



Research Article

DIGITAL TRANSFORMATION OF E-COMMERCE: HOW DID COVID-19 AFFECT CUSTOMERS' ONLINE SHOPPING BEHAVIORS?

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ABSTRACT

The E-commerce Industry has many changes that affect both the industry and the scope of competition. In this study, online shopping was examined with the factors affecting customer evaluation in the Covid-19 pandemic. During Covid-19, shopping is mostly done online because people are at home. A quantitative method with a questionnaire was applied to 150 active online customers to determine customer evaluation for online shopping. Demographic characteristics, gender, age, marital status, and graduation impact analysis were found to affect online shopping. Minimizing the problems in shipping processes and increasing payment options are important findings. Social media was found to be a significant commercial potential for online shopping during the Covid-19 period. The effect of Trust, Cargo Tracking, Website Features, and Satisfaction was examined. It was determined that there was a negative relationship between Trust and Cargo-Tracking in the Covid-19 period. It was concluded that a positive shipping process increases confidence in Covid-19 period. It was determined that bad features of the websites negatively affect customers' trust. Finally, it has been found that there is a positive relationship between Trust and Satisfaction when shopping online.

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1 | INTRODUCTION

The development of information technology has become a driving force for electronic commerce processes (Anderson and Rainie 2018). As a result of technological developments, e-commerce is expected to reach 994 billion dollars by the end of 2020. Another remarkable detail is that, contrary to popular belief, the majority of promotional-oriented consumers are Y and Z generations, which use technology intensively. Also, the Y and Z generations are at the forefront of the online shopping experience (Topic and Mitchell 2019).

E-commerce is open to improvement in many ways compared to the worldwide internet usage rate and online shopping statistics. Cargo systems that need to be developed, inventory status tracking, user satisfaction, website security, payment options come to the fore and are the most difficult parts of the e-

commerce ecosystem (Anbar 2001). Online shopping is cheaper in some parts of the retail sector, access to website with fast access, finding products, price comparisons, 24/7 shopping opportunity, gift and discount days make e-commerce attractive (Uğur 2016). In addition to its attractive features, some negativities are experienced and these situations cause customers to hesitate to shop online and avoid using it (Demirel 2010).

In this study, examining the factors of electronic commerce affecting the use of online shopping websites is among the most important aims of the research. The purpose of this research is to evaluate the aspects of online shopping that need to be improved for customers during the pandemic. Issues such as shipping and tracking, website security, customer satisfaction, ease of use, which have an important place in the e-commerce ecosystem, need to be improved in order to determine customer

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responses and opinions while shopping online. Within the scope of this main goal, the following sub-goals will be examined:

- What is the relationship between online shoppers demographics and online shopping?
- What are the users' opinions about Trust, Website Features, Cargo Tracking, Satisfaction in online shopping during Covid-19?
- What is the relationship between Trust, Website Features, Cargo Tracking and Satisfaction in online shopping during Covid-19?
- What is the level of online shopping dimensions according to Five Likert?

2 | E-COMMERCE IN THE WORLD

As part of an effort to control the spread of the coronavirus (COVID-19), public spaces such as schools, universities, and offices are closing down so people can stay home and prevent further spread. The coronavirus pandemic has not only resulted in a global collapse, but has led to a steady increase around the world, resulting in a daily shortage of supplies, including personal needs. Almost all countries faced a similar dilemma, and authorities are considering ways to make up for the current shortcoming. Staying at home is a must for people during this epidemic (Gopinath 2020).

The coronavirus outbreak first appeared in Wuhan, China's Hubei Province, in December 2019. COVID-19 infection spreads from one person to another through droplets produced from the airways of people who are infected, usually during coughing or sneezing. According to available data, the duration of symptoms to appear is usually between 2 and 14 days, with an average of five days. The coronavirus epidemic causes cancellations of various activities, travel and curfews. These measures have led to an increase in online shopping during the home stay (Meclod 2020).

When the developments in online shopping are examined in addition to the coronavirus epidemic, it is seen that social media makes a significant contribution to online shopping. Deloitte Digital and Information Technology Services Association (TUBISAD) in May 2019 e-commerce report, 77% of the US population, 71% of the Chinese population, Turkey is using social media, 63% of the population. Especially the most preferred social media platforms create infrastructures that will allow online shopping in electronic commerce and prioritize electronic commerce companies to invest in these areas (TUBISAD 2018).

