

## **Determination of Smartphone Users' Perceptions of Branded Mobile Applications in Turkey**

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### **Abstract**

Having numerous features thanks to advancements in digital technology, smartphones make life easier for users who today can conduct their activities and transactions independently of time and place by using a wide range of branded mobile applications (apps) on sports, finance, shopping and health etc. Through these apps, brands have the opportunity to reach users directly, interact with them and make customized offers. In order for brands to maximize their benefits from their own mobile apps, it is undoubtedly necessary to find out about smartphone users' perceptions of those branded mobile apps. Therefore, the aim of this study is to determine smartphone users' perceptions of branded mobile apps. In line with this purpose, face-to-face surveys were conducted in November-December 2016 with 437 students from Kastamonu University. Based on the results, smartphone users' perceptions of branded mobile apps were grouped under the factors of facilitation, stimulation of purchase desire, customization and post-purchase trust.

**Keywords:** Mobile applications, brands, smartphone, consumer perception

\* This is an improved version of the report presented at the 2nd Economic and Market Researchs Conference held in Kocaeli/Turkey on 24-25 March 2017.

## **Introduction**

With advancements in technology, smartphones, tablets, computers and personal digital assistants (PDAs) are becoming more and more widespread. These mobile devices are so widely used that we can see at least one of these devices if we just glance around. These devices enable us to have real-time access to any kind of information and service independently of time and place. As the technology used in these devices advances, users can benefit from these devices in many more areas, especially shopping, banking and entertainment. The number of mobile phone users worldwide is estimated to be 7.3 billion in 2016 while the number of mobile users in Turkey is 71.8 million as of 2015 (www.itu.int, 2016). The figures indicate that the mobile commerce market will show significant improvements over the coming years. The development of e-commerce over mobile phones and constant availability of and access to smart devices have attracted the attention of marketing experts, who have thereupon sought ways to impress consumers through a variety of iOS and Android apps which have been developed in recent years for mobile devices by rapidly-growing brands. These branded apps are software systems designed to run on smartphones, tablets and other mobile electronic devices. With rapid advancements in technology, these branded apps facilitate our lives considerably while meeting our everyday needs in both personal and professional domains. Users meet their needs through these branded apps in a wide variety of areas such as communication, education, business, entertainment, medicine, finance, travel, public services, social activities and transportation.

This study primarily addresses studies on the concept of mobile apps, apps in the world and in Turkey, and understanding the effect of these apps on consumer purchase decisions. The second part of the study focuses on the results of the field research and analyzes consumers' use of branded mobile apps and examines their perceptions of these apps.

## **Concept of Mobile Apps**

Today's fierce competition environment forces brands and companies to develop new products and services in order to reach their target groups more effectively. The latest platform which brands make use of in this context is iOS and Android branded mobile apps. The branded app is generally defined as a software program which is downloadable to mobile devices and brings the name, logo or symbol of the brand into the forefront throughout the user experience (Zhao and Balague, 2015: 305). Another study defines the branded app as

another form of interactive advertising that is similar to, however, potentially more attractive than web sites and rich media banner advertisements (Bellman et al., 2011: 192). In another study, smartphone apps are defined as software applications designed to run on smartphones, tablets and other mobile devices (Siuhi and Mwakalonge, 2016). In the light of these definitions, it would not be wrong to define branded mobile apps as software that enables customers to communicate directly with brands and make purchases independently of time and place.

