

The Effect of Informative and Normative Role of Reference Groups on Consumers' Purchasing Intention through Online Grocery Applications

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ABSTRACT

Purpose - Consumers are increasingly interested in e-commerce and online grocery applications. There has been a tremendous surge in the number of online grocery applications, particularly during the Covid-19 outbreak. The surroundings of customers and online consumer feedback are believed to have a significant impact on how widely these applications are used. This study intends to explore how customers' purchase intentions via online grocery applications are influenced by reference groups' informative and normative roles.

Design/methodology/approach – This study was carried out using quantitative research techniques. Snowball sampling, one of the non-random sampling techniques, was used to choose the samples. A face-to-face and online questionnaire was used to collect the data. 418 consumers who fit the research's target audience were contacted, but after sending out 23 surveys, the study only had 395 participants left. The statistical package packages IBM AMOS 23 and IBM SPSS 25 were used to analyze the data that had been gathered. Explanatory factor analysis, Confirmatory factor analysis, and Regression analysis were used to analyze the data.

Findings - As a consequence of the study, it was discovered that the control factors of gender, education level, and income had no effect on customers' intentions to make online purchases. The informative and normative roles of reference groups have been found to influence customers' intentions to make online purchases favorably.

Discussion - While various variables influence customers to shop online, the use of online grocery apps has surged, particularly during the Covid-19 pandemic. Consumers who are interested in learning new applications and are concerned about these applications are influenced by their immediate surroundings, such as family and friends, i.e. reference groups. When the relevant literature is reviewed, it is predicted that this study will complete the gap in the literature and shed light on future research, as no previous research on this issue has been conducted.

1. INTRODUCTION

As digital technology has impacted more aspects of business and society, it has reshaped the interaction between buyers and sellers, workers and employers, governments and citizens, and people in their social life. Countries have also begun a rapid learning process in order to sustainably keep up with technological advancement and profit from prospective profits (Ariansyah et al., 2021). The retail sector, like many other industries, has seen a considerable upheaval as a result of the continuous digitalization of modern life, and customers from practically every nation are now starting to utilize online transactions (Coppola, 2022). Electronic commerce has emerged and spread as a result of the retail industry's use and acceptance of digital technologies. E-commerce has transformed the entire retail experience over the past two decades, becoming one of the most significant markets for the exchange of products and services (Zerbini et al., 2022).

Consumers have grown more likely to shift their tastes and behavioral patterns during the Covid-19 pandemic era, which started on December 1, 2019, in China and affected the entire world. Examples include moving to online shopping and alternate pick-up and delivery choices (Erjavec and Manfreda, 2022). During this time, consumers' preferences shifted from traditional markets to online food buying (Eriksson and Stenius, 2022). Online groceries, which allow consumers to shop whenever they want without leaving their homes and have their groceries delivered to their doorsteps (Kvalsvik, 2022), are expected to grow rapidly, particularly in the

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American and European markets (Kian et al., 2019), and will account for 20% of all market sales in the United States by 2025 (Headrick et al., 2022).

There are numerous studies researching online grocery applications in the existing academic literature. Yüksel (2002) examined the online grocery application of Migros Türk Inc. to determine the performance of websites in accordance with several criteria. Demir (2014) used a survey with 370 participants to learn how consumers perceive online grocery shopping and how much weight they give to elements on the websites of online grocery stores. The Migros and Groseri markets' websites, which operate in Adana and feature online grocery apps, were assessed as part of the research project in terms of factors like design, product, price, delivery, security, and after-sale service. It has been established that customers' general attitude toward online grocery shopping is favorable, but that online groceries have not yet fully matched consumers' expectations. According to Chin and Goh (2017), as customers' preference for online shopping grows, so does the popularity of online food shopping in Malaysia. İşçioğlu (2018) interviewed 38 participants and proposed an explanatory model, claiming that the characteristics of perceived financial gain, continuous involvement, and trust in e-retailers are novel notions that would influence the persistence of online purchasing intention. According to Martín et al. (2019), e-grocery research has recently gained greater attention, which has accelerated since consumers may acquire the food they need in their homes or offices at a convenient time and guarantee relative convenience to the client.

According to Kühn et al. (2020), there is a disconnect between customers' expressed shopping motivations and their actual purchase behavior when they shop for groceries online. In 2018, the majority of American consumers bought less than 4% of all groceries online, and there is still a widespread reluctance to do so. They noted that the same is true for German consumers who are hesitant to buy food online and that these actions contradict research on online grocery shopping attitudes. Çakır and Kazançolu (2020) used the Unified Theory of Acceptability and Use of Technology (UTAUT2) Model to investigate the factors influencing the acceptability of online grocery channels and risk perceptions. It was shown that while enabling factors, habit, performance expectation, and time risk had a favorable effect, the psychological risk variable had a negative impact on the study, which was done by administering a questionnaire to 402 consumers. Eren (2021) conducted a study on the variables influencing consumers' online grocery shopping experiences and how those experiences affected customer satisfaction. The data gathered from 378 participants using the convenience sampling approach online was then subjected to structural equation modeling. According to the findings of the study, the brand experience dimension of the online grocery shopping experience influences the total shopping experience, the total shopping experience influences customer satisfaction, and customer satisfaction for online grocery shopping influences customers' repeat purchase intention and word-of-mouth communication behavior.

According to Eriksson and Stenius (2022), family factors and health concerns are driving online grocery shopping uptake as a result of the Covid-19 outbreak. Despite the fact that online grocery shopping in Finland has increased recently, especially during the epidemic, they expressed that it is still in its early stages. According to Anshu et al. (2022), customers nowadays are seeking new, convenient, and time-saving ways to buy food, and the e-grocery business in India has significant potential. According to Kvalsvik (2022), the online grocery industry in European countries is growing, but the market share of online grocery shopping in Norway is limited, with only 14% of Norwegians buying food online in a survey taken between 2009 and 2019.