With the widespread use of mobile technologies, many consumers visit e-commerce websites on their mobile phones and watch promotional and

commercial films on their mobile phones. More than 70% of online consumers in Turkey are visiting websites through mobile devices. However, China is the country with the highest number of mobile shopping with 74%. India ranks second with 60%. It can be said that more than half of the population is shopping on mobile, especially in countries such as India and China, whose population rates exceed 1 billion. One of the most important reasons for this is that consumers in Asian countries make their payments from their mobile phones (Kemp 2020).

The internet affects how customers and vendors interact in the market. Because of this, many businesses have switched from the traditional format to online connection. Moreover, people can access Internet marketplaces (Appel et al 2020). Thus, companies grow their business on the web. In this context, especially clothing retailers are the main factors affecting the factors of online shopping quality and online shopping satisfaction and intention of consumers (Tharuka and Madumali 2018). Considered these improvements, increased customer comfort and solution offers in e-commerce applications worldwide. Therefore, the recommendations stated below should be continued (Rainie and Anderson 2017):

Delivery: Supply and shipping systems are activated after shopping. Cargo systems are one of the most common problems in e-commerce. During COVID-19, which is increasing and developing with e-commerce, cargo companies cannot meet the desired levels of efficiency and customer satisfaction (Atkins 2020). Since e-commerce is a sector where experiences come to the fore, problems experienced in cargo negatively affect online users. By increasing customer satisfaction, they expect their cargo to arrive in 24 hours or less. However, beyond this expectation, cargo companies sometimes even damage the products ordered during distribution (Saydan 2008).

Payment Options: Usually, credit card information entered by users during online shopping causes reservations. While different payment options in many countries of the world reinforce the trust of customers, entering credit card information has negative effects on many users (Worldpay 2018). Increasing payment options is a necessity for my users to shop more comfortably (Algür and Cengiz 2011).

Security: Another issue that e-commerce users consider important is online website security. The security measures of the websites should ensure that the user can shop easily. Users' trust is at the forefront. In the product vision, the photos, product information and details provided by the websites are important for the user's trust (Menzheres 2018).

Especially when shopping for clothing, customers do not touch or try products that are considered to pose a risk to the user (Ağaç et al.2018). The incorrect information used in the product image changes the preferences of the users. The fact that the purchased product is not of the desired quality and size causes loss of users and harms the sense of trust in shopping websites. In addition, user experiences shape the trust responses of online shoppers (Yapraklı, Akkuş and Akkuş 2014).

Website Features: Uncomplicated websites and mobile applications are preferred for users. Visual models of websites or applications, use of links and tabs, color selection, ease of access to menus are important for users (Cooper et al.2014). Complex websites make it difficult for users to access products. The reasons why users cannot reach the products they are looking for and cannot compare easily are among the reasons why users are not preferred. Users expect to be happy and enjoy while shopping online (Mucan and Tanyeri 2017).

Gender: The main difference between men and women is what they shop for. While men often prefer heavy-duty items like furniture and computers, women often shop for things like groceries and clothes (Clement 2018). As of 2018, the penetration rate of digital buyers worldwide is 47.3%. The difference between the percentage of men and women shoppers is not much (72% women, 68% men). In online shopping, textile products rank first with 40% for men and 46% for women (Ouellette 2020).

3 | METHOD

In order to determine user expectations and problems in online shopping, four-dimensional questions were asked in the questionnaire and the answers of the users were obtained along with their demographic characteristics. The survey was applied to 150 participants. A quantitative method was used to determine the validity and reliability of the questionnaire with pre-application in order to evaluate the aspects of online shopping that need improvement for customers.

The created questionnaire consists of 5 parts. In the first part, there are 7 questions that determine the demographic information of the participants. In the second part, participants were asked 7 questions about TRUST in the use of online shopping websites. In the third part, 6 questions were asked about the WEBSITE FEATURES of the participants in the use of online shopping websites. In the third part, 8 questions were asked about CARGO TRACKING in the use of online shopping websites of the participants. In the fourth part, 15 questions were asked about

SATISFACTION in the use of online shopping websites. The questionnaire consists of a 5-point Likert-type question (1 = Strongly Disagree, 2 = Disagree, 3 = No Idea, 4 = Agree 5 = Strongly Agree).

