



## **The Coronavirus Shopping Anxiety and Consumers' Attitude Towards Online Shopping in Istanbul, Türkiye.**

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### **ABSTRACT:**

Pandemic related realizations speak to the fact that e-commerce is adopted at a faster rate given the circumstances with the flexibility being evident from the business end. Shopping anxiety here as a type of affective response consumers may feel as they are engaged in actual shopping in this case, using the Internet for that purpose. The aim of the present study is to identify shifts that were made of online shopping in Istanbul Turkey residents brought by Covid19 pandemic utilizing a convenience sample of 384 participants. The findings suggest that shopping anxiety has significant effect on consumer attitudes towards online shopping in Turkey. Istanbul which still holds itself between conservatism and liberalization of globalization is unsure about its 'new normalcy' with respect to the consumer behaviors in online commerce as well as from the policy making perspective.

**Keywords:** COVID-19 pandemic, online shopping behavior, consumer attitudes, shopping anxiety,

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### **Introduction**

The concept of online has been promoted by the wave of the virus which is a highly beneficial period for online marketers at the time of the COVID-19 period they have been enjoying profitable outcomes. Because at that there were too many panic situations nobody is allowed to go outside for making purchases. Many people have been reluctant to leave their homes due to fears of contracting COVID-19, particularly those who are older or have underlying health conditions. Online shopping provides a way to purchase goods without leaving home. Online shopping can be more convenient than shopping in person, as it can be done from the comfort of one's own home and at any time of the day or night. This has been particularly appealing to people who are working from home or caring for children. At that time online shopping is proven as very helpful and provided all the benefits which is the reason consumers are preferring online shopping. And now after the post-pandemic, people are still looking for online shopping. This would have been promoting e-commerce and most businesses are highly focused on introducing the new and most innovative features in online shopping so that more and more consumers adopt that and their attitude towards online always remains positive (Hashem et al. 2020). Consumer attitudes are often shaped by their personal beliefs and values. For example, some consumers may have a strong preference for environmentally friendly products, while others may prioritize convenience or affordability. Consumers' experiences with a product or service can have a significant impact on their attitudes. Positive experiences are likely to result in positive attitudes, while negative experiences can lead to negative attitudes. Consumers may be influenced by the attitudes and behaviors of their peers, family, or social networks. Social norms and expectations can shape consumer attitudes and behaviors. Advertising, branding, and other marketing communications can also influence consumer attitudes. For example, a well-designed and persuasive marketing campaign can create a positive attitude toward a product or brand (Raza et al., 2023; Gu et al., 2021).

Online marketplaces have experienced significant growth during the pandemic. As consumers turn to these platforms for a wider selection of products and competitive pricing. The pandemic has accelerated the trend toward online shopping and has shifted consumer priorities and preferences toward safety, convenience, and essential products. This trend is expected to continue even after the pandemic subsides, as consumers have become more comfortable with online shopping and have realized its benefits (Qtaishat, 2021).

Online shopping is all about choices and consumers feel free to customize their products according to their wishes. And also it is time-saving as well as there have been lots of other benefits as well which changed the consumer's attitude towards online shopping. The convenience, selection, pricing, and safety benefits of online shopping have contributed to a shift in consumer attitudes toward this shopping method. As more consumers become comfortable with online shopping, this trend will likely continue to grow in the future. However, it has been creating so many challenges for physical shopping. And it has been noticed that with time the trend of offline shopping has been reducing. Although there have been lots of challenges for online marketers as well there has been lots of competition and there are also some uncertainties regarding online shopping. There are certain drawbacks of online shopping as well so to assume the consumer's attitude towards online shopping is unpredictable. That is the reason we have selected that our presenting the consumer's attitude along with the current and updated results (Priya & Dua, 2021).

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## Problem Statement

The COVID-19 pandemic has created a climate of uncertainty and fear, which has led to significant changes in shopping behavior. One of the major issues that have arisen is COVID-19 shopping anxiety, which refers to the stress and worry associated with shopping during the pandemic. With the increased risk of infection, consumers may be hesitant to go to stores or shop in person, leading to increased anxiety and stress related to grocery shopping, getting essential supplies, and other necessary items. Additionally, the constant news cycle and information overload may further exacerbate anxiety related to shopping during the pandemic. As a result, there is a need to better understand COVID-19 shopping anxiety and develop interventions to help alleviate these concerns and ensure that consumers can continue to access essential items during the pandemic.