It is clear that there are many factors that lead consumers to shop online and prefer online grocery applications (İşçioğlu, 2018; Martín et al., 2019; Çakır and Kazançolu, 2020; Eren 2021; Anshu et al., 2022; Eriksson and Stenius; 2022; Erjavec and Manfreda, 2022; Kvalsvik, 2022). Consumers that are interested in learning new apps and have concerns about these applications are assumed to be impacted most by their immediate surroundings, such as family and friends. The informative and normative role of reference groups on customers' purchase intentions via online grocery applications, which have been highly popular in Turkey in recent years, was explored in this study. The study is divided into three sections. The theoretical foundation for applications in electronic retailing and online grocery shopping is described in the first chapter. The study methodology and analyses are provided in the second section. The final section, which likewise presented the research's findings, marked the conclusion of the research.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.1. E-Commerce and E-Retailing

E-commerce is a process that involves the distribution of goods or services as well as the communication of money or data via an electronic network such as the Internet (Praveena and Devi, 2022). It is well-acknowledged that customers choose online shopping since it is cheaper and faster. To discover the best deal in traditional commerce, consumers must invest a significant amount of time and energy comparing pricing across numerous physical businesses. In e-commerce, the scenario is very different, yet customers may shop whenever and wherever they want and get the best deals on products (Ariansyah et al., 2021). Because of this, more businesses have online sales channels, and more customers shop online (Zerbini et al., 2022).

Early in the new millennium, as electronic commerce applications grew (Kao and L'Huillier, 2022), many businesses were forced to reconsider their business models and strategies (Praveena and Devi, 2022). Spending on e-commerce technology has more than doubled in the previous decade, with the goal of enhancing the online retailer's financial success while also improving its capacity to meet customer expectations (Fuller et al., 2022). Cross-border e-commerce has become a new growing point in many countries economic development, particularly since the 2008 financial crisis. Taking cross-border online retailing as an example, the global cross-border e-commerce market, specifically B2C (Business to Consumer), reached US\$676 billion in 2018, representing a 27.5% increase year on year (Chen and Yang, 2021). According to recent research conducted in Europe and released by Eurostat in 2021, 70% of the population participates in e-commerce (Fernández-Bonilla et al., 2022). With overall e-commerce sales expected to expand by 14.5% in 2020 compared to 2.8% growth in total retail sales, e-commerce in the United States is expected to continue to outpace retail sales growth (Fuller et al., 2022).

E-commerce is seen to be expanding quickly in comparison to traditional retail sales growth. Future predictions indicate that 70% of US consumers would conduct their grocery shopping online by 2024. The industry has and will continue to invest extensively in e-commerce due to the existing and anticipated expansion of this new distribution chain (Spruit and Almenar, 2021). According to reports, the volume of e-commerce in Turkey has expanded by 69% since 2020 and has reached 380 billion TL. The e-commerce sector may reach 600 billion TL in 2022 (Worldef, 2022).

2.2. Online Grocery Shopping and Applications

Online grocery shopping, often known as "electronic grocery shopping," "e-grocery store," and other variations, is a type of e-commerce that enables customers and businesses to buy groceries and various household goods. E-commerce websites or mobile apps are typically used to manage the order process (Driediger and Bhatiasevi, 2019). Online grocery shopping entails purchasing grocery products through store websites and having them delivered directly to the buyer's home. This shopping technique has numerous advantages, including greater selection, time savings, ease, and not being restricted to any business hours (Chin and Goh, 2017). As customers get increasing assurance that their intended purchases will arrive as planned and that the payment procedure will go well, commercial use of the Internet and cell phones among businesses and customers is expanding quickly around the world. Customers who shop online for groceries save time by eliminating the need to physically visit stores, collect their purchases, stand in line at the register, and carry heavy bags. Additionally, online grocery shopping is convenient for people who are unable to visit stores due to physical or mental impairments (de Magalhães, 2021). Online grocery shoppers seek out high-quality goods that may be delivered quickly to their homes. Because of this, consumers who purchase online are primarily motivated by the high quality of the products as well as the convenience of home delivery alternatives. In addition to the benefits of online grocery shopping, there are several drawbacks that annoy customers, such as delivery issues, subpar product quality, a lack of customer service communication, issues with the website, and higher pricing compared to local supermarkets (Singh and Rosengren, 2020).

Consumers' lives have been significantly improved by the online purchasing approach, which enables them to shop whenever they want and from any location, particularly during the pandemic era. Online grocery retailing expanded by 76% during this time, and sales grew as well (Anshu et al., 2022). Because of the Covid-19 epidemic, consumers have been compelled to adjust their routines and emphasize online channels in their buying (Tyrväinen and Karjaluo, 2022), as personal interaction at stores poses the risk of infection (Koch et

al., 2022). The appeal of purchasing at physical establishments has lessened due to the curfew, epidemic fear, and other restrictions during the pandemic period. The food and beverage sector saw the most active users during the pandemic and saw a rise in expenditure per online purchase. In contrast, there has been a noticeable increase in online purchasing during Covid-19. As a result, many food firms have developed overnight technology solutions for managing online orders and alternative delivery options such as home delivery or in-store pickup (Erjavec and Manfreda, 2022).

Since the Covid-19 outbreak, online buying has taken the position of going to the store, one of life's most common daily activities. This condition significantly raised internet traffic for the markets throughout 2020, and it also had a direct impact on the adoption of mobile applications that made purchasing easier. In comparison to 2019, the number of visits to the websites in the sector climbed by 15.98% in 2020, according to ZeoAgency's Online Market Sector Digital Marketing Report. The most well-known mobile online grocery apps in the market, including "Getir," "Migros Sanal Market," "Migros Hemen," "Cepte Şok," and "A101 Kapıda," were examined in the related report. It was found that the apps gained popularity and that there were appreciable increases in the number of downloads and daily active users (Pazarlamasyon, 2021). When data from 2021 and 2020 are compared, the increase in visits in the online grocery category is 17%. This growth has demonstrated that the pandemic-inspired shift in user habits that began in the internet market sector has acquired momentum. While Getir, one of the online grocery apps, continues to see an increase in visits, other apps like "Yemeksepeti Banabi," "Macrocenter," "Istegelsin," and "Hepsiexpress" have also seen a large rise in visitors (Zeo, 2022).