Unlike traditional online and mobile advertising such as banner ads, which are provided by advertisers, these branded mobile apps are ready-to-use services which are activated by users downloading them directly to their smartphones (Kim et al., 2013). Attracting a great deal of attention of brands, these mobile apps have become accessible and available anytime and anywhere via mobile devices as a result of rapid advancements in mobile technology. Moreover, a variety of user-specific branded apps can be offered with the processing of personal information. Standing out among portable devices, smartphones have more features than regular mobile phones. Smartphones have Microsoft Windows, Mac OSX, Linux, Android and iOS mobile operating systems similar to those used on computers (Özkoçak, 2016). The most innovative companies, brands, banks and technology firms in the world (Olmo and Jimenes, 2014: 73) not only establish a connection with their customers through advertisements but also offer useful services and tools to satisfy their customers' needs, and gain their trust and loyalty. Developed by the brands which are cognizant of technological advancements and changes in consumer trends, mobile apps help those brands to get across their messages to customers, to connect with their target audience, to provide a useful service, to interact with consumers and to create customer loyalty in a crowded market. Studies show that more than 50% of customers who regularly use a branded app are more likely to purchase from the company of that brand (Reddy, 2015).

### **Mobile App Consumer Relationship**

Mobile apps offers great opportunities for developing new strategies to the brands which actively use mobile technologies or recognize the importance of mobile. In the coming years, mobile apps will advance very rapidly with changing consumer behavior. Only firms will be able to adapt to this transformation (Zhao and Balague, 2015: 305). Mobile apps have significant benefits for firms and brands; customers can easily access information, entertain

themselves, receive customized coupons, and experience service while on the go. Moreover, interactive features contribute to the improvement of positive consumer attitudes toward brand, purchase intent, and ultimate purchase behavior as well as deepening consumer-brand engagement. The adoption of branded apps has a positive impact on purchase. Downloading and using a well-designed branded app stimulates customers' positive attitudes toward that brand's products or services, and increases the frequency of purchase and amount of spending (Kim et al., 2015: 31). Branded mobile apps provide far more interactive advertising and marketing communications than traditional websites (Kim and Yu, 2016: 77). Entertainment, functionality, information, socialization, intellectual excitement, following a trend and learning are the main reasons for consumers' use of branded mobile apps (Zhao and Balague, 2015: 306). More specifically, branded mobile apps for smartphones offer consumers the opportunity to experience brands directly or indirectly while providing brands with the opportunity to simultaneously implement traditional mass marketing and personal marketing activities (Kim and Yu, 2016: 77). One of the reasons for the popularity of branded apps as a part of marketing activities is the high level of user involvement rendering the advertising messages in this platform very convincing (Zhao and Balague, 2015: 305). Branded apps for smartphones allow real-time communication between companies and consumers, making feedback possible anytime and anywhere. With the integration of new technologies, branded apps for smartphones enable consumers to enjoy more interactive experiences than other marketing communication tools can offer (Kim and Yu, 2016: 79). Branded mobile apps are considered a valuable marketing communication tool that connects consumers effectively to brands (Kim et al., 2013). Apps are regarded as a great way of interacting with customers and an effective way of increasing customer loyalty. As well as bringing in mobile users who make purchases on a regular basis, another advantage of interacting with customers is making the purchasing journey more valuable for the customer. Brands which understand the importance of interaction as the main driving force behind sales growth and recognize the profitability of creating a loyal customer rather than having a large number of customers are now thinking about converting one-time purchasers into lifetime subscribers. At this point, it is recommended that brands analyze their customer profile well and share informative content which is relevant with this profile (DigitalAge, 2016). Mobile apps make significant contributions to companies in terms of creating value, providing new demand, enhancing productivity, supporting information sharing and gaining advantage in the face of competition (Ehrenhard et al., 2016: 1). Branded mobile apps have a great effect on customers' positive

attitudes toward brands, however, their effect on purchase intent is not so great (Bellman et al., 2011: 198). High degree of interaction between users and a brand is considered to be directly proportionate to the effectiveness of brand-related messages in the app (Kim et al., 2013). Consumers' interaction with branded mobile apps can be an important source of value for the consumer as well as a feature that can affect future satisfaction and purchase intent. It is, therefore, important to focus on points of importance for consumers in the interaction process, to make value-driven proposals to them and to improve decision-making processes (Alnawas and Aburub, 2016).

