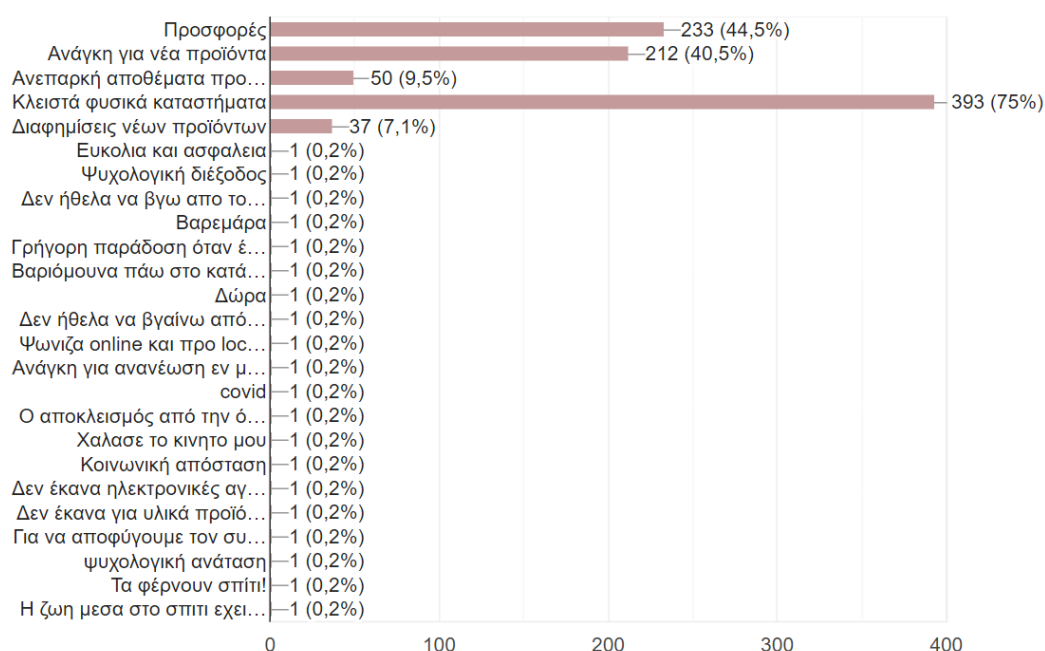
**Table 12: Main reasons for online shopping by the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Main reasons for online shopping by the sample	Offers	233	44,5	-
	Need for new products	212	40,5	-
	Insufficient stocks of products in physical stores	50	9,5	-
	Closed physical stores	393	75,0	-
	New product ads	37	7,1	-
	Other:			
	Convenience and safety	1	0,2	-
	Psychological escape / Mental uplift	3	0,6	-
	Boredom	1	0,2	-

	Quick product delivery wherever	4	0,8	-
	Lack of time	1	0,2	-
	Social distancing	4	0,8	-

Αν κάνατε online αγορές κατά τη διάρκεια του lockdown, ποιοι ήταν οι κύριοι λόγοι που σας ώθησαν να προβείτε στην αγορά; Μπορείτε να διαλέξετε πολλαπλές απαντήσεις.

524 απαντήσεις



**Figure 12: Main reasons for online shopping by the sample.**

In order to determine all the reasons why the sample chose to do online shopping, this question was a multiple choice approach and the last slot offered a space where anyone could comment anything that wasn't listed on the main reason categories. The results are as follows: 233 (44,5%) people shopped online as a means to take advantage of online offers, 212 (40,5%) shopped online because they were in need of new products, 50 (9,5%) shopped online because there were insufficient stocks of products in physical stores, 393 (75%) shopped online because the physical stores were closed and 37 (7,1%) shopped online because they saw interesting new product ads. Some individual reasons were convenience and safety, psychological escape / mental uplift, boredom, quick



product delivery wherever and lack of time. From these percentages we can assert that the main reasons why people were shopping online during the lockdown periods were because the physical stores were closed and people also wanted to make the most of exclusive online offers.

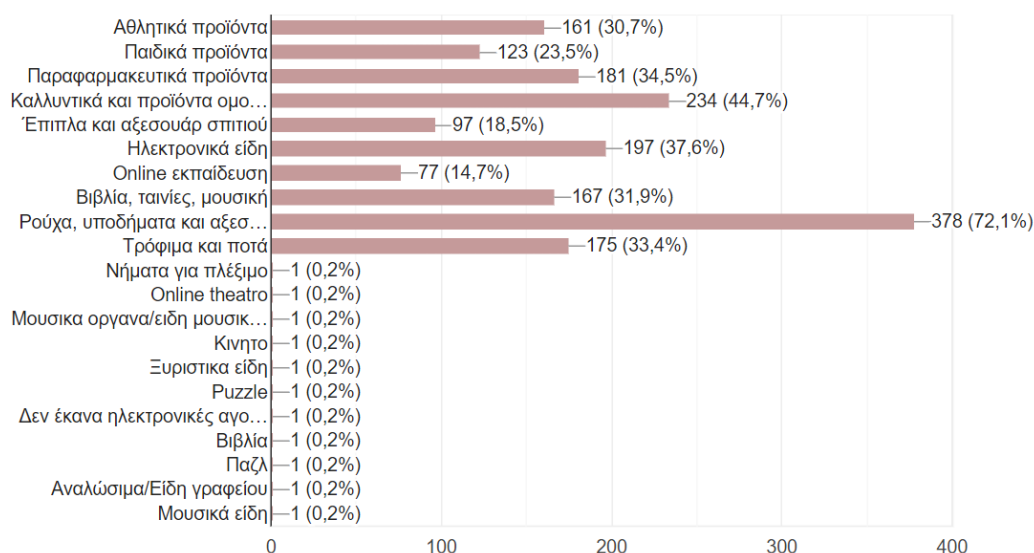
**Table 13: Product categories bought online by the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Product categories bought online by the sample	Sports products	161	30,7	-
	Children's products	123	23,5	-
	Parapharmaceutical products	181	34,5	-
	Cosmetics and beauty products	234	44,7	-
	Furniture and home accessories	97	18,5	-
	Electronics	197	37,6	-
	Online education	77	14,7	-
	Books, movies and music	169	32,2	-
	Clothes, shoes and accessories	378	72,1	-

	Food and drinks	175	33,4	-
	Other:			
	Yarn for knitting	1	0,2	-
	Online theater	1	0,2	-
	Stationery	3	0,6	-

Αν κάνατε online αγορές κατά τη διάρκεια του lockdown, τι είδη προϊόντων αγοράσατε;  
Μπορείτε να διαλέξετε πολλαπλές απαντήσεις.