2.3. Social Impact Theory

Based on Asch's work from 1951, the fundamental principle of social psychology is that individuals socially build the knowledge they need to rely on in order to make decisions. According to research conducted by Bruner in 1957, we frequently look for advice from others when selecting how to act, especially when the choice at hand is significant to us and unknown. We even watch other people's behavior to determine how we should feel (Higgins, 2001). One way to view social influences is as pressure from social networks to decide something or not (Li, 2013). In consumer and social psychology literature, group pressure to comply is classified as "social influence" or "interpersonal influence." Brand preferences, assessments of the quality of the products, and purchasing decisions are all impacted by social influence. By incorporating social influence into their commercials, advertisers frequently attempt to persuade consumers. There are two types of social influence: normative influence and informative influence (Clark and Goldsmith, 2006). In order to be liked and accepted by other group members, people must comply with the positive expectations of others. This is known as a normative influence. The informative effect is the observation of other people's conduct in order to get information from others or credible information. Individuals rely on other people's information to make decisions or minimize uncertainty. Informational impact helps to verify and enhance people's beliefs when they have cognitive reactions to the use of information systems (Li, 2013). When a customer is under time pressure, has little information, and considers a situation to be high risk, informative social influence is especially crucial. Potential online consumers are likely to consult their friends or online consumer groups before making an online purchase decision given the perceived risk associated with doing their shopping online. Consumers' intentions to make purchases are influenced by other people's opinions. The communication between coworkers, friends, etc. is the normative purpose. Informative social influence entails blindly accepting another person's knowledge (Lee et al., 2011). People frequently react to social normative forces in order to create or preserve a favorable reputation within a reference group (Venkatesh and Davis, 2000). A theoretical framework called social impact theory is used to describe how consumers' decision-making processes are influenced by their reference groups (Türkmen, 2020).

2.4. Reference Groups

A reference group is an individual or group, actual or imagined, that is thought to have a major influence on an individual's evaluations or conduct (Park and Lessig, 1977). The attitudes and actions of the reference groups that consumers identify with frequently have a significant influence on their decision-making. Reference groups have an impact on customers' purchase decisions, according to research on consumer behavior. Consumers often use the opinions of reference groups as a major source when making purchasing

decisions. When consumers make decisions about buying expensive or novel goods and services, recommendations from these organizations are crucial (Zhao et al., 2017).

Scholars generally believe that reference groups influence some aspects of consumer decision-making (Bearden and Etzel, 1982). The literature has classified reference group kinds in numerous ways. Childers and Rao (1992), for example, utilized the family as a reference group. Tan (1999) established celebrity and expert reference groups (Hoonsopon and Puriwat, 2016). Park and Lessig (1977) classified reference groups into three types: informational, utilitarian, and value-expressive (Hoonsopon and Puriwat, 2016). Consumer research involves normative effect, which is separated into two categories: value-expressing effects and utilitarian effects. An individual's desire to improve his or her self-image through forming a relationship with a reference group is characterized as value expression (Bearden et al., 1989). Value-expressing effect is a sensation that allows customers to interact with a group to which they desire to belong. Simultaneously, the value-expressing effect assists consumers in expressing themselves, improving their image, and meeting their demands for self-improvement. The utilitarian effect occurs when an individual's consuming behavior changes in response to pressure from the individual's surroundings and group to conform to the preferences, standards, and norms of a reference group (Mi et al., 2019). The normative effect, the idea of conformity, and the adaptation procedure are analogous to the utilitarian reference group effect. A person who is in the position of making a purchase feels that the product mediates important rewards or punishments, believes that others will observe his or her action, and is motivated to receive the reward or avoid the penalty (Park and Lessig, 1977). The utilitarian effect and the value-expressing effect, also known as normative effects, have been said to be comparable to one another (Bearden et al., 1989; Ding et al., 2020).

Reference groups play a big role in what consumers decide to buy (Mi et al., 2019). Consumer sensitivity to interpersonal influence is widely believed by consumer researchers to be influenced by normative and informational variables (Clark and Goldsmith, 2006). Before making a purchase, people frequently get their information or conclusions about consuming from other people. For instance, customers who learn that a lot of a particular commodity is bought online are more likely to make a purchase. Additionally, information from friends and family can dramatically boost buyers' intention to buy. Consumers can base their decisions on the knowledge or choices of others in order to purchase superior products (Mi et al., 2019). Normative social influence is defined as the pressure to live up to someone else's high standards. The result of taking information received from someone else as confirmation of reality is known as an informative social influence (Deutsch and Gerard, 1955). Consumers may choose products based on celebrities and influencers who support them or on group norms. This is because consumers evaluate their ideas using information from a reference group, and a group norm can influence purchase behavior. Sometimes customers think information cues from other consumers are trustworthy. Scholars generally agree that reference groups influence the purchase intention of certain types of consumers. Consumers frequently use reference groups to help them make purchasing decisions. For example, before making a purchasing decision, consumers may consult with friends and family, and they may acquire things based on the endorsement of an influencer (Hoonsopon and Puriwat, 2016). Reference groups are people or organizations that are compared, imitated by others, and widely recognized as reliable experts on a given topic. Individuals can now directly and readily access the reference group displayed in numerous identities, thanks to the development of social networking programs and the plurality of information access channels in recent years. Celebrities and influencers (online celebrities) have a large impact on people (Ding et al., 2020). Because of the popularity of social media, customers frequently research products online to learn more about other customers' usage experiences before making a purchase. Therefore, consumers effects by online comments (Zhao et al., 2017). Since the strength of the relationship among consumers is a key factor that builds trust and encourages purchases, online shopping intentions are affected when users trust their bond with friends or experienced shoppers (Ma et al., 2021). Based on these results, the following hypotheses were established;

H1. The informative role of reference groups positively affects consumers' purchase intention through online grocery applications.

H2. The normative role of reference groups positively affects consumers' purchase intention through online grocery applications.

