MIDDLE EAST TECHNICAL UNIVERSITY

DEPARTMENT OF STATISTICS

STAT 365
SURVEY SAMPLING TECHNIQUES
TERM PROJECT

PEOPLE'S ATTITUDES TOWARDS E-COMMERCE

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Table of Content

1.INTRODUCTION

E-commerce has taken up a large part of our lives for the last 15 years. Today, with the development of technology, people have become more involved with e-commerce thanks to mobile applications or shopping or ordering sites on the internet. People have also increased their orientation towards e-commerce instead of the traditional shopping method. In addition, people's interest has completely shifted to online shopping in the last few years due to the effect of the coronavirus. Basically, in this research, we prepared a survey in which we examine the tendency of people to online shopping or traditional shopping in Turkey. From the results of our survey, it is determined that

- when people prefer online/traditional shopping,
- what they are afraid of in online shopping,
- to what extent men and women shop online compared to each other,
- whether there is a connection between monthly income levels and shopping frequency
- whether people's shopping preferences change according to the geographical region they live in our country.
- whether education level has an impact on people's online or traditional shopping orientation
- whether shopping frequencies change between generations.

Our inferences about this survey obtained statistical results. Also, we tried to get by acquiring and researching the above factors. As an inference from this research, we will examine in detail people's attitudes towards e-commerce in Turkey, based on the answers given by our 900 participants. The analyzes extracted from the above entries have contributed significantly to our people in our country have an idea according to their financial situation and characteristic features. While using these analyses, we used statistical research methods. We made inferences about our results to our project with the help of statistical information such as hypothesis testing, visualization with graphics and plots.

1.1 Data Description

When we examine the data collected by the owners of the survey, the number of people who answered all questions valid for this project is 804 out of 1000 people. Of these 804 participants, 510 were male (63%), 286 were female (35%), and the remaining 8 (2%) were people who did not want to reveal their gender. In addition, since the research subject of this project covers people from all age groups, we also determined our distribution according to generations. As known generations, individuals born between 1946-1964 belong to the boomers' generation, individuals born between 1965-1980 belong to generation X, individuals born between 1981-1996 belong to generation Y, and individuals born between 1997-2012 belong to generation Z. Therefore, when we consider the number of participants of each generation, our 61 of our participants are from the boomers generation (7.6%), 275 from the X generation (34%), 224 from the Y generation (28%), 244 from the Z generation (30%) consists of. Moreover, our survey looks across the country, and we have crucial information about the regions where people live. 538 (66.9%) of our participants are in the Marmara Region, 106 (13.2%) are in the Central Anatolia Region, 62 (7.7%) are in the Mediterranean Region, 48 (6%) are in the Aegean Region, 29 (3.6%) in the Black Sea Region, 21 (2.6%) in the Eastern Anatolia Region, 7 (0.8%) in the Southeastern Anatolia Region lives.

Variable	**Description**
Gender	Gender of the participant
Generation	Generation of the participant
Region	Geographical region where the participant lives
Education Status	Education level of participants
Job Status	Current working status of participants
Estimated Monthly Income	Money earned by the participant monthly
Preference of Online Shopping	Participant's level of online shopping intendence
Preference of Traditional Shopping	Participant's level of traditional shopping intendence

Frequencies of Shopping	Frequency of the participant's shopping and usage in online shopping.
Favorite Time for Shopping	The time period when the participant likes to shop online
Hesitations for Online Shopping	Issues that the participant hesitates in online shopping

1.2 Significance of the Study

This research aims to determine, figure out, and analyze how e-commerce occupies among users in Turkey. The results of this research will provide essential inferences in understanding people's estimated monthly income, gender, the generation they were born in and the generation they are in, the products they prefer to purchase most, and the situations in which they feel insecure about e-commerce. For example, there are five fundamental issues that people are afraid of: credit card information stolen, personal information stolen, faulty product delivered, replica product had. From our findings in study, we deduce that the most feared issue of our users is the theft of credit cards. Even this situation is an indication that important implications for science can be found in our research while examining accurate data. Besides, according to the Turkish Ministry of Trade (TMT,2021) data for the first six months of 2021, 41% of the enterprises engaged in e-commerce activities are located in Istanbul, 26.9% in Ankara, and 21.6% in İzmir. In addition, in another vital detail obtained from the ministry data, it is officially stated that the trade volume of technological products in e-commerce reached 29.7 billion TL, followed by 10.9 billion TL in the textile and footwear industry. The transaction volume of mobile food ordering applications, which many of us use, has reached 6.1 billion TL. Also, the details of Boards of Hepsiburada they gave in their online presentation in 2021 as a consequence of research, the CEO of Hepsiburada, Murat Emirdag, the share of e-commerce in retail in Turkey has exceeded the band of 15 percent, and it is expected to exceed 20 percent in 2025. While the global e-commerce volume is expected to reach 4.4 trillion dollars in 2025, the share of e-commerce in total retail is estimated to rise to 20.8 percent. (Emirdag, 2021)

2.REVIEW LITERATURE

With a revenue of US$12 billion in 2020, Turkey is the 21st largest eCommerce market, ahead of Austria and behind Switzerland. Also, 49 percent growth rate in 2020, the Turkish eCommerce market contributed to the global growth rate of 29 percent. (ecommerceDB,2020) eCommerce revenue continues to rise. New markets are arising, and current markets have the possibility for expansion. East and Southeast Asia, with their growing middle classes and lagging offline shopping infrastructure, will drive this. The eCommerce market facilitates online physical sales of products to private end-users (B2C). This definition encompasses purchases made on a website as well as mobile transactions made on smartphones and tablets. Digitally distributed services (e.g., trip tickets), online stores dedicated to digital media downloads or streaming, online stores dedicated to B2B markets, and payments between private persons (C2C) inside the eCommerce market are excluded from the concept of ecommerceDB. Hepsiburada.com is the largest participant in the Turkish eCommerce Market. In 2020, the store's revenue was $987 million USD. It is followed by trendyol.com, which has a revenue of US$792 million, and lcwaikiki.com, which has a revenue of US$460 million. In all, the top three shops contribute for 20% of online income in Turkey. The business rankings are based on every store in Turkey that earns money. These shops might have a national emphasis and exclusively sell in their own country, or they can operate on a worldwide scale. Only revenue generated in Turkey was included for this evaluation. adidas.com.tr is one of the Turkish market's fastest-growing online shops. In 2020, the store's revenues were estimated to be over $57.5 million. Its sales increased by 197 percent the prior year. According to the Statista Digital Market Outlook (2020), the marketing strategy in Turkey is likely to continue in the next years. The compound annual growth rate over the following four years is expected to be 22 percent. In comparison to the 49 percent year-over-year gain, this decline indicates a crowded market. Another sign of market saturation is Turkey's 40% online penetration; in other words, 40% of the Turkish population will have purchased at least one product online. (Statista,2020). Fashion is an essential component in Turkey, accounting for 42 percent of total eCommerce revenue. This is followed by Electronics & Media with 21%, Toys, Hobby & DIY with 18%, Furniture & Appliances with 11%, and Food & Personal Care with the remaining 7%. (ecommerceDB, 2020). However, according to the data of the Ministry of Trade (2021), the share of technological gadgets in e-commerce has increased much more than clothing in 2021, most likely due to the impact of the coronavirus. Moreover, Founder of Projesoft Yüksel Eminoglu(March,2021) mentioned in his online article about security in e-commerce: the most basic method of ensuring the security of e-commerce sites is SSL Security certificate, and you can find this certificate for less than $5 or even for free if you have some technical knowledge and install it on your site. This certificate only ensures the safe transfer of data between you and the site. And, of course, it ensures that the communication between the site and the bank is equally secure. What about the site software? It does not provide you any security in this regard. In this regard, banks and payment

institutions use the PCI-DSS Level 1 security standard. This standard includes and controls rules about who will access the infrastructure of your site and even the personal information recorded on the site. Therefore, a PCI-DSS Level 1 security-certified infrastructure will always be the users' choice for shopping. Users should check whether the online sites they shop with are safe and have the necessary certificates.