The COVID-19 pandemic has had a significant impact on consumers' attitudes and behaviors toward shopping, leading to increased levels of anxiety and stress. Consumers are facing a variety of challenges related to shopping during the pandemic, such as fear of infection, uncertainty about product availability, and changes in shopping routines. These challenges have resulted in negative attitudes toward shopping and a reluctance to engage in traditional shopping practices, such as going to physical stores (Taylor et al., 2020). As a result, there is a need to understand the relationship between COVID-19 shopping anxiety and consumers' attitudes toward shopping, as well as the factors that influence these attitudes. By identifying the key drivers of consumer attitudes toward shopping during the pandemic, retailers and policymakers can develop effective interventions and strategies to alleviate shopping anxiety and improve consumer confidence, ensuring that essential items are readily available to all consumers.

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## Literature Review:

Currently, it has been gaining more attention from researchers as it is a most recent challenge all over the world. It has been defined as the fear, worry, or apprehension experienced by individuals when engaging in shopping activities during the COVID-19 pandemic. It can encompass a range of concerns related to infection risk, social distancing measures, and changes to shopping behaviors and routines. Research has highlighted the prevalence and impact of COVID-19 shopping anxiety on individuals' mental health and quality of life. For example, a study by Singh and colleagues (2021) found that nearly 60% of Indian consumers experienced anxiety related to shopping during the pandemic. This anxiety was primarily related to concerns about infection risk, as well as changes to shopping behaviors such as long wait times and limited product availability (Omar et al., 2021).

A bundle of past studies and theories have described the anxiety related to COVID-19 and that highlights that it has been a very crucial factor that contributed to creating several other challenges as well research has also identified specific factors that contribute to COVID-19 shopping anxiety.

These include:

1. Perceived susceptibility to COVID-19: Individuals who perceive themselves as more susceptible to COVID-19 are more likely to experience anxiety related to shopping (Singh et al., 2021).
2. Perceived severity of COVID-19: Individuals who view COVID-19 as a severe illness are more likely to experience anxiety related to shopping (Alradhawi et al., 2021).
3. Information overload: The abundance of information about COVID-19 can lead to confusion and anxiety among consumers, particularly when conflicting information is presented (Tunçgenç & Arslan., 2020).
4. Social isolation: Social isolation and loneliness can increase anxiety related to shopping, as individuals may feel more vulnerable and unsupported (Singh et al., 2021).
5. Previous experiences with anxiety: Individuals with a history of anxiety or other mental health conditions may be more susceptible to COVID-19 shopping anxiety (Lee et al., 2021).

COVID-19 shopping anxiety can be defined as a heightened state of worry or fear experienced by individuals when shopping during the COVID-19 pandemic. This anxiety can be caused by concerns over exposure to the virus while shopping, fear of spreading the virus to others, and uncertainty about how to safely navigate public spaces during the pandemic. Research studies have shown that the COVID-19 pandemic has had a significant impact on people's mental health, including an increase in anxiety and stress levels. A study conducted by Zhao et al., (2021) found that the COVID-19 pandemic has caused a significant increase in anxiety levels among the general population, with shopping anxiety being one of the main sources of anxiety.

COVID-19 has created different and terrible conditions for humanity and considering the worst period and most of the researchers have highlighted its importance according to their analysis. And according to Asmundson & Taylor (2020), COVID-19 shopping anxiety refers to the fear, worry, and stress associated with shopping for essential items during the COVID-19 pandemic, which may lead to panic buying, hoarding, or avoidance of stores altogether. Most of the researchers have concluded that it is the situations that increase the level of anxiety in humans. As it is now a hot topic and with time different scholars have presented different concepts. According to Lee et al., (2021), COVID-19 shopping anxiety is the feeling of unease, distress, or concern that arises when individuals perceive that they may not be able to access essential items such as food, toiletries, and medication due to supply chain disruptions or increased demand caused by the pandemic.

