

Research Article

Exploring How the Covid-19 Pandemic has Changed Greek Consumers' Habits

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Abstract.

The recent COVID-19 pandemic has impacted various aspects of consumer behavior and affected spending levels. In addition, businesses have had to adapt to ever-changing environmental conditions to survive this global health, economic, and social crisis. The online market has taken an important place in people's daily lives, while e-commerce sales and social media usage increased during this period. The main objective of this article was to examine how the COVID-19 pandemic affected and changed consumer behavior. Using a web survey of 117 consumers in Greece, this study sheds light on the seminal topic of changes in purchasing behavior during the COVID -19 pandemic, while the research findings may contribute to the development of more appropriate marketing strategies.

Keywords: Covid-19 pandemic, consumer behavior, online shopping

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Published: 1 February 2023

Publishing services provided by Knowledge E

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Selection and Peer-review under the responsibility of the EBEEC Conference Committee.

JEL CLASSIFICATION codes

M15, M31

1. INTRODUCTION

The Covid 19 pandemic has profound implications for business operations and consumer behavior. In the Covid-19 pandemic era, virtual environments have taken the place of everyday communication, education, and other activities such as online shopping, resulting in major changes in consumer behavior, thinking, and buying [13]. New trends in consumer behavior have emerged, and the most important factors influencing their actions are attitude and risk perception [20]. Charm [7] summarized the findings of a comprehensive McKinsey study of consumers in the U.S. and concluded that the pandemic has shifted consumers' needs to digital shopping and hygiene concerns have become a critical factor in the decision-making process [7].

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According to the study by Hesham [12], consumers purchase more healthy foods than other goods during the pandemic, with women and the elderly being more concerned about Covid-19 and taking more precautions, while physical visits to stores, restaurants, and markets decrease. The satisfaction that comes from online shopping, along with the new culture of working from home, may lead to growth in future demand, while businesses will need to find new strategies to attract and engage customers from home [19]. This huge impact of Covid-19 on consumers has received relatively little scholarly attention [4]. Research surveys and various reports depict that the pandemic has created a huge tendency towards e-commerce that had never been found before this unprecedented crisis. Despite a global increase in online purchases since the start of the pandemic, uncertainty around the drivers of online purchasing behavior. So far, there is limited understanding of how and why individuals engage in impulse buying during the COVID-19 [21].

The purpose of this study is to examine the changes in consumer behavior during the Covid-19 pandemic. More specifically, the study examines how people shopped during this health crisis, the quantity and product categories they prioritized, their concerns about product attributes such as prices, offerings, quality, and safety, how much they spent, what changed about online shopping and whether they will continue to shop online post-pandemic.

2. LITERATURE REVIEW

The impact of the Covid 19 pandemic has been far more catastrophic than expected, not only in medical care, which has so far claimed the lives of more than 4.55 million people around the world, but also on socioeconomic and cultural fronts and in our daily lives [13]. This global health crisis has forced people to establish new ways of living, thinking, and behaving, to adopt new healthier habits, and to develop alienated forms of communication that exhibit a variety of unusual behaviors [15]. All these changes require companies to adapt their strategy to these new conditions, while the uncertainty and persistent threat in the near future require a new long-term approach. Previous consumer habits have changed, and businesses have had to adapt to the new conditions, reevaluate their strategies and infrastructures, implement improved systems and security standards, and remain up-to-date, flexible, and progressive [19]. The online market gained a significant portion of the market share as most businesses, to adapt to the successive quarantine conditions, went online and customers were required to follow the new rules of online shopping or other forms of shopping such as click-in-shop

or click-away [3]. E-commerce sales increased as consumers avoided going to physical stores for fear of contracting Covid- 19 or because they were in quarantine or working from home, while media use also increased during this time [1].

Household consumption has also remained the same during the pandemic, but consumers' priorities and preferences for the products they buy have changed [19]. Retailers and brands face many near-term challenges, such as health and safety, supply chain, workforce, cash flow, consumer demand, sales, and marketing [10]. Nevertheless, successfully overcoming these challenges does not guarantee a promising future, or any future at all, since a different world will emerge after the pandemic. In the meantime, online communication, online entertainment, and online shopping are experiencing unprecedented growth. During this time, social distancing and isolation have increased feelings of loneliness, which are often associated with depression, poorer cognitive skills, and performance, negative or even aggressive mood, and behaviors such as increased domestic violence, firearm sales, and crime [5]. On the other hand, there is the other side of social distancing that has produced more positive behaviors, such as developing new skills, improving lifestyles by acquiring healthier habits, and caring for ourselves and our loved ones. All of these emotional changes and the disruption of people's daily habits have significantly altered consumer behavior and made companies rethink their business strategies.