524 απαντήσεις



**Figure 13: Product categories bought online by the sample.**

In order to determine all the categories of the products that the sample chose to shop online, this question was also a multiple choice approach, with the last slot offered a space where anyone could comment anything that wasn't listed on the main product categories. The results are as follows: 161 (30,7%) people shopped sports products online, 123 (23,5%) shopped children's products online, 181 (34,5%) shopped parapharmaceutical products online, 234 (44,7%) purchased cosmetics and beauty products online, 97 (18,5%) bought furniture and home accessories online, 197 (37,6%)

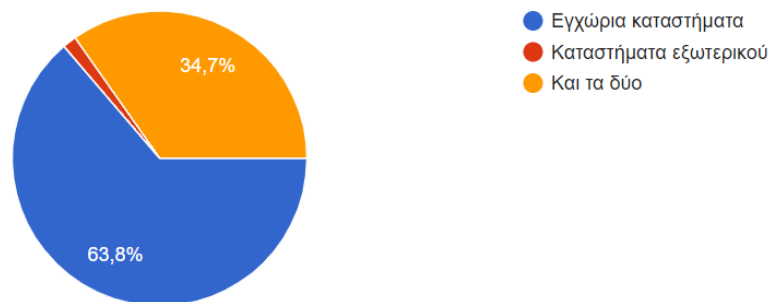
got electronic devices online, 77 (14,7%) purchased something related to online education, 167 (31,9%) shopped books, movies or music online, 378 (72,1%) purchased clothes, shoes and accessories online and 175 (33,4%) bought food and drinks online so they could be delivered at their desired destination. Some individual answers for products that were bought online are: yarn for knitting, online theatre and stationery. Judging by these answers, it becomes clear that the main product categories purchased online by the sample were clothes, shoes and accessories, followed by cosmetics, beauty products and electronics.

**Table 14: Geographic online shopping preferences by the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Geographic online shopping preferences by the sample	Domestic stores	336	63,8	63,8
	Stores from abroad	8	1,5	65,3
	Both	183	34,7	100,0
	Total	527	100,0	

Αν κάνατε online αγορές κατά τη διάρκεια του lockdown, επιλέξατε εγχώρια καταστήματα ή/ και το εξωτερικού;

527 απαντήσεις



**Figure 14: Geographic online shopping preferences by the sample.**

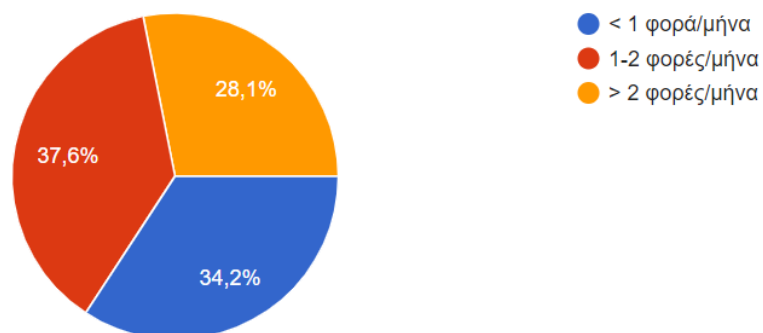
This question focused on the geographic online shopping preferences of the sample at it revealed that 336 (63,8%) people chose stores purely based in Greece, while only 8 (1,5%) purchased from stores that are solely located abroad. In addition, 183 (34,7%) people decided to mix things up and shopped online from both domestic and international stores.

**Table 15: Frequency of online shopping by the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Frequency of online shopping by the sample	<1 time / month	180	34,2	34,2
	1-2 times / month	198	37,7	71,9
	>2 times / month	148	28,1	100,0
	Total	526	100,0	

Αν κάνατε online αγορές κατά τη διάρκεια του lockdown, πόσο συχνά πραγματοποιούσατε τις αγορές σας;

526 απαντήσεις



**Figure 15: Frequency of online shopping by the sample.**

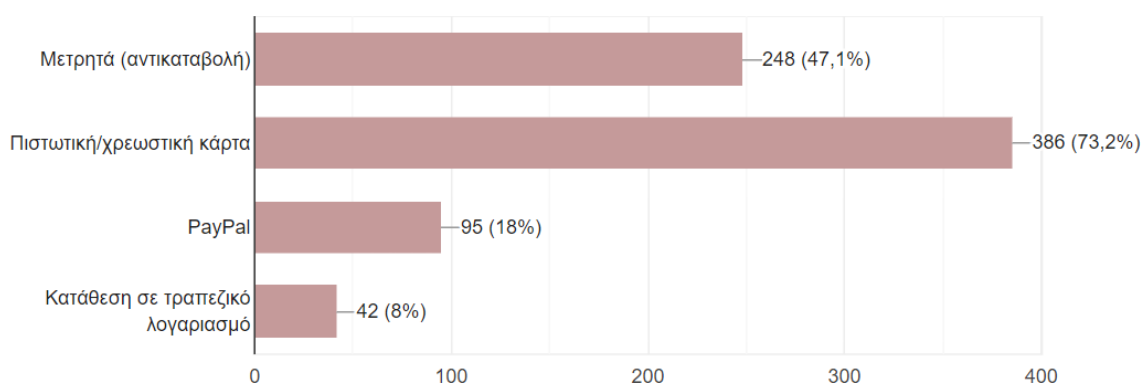
During the lockdown periods, 180 (34,2%) people did their online shopping less than once a month, 198 (37,7%) purchased things online 1 – 2 times per month and 148 (28,1%) shopped online more than 2 times per month. The pie chart above appears to be quite even, showcasing a variety of online shopping frequency by the sample.