COVID-19 shopping anxiety is a form of health anxiety that arises when individuals are exposed to news reports or social media posts about the pandemic, which may lead to excessive worry and fear about the safety of going to the store or buying groceries (Asmundson & Taylor., 2020).

Past studies on cognitive and mental issues related highlighted the condition that influences action during shopping. According to Tversky et al., (1973), COVID-19 shopping anxiety is the result of cognitive biases, such as the availability heuristic and confirmation bias, that lead individuals to overestimate the likelihood of running out of essential items or contracting the virus while shopping.

According to Lee (2020) that COVID-19 shopping anxiety is a type of phobia that arises from the perceived threat of contagion in public spaces, which may lead individuals to avoid grocery stores, pharmacies, and other essential retailers.

Consumer attitudes toward online shopping refer to consumers' feelings, beliefs, and intentions about using online shopping platforms to purchase products or services. And the scholars have presented it according to their level of understanding. Recent past papers have demonstrated consumers' attitudes toward online shopping. Salem et al. (2023) studied COVID-19 has generated a new generation of first-time online buyers in developed and underdeveloped countries. More importantly, researchers and practitioners expect online purchasing to continue. Thus, this study examined the role of digital marketing tools as a moderator variable between independent variables (consumption patterns, lifestyle, income, and payment methods) and dependent variables (consumer attitudes towards online shopping) during the COVID-19 pandemic in Arab countries. Based on a snowball and convenience sample, a structured and self-administered online survey addressed internet shoppers in six Arab nations. We analysed 577 usable questionnaires. The dependent variable (customer attitude towards online purchasing) is positively correlated with the independent variables (consumption patterns, lifestyle, income, and payment methods). The results also show that digital marketing tools improve the favourable association between the independent and dependent variables. Abu-ALSondos et al. (2023) Jordanian internet buyers' attitudes are influenced by these elements. Inclusion/exclusion criteria were used to analyze 100 Jordanian peer-reviewed papers in this qualitative systematic literature review. The thematic method was utilised to gather literature results, classify themes and findings, and develop conclusions. Trust, cultural problems such uncertainty avoidance and a lack of understanding, security, perceived ease-of-use, and perceived utility are the biggest factors affecting Jordanian internet buyers, according to this poll. Hofstede's cultural aspects theory and TAM can help online retailers comprehend Jordan's online retail uptake. Through literature review, this study concluded Jordan's internet purchasing market is immature and needs stronger growth tactics. This study concludes that internet merchants should prioritise Jordanian customers to shop online. Tseng & Wang (2023) studied that internet stars affect customer buying. Many internet celebrities now make their own products. This study examines consumer attitudes and buy intentions towards internet celebrity self-brands using cognitive consistency theory, cue utilisation theory, and brand authenticity and celebrity engagement literature. Two sub-samples of social media brand communities were surveyed online among internet celebrity self-brand buyers. Data was examined using PLS-SEM. In both psychological (Sub-sample 1) and social (Sub-sample 2) brand communities, brand–customer congruence, authenticity, and online celebrity involvement favourably affect consumer sentiments towards internet celebrity self-brands and buy intentions.

## Research Methods

Sampling is one of the essential component of this research as it is concerned with the accuracy of final outcomes. This research is being carried out in Istanbul, Turkiye. The sample has been collected from the residents of Istanbul who have been through the pandemic and due to fear transform to online shopping. Questionnaire has been designed in a way there are two sections. Demographic questions are presented at the first section of questionnaire in order to obtain the information related to the respondents and after that at second section of questionnaire scales have been presented. The independent variable Shopping Anxiety Scale adopted by (Sachdeva, 2022) which contains eleven items. The dependent variable Consumer's attitude towards the online shopping scale adopted by (Sultan & Uddin, 2011) contains 15 items. Scales had been adopted after taking permissions. Questionnaire has been distributed among the residents of Istanbul Turkiye as the research has been carried out specifically in Istanbul Turkiye. Google forms has been generated and distributed among all the respondents in different areas of Istanbul including Taksim and Sultan Ahmed some of the printed copies of forms have also been distributed among the students of AYDIN University as well. Almost 500 samples have been distributed and after that around 384 plus responses have been obtained correctly.