2.5. Online Purchase Intention

Intention is expressed as a person's perspective on the performance of a specific behavior. Another definition of purchasing intention is a customer's ability to make a purchase (Kian et al., 2019). Individuals' purchasing intentions are defined as their approval to engage in behavioral acts based on personal and social stimuli, as well as their pleasant disposition. Studies have shown that intention is the result of an individual's perception of action, which is guided by normative approval and personal influences (Raza and Zaman, 2021). The willingness of a consumer to use internet technologies to purchase things is referred to as online purchase intention (Chin and Goh, 2017). Consumers regard positive and negative internet evaluations as more reputable than suggestions from product or service suppliers, and they rely heavily on these reviews when making purchasing decisions (Zhao et al., 2017). Online purchasing studies have shown that the factors affecting consumers' online purchase intention are multifaceted and complex (Liao et al., 2021). Demographic factors such as gender, education level, and income are effective on consumers' online shopping behavior (Burke, 2002).

3. METHODOLOGY

3.1. Theoretical Model

The effect of the informative and normative role of reference groups on consumers' intention to purchase through online grocery applications was researched in this study. The model of the research is given in Figure 1.

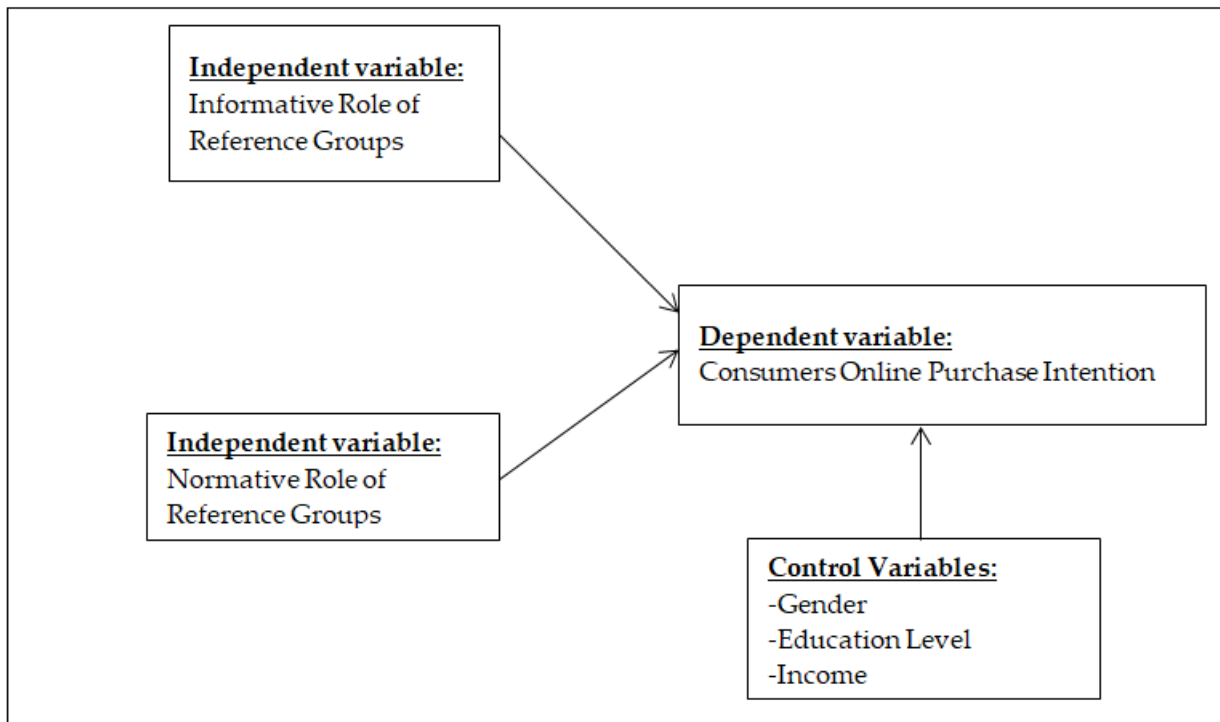


Figure 1. Theoretical Model

3.2. Data Collection Method

Data were collected using the questionnaire method in this study. Within the scope of the research, 418 consumers were reached, but on the grounds that the answers were not good, 23 questionnaires were removed. Therefore, the study continued with 395 questionnaires. The survey questions to measure online purchase intention, which is the dependent variable, were prepared by using the study of Liao et al. (2021). Survey questions to measure the informative and normative role of reference groups, which are independent variables, were prepared by using the studies of Bearden et al. (1989). The questionnaire also includes questions to measure the demographic characteristics of the participants and their approaches to online grocery applications. Since studies in which data were collected from individuals require the permission of

the ethics committee, ethics committee approval was obtained from the Ethics Committee of Tarsus University.

3.3. Analysis of Data

The collected data were analyzed the using IBM SPSS 25 statistical package program and IBM AMOS 23 package program.

4. RESULTS

Data on the demographic characteristics of the participants forming the sample of the research and the findings obtained as a result of the analysis are given under this title.

Table 1. Demographic Profile of the Respondents

Items	Category	Number of respondents	Percentage %
Gender	Male	127	32,2
	Female	268	67,8
Age	Below 18 years	2	0,5
	19-25 years	249	63
	26-35 years	128	32,4
	36-45 years	14	3,5
	46-55 years	1	0,3
	55 years and above	1	0,3
Education	Primary education	2	0,5
	High school	23	5,8
	Associate degree	56	14,2
	Undergraduate	195	49,4
Occupation	Postgraduate	119	30,1
	Public sector	99	25,1
	Private sector	77	19,5
	Student	182	46,1
Monthly Household Income (Turkish Lira)	Other	37	9,4
	4500 and below	199	50,4
	4501-6000	53	13,4
	6001-7500	22	5,6
	7501-9000	22	5,6
	9001-10500	31	7,8
	10501-12000	26	6,6
Using online grocery applications	12000 and above	42	10,6
	Yes	326	82,5
Reason for not using online grocery applications	No	69	17,5
	Distrust	13	3,3
	Dissatisfaction	3	,8
	Complex of application	4	1,0
	Charge delivery	8	2,0
	Delivery time	6	1,5
	Desire to walk into the grocery	42	10,6
Most preferred online grocery applications	Other	7	1,8
	Getir	219	55,4
	Yemek Sepeti BanaBi	172	42,5