**Table 16: Payment methods used for online shopping by the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Payment methods used for online shopping by the sample	Cash (cash on delivery)	248	47,1	-
	Credit card	386	73,2	-
	PayPal	95	18,0	-
	Bank deposit	41	8,0	-

Αν κάνατε online αγορές κατά τη διάρκεια του lockdown, ποιους τρόπους πληρωμής χρησιμοποιήσατε; Μπορείτε να διαλέξετε πολλαπλές απαντήσεις.

527 απαντήσεις



**Figure 16: Payment methods used for online shopping by the sample.**

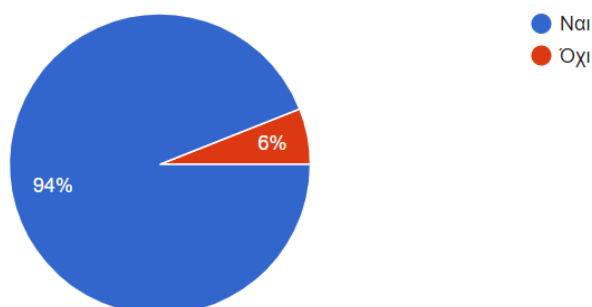
Another interesting question was related to the payment methods the sample used for their online shopping purchases. Specifically, 248 (47,1%) preferred to pay with cash on delivery, 286 (73,2%) used their credit cards, 95 (18%) used their PayPal account and 42 (8%) made a bank deposit. The method of payment by credit / debit cards was used by more than 70% of the respondents, which is quite a positive sign, since contactless payment was recommended, in order to avoid possible infection.

**Table 17: Perceived ease of use of mobile devices for shopping by the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Perceived ease of use of mobile devices for shopping by the sample	Yes	502	94,0	94,0
	No	32	6,0	100,0
	Total	534	100,0	

Θεωρείτε πως είναι εύκολη η χρήση των κινητών συσκευών για την αγορά προϊόντων/ υπηρεσιών:

534 απαντήσεις



**Figure 17: Perceived ease of use of mobile devices for shopping by the sample.**

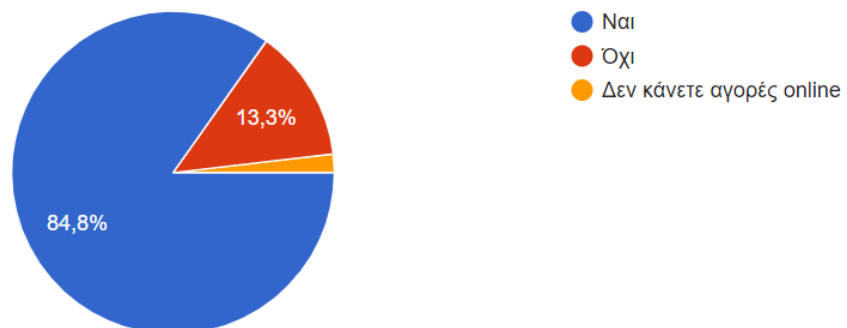
Does the sample think that mobile devices are easy to use to conduct online shopping? A remarkable 94% (502 people) of them said yes, while the rest 6% (32 people) still finds it difficult.

**Table 18: Perceived safety of mobile devices for shopping by the sample.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Perceived safety of mobile devices for shopping by the sample	Yes	453	84,8	84,8
	No	71	13,3	98,1
	Sample does not do online shopping	10	1,9	100,0
	Total	534	100,0	

Νιώθετε ασφάλεια όταν κάνετε αγορές online;

534 απαντήσεις



**Figure 18: Perceived safety of mobile devices for shopping by the sample.**

Next came another question that surely challenged consumers during their online shopping experiences. Do they feel safe when shopping online? 453 (84,8%) people said yes, which is definitely a good sign and means the online safety measures placed are usually effective, while 71 (13,3%) people don't feel completely secure yet during their online transactions. Lastly, 10 (1,9%) out of the 534 people didn't shop online at all.

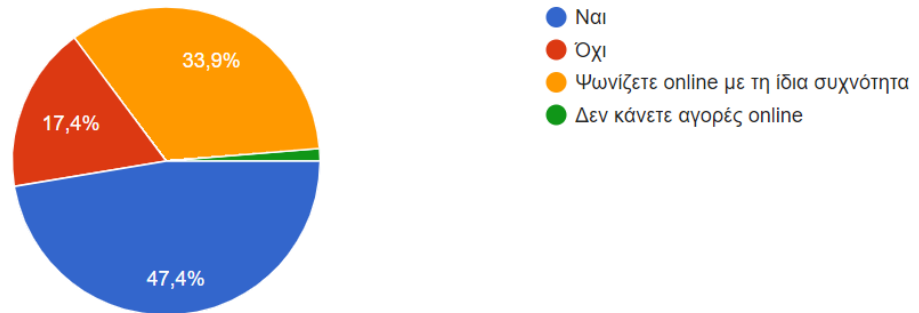
**Table 19: Changed frequency of online shopping by the sample since COVID-19.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Changed frequency of online shopping by the sample since COVID-19	Yes	253	47,4	47,4
	No	93	17,4	64,8
	Same shopping frequency	181	33,9	98,7
	Sample does not do online shopping	7	1,3	100,0
	Total	534	100,0	