## Analysis

Table 1: Gender analysis

	Frequency	Percent	Cumulative Percent
<b>Female</b>	173	45.2	45.2
<b>Male</b>	211	54.8	100.0
<b>Total</b>	384	100.0	

Source: Author's own study

Table 1 presents gender analysis for the respondents while 211 male made up 54.8% of the sample, 173 female made up 45.2% of the total among the 384 responders. From this data, we can deduce that there were somewhat more male respondents than female. Crucial demographic data for the study is the gender distribution of respondents. It helps researchers learn about the demographics of the study's participants, which could lead them to investigate whether or not there are gender disparities in opinions about online shopping and reactions to the COVID-19 pandemic's effect on shoppers' fear.

Table 2: Age analysis

	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Percent</b>
<b>20-30</b>	260	67.6	67.6
<b>31-40</b>	91	23.7	91.3
<b>41-50</b>	29	7.5	98.8
<b>50 and above</b>	4	1.2	100.0
<b>Total</b>	384	100.0	

Source: Author's own study

Table 2 shows the distribution of respondent ages. With 260 people, those in the 20-to 30-year-old age bracket make up the bulk of the sample (67.6%). This suggests that many of the respondents are in their twenties and thirties. As a second subset, 91 respondents (or 23.7% of the total) fall within the 31–40 age bracket. Even though they make up a relatively small fraction of the total sample, this subset is nonetheless important. Of the whole sample, 7.5% are in the 41-50 age bracket, while 1.2% are 50 and up. Fewer people in these age groups filled out the survey than in the younger ones. Moving through the age groups reveals an increasing proportion of responses, as shown by the cumulative percentages. At the conclusion, the total percentage is 100%, meaning that all respondents within the given age range have been counted. This demographic breakdown of responders by age group sheds light on the research population as a whole.

Table 3: Marital Status analysis

	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Percent</b>
<b>Divorced</b>	24	5.9	5.9
<b>Married</b>	86	22.4	28.3
<b>Single</b>	274	71.7	100.0
<b>Total</b>	384	100.0	

Source: Author's own study

Table 3 presents the marital status of the respondents. Among the overall sample, 274 people identify as single, making up the majority of respondents (71.7%). This suggests that a sizeable part of the sample is single. Of the whole sample, 86 people (or 22.4% of the total) reported being married. Even though they make up a relatively small fraction of the total sample, this subset is nonetheless important. 24 people fall under the 5.9% of respondents who have been divorced group. This subset constitutes the research population's smallest proportion. People who are not married or in committed relationships may have greater freedom to choose how they spend their time. They might be more open to spending time online because of how flexible and easy it is for their lifestyle. When opposed to people in committed relationships, single people may feel more in charge of their own financial situation. This independence may affect their propensity to purchase online and their spending habits, especially if they are frugal or want to be their own boss when it comes to buying things. Couples in a committed relationship may need to be more frugal because of the shared cost of living. In an economic climate like the one we're in right now—the COVID-19 pandemic—the convenience of online purchasing with all its bargains and comparison shopping options can be a real draw.

Table 4: Education analysis

	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Percent</b>
<b>Bachelors</b>	215	56.1	56.1
<b>Intermediate</b>	29	7.5	63.6
<b>Masters</b>	125	32.4	96.0
<b>PhD</b>	15	4.0	100.0
<b>Total</b>	384	100.0	

Source: Author's own study

Table 4 analyze the education profiles of respondents. A substantial percentage of the population probably falls into this category, as 56.1% of respondents have Bachelor's degrees. The comfort and familiarity with online platforms for buying may be impacted by the basic level of education that individuals with Bachelor's degrees often hold. Since online buying is more accessible and convenient during the pandemic, they might be more likely to start doing it. Respondents with an intermediate level of education (7.5% of the total) may or may not have much experience buying things online. Some members in this category may have specialized education or training in a particular field, and they may prefer to shop for certain goods and services online. Factors like digital literacy and availability to technology may impact their attitudes towards online purchasing. All told, 36.4% of the people who filled out the survey had advanced degrees, either a Master's or a PhD. Online purchasing may be perceived differently by people with lower levels of education

compared to those with advanced degrees, who tend to have higher levels of education. When choosing an online store to buy from, they may put a premium on aspects like product quality, security, and reliability.