### **Worldwide Examples**

The number of branded mobile apps has rapidly increased in recent years. The most important reason for this is undoubtedly the increase in the use of smart devices throughout the world in recent years. As the number of especially smartphone users increases, the number of companies and brands trying to reach consumers through these apps will also increase. A global study conducted by Deloitte (2015) reports that smartphone ownership was 52% in 2012, 62% in 2013 and 65% in 2014, indicating that there is a rapid increase in smartphone ownership worldwide. A study carried out by ComScore shows that 55% of the time spent shopping online is via mobile devices. 45% of this online shopping is performed using smartphones and 10% using tablets. Brands' ability to offer a good experience has a critical impact on rates of transition of customers to basket shopping as the same study shows that disruptions in mobile user experience increase by 60% the likelihood of users to leave the app before purchasing the products in their shopping carts (Monitise, 2015). The study conducted worldwide by Emarketer (2013) shows that 43% of mobile device users use branded mobile apps to keep informed about products, stores or companies while 41% of them use those apps to get discounts and coupons. In the research carried out by WeAreSocial (2016), 86%, 56% and 11% of the participants stated that they had a mobile phone, a smartphone and a tablet, respectively. 24% of the respondents stated that they had purchased a product via their mobile devices in the past month. In addition, 35% of the respondents stated that they used mobile banking apps. According to another study on online shopping via mobile apps, the most important factors affecting purchase decisions of smartphone users are lucrative offers (discounts, sales promotions, etc.) (67%), opportunity to find the physical location of a store using their mobile device (60%) and purchasing products directly through their mobile devices (58%) (Adobe, 2013). Another study conducted by

Forrester (2015) with 511 participants in the US reports that participants use smartphones almost everywhere and 39% of them own 1 or 2; 27% 2 or 3; 10% between 6 and 10; and 3% more than 10 mobile apps on their smartphones. 30% of the participants state that they have purchased a product using their smartphones within the last three months. The study also reports that the participants prefer branded mobile apps to websites as the former are more useful, faster, more fun, have more customized content and affordable offers than the latter (Forrester, 2015). Another research conducted with 8470 participants on a global scale reveals that users delete apps in their devices when they lose interest in branded mobile apps and that discounts are the most motivating factor in almost every sector for stimulating the reengagement of users. In the same study, 45% of the participants state that they use mobile apps to search for more information, 29% state that they use mobile apps to make purchases, and 43% state that mobile apps enable constant interaction with brands (thinkwithgoogle.com, 2015).

### **Examples from Turkey**

With a rapid increase in smartphone sales and in the number of smartphone users, mobile apps have attracted the attention of marketers as an attractive platform for marketing communications (Kim et al., 2013). For example, as of March 2016, there are 73.807.321 mobile subscribers in Turkey corresponding approximately to 93.7% penetration rate. Launched in July 2009, 3G service reached 65.949.652 subscribers by the end of March 2016. The analysis of the first quarter of 2016 indicates that 51% of the mobile subscribers are prepaid subscribers and that the rate of postpaid subscribers increased from 45.5% to 49% within the last year (Information and Communication Technologies Authority, 'ICTA', 2016). Turkey is in the top three ranks in online shopping via mobile devices together with China and United Arab Emirates. In Turkey where e-commerce rapidly shifts to mobile platform, the annual growth rate of mobile commerce is 3 times that of e-commerce. 53% of consumers in Turkey state that they used their smartphones for the purchases they made in 2014. Mobile shopping apps have a big part in consumers' lives. 64% of smartphone users use mobile apps while 52% use mobile browsers to make purchases. Two main reasons behind user preference for mobile apps over mobile sites are "usability" and "speed" (DigitalAge, 2016). Websites of 525 advertisers from Germany, Ireland, Netherlands, Poland, Serbia, Spain and Turkey were examined in a study conducted by the IAB Europe in September 2016. The results of the study show that more than half of the retail websites and

more than two thirds of the finance companies have their own mobile apps, indicating that Turkey is prominent in Europe in the area of internet banking and mobile banking applications. The study also points out that Poland (52%) and Turkey (48%) have the biggest share among the countries with banking apps for iOS and Android in Europe (iabeurope, 2016).