Από την εμφάνιση του COVID-19 και μετά, ψωνίζετε online συχνότερα από πριν;

534 απαντήσεις



**Figure 19: Changed frequency of online shopping by the sample since COVID-19.**

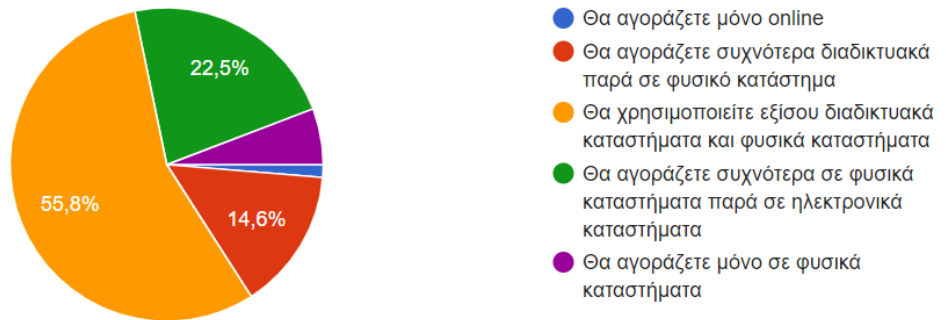
A crucial part of this research was the measurement of the change in frequency of online shopping habits between the pre-COVID and the COVID era. 253 (47,4%) people said they are shopping more frequently online than they did before the pandemic, 93 (17,4%) don't shop more often online than before the lockdown restrictions, 181 (33,9%) shop online with the same frequency and lastly, 7 (1,3%) people did not do online shopping at all. Predictably, almost half of the sample admitted to having changed their online shopping behavior since the start of the pandemic as the restrictive measure forced them to adapt to a new lifestyle.

**Table 20: Shopping channels that will be used by the sample once restrictions are lifted.**

Variable	Subgroup	Frequency	Percentage	Cumulative percentage
Shopping channels that will be used by the sample once restrictions are lifted	Sample will only buy online	7	1,3	1,3
	Sample will buy online more often than in a physical store	78	14,6	15,9
	Sample will use both online and physical stores	298	55,8	71,7
	Sample will buy more often in physical stores than in online stores	120	22,5	94,2
	Sample will only buy in physical stores	31	5,8	100,0
	Total	534	100,0	

Ποιο κανάλι αγορών πιστεύετε ότι θα προτιμήσετε μόλις γίνει άρση όλων των μέτρων κατά της πανδημίας COVID-19;

534 απαντήσεις



**Figure 20: Shopping channels that will be used by the sample once restrictions are lifted.**

The last question was targeted on the shopping channels that will be used by the sample after the lockdown periods. 7 (1,3%) people will be doing all of their shopping online, 48 (14,6%) will shop online more than in physical stores, 298 (55,8%) will shop equally from online and physical stores, 120 (22,5%) will shop in physical stores more than online and 31 (5,8%) will only shop at physical stores. This resulted in more than half of the sample saying they will prefer both online and physical store purchases, which probably wouldn't have happened if the pandemic hadn't led e-commerce to advance so much in such a short period of time.

## **5 Epilogue**

### **5.1 Results and conclusions**

The COVID-19 pandemic has negatively impacted the social, political, and economic states of countries all over the world. From its impact on consumer health to the growing economic concerns, studies have attempted to assess how global economies can address the shortcomings of the pandemic through the use of various strategic interventions geared towards boosting sectoral performance. Similarly, online shopping has suffered major consequences arising from the prevalence of COVID-19, which have been widely researched and demonstrated through various statistical and empirical analyses. During the first lockdown periods that had to be enforced in numerous countries, the market's attention shifted from one day to the next from offline to online. With the closure of brick-and-mortar stores (excluding stores selling daily consumer products and medicines), both providers and consumers of goods and services were forced to significantly modify their usual patterns of behavior. This dissertation has presented a systematic analysis of the pandemic through a specific focus on its impact on consumer behavior and the attendant implications that have been witnessed in the mobile shopping subsector. Particularly, this study has alluded to the growing concerns of the pandemic on electronic commerce through its perceived implications on consumer choice and preference, delays in supply chain activities, challenges in online payments, and other supply and demand impacts. Customers and businesses have been particularly affected by the pandemic containment measures such as restrictions on the movement of people and goods from one place to another and across borders. Strategies such as skills development within the online shopping sector, public-private partnerships, policy and regulatory interventions, and financial subsidies to assist in economic recovery have been proposed and employed by online enterprises globally to ensure sustainable business continuity and growth. Still, many companies continue to face challenges of financial illiquidity, human capital limitations, managerial implications, and threats on consumer safety and protection have been shown to produce paralyzing effects on mobile shopping.

The pandemic's uncertainty indicates no conclusive evidence on when the pandemic will end or when normal business operations will be obtained. As a result, its impact will still be felt if no appropriate measures address its shortcomings on online businesses. While

operations keep transitioning towards the new normal gradually, and as pandemic restrictions continue to be lifted across countries, there is still a growing danger in assuming the influence of the pandemic on online shopping. There is a need to address the various business aspects through rigorous research and market studies aimed at developing good strategies to address the impact of the pandemic on individual factors. Addressing these issues will go a long way in future sustainability and mobile enterprise performance.

The results of the survey on Greek consumers highlighted several findings, some of which are as follows: many Greek consumers spend more than five hours online every day, smartphones and mobile internet are widely used, shopping during the lockdown periods was primarily done online because physical stores were closed, the main product categories that were purchased were clothes, shoes, accessories, cosmetics and beauty products, the shopping frequency was mostly once or twice a month and it seems like people will shop equally in online and physical stores in the near future. What's more, the online questionnaire revealed that 94% of the sample find online purchases easy to make and almost a 85% is feeling safe during the transaction process.