	Migros Sanal Market	101	26,5
	Trendyol Hızlı Market	165	41,8
	Hepsiexpress	19	4,8
	CarrrefourSA Online	8	2,0
	A101 Kapıda	24	6,1
	Cepte Şok	18	4,6
	Iste Gelsin	8	2,0
	Taze Direkt	1	,3
	Macro Online	1	,3
Frequency of shopping from online grocery applications	None	133	33,7
	Daily	18	4,6
	Once a week	57	14,4
	Fortnightly	28	7,1
	Monthly	43	10,9
	Quarterly	37	9,4
	Yearly	13	3,3

Table 2. Mean and Standard Deviation Values of the Scales

	Mean	Standard Deviation
Online purchase intention	4,0222	1,06065
Informative role of reference groups	3,7676	0,90412
Normative role of reference groups	2,4620	0,90839

When we look at the online purchasing intention of the respondents, it is seen that this value is 4.0222, the informative role of the reference groups has an average of 3.7676, and the normative role is 2.4620.

Table 3. Test of Normality of Research Data

Variables	Skewness	Kurtosis
Online purchase intention	-1,087	0,320
Informative role of reference groups	-0,597	-0,123
Normative role of reference groups	0,526	-0,066

If the normalized Kurtosis value of the variable is between -3 and +3, it indicates that the values of the said variable come from a typical normal distribution (Kalaycı, 2016). Considering the values in the table above, it can be said that the research data show a normal distribution. In line with these results, the research can be continued with parametric analysis methods.

Table 4. Reliability Analysis of Scales

Scales and Dimensions	Cronbach Alpha Reliability Coefficient (α)
Reference Group Effect	0,873
Informative role of reference groups	0,837
Normative role of reference groups	0,855
Online Purchase Intention	0,894

In cases where the Cronbach Alpha reliability is greater than or equal to 80%, it is stated that the scale is a highly reliable scale (Kalaycı, 2016). Therefore, as given in the table above, it can be said that the scales used in the research have high reliability.

Table 5. Kaiser Meyer Olkin (KMO) and Barlett Test for the Reference Group Effect Scale

Kaiser Meyer Olkin Sample Adequacy Criterion	,863
Barlett Test of Sphericity Approximate Chi-Square	2496,155
Degrees of freedom	78
Significance Level (Sig.)	,000

The Varimax method was used in order to determine the relations between the expressions in the scales within the scope of the research. In order to ensure the validity of the reference groups' effect in the questionnaire, Explanatory Factor Analysis was performed. The Kaiser Meyer Olkin (KMO) value in the table above was 86.3% (.863). Since this value is greater than 50%, it has been concluded that the data set is logical for factor analysis (Kalaycı, 2016). The value of the Barlett test (Sig=.000) in the same table shows the suitability of the research for factor analysis.

Table 6. Number of Factors and Total Explained Variances of the Reference Group Effect Scale

Components	Initial Eigenvalues			Inferred Sums of Squared Loads		
	Total	Percentage of Variance	Cumulative Percentage	Total	Percentage of Variance	Cumulative Percentage
1	5,163	39,719	39,719	3,696	28,428	28,428
2	2,192	16,860	56,579	3,660	28,151	56,579
3	1,165	8,963	65,542			
4	,855	6,578	72,120			
5	,651	5,009	77,129			
6	,566	4,357	81,486			
7	,538	4,142	85,628			
8	,461	3,547	89,175			
9	,343	2,641	91,816			
10	,333	2,558	94,374			
11	,297	2,285	96,659			
12	,242	1,865	98,524			
13	,192	1,476	100,000			

Tab. 6. shows that there are two factors with eigenvalue statistics greater than 1. Among these factors, the first factor explains 28.428% of the total variance, and the second factor explains 28.151% of the total variance. Two factors explain 56,579% of the total variance.

Table 7. Explanatory Factor Analysis Results for the Reference Group Effect Scale

Statements	Factor 1	Factor 2
"I often observe what other people are buying and using to make sure I'm buying the right product or brand.	,658	
If I have little experience with a product, I often ask my friends about the product.	,793	
I often consult others to help me choose the best alternative from a product class.	,834	
Before I buy a product, I often gather information about it from my friends or family.	,822	
Before I buy a product, I read reviews about it on the internet.	,615	
I usually don't buy new releases until I'm sure my friends approve of them.		,493
It is important that others like the products and brands I buy.		,462
When purchasing a product, I usually buy brands that I think others will approve of.		,628
I usually buy the brand that people expect me to buy.		,728
I want to know which products and brands make a good impression on other people.		,495
I feel belonging that group by buying the same products and brands that others buy.		,828
If I want to be like someone, I usually try to buy the brands that person buys.		,797
I often buy the products and brands they buy in order to be on an equal level with others."		,811

The factors under which the expressions in Tab. 7. are gathered and the weights of these expressions under the factors they are included in are given. It is seen that the statements about Reference Groups are gathered under two factors.

Table 8. Kaiser Meyer Olkin (KMO) and Barlett Test for the Online Purchase Intention

Kaiser Meyer Olkin Sample Adequacy Criterion	,812
Barlett Test of Sphericity Approximate Chi-Square	975,866
Degrees of freedom	6
Significance Level (Sig.)	,000

In order to ensure the validity of the online purchase intention scale in the questionnaire, an Explanatory Factor Analysis was performed. The Kaiser Meyer Olkin (KMO) value in Tab. 8. was 81.2% (.812). Since this value is greater than 50%, it is seen that the data set is suitable for factor analysis (Kalaycı, 2016). The value of the Barlett test (Sig=.000) in the same table shows the suitability of the research for factor analysis.