Emergency and crisis situations such as the Covid 19 pandemic led to sudden scarcity effects, disruptions in demand and consumer behavior such as panic buying and stockpiling of emergency products such as toilet paper, detergents, hand sanitizers, masks, pasta, and canned goods, which in turn leads to negative supply trends [14]. All these containment and self-protection measures that governments around the world had to impose on their citizens affected the way consumers store, product prices, the type and quantity of products they buy, their habits and behavior [23]. Shortages of products can potentially lead to an increase in their perceived value and price or a decrease in the relevance of the context of purchase [25]. Moreover, consumers usually cope with one-time shortages by switching brands or stores. However, repeated shortages can lead to profound changes in consumer preferences, even after a return to normalcy. In addition, government regulations limiting crowding have led to long lines outside stores, hour-long waits for phone orders, delayed receipt of products from online shopping, or unavailable appointments for services such as haircuts [23]. To address these challenges, retailers have taken measures such as limiting the number of items to be purchased per customer, informing customers of product availability, introducing

new types of online shopping, home delivery, and other online services such as virtual queuing to process orders and customer satisfaction more efficiently [9p4, 12, 26].

Consumer purchasing behavior, especially during the first peak of contagion, shifted to necessities and was guided by anxiety and COVID -related fear, while consumer behavior related to non-necessities was driven by depression [9]. Sales of daily necessities have increased significantly, and consumer priorities have become more focused on satisfying basic needs such as food, hygiene, and cleaning products. In addition, people's motives are based on their biological survival instincts. Facing the threat of death from an epidemic, human life is the most important thing and providing all the necessary things is a crucial factor [12].

In addition, in the study by Di Crosta [9], in which participants were asked to compare their current and pro-covid consumption behaviors, their shifts toward necessities and non-necessities were influenced by personality traits, perceived economic stability, and self-justifications for purchasing. In addition, shopping priorities have become more focused on necessities, but an increase in spending on non-necessities has also been reported [9, 26]. Many consumers were misled by their social groups and hoarded non-necessities that had nothing to do with pandemic prevention [26]. As a result, people were misled about pandemic prevention and did not think rationally before purchasing, leading to resource wastage, product shortages, and distribution problems. Also, the study by Di Crosta [9] indicated differentiation of demographic and psychological factors between necessities and non-necessities, as men, higher educated, and younger people reported a higher tendency to impulsively purchase non-necessities, income positively affected necessities, and emotions and personality traits played a significant role in predicting changes in consumer behavior.

In terms of the products purchased, cleaning products and junk food saw a huge increase in sales, while consumers showed greater sensitivity and concern about recycling [10]. Moreover, as expected, there was an unconscious and compulsive tendency to consume products related to the prevention of the virus, such as protective clothing, disinfectant gels and wipes, while, on the contrary, the sales of certain product categories decreased, such as clothing, shoes and makeup, while others such as entertainment products and household goods increased [8]. Thus, Covid-19 has changed consumption patterns. Evidence shows that situations that threaten personal health and can disrupt social life, such as a pandemic, lead to major changes in consumer behavior. Such examples include the global trends of stockpiling, panic buying, heavy use of the Internet and social media, and fleeing to rural areas, which seem to be prevalent at this time, driven by feelings of fear, anxiety, and loneliness [17]. Thus, these primitive

behaviors interfere with consumers' rational decision making and have an immense impact on their usual behavior.

According to Maheswaran [18], the main motive of consumers during times when their safety is at risk is to relieve the negative emotions of anxiety and fear and to gain more security and comfort, as well as to escape for a short time. Another study has shown that consumers can become more passive in response to extreme stressful situations, which can lead to a decrease in purchases [16]. Other consumer behavioral changes may include sudden impulsive or compulsive buying or overbuying, which may be triggered by depressed mood, which has been shown to be a possible consequence of high stress. Nevertheless, there seems to be a distinction between necessary and non-necessary products in response to stressful events, as consumers may be more willing to spend money on necessities, while on the other hand, they may increase impulsive purchases of non-necessities as an emotional strategy to alleviate the difficult situation, cope with stress and other negative feelings, and regain control over their lives [11].