As part of the continuous research, we want to focus on monitoring trends during the second wave of COVID-19, as well as analysing data in the coming period of economic recovery after the pandemic. Only then will it be possible to evaluate the research in terms of quantitative data, and thus formulate relevant findings for science and practice.

## **5.2 Limitations of the research**

The results of this study should be interpreted in light of several limitations. Firstly, because of the coronavirus pandemic, the available data collection methods were limited. Online methods were specifically promoted to avoid unnecessary interaction with possible respondents, in order to avoid additional risk of spreading the illness. Due to this, an online questionnaire was chosen to still be able to reach a large audience. Nevertheless, this meant that the chosen sampling method inevitably had to be what is called a convenience sampling method, which brings us to the next limitation. Convenience sampling is a form of non-probability sampling, which means not all individuals of the population are given an equal chance of being selected for, in this case,

the online questionnaire. Thus, the researcher had little to no control over the representativeness of the sample in comparison to the population. Specifically in this research, it is clear that the general population is not reflected by the sample, since the respondents were mainly women, much less men and only very few non-binary. Additionally, the questionnaire was shared on social media such as Facebook and Instagram and because of the researcher's connections, the main audience that was reached was between 26 - 35 years of age, were (finished) bachelor students and generally had a monthly income of lower than 900 euros. Because the sample is therefore not representative of the population as a whole, the results of this research cannot be generalized. For future research, a probability sampling method with a wider variety of demographical cohorts is recommended to ensure that the outcome of the research can be generalized towards the population. Secondly, given research theory is supported by primary data as well as existing literature, but the validity and reliability of the theory is not tested, which invites future researchers to test it using multiple data collection methods and statistical techniques. Furthermore, the online survey was available only for a few weeks, so the extracted data reflect only the short-term impact of the restrictive measures on consumers. Lastly, the questionnaire relied explicitly on Greek consumers and therefore, whether the results of this study are applicable to other countries remains uncertain.

### **5.3 Future research implications**

As the lockdown and social distancing disrupted the whole range of consumer behavior, it has generated several new research opportunities anchored to the real world. The pandemic's online business shifts and challenges have illustrated significant gaps in research and studies about mobile shopping and the implications of various factors to its success. Particularly, studies on the true impact of the pandemic on mobile shopping in different economies are scarce, and the research scope and conclusions are limited to specific parts. As a result, there is a need for additional research on the true impact of the pandemic on individual compositions of sales, the impact of employing new and advanced technologies on business success, and the future sustainability of online shopping after the pandemic. While much research exists on the trends and profitability of online shopping, further studies should be conducted to assess the real socio-economic impact of pandemic factors such as logistical delays, financial and financing difficulties,

health threats, and payment difficulties on online shopping. Furthermore, additional research should be conducted to conclude the most effective mitigation and control measures for the negative consequences of the pandemic, but also how mobile businesses can benefit from the opportunities presented by the situation. In the near future, hopefully, the COVID-19 outbreak will be controlled, so future research work should both include longitudinal study to track the evolutionary adoption of e-commerce and seek to update the model to future circumstances. Additionally, there was an evident lack regarding articles solely focusing on online mobile shopping, so further research on this subcategory of online shopping is highly encouraged. Last but not least, future researches could elaborate what changed in Greece from the moment the lockdown measures started to slack and maybe answer the question of whether the consumers will go back to their old shopping habits or they will remain changed long-term.

## References

- Aji, H.M., Berakon, I., & Husin, M.D. (2020). COVID-19 and e-wallet usage intention: A multigroup analysis between Indonesia and Malaysia. *Cogent Business & Management*, 7:1, 1804181
- Ajzen, I. and Fishbein, M. (1980). Understanding Attitudes and Predicting Social Behavior. *Prentice-Hall, New Jersey, NJ*.
- Alam, J. (2020). Buying Behavior Under Coronavirus Disease (COVID-19) Pandemic Situation: An Online Perspective Case in Bangladeshi Shoppers. *Chinese Business Review*. 19. 10.17265/1537-1506/2020.03.002.
- Ali Taha, V., Pencarelli, T., Škerháková, V., Fedorko, R. & Košíková, M. (2021). The Use of Social Media and Its Impact on Shopping Behavior of Slovak and Italian Consumers during COVID-19 Pandemic. *Sustainability*, 13, 1710. <https://doi.org/10.3390/su13041710>
- Baudrillard, J. (1998). The Consumer Society: Myths & Structures. *Sage Publications*.
- Besis, I., & Pepelasis, I.S. (2020). Incubated early stage startappers and their initiatives in Athens during the Crisis (2010-2016). Working Paper Series, 2 Athens University of Economics and Business, Greece.
- Bhatti, A., Akram, H., Basit, H., Khan, A., Mahwish, S., Naqvi, R., & Bilal, M. (2020). E-commerce trends during COVID-19 Pandemic. *International*



*Journal of Future Generation Communication and Networking*, Vol. 13,  
No. 2, pp.1449-1452

Bhatti, A., Akram, H., Khan, A., & Basit, H. (2020). The Customer Satisfaction Influenced by Web Design and ICT Mediator. *Journal of Advanced Research in Dynamical and Control Systems*, 12. 2020.