Table 9. Number of Factors and Total Explained Variances of the Online Purchase Intention Scale

Components	Initial Eigenvalues			Inferred Sums of Squared Loads		
	Total	Percentage of Variance	Cumulative Percentage	Total	Percentage of Variance	Cumulative Percentage
1	3,044	76,098	76,098	3,044	76,098	76,098
2	,434	10,859	86,957			
3	,334	8,354	95,311			
4	,188	4,689	100,000			

In Tab. 9., it is seen that the expressions of the online purchase intention scale are gathered under one dimension and explain 76,098% of the total variance. The factors under which the expressions in Tab. 10. are gathered and the weights of these expressions under the factors they are included in are given. The statements about online purchase intention were gathered under a single factor.

Table 10. Explanatory Factor Analysis Results for the Online Purchase Intention Scale

Statements	Factor 1
"I shop from the online grocery.	,903
I would recommend shopping for online groceries to my family and friends.	,892
Online grocery campaigns increase my desire to shop.	,832
I plan to shop at the online grocery in the future."	,861

After the Explanatory Factor Analysis, Confirmatory Factor Analysis was applied to the scales. Confirmatory Factor Analysis is expressed as an analysis method that is frequently used in the development of measurement models and provides significant convenience. This method is generally used in scale development and validity analysis or aims to verify a predetermined structure. In Confirmatory Factor Analysis, chi-square/degree of freedom value (χ^2/df), the goodness of fit index (GFI), comparative fit index (CFI), and root mean square error of approximation (RMSEA) values are used to test the model fit. The chi-square statistic indicates a perfect fit if χ^2/df , and an acceptable fit if $\chi^2/df < 3$. GFI and CFI values are 0.90 or higher; an RMSEA value of 0.10 or less indicates an acceptable fit (Aytaç and Öngen, 2012). The Confirmatory Factor Analysis results of the Reference Group Effect scale are given below.

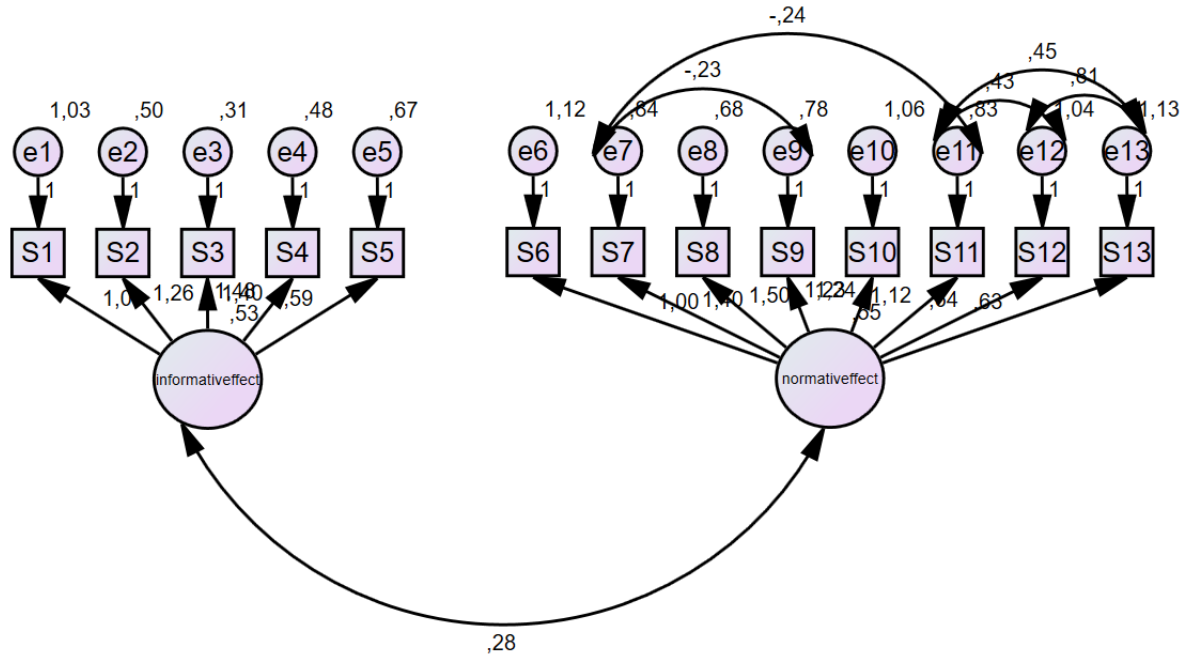


Figure 2. CFA on the Reference Group Impact Scale

In order to make the analysis more harmonious, the normative effect dimension, which is one of the dimensions of the reference group effect scale, is between the second and fourth statements (e7-e9), between the second and fifth statements (e7-e11), between the sixth and seventh statements (e11-e12), sixth and eighth, a covariance connection was established between the expressions (e11-e13) and the seventh and eighth expressions (e12-e13). Tab. 11. shows the statistical values of CFA of the reference group effect scale. Considering the CFA statistical values of the reference group effect scale, it can be said that all observed variables have a significant effect on the factor they depend on since all P values of the expressions are 0,000.

Table 11. CFA Statistical Values of the Reference Group Effect Scale

	Non-standardized R.C.	β	S.E.	C.R.	p
S1<-informativeeffect	1,000	,583			
S2<-informativeeffect	1,263	,794	,108	11,663	***
S3<-informativeeffect	1,478	,887	,120	12,323	***
S4<-informativeeffect	1,397	,825	,117	11,924	***
S5<-informativeeffect	,588	,464	,074	7,910	***
S6<-normativeeffect	1,000	,575			
S7<-normativeeffect	1,404	,752	,131	10,739	***
S8<-normativeeffect	1,501	,804	,130	11,590	***
S9<-normativeeffect	1,233	,720	,117	10,557	***
S10<-normativeeffect	1,239	,667	,120	10,321	***
S11<-normativeeffect	1,116	,663	,110	10,165	***
S12<-normativeeffect	,641	,424	,089	7,226	***
S13<-normativeeffect	,634	,406	,091	6,966	***

Non-standardized R.C.: Non-standardized regression coefficients.

β : Standardized regression coefficients.

When the standardized regression coefficients (β) in the effect of the expressions in Tab. 11 on the size of the reference group effect are examined, it is seen that the effects of these expressions in explaining the reference group effect are 40.6% or more. The fit indices of the reference group effect scale are given in Tab. 12.