The new habits acquired by consumers during this period of emergency, such as panic buying and stockpiling, have affected their price sensitivity, as they are willing to pay for products whose price has increased significantly [23]. According to previous literature, there is a negative relationship between customer satisfaction and waiting time [2]. However, during the pandemic, when consumers patiently faced long lines and long waiting times to place their orders, their satisfaction is not expected to be negatively affected, at least not in the short term [23]. Another result of poorer accessibility to store locations combined with consumers' greater health concerns has led consumers, even the older and less digitally savvy, to seek alternative distribution channels such as online shopping and home delivery. For example, online grocery shopping increased so much during the COVID -19 emergency that many stores even had to create online queues or shut down their online websites to handle the excessive demand [6].

The literature review revealed that the period of contagion and self-isolation changed consumer behavior. Fear could be one of the reasons for this change, but there has been no research on how this feeling can influence consumer behavior. This paper aims to answer the following research question:

“Is there a relationship between fear towards the covid -19 pandemic and change in consumer behavior?”

3. METHODOLOGY

Data for this study were collected using an online survey. The questionnaire was developed using Google Forms and distributed online through social media. Inclusion criteria for participation in the survey were being over 18 years old, living in Greece, and having made online purchases during the Covid 19 pandemic. The questionnaire was available from October 16, 2021, to October 24, 2021, a period when the pandemic vaccination program was well underway and approximately 6,200,000 Greek citizens had completed their vaccination, but with no apparent end to the pandemic. Greece faced the 4th pandemic wave of Covid-19 during this period, as did most European countries, which means that consumers had great experience with the consequences of this health crisis. Demographic data were collected at the beginning of the questionnaire, including age, gender, education, annual income, and marital status. Then, questions were asked about spending levels and consumer behavior during the Covid 19 pandemic compared with the period before, distinguishing between necessities and non-necessities. Finally, a series of more specific questions about fear, exposure, risk perception, and prophylactic behaviors were asked to capture the impact of the Covid 19 pandemic. All questions were scored on a five-point Likert scale, with 1 indicating complete disagreement and 5 indicating complete agreement.

The research was based on the ethical guidelines of respecting the anonymity and confidentiality of participants, using acceptable research procedures and methods, and ensuring that participants were not exposed to risk. The ethical guideline applied consisted of five basic principles: first, free and informed consent; second, the principle of non-deception of participants; third, the principle of confidentiality and protection of personal data; fourth, the principle of protection from potential harm; and fourth, the principle of avoiding potential conflicts of interest [24]. In the present work, all these five principles were strictly followed during data collection and analysis. A total of 120 participants were initially recruited. All participants were informed of the inclusion criteria and purpose of the survey and provided written informed consent at the beginning of the survey. They were also informed of the anonymity of their responses, while they participated voluntarily without receiving any form of compensation. In addition, they were aware that they could leave the survey at any time without consequence. Of the original sample of 120, 3 did not meet the inclusion criterion of residency in Greece, so they were excluded from the sample. Hence 117 usable questionnaires were included in the analysis. 53 men and 64 women participated in the study, most of them were in the age groups of 29-39 and of 18-28, while many respondents were single (71.8%)

and had a master's degree (69.2%). Their annual income was evenly distributed across all categories, while most participants live in large urban centers such as Thessaloniki, Athens, and Larissa.

4. RESULTS

Table 1 presents the results of descriptive statistics for all scale variables, which can provide useful information about their mean, median, standard deviation, skewness, and kurtosis. From the descriptive statistics results, we can also see that all variables, except for the potential recovery of Covid-19, have skewness and kurtosis in the range of $[-2, +2]$, which can lead to the initial assumption that the variables are close to normal distribution. We also examined the histogram and boxplot results to find outliers.