Table 5: Income analysis

	Frequency	Percent	Cumulative Percent
<b>\$ 100- \$ 1000</b>	236	61.4	61.4
<b>\$ 1001 - \$ 2000</b>	80	20.9	82.2
<b>\$ 2001 - \$ 3000</b>	43	11.2	93.5
<b>Above than \$ 3000</b>	25	6.5	100.0
<b>Total</b>	384	100.0	

Source: Author's own study

Table 5, provides a full breakdown of the income distribution of the respondents. Considering that 61.4% of those who took the survey have an annual salary between \$100 and \$1,000, it's clear that many people may be impacted by budgetary limitations when it comes to what they buy. The socioeconomic diversity of the respondent pool is further demonstrated by the distribution across higher income levels, which range from \$1001 to above \$3000. In light of the current pandemic, it is crucial to comprehend how different economic levels may influence customer attitudes and actions about online purchasing. Researchers can better understand the elements impacting consumer decision-making processes and efficiently accommodate varied socioeconomic backgrounds by taking the subtleties of income distribution into account.

Table 6: Geographic analysis

	Frequency	Percent	Cumulative Percent
<b>Amasya</b>	4	.9	.9
<b>Ankara</b>	14	3.7	4.7
<b>Antalya</b>	11	2.8	7.5
<b>Gumushane</b>	20	5.3	12.8
<b>Hakkari</b>	21	5.6	18.4
<b>Istanbul</b>	218	56.7	75.1
<b>Izmir</b>	15	4.0	79.1
<b>Mersin</b>	24	6.2	85.4
<b>Rize</b>	19	5.0	90.3
<b>Sakarya</b>	13	3.4	93.8
<b>Trabzon</b>	13	3.4	97.2
<b>Yalova</b>	12	2.8	100.0
<b>Total</b>	384	100.0	

Source: Author's own study

A thorough geographical examination of the distribution of respondents across different regions is presented in Table 6, which offers insights into the geographical representation within the investigated population. The table shows the overall percentage, cumulative %, and percentage relative to the total sample size for each region. The city of Istanbul stands out as the most represented region, with 56.7% of the total responders being from the city. This preponderance highlights Istanbul's importance as a demographic hub for the research. Among the other regions that make up the sample's geographic variety, Mersin (6.2%), Gumushane (5.3%), and Hakkari (5.6%) stand out. Yalova (2.8% of respondents) and Amasya (.9% of respondents) are regions with smaller percentage of the total. By the end of the table, all responses have been included, and the total percentages make it easy to see how the distribution is among regions. Since regional variations may impact consumer attitudes, attitudes, and responses to the phenomena under examination, this spatial analysis is vital for contextualizing findings within the study. The study's relevance and applicability can be further enhanced by using the insights gained from this analysis to inform targeted actions and tactics that are adapted to specific geographical situations.

Table 7: Corona virus infected analysis

	Frequency	Percent	Cumulative Percent
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<b>No</b>	186	48.3	48.3
<b>Yes</b>	198	51.7	100.0
<b>Total</b>	384	100.0	

Source: Author's own study

Table 7 examines respondents' coronavirus infection status to assess the COVID-19 pandemic. The data shows a pretty even sample split, with 51.7% reporting viral infection and 48.3% not. Nearly half of respondents were personally affected by the pandemic, demonstrating its severity. The distribution of infection status among study participants can help assess how the pandemic affected people's health and well-being. These data can also inform public health efforts to limit the virus and help victims. The dataset contains all replies and shows the population's COVID-19 infection status by cumulative percentages.