User experience of online shopping sites in Turkey was evaluated by another mobile consumer survey based on the variables of first impression, browse/search, purchase and brand-user interaction. User interface, which is another evaluation criterion, consists of compliance with brand identity, compliance with mobile design standards, content and visual harmony, and mobile specific experiences. Based on the criteria stated above, Hepsiburada, N11, Teknosa, Markafoni and HürriyetEmlak were selected as the most successful sites in the categories of e-commerce, marketplace, electronics, fashion/accessories and real estate advertisement, respectively. The same study also reports that 23 of the 25 popular online shopping sites in Turkey have iPhone apps and 22 of them have Android apps (Monitise, 2015). A study carried out in Turkey reports that 85% of the participants use their smartphones to browse shopping sites/apps, and 32% of the participants state that they prefer smartphones to other devices to browse shopping sites/apps. Mobile phones have become indispensable tools for users (Kizgin and Benli, 2013) so much so that mobile phone users around the world check their mobile phones 150 times a day on average (Lieb and Szymanski, 2014: 5) while mobile phone users in Turkey check their mobile phones once every 15 minutes, in other words, 70 times a day (Deloitte, 2015).

### **Brand and Mobile App Relationship**

When customers use a branded app to interact with a retailer, there are numerous marketing activities to be tailored to the needs of the customers. In this case, intensive use of marketing activities offers tremendous opportunities for retailers to attract customers and to increase sales. If retailers provide valuable apps for their customers and improve their shopping experience, then customers will purchase their products (Apptentive, 2014).

Firms and brands use mobile apps as an additional communication channel to increase brand awareness and brand experience of the target audience, to attract new customers and to

strengthen the brand loyalty of their current customers (Kim et al., 2015: 29). Some other objectives of branded mobile apps are communication, customer service, sales, product innovation and marketing research. The objective of communication includes brand values, brand knowledge, product information, communication with consumers, thus, improving brand image and raising brand awareness. The objective of customer service is to interact with current and potential customers. While brands aim to create an entirely new purchasing experience and interaction thanks to the sales objective of mobile apps, they also offer users access to innovations with a range of services such as location awareness and product customization.

In the context of product innovation, branded apps allow users to create new ideas for products, showing brands' openness to innovation. Finally, in the context of marketing objectives, branded apps provide firms with the opportunity to survey users directly to elicit new information. Rather than buying small banner ads, brands should concentrate on apps that add value to customers' lives and enhance their long-term interaction with the brand. At this point, it is recommended that branded mobile apps offer a unique value to the target audience, be entertaining, easy to use, and sensitive to social issues and contain various incentives in order to be successful (Gupta, 2013). Before developing any mobile app, it will be useful for brands to review the following headings for the success and sustainability of their apps (Ux Booth, 2010; Reddy, 2015);

- Users do not tolerate apps that they think open or run too slowly.
- Speed of a mobile app is more important than speed of its website version.
- Simplicity, functionality and accessibility are the key features
- Mobile app users do not want to be overwhelmed by the number of choices and distracting options while trying to reach a feature.
- The app should offer a useful, engaging and memorable experience for the target audience.
- The app should contribute to the improvement of brand awareness and loyalty.
- The app should provide customers with various advantages and facilities such as brand knowledge, product discount, etc.
- It is extremely important that the app is secure, simple, easy to use and well-designed.
- Target audience of the mobile app should be carefully determined.

- Various marketing efforts should be planned in order to establish a connection and improve interaction between mobile app users and the brand.

### Research Method

This study was carried out to elicit information on Turkish smartphone users' perceptions of branded mobile apps. Face to face interviews were carried out with 437 students from Kastamonu University in November-December 2016. The participants were selected using a convenience sampling method, which is one of the non-random sampling methods. The statements in the questionnaire were adopted and reformulated from the studies conducted by Yoo and Donthu (2001), Moital et al., (2012), and Kim and Ko (2012).