3. AIM OF RESEARCH

3.1 Main Objective

The main issue to be emphasized in this research is the level of our people's use of online shopping methods, which have a more incredible place in our lives, especially with the effect of the pandemic. Our research aims to get a result by asking questions about how much people shop online in our country and especially the advantages and disadvantages compared to traditional shopping.

3.2 Minor Objective

1. To determine whether the generation and gender of people have an effect on their orientation to e-commerce.
2. Obtain how well or bad the economic situation of people affects their orientation to online shopping.
3. Conduct research to determine the products that people are most likely to buy in online shopping, and it was visualized with a table.
4. Reach what the factors that attract people to shop online are.
5. Finding the most significant problem that causes people to hesitate and feel insecure about online shopping.

3.3 Research Philosophy

This research has a realism philosophical approach. Realistic philosophies are characterized by objectively appraising a situation based on factual, scientific evidence suitable for analysis on affectable factors. Also, there is observable information about online shoppers, which we are focusing on in our study. In some circumstances, we will apply the philosophical framework accessible here in their approach to online shopping. Research questions will evaluate our statistical

analyses and some data inferences with this realistic philosophical understanding by achieving the characteristics of shopping defined for people in our country, such as their living conditions, generations, gender, and geographical regions where they live.

4. SURVEY METHODOLOGY

4.1 SURVEY DESIGN

4.1.1 Sample Design

There are 1000 replies obtained using the Google Form questionnaire delivered to each of our participants individually. After further elaboration, validation, and organization of our collected data, the sample size was reduced to 804 from 1000. However, when we add the participants who forgot to answer some questions, this number may increase in the fields where we examined our research questions. We discussed the answers explicitly given to the question in those question types.

4.1.2 Data Collection

Because of the Covid-19 pandemic, we have maintained our survey process online. We benefit from a Google Form survey that has been prepared. The primary audience consisted of people from all regions of our country who live in our country. Participants from various regions and generations answer our questionnaire by e-mail. Although snowball sampling was employed, our families and entourage helped a lot.

In the analyzing and constructing plots of data procedure, R, Excel, and Google Form Plots were usable for our study.

4.2 METHODS OF ANALYSIS

As statistical tools, descriptive statistics and statistical tests were utilized. As part of the statistical approach of the identification, graphical methods and information tables displaying frequency are applied. As can be seen, this information provides information that helps in visualization and identification. Additionally, some statistical tests will be

utilized in various approaches, including analysis of variance, normality testing, and chi-square testing.

4.2.1 Descriptive Statistics

Frequencies

A frequency distribution is assumed or graph demonstrating the frequency of various survey outcomes. Every element in the dataset contains frequency or number of answers to attributes within a specific group or period. The frequency distribution displays the number of responses in the classification, and the precise data class split into mutually exclusive clusters. We have seen the benefit of the frequency table in making inferences in our dataset, which we obtained from our survey.

Graphs

There are pie plots that Google Form allows users to access, and we have reached the bar plots that we obtained in the statistical programming language R. The crucial stakeholders that make it easier for us to make inferences from our dataset are the fact that these plots are presented to us by visualizing the results according to the numerical data we obtained in the statistical research. One of the most effective assistants of statistical analysis is the graphics to compare our statistical findings.

4.2.2 Statistical Tests

Chi-Squared Test

The chi-Squared test is a statistical test used to examine relationships between two categorical variables. Pieces of information have made an inference from our test results and p-values.

Fisher’s Exact Test

Fisher's exact test is a statistical significance test used in the analysis of contingency tables

5. DATA ANALYSIS, FINDINGS, AND DISCUSSIONS

5.1 How do the innate differences such as generation and gender affect people's attitudes towards E-Commerce?

Since our variables are categorical variable, we used Fisher and Chi Square test. In these first two plots, we aimed to answer whether generation difference has an effect on people's attitudes towards shopping online and traditionally. For data visualization, we fixed the maximum y-value to the same value for both plots to avoid data manipulation. As a result of both Chi-Square and Fisher tests, we observed that generation difference influences people's attitudes towards shopping online and traditionally.