The results of the analysis are presented in Table 2. There is no statistically significant correlation among the variable of vaccination and measures effectiveness with any of the aspects of consumer behavior. The fear of catching Covid-19 is the only variable, that is related to the online purchasing after Covid-19 ($p=0.024$), consuming necessities ($p=0.046$), panic purchasing ($p=0.029$), consumer concerns about products ($p=0.00$) and online buying during Covid-19 ($p=0.00$). Last, the variable of potential recovery from Covid-19 seems to be related only to general consumer change ($p=0.021$). All correlations among our variables are positive, which means they are changing in the same direction, except the relationship between potential recovery form Covid-19 and general consumer change, while there is weak relationship among them ($r < 0.3$), except a moderate relationship between fear of Covid-19 with consumer concerns about products ($r = 0.360$) and online buying during Covid-19 ($r = 0.345$). So, as a conclusion for the correlation analysis, there seems to be a positive relationship among the fear of catching Covid-19 and online purchasing during and after Covid-19, consuming necessities, panic purchasing and consumer concerns about products.

To confirm this finding, we divided the sample into two subsamples according to "Fear of covid" score. Then two regressions were run – one for each sample. It can be seen that the sample (table 3) Consumer behavior could be predicted by Potential Recovery from Covid-19 ($b=.18$), Consuming Necessities ($b=.44$), Consumer Concerns Products ($b=.17$), Environmental Social Concerns ($b=.21$) [$F(7, 88)=9.29$, $MS=4.28$, $p<.05$, $adj.R2=.40$] while the sample with the lowest fear of covid, its Consumer behavior was not influenced by these factors at all [$F(7, 27)=1.51$, $MS=1.12$, $p=.222$, $adj.R2=.12$] (Table 1a-1b). Consuming Necessities had the highest influence in the "High Covid fear" sample.

13 mediation analysis were run in SEM (using R) – where Fear of covid was the mediator between the X Behavior variable and Consumer Behavior (X var → Fear of Covid → Consumer Behavior).

It was found that the indirect effect was statistically significant in all cases except for Online Purchase Before Covid-19 and Shopping Satisfaction: $p > .05$. Note that “If the indirect effect is greater than the direct effect, then mediation effects is said to exist. If the direct effect is not significant, then full mediation exists.”. These cases were Online Purchase After Covid-19 (Full), Online Buying Cv19 (partial) and Consumer Concerns Products (partial).

TABLE 1: Descriptive Statistics.

		General Consumer Change	Online Purch. Before Covid	Online Purch will continue after Covid	Purchasing frequency	Shopping Cart	Vaccination/ Measure Effectiveness	Potential Recovery	Fear
N	Valid	117	117	117	117	117	117	117	117
	Missing	0	0	0	0	0	0	0	0
	Mean	3.62	3.71	4.08	2.97	2.88	4.34	1.91	39.487
	Median	4.00	4.00	4.00	3.00	3.00	5.00	2.00	40.000
	Std. Deviation	.889	1.168	1.010	1.148	1.161	.873	.896	.88421
	Skewness	-.506	-.569	-.923	-.193	.204	-1.126	1.340	-.689
	Std. Error of	.224	.224	.224	.224	.224	.224	.224	.224
	Skewness								
	Kurtosis	.563	-.719	.204	-.859	-.650	.288	2.771	.158
	Std. Error of Kurtosis	.444	.444	.444	.444	.444	.444	.444	.444

Source: Author’s estimates based on Enterprise Survey data.

5. CONCLUSIONS

This study examined the impact of the Covid 19 pandemic on various aspects of consumer behavior. To investigate how the Covid-19 pandemic affected different aspects of consumer behavior, we conducted a questionnaire survey on a sample of 117 consumers in Greece and analyzed the data according to the statistical criteria of correlation coefficient matrix with Spearman’s rho and linear regression analysis. According to the results, only the fear of contracting covid-19 was statistically significantly related to some of the consumer behavior change variables, while vaccination and intervention effectiveness and possible recovery were not related to consumer behavior change. More specifically, consumer concern about contracting the virus was related to online purchases after and during this health crisis, consumption of necessities, panic buying, and consumer concern about products. All correlations were positive, meaning that

TABLE 2: Correlations of catching Covid-19 and consumer behavior aspects.