### Findings

This section includes the demographic characteristics of the participants, their assessments of branded mobile apps and results of Anova test and t-test.

**Table 1.**Demographic Characteristics of Participants

<b>Gender</b>	<b>F</b>	<b>%</b>	<b>Monthly Average Family Income</b>	<b>F</b>	<b>%</b>
Female	269	61.6	1000 TL and Below	47	10.8
Male	168	38.4	1001 TL- 2000 TL	184	42.1
<b>Age</b>	<b>F</b>	<b>%</b>	2001 TL -3000 TL	122	27.9
16-18	52	11.9	3001 TL and More	84	19.2
19-21	254	58.1	<b>Monthly Average Personal Income</b>	<b>F</b>	<b>%</b>
22-24	119	27.2	250 TL and Below	85	19.5
25-27	9	2.1	251 TL -500 TL	195	44.6
28 and older	3	.7	5001 TL-750 TL	87	19.9
<b>Academic Unit</b>	<b>F</b>	<b>%</b>	751 TL – 1000 TL	44	10.1
Faculty of Economics and Administrative Sciences (FEAS)	71	16.2	1000 TL and More	26	5.9
Faculty of Education	49	11.2	<b>Additional Income</b>	<b>F</b>	<b>%</b>
Faculty of Arts and Sciences	51	11.7	Scholarship	78	17.8
Faculty of Tourism	27	6.2	Loan	177	40.5
Faculty of Health Sciences	39	8.9	Other	182	41.6
Faculty of Communication	34	7.8	<b>Work Status</b>	<b>F</b>	<b>%</b>
Faculty of Engineering and Architecture	59	13.5	Unemployed	376	86.0
Faculty of Theology (FT)	36	8.2	Sporadic	46	10.5

Vocational School	67	15.3	Part-time	9	2.1
Institute of Social Sciences	4	.9	Full-time	6	1.4
<b>Total</b>	<b>437</b>	<b>100</b>	<b>Total</b>	<b>437</b>	<b>100</b>

Table 1 contains the demographic characteristics of the participants. 437 students from various academic units participated in the study. More than half of the participants are women. The majority of the participants are between the ages of 19 and 21. The family income and personal income of the majority of the participants lie within the range of 1000 TL to 2000 TL and 251 TL to 500 TL, respectively. Table 1 also demonstrates that a significant portion of the participants do not work and 41.6% of the participants have income in addition to scholarship or student loan.

**Table 2. Mobile App Usage States of Participants**

<b>Frequency of using mobile apps</b>	<b>F</b>	<b>%</b>	<b>What kind of apps do you have on your mobile phone?</b>	<b>F</b>	<b>%</b>
<b>Every day</b>	350	80.1	Clothing	73	16.7
<b>Several times a week</b>	14	3.2	Shoes	39	8.9
<b>Once a week</b>	6	1.4	Technology	126	28.8
<b>Sometimes</b>	59	13.5	Sports	77	17.6
<b>Never</b>	8	1.8	Food	14	3.2
<b>How many branded apps do you have on your mobile phone?</b>	<b>F</b>	<b>%</b>	<b>Automobile</b>	38	8.6
<b>0</b>	12	2.7	Cosmetics	33	7.5
<b>1-2</b>	90	20.6	Social Media	345	78.9
<b>3-5</b>	152	34.8	Other	82	18.7
<b>6-8</b>	85	19.5	<b>Have you ever made purchases via branded mobile apps?</b>	<b>F</b>	<b>%</b>
<b>9 or more</b>	98	22.4	Never	<b>188</b>	<b>43.0</b>
			1-3 times	<b>154</b>	<b>35.2</b>
			4-6 times	34	7.8
			7 times or more	61	14.0
<b>Total</b>	<b>437</b>	<b>100</b>	<b>Total</b>	<b>437</b>	<b>100</b>

Table 2 presents the participants' use of branded mobile apps. Almost all of the participants state that they use mobile apps every day. Only 2.7% of the participants do not have branded mobile apps on their mobile phones. On the other hand, 22% of the participants have 9 or more apps on their mobile phones. The rate of the participants with at least 1-2 apps is 20.6%.