Bhatti, A., Akram, H., Khan, A., Basit, H., Jahangir, M. & Karachi, P. (2020). Effect of Financial Risk, Privacy Risk and Product Risk on Online Shopping Behavior. *Xi'an Dianzi Keji Daxue Xuebao/Journal of Xidian University*,14. 2020. 10.37896/jxu14.5/326

Bhatti, A., Gull, H., Akram, H., Khan, A., & Khan, A. (2020). The Novel Coronavirus (COVID-19) Outbreak and Social Media. *Journal of Critical Reviews*, 7. 2020. 10.31838/jcr.07.06.240

Biskanaki, F., Rallis, E., Andreou, E., Sfyri, E., Tertipi, N., & Kefala, V. (2020). Social-economic impact of Covid-19 pandemic on Aesthetic Centers in Greece. *Journal of Cosmetic Dermatology*, 19(9), 2165–2168.  
<https://doi.org/10.1111/jocd.13517>

Central Intelligence Agency. (2021). Europe: Greece. The World Factbook.  
Available at: <https://www.cia.gov/the-world-factbook/countries/greece/>

Chayomchai, A., Phonsiri, W., Junjit, A., Boongapim, R., & Suwannaputit, U. (2020). Factors affecting acceptance and use of online technology in Thai people during COVID-19 quarantine time. *Management Science Letters*, 3009–3016. <https://doi.org/10.5267/j.msl.2020.5.024>

- Cox, D.F. (1967) Risk Handling in Consumer Behavior: an intensive study of two cases. *Graduate School of Business, Harvard University: Boston, MA.*
- Dakduk, S., ter Horst, E., Santalla, Z., Molina, G., & Malavé, J. (2017). Customer behavior in electronic commerce: A Bayesian approach. *Journal of Theoretical and Applied Electronic Commerce Research*, 12(2), 1–20.  
<https://doi.org/10.4067/s0718-18762017000200002>
- Dinesh, T. (2020). Intention To Adopt Mobile Commerce – A Literature Review. *Business Transformation: Current Practice And Future Potential (Indo – Sri Lankan Perspective)*, ISBN:978-81-952196-6-7
- Dionysiou, G., Fouskas, K. & Karamitros, D. (2021). The impact of covid-19 in e-commerce: Effects on consumer purchase behavior. *Strategic Innovative Marketing and Tourism in the COVID-19 Era*, pp.199–210.
- Elrhim, M. A., Elsayed, A. (2020). The Effect of COVID-19 Spread on the e-commerce market: The case of the 5 largest e-commerce companies in the world.
- eMarketer, Inc. *Future of Retail 2021 10 Trends that Will Shape the Year Ahead.*  
<http://www.emarketer.com/>
- European Commission. (2018). Digital Economy and Society Index (DESI) 2018, *Brussels.*
- Export.gov. (2019). Greece - eCommerce overview. Available at:  
<https://www.export.gov/apex/article2?id=Greece-eCommerce-Overview>

Fragouli, A. (2021). 1 στους 2 χρήστες του Διαδικτύου κάνει πλέον online αγορές. ΣΕΠΕ, 10 Σεπτεμβρίου 2010. Available at: [http://www.sepe.gr/gr/research-studies/article/16567141/1-stous-2-hristes-tou-diadiktuou-kanei-pleon-online-agores/.%20\(in%20Greek\)/](http://www.sepe.gr/gr/research-studies/article/16567141/1-stous-2-hristes-tou-diadiktuou-kanei-pleon-online-agores/.%20(in%20Greek)/)

Galhotra, B. & Dewan, A. (2020). Impact of COVID-19 on digital platforms and change in E-commerce shopping trends. Proceedings of the Fourth International Conference on I-SMAC (IoT in Social, Mobile, Analytics and Cloud) (I-SMAC) IEEE Xplore Part Number:CFP20OSV-ART; ISBN: 978-1-7281-5464-0

Gao, X., Shi, X., Guo, H. & Liu, Y. (2020). To buy or not buy food online: The impact of the COVID-19 epidemic on the adoption of e-commerce in China. *PLoS ONE*, 15(8): e0237900. <https://doi.org/10.1371/journal.pone.0237900>

Groß, M. (2015). Mobile shopping: A classification framework and literature review. *International Journal of Retail & Distribution Management*. 43. 221-241. 10.1108/IJRDM-06-2013-0119.

Guthrie, C., Fosso-Wamba, S., & Arnaud, J. (2021). Online consumer resilience during a pandemic: An exploratory study of e-commerce behavior before, during and after a COVID-19 lockdown. *Journal Of Retailing And Consumer Services*, 61, 102570. doi: 10.1016/j.jretconser.2021.102570

Hao, N., Wang, H., & Zhou, Q. (2020). The impact of online grocery shopping on stockpile behavior in Covid-19. *China Agricultural Economic Review*, 12(3), 459-470. <https://doi.org/10.1108/caer-04-2020-0064>

Hasanat, M., Hoque, A., Shikha, F., Anwar, M., Abdul, H., Abu B., & Huam, T. (2020). The Impact of Coronavirus (Covid-19) on E-Business in Malaysia.

Hashem, T. N. (2020). Examining the influence of COVID 19 pandemic in changing customers' orientation towards e-shopping. *Modern Applied Science*, 14(8), 59. <https://doi.org/10.5539/mas.v14n8p59>

Herceg, K.T. (2021). Impact Of Covid-19 Pandemic On Online Consumer Behavior In Croatia. *CroDiM*, Vol. 4, No. 1, 2021.

Hew, J.-J. (2017). Hall of Fame for mobile commerce and its applications: A bibliometric evaluation of a decade and a half (2000–2015). *Telematics and Informatics*, 34(1), 43–66. <https://doi.org/10.1016/j.tele.2016.04.003>

Hossain, S. (2019). Social Networking and Its Role in Media Entrepreneurship. *Journal Of Media Management And Entrepreneurship*, 1(1), 73-86. <https://doi.org/10.4018/jmme.2019010105>

<http://www.cepal.org/en/publications>. Post Pandemic Covid-19 Economy Recovery: Enabling Latin America and the Caribbean to better harness e-commerce and digital trade

<https://www.accenture.com/tr-en/insights/retail/coronavirus-consumer-behavior-research>. COVID-19: Consumers change how they shop, work and live, May 28, 2020

Iriani, S. & Andjarwati, A.L. (2020). Analysis Of Perceived Usefulness, Perceived Ease Of Use, And Perceived Risk Toward Online Shopping In