Spearman's rho		General Consumer Change	Online Purchases before Covid-19	Online Purchases will continue after Covid-19	Purchasing Frequency	Amount of Shopping Cart	Potential Recovery from Covid-19	Vaccination and Measures Effectiveness	Fear_Covid19	Consuming_Necessities	Consuming_NonNecessities	Stockpiling	Panic_Purchasing	Online Buying During Covid19	Shopping_Satisfaction	Consumer_Concerns_Products	Environmental_Social_Concerns
Potential Recovery from Covid-19	Correlation Coefficient	-.214*	.023	.026	-.080	-.173	1.000	.133	.142	-.047	-.114	-.137	-.100	.032	.122	.017	-.014
	Sig. (2-tailed)	.021	.809	.780	.394	.062		.154	.127	.613	.221	.140	.285	.733	.190	.856	.877
	N	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117
Vaccination and Measures Effectiveness	Correlation Coefficient	-.105	.127	.105	-.018	-.073	.133	1.000	.094	-.120	-.084	-.021	-.049	.028	.047	-.098	.175
	Sig. (2-tailed)	.261	.172	.258	.845	.433	.154		.315	.198	.369	.821	.602	.766	.618	.295	.058
	N	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117
Fear_Covid19	Correlation Coefficient	.048	-.016	.209*	.138	.164	.142	.094	1.000	.185*	.146	.143	.202*	.345**	-.012	.360**	.170
	Sig. (2-tailed)	.605	.866	.024	.137	.078	.127	.315		.046	.117	.125	.029	.000	.894	.000	.067
	N	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

TABLE 3: Adj.r2 and Anova results for each regression.

	Adj.R2	Std. Err	Anova Results
Fear to Covid (>3)	.40	.68	F (7, 88)=9.29, MS=4.28, p<.05
Fear to Covid (1-3)	.12	.86	F(7, 27)=1.51, MS=1.12, p=.222

when fear of Covid-19 increases or decreases, certain aspects of consumer behavior also increase or decrease. However, the correlations are weak or medium. Considering the correlations of the variables, fear of Covid-19 is more strongly associated with consumer concerns about products and online purchases during Covid-19. According to the literature review, consumer behavior and attitudes were greatly affected by this global health crisis, which significantly impacted their spending behavior [9p4, 12, 26]. This study contributes to previous research by examining how fear is related to spending behavior. Fear itself has been studied in the literature in relation to adherence to health recommendations (see [22]).

This research may offer some insights to practitioners and marketers as businesses must adapt to the ever-changing environment to survive this global health, economic, and social crisis [19]. The online market has taken a significant place in people's daily lives [3], while e-commerce sales and social media usage increased during this period [1]. In addition, crisis situations, such as the coronavirus pandemic, lead to scarcity effects, disruptions in demand and consumer behavior, such as panic buying and stockpiling of

TABLE 4: Sub-samples Anova results.

SubSample	Total consumer Change Behaviour =	B	std. Err	β	t	p	Sig.	Tol	Vif
Fear for Covid (>3)	Constant	1.8	.46	—	3.96	.00	**		
	Potential Recovery from Covid-19	.19	.09	.18	2.03	.05	**	.99	1.01
	Consuming Necessities	.35	.09	.44	4.02	.00	**	.64	1.56
	Consuming NonNecessities	.15	.09	.17	1.72	.09	**	.76	1.31
	Consumer Concerns Products	-.19	.12	-.16	-1.51	.13		.73	1.37
	Environmental Social Concerns	.17	.08	.21	2.2	.03	**	.88	1.14
Fear for Covid (1-3)	Constant	1.97	.73	—	2.71	.01	**		
	Potential Recovery from Covid-19	.2	.16	.23	1.23	.23		.86	1.17
	Consuming Necessities	.3	.24	.32	1.27	.22		.48	2.08
	Consuming NonNecessities	.19	.17	.22	1.12	.27		.77	1.3
	Consumer Concerns Products	-.29	.3	-.23	-.94	.36		.49	2.03
	Environmental Social Concerns	.16	.16	.21	1.02	.32		.76	1.32

emergency products, and negative supply development [14]. Our findings confirm other studies: all these containment and self-protection measures that governments around the world had to impose on their populations affected the way consumers store, product prices, the type and quantity of products they buy, their habits and behavior [23, 25].

This research is not without limitations. People’s perceptions and fears cannot be considered consistent over time because people are likely to become more relaxed as the pandemic subsides. Future studies of consumer behavior in crisis situations will need to incorporate other variables to explain the psychological stress on purchasing behavior.

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