The majority of the participants state that they have social media apps on their mobile phones. 43% of the participants state that they did not purchase products via mobile apps while 14% of the participants state that they purchased 7 or more products using mobile apps.

**Table 3.** Reasons for Participants Using Branded Mobile App

<b>Reasons for Smartphone Users' Using Branded Mobile Apps</b>	<b>F</b>	<b>%</b>
To get information regarding the brand and its products	164	37.5
To follow entertaining contents	156	35.6
To benefit from favorable prices	146	33.4
To Follow discounts and promotions	139	31.8
Favorable attitude towards the brand and its products	38	8.6
To communicate with the brand	38	8.6
To participate in award-winning competitions	25	5.7
To show brand loyalty	21	4.8
Other	63	14.4

Table 3 demonstrates the reasons why participants use branded mobile apps, indicating that the most important reason is “to get information regarding the brand and its products” followed by the reasons “to follow entertaining contents” and “to benefit from favorable prices” whereas “brand loyalty” is the least important reason for participants’ use of branded mobile apps according to Table 3.

**Table 4.** Most Downloaded Apps by Participants

<b>Item No</b>	<b>Most Downloaded Branded Apps</b>	<b>Number of</b>
1	Trendyol	90
2	Teknosa	56
3	Lcw	47
4	Markafoni	46
5	Sahibinden	18
6	Aliexpress	16
7	Koton	13
8	Mavi	11
9	Tozlu	11
10	ZiraatBankası	10
11	Letgo	10
12	Morhipo	10
13	Defacto	8
14	Hepsiburada	8
15	Gratis	7
...	....	

74	<b>Total</b>	470
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Table 4 lists the most downloaded branded mobile apps by smartphone users, showing that 437 participants downloaded and used 74 different apps 470 times. Trendyol is ranked 1<sup>th</sup> (downloaded 90 times), Teknosa 2<sup>nd</sup> (downloaded 56 times) and Lcw 3<sup>rd</sup> (downloaded 47 times).

### Factor Analysis

In this section, firstly, a factor analysis was performed in order to examine the participants' perceptions of branded mobile apps. Secondly, a One-Way ANOVA (Variance Analysis) was carried out in order to determine whether there is a statistically significant difference between the demographic characteristics of the participants in terms of the factors that emerged from the factor analysis.

**Table 5.** KMO and Bartlett's Test

Kaiser-Meyer-Olkin Adequacy.	Measure of Sampling	.786
Bartlett's Test of Sphericity	Approx. Chi-Square	1061.311
	df	55
	Sig.	.000

The results of KMO and Bartlett's test conducted to verify sampling adequacy show that KMO value was high (0.786) and Bartlett's test result was significant (0.000), indicating that there is a strong correlation between the variables.

**Table 6.** Factor Analysis

Statements	Factors			
	1	2	3	4
<i>Facilitation</i>				
Branded mobile apps provide installment plan options for credit card purchases.	.791			
Branded mobile apps allow me to buy products that are not available where I live.	.769			
Branded mobile apps make shopping possible in all circumstances without being tired.	.653			

Discounts and promotional opportunities can be easily followed using branded mobile apps. .617

***Purchase Desire***

Having brands' mobile apps on my smartphone affects my purchase decision. .768

Instant or daily discounts on products in branded mobile apps stimulate my purchase desire. .745

The ease of use of branded mobile apps stimulates my purchase desire. .562

***Customization***

Branded mobile apps provide customized information. .875

Branded mobile apps provide customized services. .858

***Post-Purchase Trust***

Branded mobile apps do not cause problems in terms of delivery time. .831

Shopping via branded mobile apps ensures some form of guarantee. .807

*Cronbach Alfa* 0.78

*Explained Variance* 21.3 16.9 15.4 13.2

*Total Explained Variance* 66.23

Table 6 contains the factors that emerged from the factor analysis. Four factors emerged in the analysis, which are ***Facilitation*** (1), ***Stimulation of Purchase Desire*** (2), ***Customization*** (3) and ***Post-Purchase Trust*** (4). Table 6 shows that these 4 factors explain 66.23% of the perceptions of the participants regarding branded mobile apps and that the remaining part is explained by other variables that are not included in the survey.