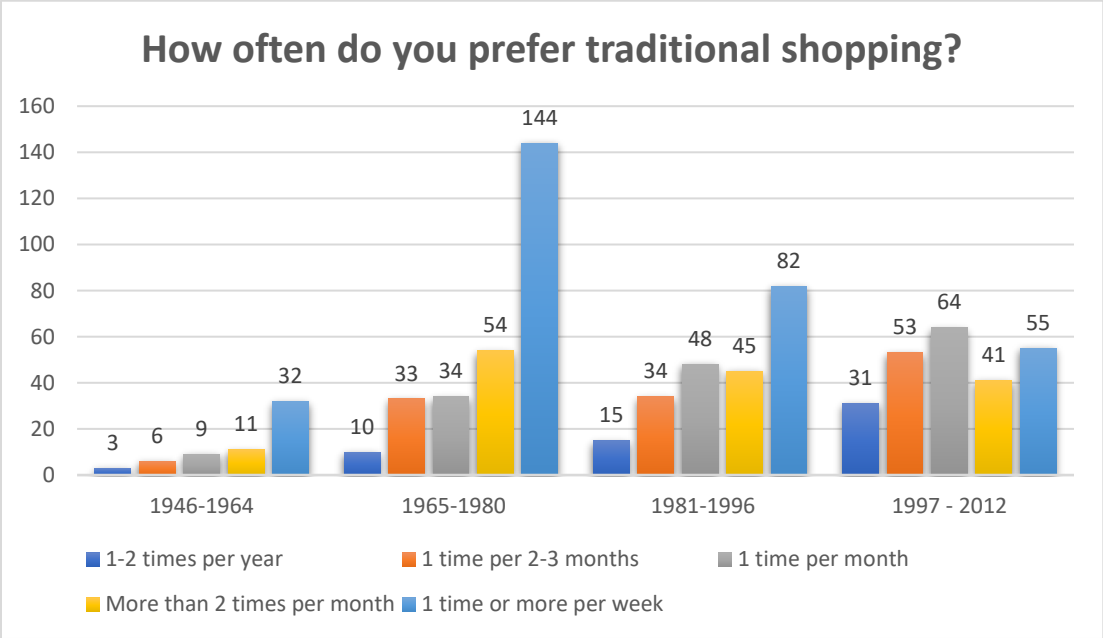


Figure 1

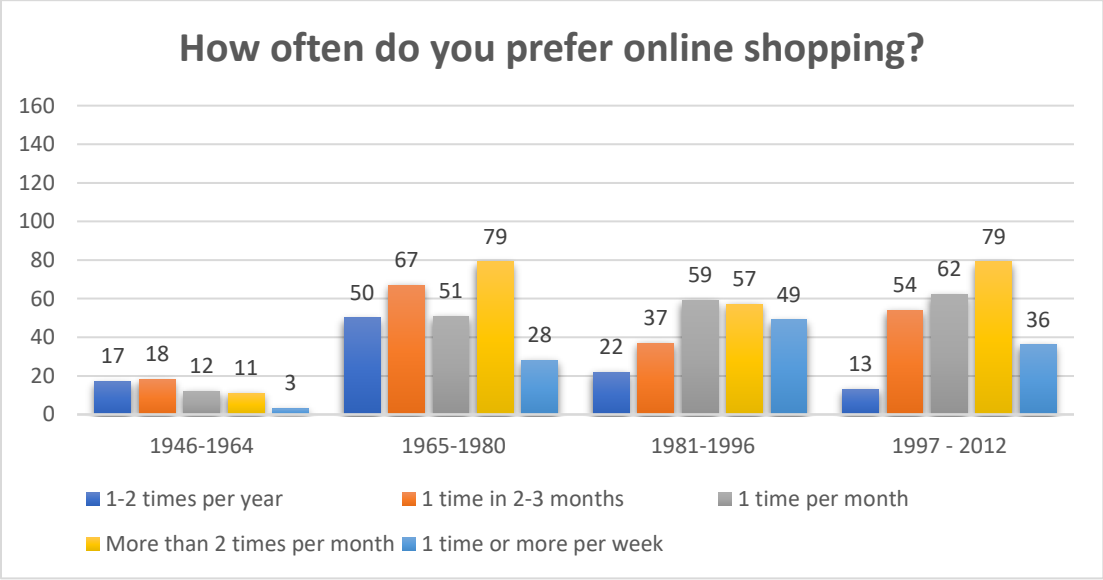


Figure 2

These bar charts show that as the generations changes, rate of people's preference for online shopping increases compared to people of the previous generation. People from generations 1946-1964 and 1965-1980 prefer traditional shopping more while people from generation 1997-2012 prefer online shopping more.

In the following two bar charts, we focused on whether use rates of grocery shopping and food ordering apps differs depending on the generation difference. We used both Fisher and Chi-square test and we observed that generation difference has effect on use rates of grocery shopping and food ordering apps.

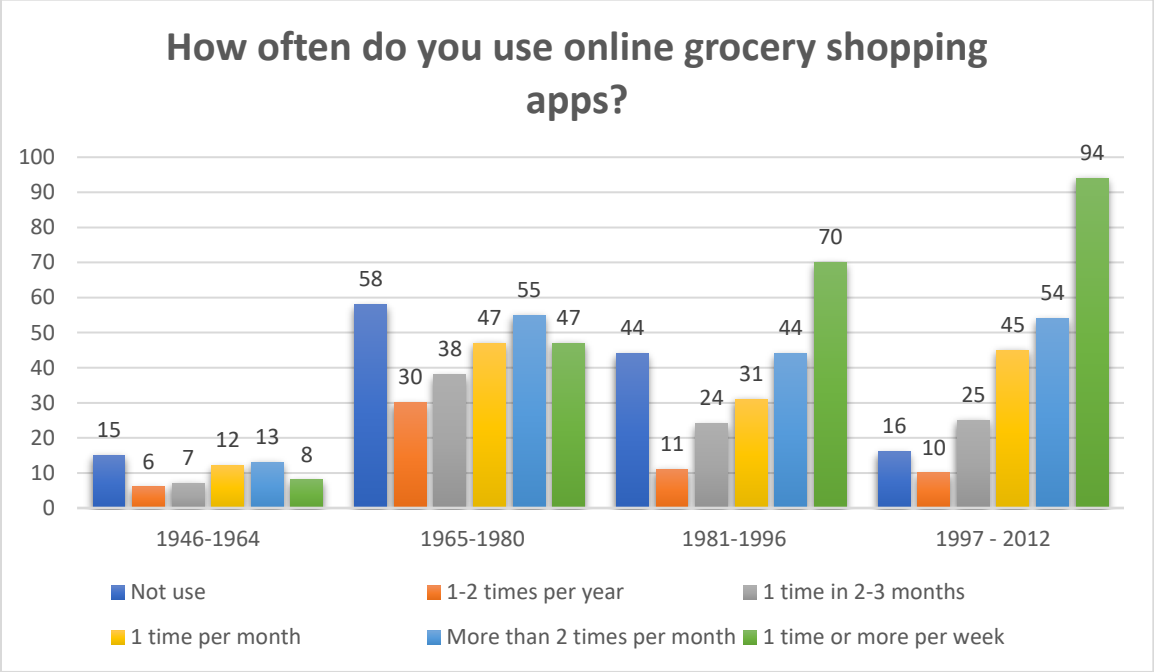


Figure 3

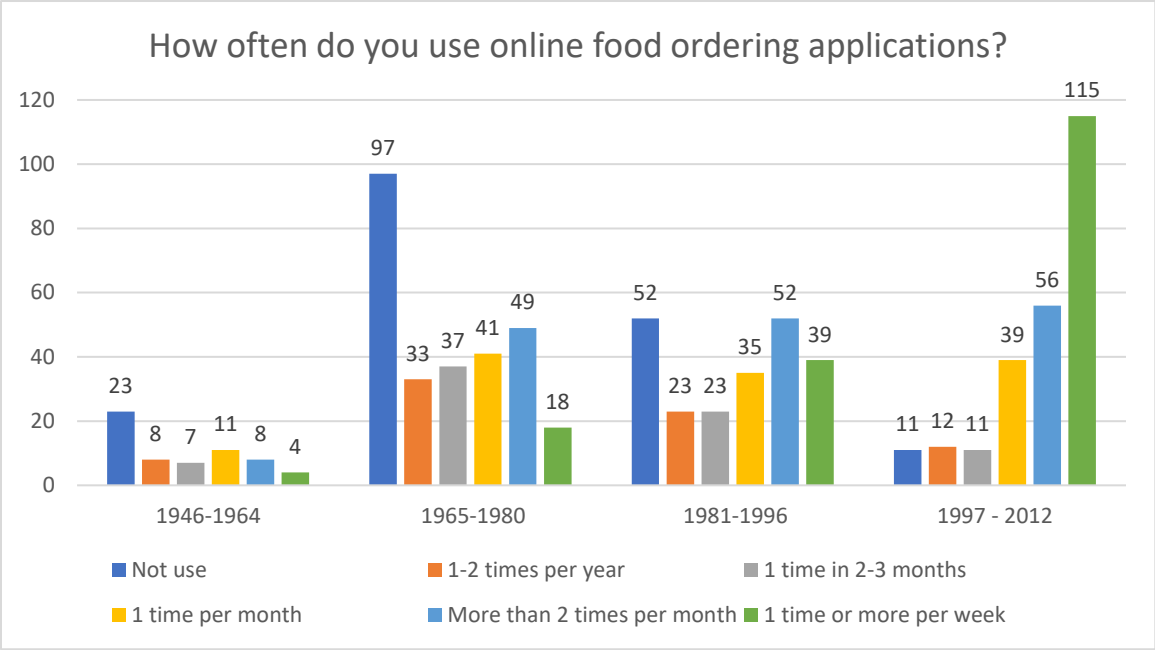


Figure 4

Use rates of both food ordering and grocery shopping applications has reached considerable rates for generation 1997-2012. While generation 1997-2012 uses food ordering applications more than grocery shopping applications, for the other generations it is preferred grocery shopping applications more than food ordering. However, this gap closes as the generation goes from 1946-1964 to 1981-1996.