Table 8: Family member infected by Corona virus analysis

	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Percent</b>
<b>No</b>	150	38.9	38.9
<b>Yes</b>	234	61.1	100.0
<b>Total</b>	384	100.0	

Source: Author's own study

The results of the survey on the coronavirus infection status of respondents' family members are presented in Table 8. The extensive effect and frequency of COVID-19 inside homes are highlighted by the fact that 61.1% of respondents said that their family members have been affected. The enormous strain that families are under as a result of the epidemic is brought to light by this discovery. However, a significant part of families have managed to avoid contracting the virus so far, as 38.9% of respondents state that no one in their family has been sick. If we want to know how the epidemic has affected communities and families as a whole, and if we want to know how to help the homes who have been hit the hardest, we need to understand these dynamics.

Table 9: Descriptive analysis

	<b>Gender</b>	<b>Age</b>	<b>Marital Status</b>	<b>Education</b>	<b>Income</b>	<b>Region</b>	<b>Corona Virus infection</b>	<b>Family member Corona virus infection</b>
<b>Mean</b>	1.55	1.42	2.66	1.84	1.63	6.35	1.52	1.61
<b>Std. Deviation</b>	.498	.686	.587	1.013	.923	2.097	.500	.488
<b>Skewness</b>	-.195	1.566	-1.518	.553	1.305	.546	-.069	-.456
<b>Std. Error of Skewness</b>	.136	.136	.136	.136	.136	.136	.136	.136
<b>Kurtosis</b>	-1.974	1.871	1.258	-1.340	.573	1.202	-2.008	-1.804
<b>Std. Error of Kurtosis</b>	.271	.271	.271	.271	.271	.271	.271	.271

Source: Author's own study

Table 9 shows the descriptive analysis of the collected sample. With a mean of 1.55, respondents lean somewhat towards one gender on average. The age distribution is highly dispersed, with a standard deviation of 0.686 and a mean of 1.42. Ages do not follow a normal distribution because of the positive skewness (1.566) and kurtosis (1.871), which indicate that the distribution is right-skewed. An average of 2.66 and a standard deviation of 0.587 are the results for marital status. More respondents reported being married or in a relationship, as indicated by the negative skewness (-1.518), which suggests that the distribution is left-skewed. The standard deviation of the Education data is 1.013, while the mean is 1.84. There seems to be a slightly skewed distribution to the right (skewness = 0.553), which could mean that there are more responders with advanced degrees. A standard deviation of 0.923 is associated with income, which has a mean of 1.63. A right-skewed distribution is suggested by the positive skewness (1.305) and kurtosis (0.573), which could mean that some respondents have more income than the average. The region's mean is 6.35 and its standard deviation is 2.097, which is on the higher side. There appears to be a modest rightward skew, with more respondents hailing from locations with higher numbers, as indicated by the positive skewness of 0.546. With means close to 1.5 for both measures of coronavirus infection, it appears that respondents generally reported low rates of infection within their own families. Both variables have skewness values close to zero, suggesting that their distributions are almost symmetrical.

Table 14: Model summary analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.964a	.930	.930	.26916

Source: Author's own study

Table 14 presents the "R" value in the model fit statistic is the correlation coefficient, which shows how strongly and in what direction the predictors are related to the outcome variable in a linear fashion. The reported value of .964a indicates a very significant positive correlation in this example. A number of R-squared, sometimes written as "R Square," shows how much of the variation in the outcome (the dependent variable) can be explained by the variables (the predictors) that are independent of each other. An R-squared value of .930 suggests that the independent variable(s) under consideration in the model explain approximately 93% of the variance in the dependent variable. An improved measure of the model's fit is the adjusted R-squared value, which accounts for the total number of predictors in the model. Similar to the R-squared value of .930, the adjusted R-squared value is 0.930, suggesting that the addition of predictors has not significantly changed the model's fit, beyond what would be expected by chance. The standard error of the estimate is a measure that shows how far the actual values and the values predicted by the model differ from one another. It is calculated as the standard deviation of the residuals. A typical difference between actual values and those projected by the model is indicated by the reported standard error of the estimate, which is .26916.

Table 15: Anova analysis

Model	Sum of Squares	df	Mean Square	F	Sig.
<b>Regression</b>	307.229	1	307.229	4240.836	.000 <sup>b</sup>
<b>Residual</b>	23.110	319	.072		
<b>Total</b>	330.339	320			

Source: Author's own study

Table 15 shows ANOVA analysis, the regression model is very significant ( $p < .0001$ ), meaning that the independent variable(s) successfully forecast the dependent variable's variance.