The Era Of Covid-19 Pandemic. *Systematic Review of Pharmacy*, 11(12):313-320

Kim, R. (2020). The Impact of COVID-19 on Consumers: Preparing for Digital Sales. *IEEE Engineering Management Review*, 48(3), 212-218. <https://doi.org/10.1109/emr.2020.2990115>

Laato, S., Islam, A., Farooq, A., & Dhir, A. (2020). Unusual purchasing behavior during the early stages of the COVID-19 pandemic: The stimulus-organism-response approach. *Journal Of Retailing And Consumer Services*, 57, 102224. <https://doi.org/10.1016/j.jretconser.2020.102224>

Li, J., Hallsworth, A.G., & Coca-Stefaniak, J.A. (2020). Changing Grocery Shopping Behaviors Among Chinese Consumers At The Outset Of The COVID-19 Outbreak. *Tijdschr Economic & Social Geography*, 12:10.1111/tesg.12420. doi: 10.1111/tesg.12420.

Lins, S., & Aquino, S. (2020). Development and initial psychometric properties of a panic buying scale during COVID-19 pandemic. *Heliyon*, 6(9). <https://doi.org/10.1016/j.heliyon.2020.e04746>

Mansour, A., & Elsayed, A. (2020). The Effect of COVID-19 Spread on the E-Commerce Market: The Case of the 5 Largest E-Commerce Companies in the World. Available at SSRN: <https://ssrn.com/abstract=3621166> or <http://dx.doi.org/10.2139/ssrn.3621166>

McKinsey & Company. *How COVID-19 is changing consumer behavior –now and forever.*

- Naeem, M. (2021). Do social media platforms develop consumer panic buying during the fear of covid-19 pandemic. *Journal of Retailing and Consumer Services*, 58, 102226. <https://doi.org/10.1016/j.jretconser.2020.102226>
- Naftemporiki. (2020). Έρευνα των Cosmote και ELTRUN για τη μικρομεσαία επιχειρηματικότητα. Naftemporiki, 22 Σεπτεμβρίου 2020. Available at: <https://www.naftemporiki.gr/story/1638861/ereuna-ton-cosmote-kai-eltrun-gia-ti-mikromesaia-epixeirimatikotita>
- Ngai, E.W.T. & Gunasekaran, A. (2007). A review for Mobile Commerce Research and Applications. *Decision Support Systems*, 43(1), pp.3–15.
- Nguyen, H. V., Tran, H. X., Van Huy, L., Nguyen, X. N., Do, M. T., & Nguyen, N. (2020). Online book shopping in Vietnam: The impact of the COVID-19 pandemic situation. *Publishing Research Quarterly*, 36(3), 437–445. <https://doi.org/10.1007/s12109-020-09732-2>
- Ožanić, M.S. & Frančić, I.S. (2020). Influence Of Covid-19 On Online Purchase Habits In Croatia.
- Pantelimon, F.V., Georgescu, T., & Posedaru, B. (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*, vol. 24, no. 2.
- Pollak, F. & Konecny, M. (2021). Analysis of E-consumer behavior – selected findings from an analysis of Czech e-shops and their customers during the global pandemic. *SHS Web of Conferences*, 90, p.01015.

- Pousttchi, K., Lyytinen, K., Tilson, D. & Hufenbach, Y. Introduction to the Special Issue: Mobile Commerce Research yesterday, today, tomorrow – what remains to be done?
- Rahi, S. & Ishtiaq, M. (2021). Factor Influencing Consumer Intention To Continue Use Of Mobile Shopping Apps During Covid-19 Pandemic. *71st International Scientific Conference on Economic and Social Development – Online Conference*, 06 August, 2021
- Raja, M.A., & Kannappan, S. (2020). Marketing agility and E-Commerce agility in the light of COVID-19 pandemic: A study with reference to fast fashion brands. *Asian Journal of Interdisciplinary Research*. 03. 1-13. 10.34256/ajir2041.
- Salem, M. & Nor, K. (2020). The Effect Of COVID-19 On Consumer Behavior In Saudi Arabia: Switching From Brick And Mortar Stores To E-Commerce. *International Journal of Scientific & Technology Research*, 9. 14.
- Saprikis, V., Markos, A., Zampou, T., & Vlachopoulou, M. (2018). Mobile Shopping Consumers' Behavior: An Exploratory Study and Review. *Journal Of Theoretical And Applied Electronic Commerce Research*, 13(1), 71-90. <https://doi.org/10.4067/s0718-18762018000100105>
- Sardjono, W., Selviyanti, E., Mukhlis, M., & Tohir, M. (2021). Global issues: Utilization of e-commerce and increased use of mobile commerce application as a result of the COVID-19 pandemic. *Journal of Physics:*

*Conference Series*, 1832(1), 012024. <https://doi.org/10.1088/1742-6596/1832/1/012024>

Saritas, O., Bakhtin, P., Kuzminov, I. et al. (2021). Big data augmented business trend identification: the case of mobile commerce. *Scientometrics* **126**, 1553–1579 (2021). <https://doi.org/10.1007/s11192-020-03807-9>

Sharma, K. (2020). A Surge In E-Commerce Market In India After Covid-19 Pandemic. GAP GYAN. *A Global Journal Of Social Sciences* (ISSN – 2581-5830)

Sheth, J. (2020). Impact of covid-19 on consumer behavior: Will the old habits return or die? *Journal of Business Research*, *117*, 280–283. <https://doi.org/10.1016/j.jbusres.2020.05.059>

Showray, D.G.Y., Hassan, A., & Chakrabarty, A.K. (2021). Factors Influencing The Rapid Growth Of Online Shopping During Covid-19 Pandemic Time In Dhaka City, Bangladesh. *Academy of Strategic and Management Journal*, Volume 20, Special Issue 2.