In the following two plots, we observed that there is no affect of gender for females in shopping while it has for males.

Figure 5

Figure 6

5.2 How does economic situation affect the frequency of online shopping?

In these following tables, we aimed to find whether economic situation affect the frequency of online shopping.

Figure 7

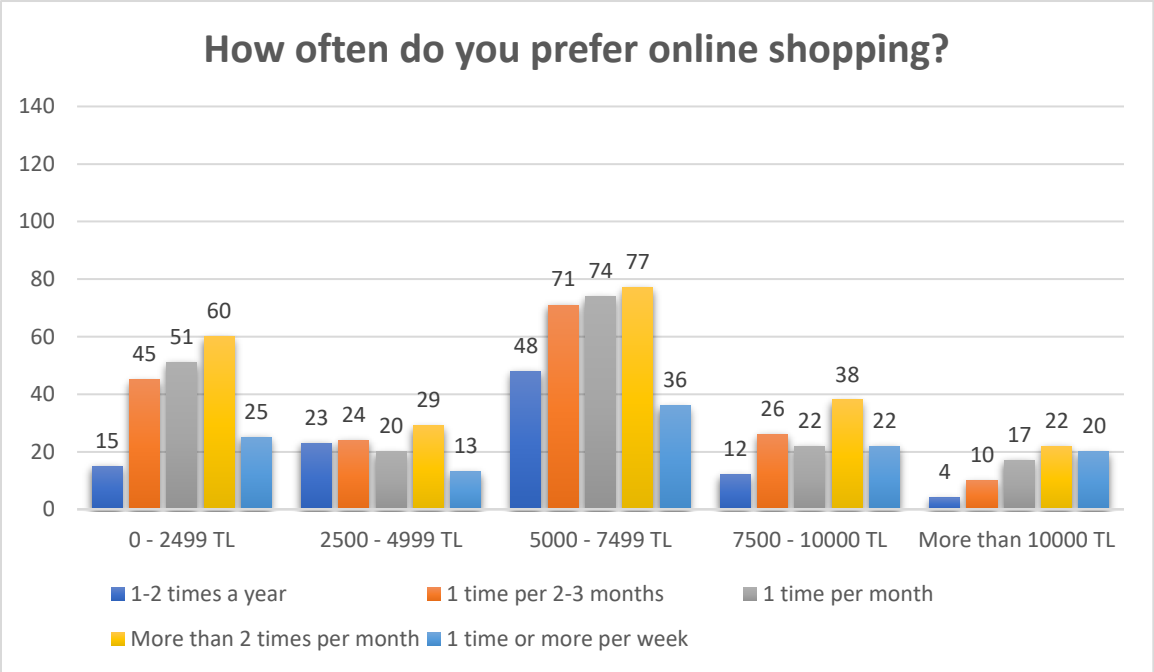


Figure 8

By chi-square and Fisher tests, we observed that economic situation affects frequency of shopping frequency. While people with income of 0-2499 TL prefer more online shopping, others prefer traditional shopping more.