**One-Way Anova Test Results**

An Anova test was conducted to determine whether there were statistically significant differences between the variables of participants' academic units, demographic characteristics, etc. The test results for the differences are shown below. There was a statistically significant difference only between the participants' academic units in terms of "facilitation," "stimulation of purchase desire" and "customization" factors. Table 7 demonstrates the resulting differences.

**Table 7.** Participants' Academic Units and Mobile App Factors Anova Table

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
<i>Facilitation</i>	Between Groups	12,100	9	1,344	1,973	<b>,041</b>
	Within Groups	290,904	427	,681		
	Total	303,004	436			
<i>Stimulation of Purchase Desire</i>	Between Groups	12,100	9	1,344	1,973	<b>,041</b>
	Within Groups	290,904	427	,681		
	Total	303,004	436			
<i>Customization</i>	Between Groups	19,891	9	2,210	2,794	<b>,003</b>
	Within Groups	337,817	427	,791		
	Total	357,708	436			
<i>Post-Purchase Trust</i>	Between Groups	8,176	9	,908	1,127	,342
	Within Groups	344,113	427	,806		
	Total	352,289	436			

A Tukey test was carried out in order to determine between which academic units the difference existed in terms of mobile app factors. The Tukey test results indicate that the students of the Faculty of Theology agree more with the factor that mobile apps facilitate shopping than those of the Faculty of Economics and Administrative Sciences (FEAS). Similarly, the students of the Faculty of Theology believe more that mobile apps stimulate purchase desire than those of FEAS. The Tukey test also reveals that the students of the Faculty of Theology and of the Faculty of Arts and Sciences agree more with the factor that mobile apps provide customization opportunities than those of the Faculty of Engineering and Architecture.

### **T-test Results**

A t-test was conducted to determine whether there was a statistically significant difference between the two genders in terms of mobile app factors. The t-test results indicate that there is a statistically significant difference between the two genders in terms of “post-purchase trust” factor.

**Table 8.** Participants' Gender Post-Purchase Trust Factor T-Test

Group	N	Mean	Standard Sapma	t	df	p
Woman	269	3.0167	.86640	2.049	435	.045
Man	168	2.8363	.94060			

Table 8 shows that the mean value of post-purchase trust of the women is higher than that of the men.

### Conclusion and Recommendations

This study was conducted to elicit information on smartphone users' perceptions of branded mobile apps and the following conclusions were drawn:

- Nearly all participants use branded mobile apps on a daily basis. 97.3% of the participants have 1 or more branded mobile apps on their mobile phones. Moreover, the rate of participants with 9 or more applications on their mobile phones is 22%.
- The majority of the participants state that they have social media-based apps on their mobile phones. Apps of clothing, technology and sports brands are more preferred by users.
- More than half of the participants have purchased 1 or more products through mobile apps. Moreover, the rate of participants who have purchased 7 or more products via mobile apps is 14%. These figures clearly demonstrate the effect of mobile apps on consumers' purchase decisions.
- The reasons why the participants use branded mobile apps are “to get information regarding the brand and its products”, “to follow entertaining contents” and “to benefit from favorable prices”, ranking 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>, respectively. These three reasons give brands clues to the content of mobile apps to be developed. Apps are expected by consumers to be entertaining, advantageous and rich in information on the brand and its products.
- The results show that smartphone users' perceptions of branded mobile apps are grouped under 4 factors; facilitation, stimulation of purchase desire, customization and post-purchase trust.

- According to the Tukey test results, the students of the Faculty of Theology agree more with mobile apps facilitating shopping than those of FEAS. Similarly, the students of the Faculty of Theology believe more in mobile apps stimulating purchase desire than those of FEAS.