Table 12. Reference Group Effect Scale Fit Indices

χ^2	df	χ^2/df	GFI	CFI	NFI	RMSEA
165,180	59	2,800	0,938	0,957	0,935	0,068

The ratio of the chi-square statistic to the degrees of freedom (χ^2/df) is 2.800, the goodness-of-fit index (GFI) is 0.938, the comparative goodness-of-fit index (CFI) is 0.957, the normed goodness-of-fit index (NFI) is 0.935, and the approximate root mean square error value (RMSEA) is 0.068. Based on acceptable values for a model in confirmatory factor analysis (χ^2/df) values below 3, GFI, CFI, and NFI values above 0.90 and finally RMSEA values below 0.05 indicate that the model has reached sufficient fit values.

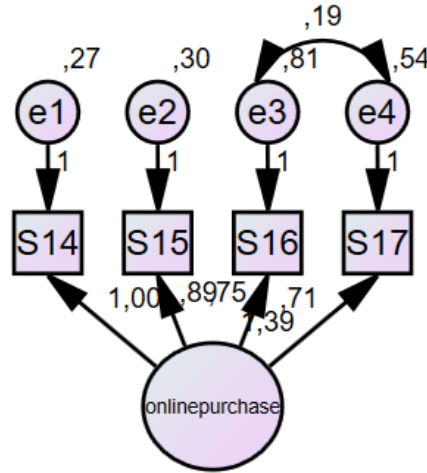


Figure 3. CFA on the Online Purchase Intention Scale

The Confirmatory Factor Analysis results of the online purchase intention scale are given below. In order to make the analysis more compatible, a covariance connection was established between the third and fourth (e3-e4) statements that make up the online purchase intention scale.

Table 13. CFA Statistical Values of the Online Purchase Intention Scale

	Non-standardized R.C.	β	S.E.	C.R.	p
S14<-onlinepurchase	1,000	,915			
S15<-onlinepurchase	,890	,886	,038	23,137	***
S16<-onlinepurchase	,751	,701	,046	16,249	***
S17<-onlinepurchase	,710	,751	,039	18,097	***

Non-standardized R.C.: Non-standardized regression coefficients.

β : Standardized regression coefficients.

Tab. 13. shows the DFA statistical values of the online purchase intention scale. When we look at the CFA statistical values of the online purchase intention scale, it can be said that all observed variables have a significant effect on the factor they depend on, since all P values of the expressions are 0.000. In addition, when the β values in the table are examined, it is seen that the effects of the expressions in explaining the online purchase intention are 70.1% and more. The fit indices of the online purchase intention scale are given in Tab. 14.

Table 14. Online Purchase Intention Scale Fit Indices

χ^2	df	χ^2/df	GFI	CFI	NFI	RMSEA
1,058	1	1,058	0,999	1,000	0,999	0,012

The ratio of chi-square statistic to degrees of freedom (χ^2/df) is 1.058, the goodness-of-fit index (GFI) is 0.999, the comparative goodness-of-fit index (CFI) is 1.000, the normed goodness-of-fit index (NFI) 0.999, approximate root mean square error (RMSEA) 0.012. Based on the acceptable values for a model in the

Confirmatory Factor Analysis explained in Tab. 14. the (χ^2/df) value is below 3, the GFI, CFI, and NFI values are above 0.90, and finally the RMSEA value is below 0.05. indicates that the model has reached sufficient fit values.

Table 15. Pearson Correlation Coefficients

	1	2	3	4	5	6
Gender	1					
Education level	0,035	1				
Income	,097	,340**	1			
Informative role	-,057	-,056	-,075	1		
Normative role	,059	-,087	-,077	,452**	1	
Online purchase intention	-,037	,040	,040	,206**	,182**	1

** : The correlation is significant at the 1% level.

* : The correlation is significant at the 5% level.

Pearson correlation coefficient is used when the distribution of the variables is normal or close to normal. The Pearson correlation coefficient is denoted by r and takes values between -1 and +1. If $r=1$ it means a full positive linear relationship, if $r=-1$ it means a full negative linear relationship, if $r=0$ it means there is no relationship between two variables (Kalaycı, 2016).

When Tab. 15. is examined, no significant relationship was found between gender, education level, and income control variables and online purchase intention ($p>0.05$). Among the control variables, there is a weak ($r=0.340$) and same-sided relationship between education level and income. In other words, as the education level of individuals increases, their income also increases, but this increase is slow.

There is a weak ($r=0.206$) and same-directional relationship between the informative role of reference groups and their online purchase intention and a weak ($r=0.182$) and same-sided relationship between the normative role of reference groups and their online purchase intention. That is, as the informational and normative effects of reference groups increase, consumers' online purchase intentions also increase, but this increase is slow.

Table 16. Multiple Linear Regression Analysis

Variables	Dependent variable: Online purchase intention						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Control Variables							
Gender	-0,085			-0,095	-0,071	-0,124	-0,096
Education level		0,050		0,038	0,047	0,054	0,055
Income			0,019	0,016	0,022	0,022	0,024
Independent variables							
Informative role					0,246 ***		0,181***
Normative role						0,225***	0,143**
Constant	4,134***	3,820***	3,970***	3,951***	2,940***	3,355***	2,828***
F	0,551	0,634	0,615	0,536	4,888	4,134	4,920
Adjusted R ²	-,001	-,001	-0,001	-0,004	0,038	0,031	0,047

***, **, * showed that 1%, 5%, and 10% statistical significance levels, respectively.

In the first step of the regression analysis (Model 1) on the independent variables that affect consumers' online purchase intentions, the "gender" control variable was analyzed. The model was statistically insignificant ($p>0.05$).

In the second model (Model 2), the "education level" control variable was analyzed. The model was statistically insignificant ($p>0.05$).

In the third model (Model 3), the "income" control variable was analyzed. The model was statistically insignificant ($p>0.05$).

In the fourth model (Model 4), all control variables were analyzed together. The model was statistically insignificant ($p>0.05$).