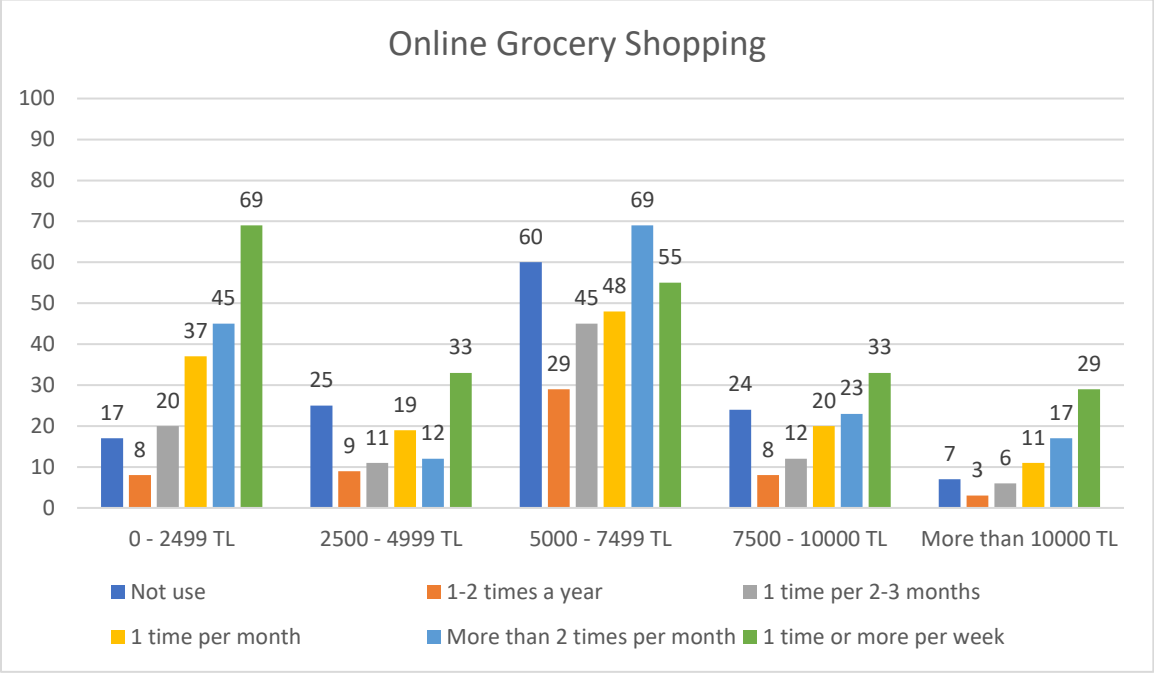


Figure 9

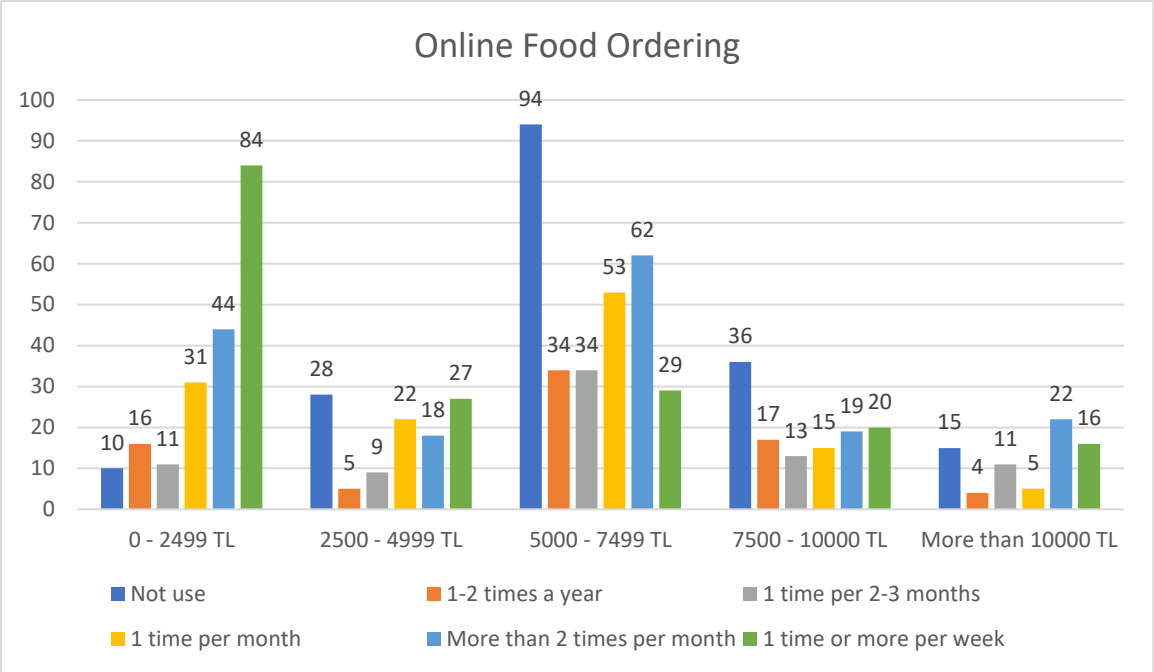


Figure 10

It is observed that monthly income has effect on people's shopping preference and frequency. If they have lower monthly income, they tend to shop online.

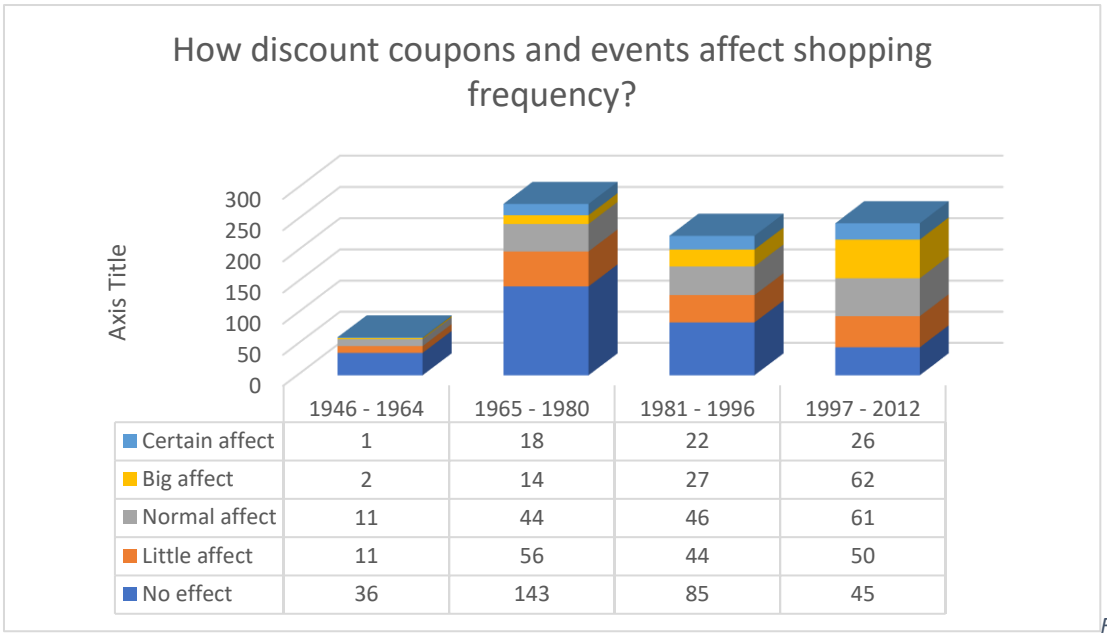
5.3 Which products do people prefer most online shopping?

Products:	Frequency:	Products:	Frequency:
Clothing Products	566	**Market and Food Products**	26
Technology Products	347	**Book, Magazine etc. products**	331
Car, Real Estate	30	**Home and Kitchen products**	239
Disinfectant and hygienic products	119	**Hobby products such as games, movies**	80
Personal care	8	**Other**	10

Table 1

In this table, the products that people buy while shopping online are listed. We can observe that online shopping has a great impact especially in the clothing industry. Clothing products are followed by technological products and book, magazine products.

5.4 What are the possible effects to increase the frequency of online shopping? How discount coupons and time affects the preferences?



	1946 - 1964	1965 - 1980	1981 - 1996	1997 - 2012
Certain affect	1	18	22	26
Big affect	2	14	27	62
Normal affect	11	44	46	61
Little affect	11	56	44	50
No effect	36	143	85	45

Figure 11

By statistical tests, it is found that discount coupons and events have effect for online shoppers. In this table, we can observe that discount coupons and events such as Black Friday has increased the frequency of shopping online for the Generation 1997-2012. In addition, we can see that discount coupons and events has effect on Generation 1981-1996. However, we can also observe that generation difference has also impact on effects of discount coupons and events of people in shopping.

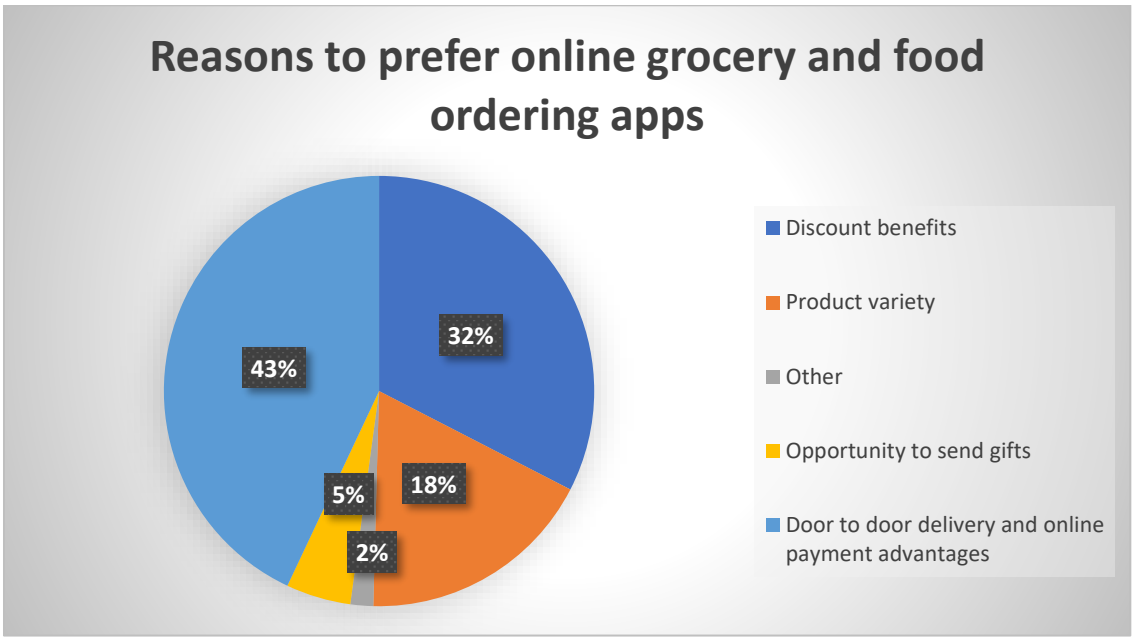


Figure 12

In this pie chart, we can observe that door to door delivery and online payment advantages (43%) and discount benefits (%32) create the 75% of all variables. It is followed by product variability and opportunity to send gifts.

Figure 13

There are many reasons to prefer online shopping. Affordable price advantage is the most important reasons according to our sample. It is followed by saving time and product variety.