Table 16: Regression analysis

Model	Beta	Std. Error	t	Sig.
<b>(Constant)</b>	1.076	.044	24.535	.000
<b>Shopping Anxiety</b>	.852	.013	65.122	.000

Source: Author's own study

Regression analysis is a statistical technique used to identify and model the relationship between a dependent variable and one or more independent variables. It is a powerful tool in scientific research, economics, social sciences, and other fields where there is a need to understand the relationship between variables and make predictions based on that relationship (Cohen et al, 2013).

The basic idea behind regression analysis is to fit a line or curve to a set of data points to model the relationship between the variables. The line or curve is called the regression line or regression curve, and it represents the best-fit line or curve that minimizes the distance between the data points and the line or curve.

There are two main types of regression analysis: simple regression and multiple regression. Simple regression involves one independent variable and one dependent variable, while multiple regression involves two or more independent variables and one dependent variable.

In simple regression, the relationship between the variables is represented by a straight line. The equation of the line is typically expressed as  $y = a + bx$ , where  $y$  is the dependent variable,  $x$  is the independent variable,  $a$  is the intercept, and  $b$  is the slope of the line. The slope of the line represents the change in the dependent variable for every one-unit increase in the independent variable.

Multiple regression is used when multiple independent variables may be related to the dependent variable. In this case, the relationship between the variables is represented by a multiple regression equation, which can be used to predict the value of the dependent variable based on the values of the independent variables.

Overall, regression analysis is a powerful tool for identifying and modeling relationships between variables, making predictions, and testing hypotheses. It is widely used in scientific research, social sciences, economics, and other fields where there is a need to understand and predict the behavior of complex systems (Cohen et al, 2013).

Mainly our study has presented these two analyses and the results are purely based on the collected data. These two types of analysis are highlight preferred in highlighting the association among the variables. These analyses are considered highly accurate and authentic for the analysis (Montgomery et al., 2012).

Table 16 presents the regression analysis the beta coefficient for shopping anxiety is 0.852 that means if 1% increase in consumer attitudes than shopping anxiety will be increased by 85%. The significance value is less than 0.05 hence; it supports H1 that Covid 19 shopping anxiety has a significant effect on Consumer's Attitudes towards online shopping in Istanbul Türkiye.

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## Conclusions and Recommendations

In the middle of the worldwide COVID-19 pandemic, there have been notable shifts in consumer behaviour and attitudes towards online buying, especially in major cities like Istanbul, Turkey. This study sought to uncover the factors that influence people's choices and actions when confronted with unprecedented levels of uncertainty by exploring the complex link between COVID-19 shopping anxiety and consumer attitudes towards online shopping. The complex relationship between the pandemic's effects on shoppers' online propensities and the purchasing concern it causes has been illuminated by a thorough examination of data gathered from respondents in Istanbul, Turkey.

In order to gain a better understanding of COVID-19 purchasing anxiety and consumer attitudes towards online shopping in Istanbul, Turkey, future study could take a number of different approaches. The long-term effects of the pandemic on people's preferences for internet shopping should be better understood with the use of longitudinal studies that follow consumers' behaviour changes over time. Cultural variations of customer reactions to COVID-19 shopping anxiety and online purchasing should be better understood by comparison studies across diverse cultural contexts. The lived experiences of individuals navigating online shopping throughout the epidemic should be better understood using qualitative research approaches like ethnographic studies and interviews, which could reveal complex viewpoints and subjective realities. To better understand the psychological mechanisms underlying COVID-19 shopping anxiety and its consequences on consumer attitudes, research techniques should benefit from integrating psychological theories and frameworks. Lastly, in the post-pandemic world of online retail, it could be instructive to study how new technologies like AR and AI affect consumers' comfort and convenience when purchasing online. These lines of inquiry could lead to new insights into customer behavior and useful plans for surviving the dynamic retail landscape of Istanbul, Turkey, and beyond.

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