In the fifth model (Model 5), the effect of the “informative role” independent variable on the online purchase intention in the context of the H1 hypothesis was analyzed together with the control variables. The model was statistically significant ($F=4.888$; $p<0.01$) and explains 3.8% of the change in online purchase intention. It was determined that the informative effect dimension of the reference groups had a significant and same-sided effect on consumers' online purchase intention ($\beta = 0.246$; $p<0.01$). Considering these results, the H1 hypothesis was supported. In other words, the informative role of reference groups positively affects consumers' online purchase intention.

In the sixth model (Model 6), the effect of the “normative role” independent variable on online purchase intention in the context of the H2 hypothesis was analyzed together with the control variables. The model was statistically significant ($F=4.134$; $p<0.01$) and explains 3.1% of the change in online purchase intention. It was determined that the normative effect dimension of the reference groups had a significant and same-sided effect on consumers' purchase intention ($\beta=0.225$; $p<0.01$). Considering these results, the H2 hypothesis was supported. That is, the normative role of reference groups positively affects consumers' online purchase intention.

In the seventh model (Model 7), when the independent variables and control variables were included in the analysis together, it was tried to determine which ones had an effect on the online purchase intention. The model was statistically significant ($F=4.920$; $p<0.01$) and explains 4.7% of the change in online purchase intention. Gender, education level, and income control variables do not seem to have an effect in the analysis. Significant effects of the informative role ($\beta = 0.181$; $p<0.01$) and normative role ($\beta = 0.143$; $p<0.05$) dimensions of independent variables continue.

5. DISCUSSION AND CONCLUSION

E-commerce has become an indispensable part of the global retail industry in recent years (Zhang and Demirkan, 2021) and has significantly reshaped consumers' shopping processes and habits (Zerbini et al., 2022). The online shopping method, which allows customers to shop whenever and wherever they want, has greatly facilitated the lives of consumers, especially during the pandemic period (Anshu et al., 2022). In online shopping environments, consumers are given the opportunity to shop instantly at any time of the day. Consumers have had the opportunity to view the product and service types together and to buy the products they want from anywhere at any time (İnce ve Tor Kadioğlu, 2020). In this process, online channels have gained importance, especially in grocery retailing (Singh and Rosengren, 2020). It has been observed that factors such as offering better quality and fresher products to consumers, convenience, and saving time are effective in the preference of online grocery shopping, which allows the retailer to purchase market products through the website or mobile applications and to deliver the purchased products directly to their homes (Chin and Goh, 2017; Kühn et al., 2020). However, it has been stated that the growth of online grocery shopping may depend on many factors (McGuirt et al., 2022). It is thought that the motivation of especially experienced consumers is effective in the purchasing decision of consumers (Liao et al., 2021) and therefore they are influenced by the reference groups of consumers.

In this study, the effect of reference groups on consumers' purchase intentions through online grocery applications, which have become extremely popular in Turkey in recent years, has been researched. In the scope of the research, the respondents are 127(32.2%) male and 268(67.8%) female consumers. Considering the education level, 195(49.4%) of them are at the undergraduate level, 119(30.1%) are at the postgraduate level, 56(14.2%) are at the associate degree level, 23(5.8%) of them have a high school level and 2(0.5%) have a primary education level. While 182(46.1%) of the participants are students, 99(25.1%) work in the public sector, 77(19.5%) in the private sector, and 37(9.4%) in other sectors. While 326(82.5%) of the participants use online grocery applications, 69(17.5%) do not. The reasons why consumers do not use online grocery applications are 42(10.6%) of the respondents "desire to walk in the grocery", 13(3.3%) "distrust", 8(2%) "charge delivery", 6(1.5%) "delivery time", 4(1%) "complex of application", 3(0.8%) expressed it as "dissatisfaction", and 7(1.8%) as "other reasons". This result is similar to the results of the studies of Barış and Yılmaz (2022), who stated that consumers avoid online shopping due to the prolonged delivery time. Considering the frequency of use of online grocery applications by the consumers participating in the research, 133(33.7) "none", 57(14.4) "once

a week", 43(10.9) "monthly", 37(9.4) "quarterly", 28(7.1) "fortnightly", 18(4.6%) "daily", 13(3.3%) "yearly" conclusion has been reached. The most frequently used online grocery applications by the consumers participating in the research are "Getir" with 219(55.4%), "Yemek Sepeti BanaBi" with 172(42.5%), "Trendyol Hızlı Market" with 165(41.8%), "Migros Sanal Market" with 101(26.5%), "A101 Kapıda" with 24(6.1%), "Hepsiexpress" with 19(4.8%), "CepteŞok" with 18(4.6%), "CarrefourSA Online" with 8(2%), "İste Gelsin" with 8(2%), "Taze Direkt" 1(0.3%) with and "Macro Online" with 1(0.3%). As can be seen, the most used online grocery application by consumers is "Getir". This result is similar to the study of Eren (2021) and Barış and Yılmaz (2022). However, this result is almost consistent with the study of Güngör et al. (2023), who states that Trendyol Market, Getir, and Yemeksepeti Banabi are the most widely used online grocery shopping applications. Only the order of priority differs. The reason for this difference is thought to be due to the fact that the sample included in the study is the Z generation.

According to the findings of the study, the informative and normative role of reference groups influences consumers' online purchasing intentions positively. This result is similar to the studies of Lin (2007) and Ha et al. (2021), who stated that reference groups are effective on consumers' online purchasing intentions. However, the control variables of gender, education, and income on consumers' online purchase intentions have not been effect. This result is inconsistent with the study of Burke (2002), who states that demographic factors such as gender, education level, and income are effective on consumers' online shopping behaviors. It is thought that the reason for this is that the basic values of consumers differ from culture to culture, country to country, and different societies have different perceptions and expectations regarding online shopping channels (Nam et al., 2021). Besides these findings, this research has some limitations. This study was carried out with consumers living in Turkey. In future studies, it is recommended to expand the scope of the study by including consumers from different countries and making comparisons. However, identifying other factors that affect consumers' purchasing behavior through online grocery applications will contribute to the growth of the rapidly developing online market and the retailers operating in this market.

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