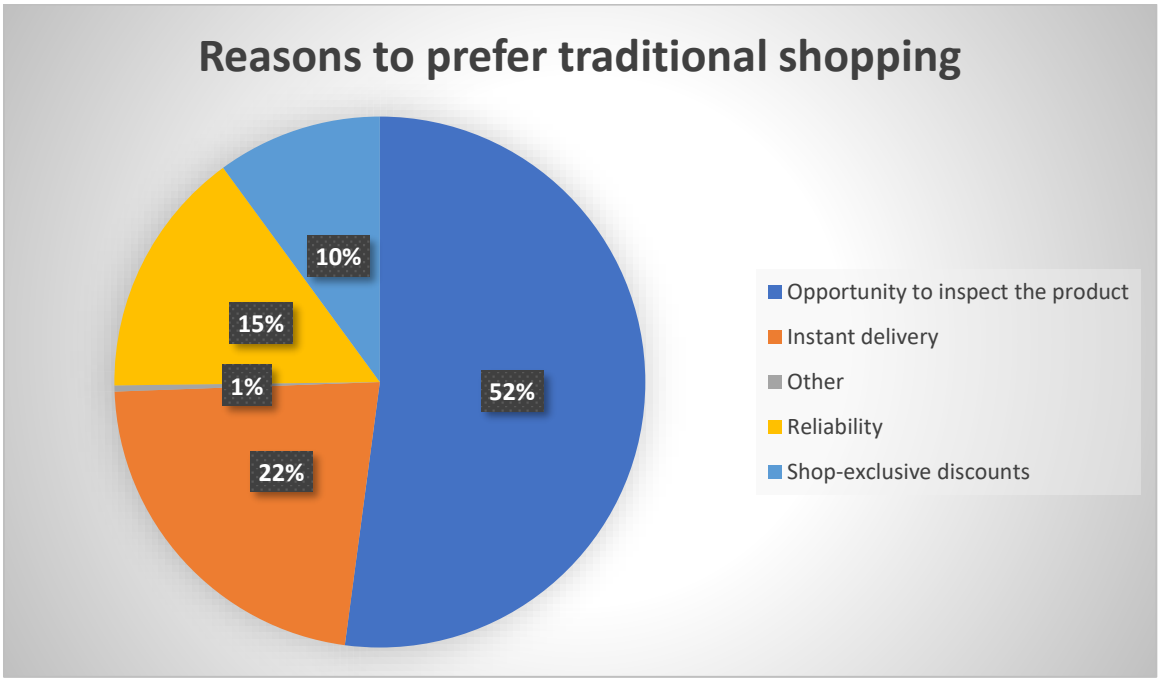


Figure 14

According to the Figure 14, we can comment that opportunity to inspect the product is the most important reason why people prefer traditional shopping. It creates the majority alone with 52%.

When do you prefer to shop traditionally?	
Time	**Frequency**
9.00 AM – 00.59 PM	88
1.00 PM - 4.59 PM	299
5.00 PM and later	417

Table 2

When do you prefer to shop online?	
Time	**Frequency**
9.00 AM – 00.59 PM	12
1.00 PM - 4.59 PM	47
5.00 PM and later	391
Does not matter	354

Table 3

From these tables, we observed that time flexibility of online shopping gives customer an opportunity to shop whenever they want to shop. However, in traditional shopping there is no such an opportunity. This might be the reason why traditional shopping has low answer rate for this question.

5.5 What are the situations that people feel most insecure while shopping online and what kind of actions can be taken for these situations?

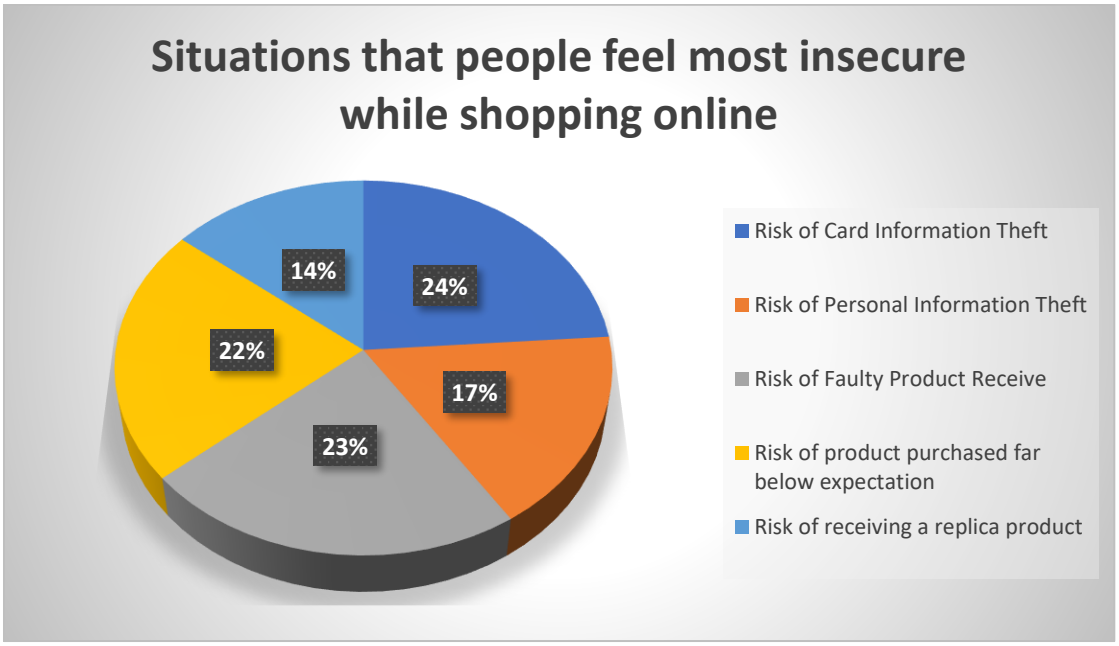


Figure 15

In Figure 15, we can observe that people are sharing similar fears while shopping online because all the answer are similar response rate. Risk of card information theft (24%), risk of faulty product receives (23%), and risk of product purchased far below expectation (22%) are the three answers with most rate. Also, only 2 people out of 804 has answered this question, “I have no fear.”