SPSS 21 version of IBM and Office 2019 Excel programs were used in the analysis of the data. Basic statistical definitions and the interaction of demographic characteristics with four dimensions were examined. Statistical analysis were done by using t-test and one-way ANOVA. Likert scale averages of each dimension and general online mean value analyzes were also performed. Cronbach Alpha reveals that the survey is reliable. The reliability coefficient of the questionnaire (Cronbach Alpha) was found to be 0.910.

3.1| Evaluation of Demographic Features

Demographic characteristics of the users; It consists of personal information such as gender, marital status, age, educational status, income, internet connection preference and social network usage. Here, the relationship is calculated by Pearson Correlation, and the direction of the relationship determines the sign "r" (r value - takes a value between 1 and +1) and the coefficient degree. Negative values indicate that one variable increases, the other decreases, and positive values indicate that the values are taken by both variables and increase or decrease together. The relationship between Four Dimensions Trust, Website Features, Cargo Tracking and Satisfaction is examined as follows:

Gender

According to the gender in the research; Trust: -0.052, Website Features: -0.118, Cargo Tracking: -0.145 and Satisfaction: 0.447. In this case, it shows that Gender is weak and negative with Trust, and gender differentiation shows that the increase in inverse proportion to Trust is at the level of -0.052. With the Website Features, it states that the gender is weak and negative, and the gender difference negatively affects the Website Features. Gender differentiation shows that it is weak and negative with Cargo Tracking. Gender differentiation appears to be a strong and positive increase in satisfaction. The gender difference shows that it increases the level of satisfaction linearly and strongly.

Marital Status

Trust by Marital Status: -0.036, Website Features: -0.030, Cargo Tracking: -0.081, and Satisfaction: 0.026. In this case, Marital Status; It shows that it is weak and negative in trust, and its increase in inverse proportion with trust is -0.036. Marital Status shows that the features of the website are weak and

negative, and the difference in Marital Status negatively affects the features of the website. Differentiation of Marital Status shows that it is weak and negative with Cargo Tracking. Differentiation of Marital Status There is a weak and positive increase in satisfaction. Marital status differentiation shows that it increases the level of satisfaction linearly and weakly.

Age

Trust by Age: -0.045, Website Features: -0.063, Cargo Tracking: 0.038, and Satisfaction: -0.077. In this case, it indicates that it is weak and negative with Age and is inversely proportional to Trust as -0.045. It indicates that Age has a weak and negative interaction with Website Features and that Age's differentiation negatively affects Website Features. Age differentiation shows that it is weak and positive with Cargo Tracking. Age shows a weak and negative inverse increase with Satisfaction.

Graduation Status

According to the graduation status; Confidence: -0.029, Website Features: -0.15, Cargo Tracking: -0.048, and Satisfaction: 0.028. In this case, it is seen that the Graduation variable is weak and negative with Trust, and the differentiation of graduation has an adverse effect on Trust. This indicates that Trust status changes as graduation status changes. With the Website Features, it shows that graduation is weak and negative, and the differentiation of graduation has a negative effect on Website Features. The differentiation of graduation shows that it is weak and negative with Cargo Tracking. The differentiation of graduation indicates an increase in Satisfaction and weakness and positive. Different graduation status increases the level of satisfaction linearly.

Income Status

According to the income situation; Confidence: -0.006, Website Features; -0.050, Cargo Tracking; -0.170, and Satisfaction; 0.005. In this case, the income status shows that the variability with Trust is weak and negative, while the income variation shows that the increase in inverse proportion with Trust is at the level of -0.006. Website Features and income status are weak and unfavorable, and the differentiation of income indicates that the size of the Website Features is negatively affected. The differentiation of the income situation shows that it is weak and negative with Cargo-Tracking. It shows a weak and positive increase in the satisfaction dimension. The difference in income status indicates that the level of satisfaction increases linearly and positively.

Internet Connection Preference

Trust According to Internet Connection Preferences; Confidence: -0.082, Website Features: -0.007, Cargo Tracking: -0.084, Satisfaction: -0.047. In this case, the change in Internet Connection Preference shows that it changes weakly and negatively with Trust, and the difference in Internet Connection Preference shows that the increase in inverse proportion to Trust is at the level of -0.082. Internet Connection Preference interacts weakly and negatively with Website Features, and the differentiation of Internet Connection Preference shows that the Size of Website Features is negatively affected. Differentiation of Internet Connection Preference shows that it is weak and negative with Cargo Tracking. Weak and negative reversals indicate an increase in satisfaction with -0.047.