Srivastava, K. (2020). An Empirical Study on the Online Shopping Acceptance: Pre and Post COVID-19 Outbreak. *In Perspectives on Business Management & Economics* (Vol. III, pp. 25-30). Retrieved from <http://www.pbme.in/papers/72.pdf>



Tang, A.K.Y., (2019). A systematic literature review and analysis on mobile apps in M-Commerce: Implications for Future Research. *Electronic Commerce Research and Applications*, 37, p.100885.

Troise, C., O'Driscoll, A., Tani, M., & Prisco, A. (2020). Online food delivery services and behavioral intention – a test of an integrated TAM and TPB framework. *British Food Journal*, 123(2), 664-683. doi: 10.1108/bfj-05-2020-0418

United Nations Conference on Trade and Development (UNCTAD): Programme on E-commerce and the Digital Economy (ECDE). (2020). COVID-19 and E-Commerce: Findings from a Survey of Online Consumers in 9 Countries.

Ur-Rehman, A., Kashif, M., & Javed, M. K. (2020). COVID-19 Impact on Online Shopping. *International Journal of Medical Science in Clinical Research and Review*, Volume 03, Issue 04: 2581-8945. Available Online at <http://www.ijmscrr.in>

Verweijmeren, R. (2020). The effect of COVID-19 on consumer adoption of the online purchase channel for grocery shopping. University of Twente.

WebNewsTeam. (2021). ΕΛΣΤΑΤ: 6 στους 10 Έλληνες έκαναν online αγορές το Α' τρίμηνο του 2021. Available at: [https://www.webworldnews.gr/e-commerce/item/2300-elstat-6-stous-10-ellines-ekanan-online-agores-to-a-trimino-tou-2021.html?utm\\_source=newsletter\\_5&utm\\_medium=email&utm\\_campaign=6-10-online-2021-15-12-2021](https://www.webworldnews.gr/e-commerce/item/2300-elstat-6-stous-10-ellines-ekanan-online-agores-to-a-trimino-tou-2021.html?utm_source=newsletter_5&utm_medium=email&utm_campaign=6-10-online-2021-15-12-2021)

Yadav, M., Goel, M., & Sharma, B. (2020). Consumer Perception Towards Online Shopping During Lockdown. *International Journal of Management*, 11 (7), pp. 1578-1584

Zhang, W., Leng, X., & Liu, S. (2020). Research on mobile impulse purchase intention in the perspective of system users during COVID-19. *Personal And Ubiquitous Computing*. doi: 10.1007/s00779-020-01460-w

## Appendix - Questionnaire

For this research, smartphones and tablets were both considered as mobile devices.

Questions marked with an asterisk were compulsory.

### A) Demographic characteristics - Respondent profile:

Gender: \*

- Male
- Female
- Other identification

Age: \*

- 18 – 25
- 26 – 35
- 36 – 45
- 46 – 55
- 56+

Level of education: \*

- Primary (elementary school graduate)
- Secondary (Lyceum graduate)
- Bachelor's degree
- Master and / or PhD degree

Monthly income: \*

- < 600 euros
- 600 – 900 euros
- 901 – 1200 euros
- 1201 – 1500 euros
- 1501 – 2000 euros
- > 2000 euros

B) Introductory questions:

How many hours a day are you online?\*

- < 1 hour
- 1 – 3 hours
- 3,5 – 5 hours
- > 5 hours

To what extent do you use the smartphone?\*

- Not at all
- A little bit
- Enough
- A lot
- Very much

To what extent do you use the tablet?\*

- Not at all
- A little bit
- Enough
- A lot
- Very much

To what extent do you use mobile internet (i.e. internet use via mobile devices)?\*

- Not at all
- A little bit
- Enough
- A lot
- Very much

C) Specific questions concerning the intention of purchasing products / services during lockdown due to COVID-19:

During the lockdown periods, did you shop more in physical stores or online?\*

- Physical stores
- Online

What is the most important feature of a product for you, in order to buy it online?

- The shipping time of the product
- The quality of the product
- The price of the product

If you did online shopping during the lockdown periods, which electronic device did you mostly use, in order to buy things?

- The smart mobile phone (smartphone)
- The tablet
- The desktop computer

If you did online shopping during the lockdown periods, what were the main reasons you were shopping? You can choose multiple answers.

- Offers
- Need for new products
- Insufficient stocks of products in physical stores
- Closed physical stores
- New product ads
- Other: \_\_\_\_\_

If you did online shopping during the lockdown periods, what kind of products did you buy? You can choose multiple answers.

- Sports products
- Children's products
- Parapharmaceutical products
- Cosmetics and beauty products
- Furniture and home accessories
- Electronics
- Online education
- Books, movies and music
- Clothes, shoes and accessories
- Food and drinks
- Other: \_\_\_\_\_

If you did online shopping during the lockdown periods, did you choose domestic stores and / or stores from abroad?

- Domestic stores
- Stores from abroad
- Both

If you did online shopping during the lockdown periods, how often did you make your purchases?

- <1 time / month
- 1-2 times / month
- >2 times / month

If you did online shopping during the lockdown periods, what payment methods did you use? You can choose multiple answers.

- Cash (cash on delivery)
- Credit card
- PayPal
- Bank deposit

Do you find it easy to use mobile devices to purchase products / services: \*

- Yes
- No

Do you feel safe when shopping online? \*

- Yes
- No
- You do not shop online

Since the advent of COVID-19, have you been shopping online more often than before?\*

- Yes
- No
- You shop online with the same frequency
- You do not shop online

Which shopping channel do you think you will prefer once all measures against the COVID-19 pandemic have been lifted? \*

- You will only buy online
- You will buy online more often than in a physical store
- You will use both online and physical stores
- You will buy more often in physical stores than in online stores
- You will only buy in physical stores

Thank you very much for your time!