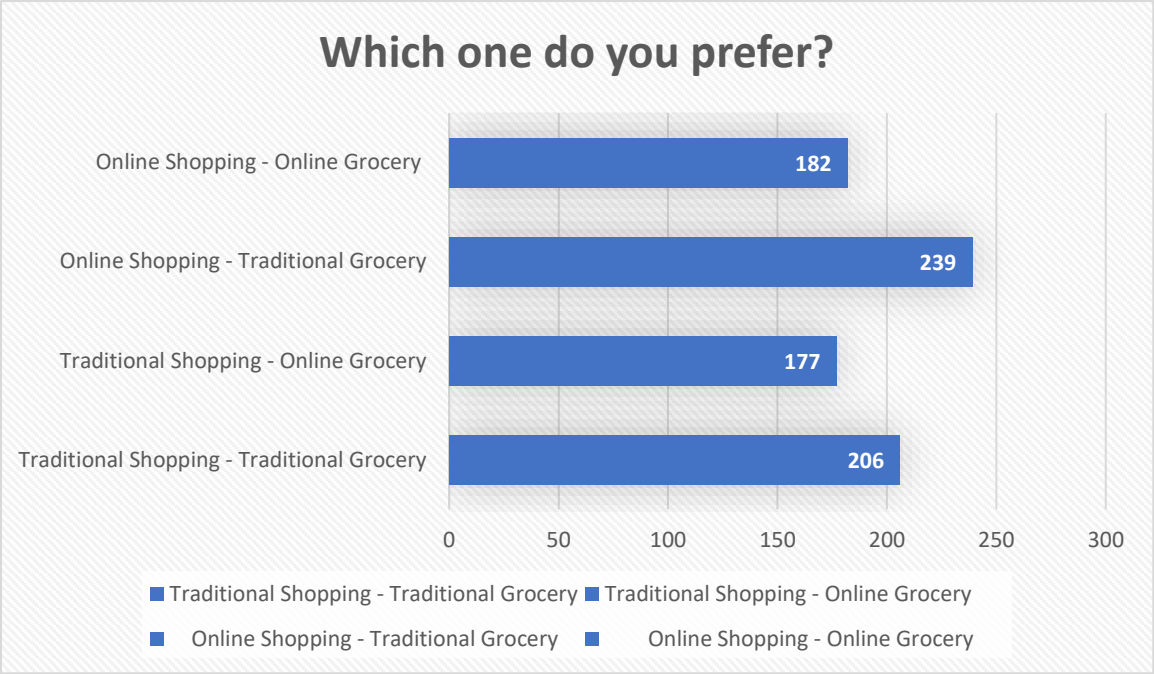


Figure 16

	Traditional Grocery	*Online Grocery*	
Traditional Shopping	206	177	383
Online Shopping	239	182	421
	445	359	

Table 4

This table is the answer of which two combinations you prefer. From Figure 16 and Table 4, we can observe that people prefer online while shopping and traditional shopping in grocery shopping. Clearly, people prefer to buy clothes in online shopping and prefer to buy foods and vegetables in traditional grocery shopping. We can interpret that Online shopping in clothing industry has reached its goal while online grocery shopping could not reach its goal yet.

6.CONCLUSION

Online shopping is no longer a sector that has risen in our country only during the pandemic period, because now everyone has access to technological devices and the internet. As stated in the introduction part, the adventure of e-commerce and online shopping has begun to penetrate deeper into our lives, especially in the last ten years. With the inevitable effect of the pandemic, it has become a sector that has managed to ultimately attract people's focus and attention. In our country, there are online trading sites such as Getir, Hepsiburada, and Trendyol, which receive billions of dollars of investment from foreign and domestic capital, which are also called "decacorn" in the language of entrepreneurship. The biggest reason why e-commerce companies from Turkey have received so much investment in this development is the increasing interest in this field in our country, as everyone predicts. In our research, we wanted to reach as many people as we could get and examine a sample of 1000 people living in different parts of our country. After the data cleaning process, we ensured that the answers of 804 participants were discussed in detail. Moreover, the valuable responses of the participants, we put our values into the statistical process and made the necessary analyzes. Thanks to visualization techniques, research on online shopping, and what people intend to make shopping type more apprehensible. As a result of our study, as can be seen from our plots and tables, most people prefer the traditional shopping method. But the share of online shopping is undeniable. Especially Generation Z, that is, the generation born into technology, is much more interested in online shopping, revealing the extent of online shopping in the next 20 years.

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8.APPENDIX

QUESTIONNAIRES

Survey About People's Attitudes

Towards E-Commerce

1- What is your gender?

a. Female

b. Male

c. I do not want to specify

2- What is the range of your birth date?

a. 1946 – 1964

b. 1965 – 1980

c. 1987 – 1996

d. 1997 – 2012

3- In which region of Turkey do you live?

a. Marmara Region

b. Central Anatolia Region

c. the Mediterranean region

d. Aegean region

e. Black Sea region

f. Eastern Anatolia Region

g. Southeastern Anatolia Region

4- What is your education status?

a) Primary school graduate

b) secondary school graduate

c) High school student/ graduate.

d) Associate degree graduate or student

e) Undergraduate or graduate student

f) Master's degree or Master's student

g) PhD graduate or PhD student

5- What is your job status?

a. I work in a government agency.

b. I work in a private institution.

c. I am not working.

d. I am a student.

e. I am retired.

f. Other

6- What is your estimated monthly income?

a. 0 - 2499 TL

b. 2500 - 4999 TL

c. 5000 - 7499 TL

d. 7500 - 10000 TL

e. 10000 TL and above

7- How often do you prefer face-to-face traditional shopping?

a) Once a week or more

b) More than 2 times a month

c) 1 time per month

d) 1 time in 2-3 months

e) 1-2 times a year

8- How often do you shop online?

a) Once a week or more

b) More than 2 times a month

c) 1 time per month

d) 1 time in 2-3 months

e) 1-2 times a year

9- Why do you prefer online shopping? If you marked "Other", could you briefly describe the reasons?

a) Easy access

b) Reliability

c) Affordable Price Advantage

d) Product variety

e) Payment Convenience

f) Ease of Return

g) Saving time

h) Other:

10- Why do you prefer traditional shopping? If you marked Other, could you briefly write the reasons?

a) Ürünü inceleyerek alma imkanı

b) Güvenilirlik

c) Anında teslimat

d) Mağazaya özel indirimler

e) Diğer

11- How do discount coupons and events such as Black Friday affect your shopping frequency? (Rate this effect from one (do not affect) to five (affects much))

12- Which products do you prefer to buy in online shopping? If you marked Other, could you briefly write which products are there?

a) Clothing Products

b) Technological Products

c) Books, magazines etc.

d) Car, real estate

e) Household appliances, kitchen appliances, etc.

f) Disinfectant and hygienic products

g) Games, movies, etc. entertainment products

h) Other:

13- How often do you use online market sites/applications?

a. Once a week or more

b. More than 2 times a month

c. 1 time per month

d. 1 time in 2-3 months

e. 1-2 times a year

f. I do not use

14- How often do you order from online food sites/apps?

a) Once a week or more

b) More than 2 times a month

c) 1 time per month

d) 1 time in 2-3 months

e) 1-2 times a year

f) I do not use

15- What are your reasons for preferring online grocery and food shopping sites (Yemeksepeti, Getir, Banabi etc. applications)? If you marked "Other", could you briefly describe the reasons?

a) Discount benefits

b) Opportunity of sending gifts

c) Product variety

d) Door to door delivery and online payment advantages

e) Other:

16- Which of the following options is suitable for you?

a) Online Shopping - Online Market/Food

b) Traditional Shopping - Online Market/Food

c) Online Shopping - Traditional Grocery/Food

d) Traditional Shopping - Traditional Market/Food

17- What is your favorite time to do traditional shopping?

a) 9.00 AM – 00.59 PM (before lunch)

b) 1.00 PM - 4.59 PM (After noon - before the end of working hours)

c) 5.00 PM and later (After working hours)

18- What is your favorite time to do online shopping?

a) 1.00 AM - 04.59 AM

b) 05.00 AM - 08.59 AM

c) 09.00 AM - 00.59 PM

d) 1.00 PM - 4.59 PM

e) 5.00 PM - 8.59 PM

f) 9.00 PM - 00.59 AM

g) It does not matter

19- What are the issues that you hesitate or cannot trust while shopping online? If you marked Other, could you briefly describe which topics?

a) Theft of card information

b) Stealing personal information

c) Faulty product arrived

d) Product purchased far below expectations

e) Replica product arrival

f) Other:

20- What is your point of view towards e-commerce and e-commerce applications? (Rate this from one (Do not supportive) to five (very supportive))

R Codes:

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library(sqldf);library(ggplot2);library(dplyr);data <- read.csv("ecommercedata.csv", encoding = "UTF-8",na.strings=c("","NA"));colnames(data) <- c(paste0("X",1:22));data$X1 <- NULL;data$X22 <- NULL;colnames(data) <- c(paste0("X",1:20));data <- data %>% select(X1,X2,X3,X4,X5,X6,X7,X8,X9,X10,X11,X12,X13,X14,X15,X16,X17,X18,X19) %>% na.omit();nrow(data);ggplot(data=data, aes(X7,fill=X1))+ geom_bar()+facet_wrap(~X2) + scale_x_discrete(guide = guide_axis(n.dodge=3)) + labs(title = "How often do you prefer face-to-face traditional shopping?", y = "Number of observations") + scale_y_continuous(limits = c(0, 200)) + geom_text(aes(label = ..count..), stat = "count" ,position = position_stack(0.5), color = "white")ggplot(data=data, aes(X8,fill=X1))+ geom_bar()+ facet_wrap(~X2) + scale_x_discrete(guide = guide_axis(n.dodge=3)) + labs(title = "How often do you shop online?", y = "Number of observations") + scale_y_continuous(limits = c(0, 200)) + geom_text(aes(label = ..count..), stat = "count" ,position = position_stack(0.5), color = "white");ggplot(data = data, aes(X13, fill = X1)) + geom_bar()+ facet_wrap(~X2) + scale_x_discrete(guide = guide_axis(n.dodge=3)) + labs(title = "How often do you prefer online grocery shopping?", y = "Number of observations") + scale_y_continuous(limits = c(0, 200)) + geom_text(aes(label = ..count..), stat = "count" ,position = position_stack(0.5), color = "white");ggplot(data = data, aes(X14, fill = X1)) + geom_bar()+ facet_wrap(~X2) + scale_x_discrete(guide = guide_axis(n.dodge=3)) + labs(title = "How often do you prefer online food ordering sites?", y = "Number of observations") + scale_y_continuous(limits = c(0, 200)) + geom_text(aes(label = ..count..), stat = "count" ,position = position_stack(0.5), color = "white");datakadın <- sqldf("SELECT * FROM data WHERE X1 LIKE '%Kadın%'");table(datakadın$X7);table(datakadın$X8);chisq.test(table(datakadın$X7, datakadın$X8));fisher.test(datakadın$X7, datakadın$X8, simulate.p.value = T);dataerkek <- sqldf("SELECT * FROM data WHERE X1 LIKE '%Erkek%'");table(dataerkek$X7);table(dataerkek$X8);chisq.test(table(dataerkek$X7, dataerkek$X8));fisher.test(dataerkek$X7, dataerkek$X8, simulate.p.value = T);ggplot(data = data, aes(X7, fill =(X6))) + geom_bar() + scale_x_discrete(guide = guide_axis(n.dodge=3)) + labs(title = "How often do you shop traditionally?", y = "Number of observations") + geom_text(aes(label = ..count..), stat = "count" ,position = position_stack(0.5), color = "white");ggplot(data = data, aes(X8, fill =(X6))) + geom_bar() + scale_x_discrete(guide = guide_axis(n.dodge=3)) + labs(title = "How often do you shop online?", y = "Number of observations") + geom_text(aes(label = ..count..), stat = "count" ,position = position_stack(0.5), color = "white");ggplot(data = data, aes(X13, fill =(X6))) + geom_bar() + scale_x_discrete(guide = guide_axis(n.dodge=3)) + labs(title = "How often do you shop online?", y = "Number of observations") + geom_text(aes(label = ..count..), stat = "count" ,position = position_stack(0.5), color = "white");ggplot(data = data, aes(X14, fill =(X6))) + geom_bar() + scale_x_discrete(guide = guide_axis(n.dodge=3)) + labs(title = "How often do you shop online?", y = "Number of observations") + geom_text(aes(label = ..count..), stat = "count" ,position = position_stack(0.5), color = "white");chisq.test(table(data$X7, data$X11));fisher.test(data$X7,data$X11, simulate.p.value = T) ;chisq.test(table(data$X8, data$X6));fisher.test(data$X8,data$X6, simulate.p.value = T) ;chisq.test(table(data$X13, data$X6));fisher.test(data$X13,data$X6, simulate.p.value = T) ;chisq.test(table(data$X14, data$X6));fisher.test(data$X14,data$X6, simulate.p.value = T);table(data$X12) ;ggplot(data = data, aes(x = data$X11, fill = data$X2)) + geom_bar() + labs(title = "How discount coupons and black friday affect your shopping frequency?", x= "Opinion Scoring", y= "Count") + geom_text(aes(label = ..count..), stat = "count" ,position = position_stack(0.5), color = "white");ggplot(data=data, aes(X11,fill=X1))+ geom_bar()+ facet_wrap(~X2) + labs(title = "How discount coupons and black friday affect your shopping frequency?", x= "Opinion Scoring", y= "Count") + scale_y_continuous(limits = c(0,200)) + geom_text(aes(label = ..count..), stat = "count" ,position = position_stack(0.5), color = "white");table(data$X2,
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data$X11);chisq.test(table(data$X2, data$X11));fisher.test(data$X2,data$X11, simulate.p.value = T)
;ggplot(data=data, aes(X4, fill = X5))+   facet_wrap(~X11) +  geom_bar() +  labs(title = "How discount coupons
and black friday affect your shopping frequency?",       x= "Opinion Scoring",       y= "Count") +
scale_y_continuous(limits = c(0,200)) +  geom_text(aes(label = ..count..), stat = "count" ,position =
position_stack(0.5), color = "white");table(data$X9);ulaşım<-sqldf("SELECT * FROM data WHERE X9 LIKE
'%Ulaşım Kolaylığı%'");nrow(ulaşım);güven<-sqldf("SELECT * FROM data WHERE X9 LIKE
'%Güvenilirlik%'");nrow(güven);fiyat<-sqldf("SELECT * FROM data WHERE X9 LIKE '%Uygun Fiyat
Avantajı%'");nrow(fiyat);çeşit<-sqldf("SELECT * FROM data WHERE X9 LIKE '%Ürün
Çeşitliliği%'");nrow(çeşit);örahatlık<-sqldf("SELECT * FROM data WHERE X9 LIKE '%Ödeme
Rahatlığı%'");nrow(örahatlık);iade<-sqldf("SELECT count FROM data WHERE X9 LIKE '%İade
Kolaylığı%'");nrow(iade);count(iade);zamant<-sqldf("SELECT * FROM data WHERE X9 LIKE '%Zaman
Tasarrufu%'");nrow(zamant);table(data$X10);table(data$X10);sqldf("SELECT count(*) FROM data WHERE
X10 LIKE '%Mağazaya özel indirimler%'");table(data$X19;sqldf("SELECT count(*) FROM data WHERE X19
LIKE '%Kişisel bilgilerin çalınması%'");sqldf("SELECT count(*) FROM data WHERE X12 LIKE '%Oyun, film
vb. eğlence
ürünleri%'");table(data$X12);table(data$X15);table(data$X17);table(data$X18);table(data$X19);table(data$X16
)
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