Use of Social Media

According to the Social Media Platform; Confidence: -0.021, Website Features: -0.021, Cargo Tracking: -0.193, Satisfaction: -0.102. In this case, it shows that it is weak and negative with the Social Media platform Trust. It shows that the use of Social Media is weak and negative with Website Features. Differentiation of Social Media Usage Preference shows that it interacts weakly and negatively with Cargo Tracking. With satisfaction, the differentiation of Social Media Usage increases in a weak and negative way.

3.2| Impact Analysis Of Dimensions

Using the SPSS statistical program, the questionnaire questions were divided into groups at the level of research dimensions, and Pearson Correlation values were found by analyzing their interactions with each other. By making general evaluations of the answers given to the questions, the effects of the dimensions were evaluated as in Table 1.

Table1. Results of Pearson Correlation Analysis

	Trust	Cargo-Tracking	Website Features	Satisfaction
Trust	1			
Cargo-Tracking	-0.023	1		
Website Features	-0.086	0.053	1	
Satisfaction	0.124	-0.394	-0.129	1

The value of -0.023 in Table 1 between Trust and Cargo-Tracking indicates a weak negative linear relationship. Although there is no causal relationship between these two variables in terms of online shopping; It can be interpreted as Cargo Tracking negatively affects Trust.

The value of -0.086 in Table1 between Trust and Website Features indicates a negative linear relationship. Although there is no causal relationship between these two variables, it can be interpreted that Website Features related to online shopping are negatively affected by Trust.

The value of 0.124 in Table 1 between Trust and Satisfaction shows that there is a positive linear relationship. Although there is no causal relationship between these two variables, it can be interpreted that the increase in satisfaction with online shopping positively affects Trust.

The value of 0.053 in Table 1 between Website Features and Cargo Tracking indicates a positive linear relationship. Although there is no causal relationship between these two variables, it can be interpreted that Website Features related to online shopping are good and positive and positively affect the Cargo Tracking perspective.

The value of -0.129 in Table1 between Website Features and Satisfaction indicates a negative linear relationship. Although there is no causal relationship between these two variables, it can be interpreted that Website Features related to online shopping are negative and the Satisfaction perspective is negatively affected.

The value of -0.394 in Table 1 between Satisfaction and Cargo-Tracking shows a negative linear relationship. Although there is no causal relationship between these two variables, it can be interpreted that online shopping is negatively affected from the Cargo Tracking Satisfaction perspective.

The levels of online shopping dimensions were evaluated individually and at the end the overall level was evaluated according to the scores observed from the study results. The averages of the four dimensions according to Five Likert scale were determined as in Table2.

Table 2. Online shopping dimensions' averages

Dimensions	Averages
Trust	3.445
Cargo-Tracking	4.057
Website Features	3.465
Satisfaction	3.617
Average	3.646

When the levels of dimensions were evaluated, Cargo-Tracking appears to have the highest average. It means that Cargo Tracking is a big problem and needs to be resolved. Users enjoy great online shopping. And customers enjoy the online website features. The least valued size Trust means that customers have some issues with trust in online shopping. When

evaluated in general, it is seen that the general average is 3.646. This means that online shopping must be developed according to the needs of customers in the Covid-19 era.

4| CONCLUSION

E-commerce is developing day by day. In addition, the impact of Covid-19 made this increase more necessary as a catalyst. Online shopping has become dominant due to fear of epidemics. According to the impact analysis of demographic features for online shopping during the Covid-19 outbreak; gender affects age, marital status, graduation, online shopping. To minimize the disruptions in cargo operations. In addition to credit cards, the increase in payment options such as QR codes, digital wallets and digital money is among the important findings in terms of safe shopping. It is one of the important findings that should not be forgotten for businesses with significant commercial potential through social media channels. Many young users show that online shopping is open to development and new experiences. As an important result to be followed for businesses, it is seen that the comfort and convenience of users have increased. When the effect of Trust, Cargo Tracking, Website Features and Satisfaction was examined, it was observed that there was a negative linear relationship between Trust and Cargo Tracking. A true shipping / tracking process increases confidence. Cargo Tracking seems to have the highest average. This means that Cargo Tracking is a big issue and needs to be resolved. It is seen that the bad features of the websites negatively affect the trust of the customers. It shows that there is a positive linear relationship between Trust and Satisfaction. Finally, it was concluded that the overall average of the sizes was 3.646 (72%), meaning that online shopping should be developed according to the needs of customers during the coronavirus epidemic.

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