These results clearly show that smartphones, as they exist today, will continue their existence with new features in the future and will have a significant impact on consumers' purchase decisions. It is, therefore, suggested that brands and businesses pay utmost attention to mobile communication, interact with consumers especially through mobile apps and concentrate on customized offers. Investments made in this area will, in return, provide enterprises and brands with sales, profit and advertising advantages. This study has focused on young people who use mobile technology extensively. It is recommended that further studies be carried out on users with different demographic characteristics.

## References

- Adobe (2013) Mobile Shopping: RetailAppUsage on the Rise.  
[https://www.adobe.com/aboutadobe/pressroom/pdfs/Mobile\\_Shopping\\_Retail\\_App\\_Usage\\_on\\_the\\_Rise\\_Infographic.pdf](https://www.adobe.com/aboutadobe/pressroom/pdfs/Mobile_Shopping_Retail_App_Usage_on_the_Rise_Infographic.pdf). (Erişim tarihi; 16.12.2016).
- Alnawas, Ibrahim and Aburub, Faisal (2016) The effect of benefits generated from interacting with branded mobile apps on consumers' satisfaction and purchase intentions. *Journal of Retailing and Consumer Services* 31(2016)313–322
- Apptentive (2014) The Mobile Shopper Is Here.  
[http://cdn2.hubspot.net/hubfs/232559/RetailerSurveyReport\\_v5.pdf?t=1481847076430](http://cdn2.hubspot.net/hubfs/232559/RetailerSurveyReport_v5.pdf?t=1481847076430). (Erişim tarihi; 16.12.2016).
- Bellman, S., Potter, Robert F., Treleven-Hassard, Shiree, Jennifer A. Varan, Robinson & Duane (2011) The Effectiveness of Branded Mobile Phone Apps. *Journal of Interactive Marketing* 25 (2011) 191–200.
- Bilgi Teknolojileri ve İletişim Kurumu (2016) Türkiye Elektronik Haberleşme Sektörü, 2016 Yılı 1. Çeyrek Ocak – Şubat – Mart.  
[https://www.btk.gov.tr/File/?path=ROOT%2f1%2fDocuments%2fSayfalar%2fPazar\\_Verileri%2f2016-Q1.pdf](https://www.btk.gov.tr/File/?path=ROOT%2f1%2fDocuments%2fSayfalar%2fPazar_Verileri%2f2016-Q1.pdf) (Erişim tarihi; 16.12.2016).
- Deloitte (2015) Deloitte Global Mobil Kullanıcı Anketi 2015  
<https://www2.deloitte.com/tr/tr/pages/technology-media-and-telecommunications/articles/global-mobile-consumer-survey.html> (Erişim tarihi: 14.12.2016).
- Deloitte (2015) Digital Predictions 2015 <https://www2.deloitte.com/tr/tr/pages/consumer-business/articles/digital-predictions-2015.html>. (Erişim tarihi: 14.12.2016).
- DigitalAge (2016) Mobil ticarete başarı için takip edilmesi gereken trendler <http://digitalage.com.tr/mobil-ticarete-basari-icin-takip-edilmesi-gereken-trendler/> (Erişim tarihi; 16.12.2016).
- Emarketer (2013) Brands' Mobile Apps Aren't Just About the Discounts.  
<https://www.emarketer.com/Article/Brands-Mobile-Apps-Arent-Just-About-Discounts/1010100> (Erişim tarihi; 16.12.2016).
- Ehrenhard, Michel, WijnhovencFons, Broek, Tijssan den and Stagno, Marc Zinck (2016) Unlocking how start-ups create business value with mobile applications: Development

- of an App-enabled Business Innovation Cycle.  
Technological Forecasting & Social Change .Accepted 14 September 2016.
- Forrester (2015). The State Of Mobile Apps For Retailers.  
[https://www.retailmenot.com/corp/static/filer\\_public/78/9c/789c947a-fe7c-46ce-908a-790352326761/stateofmobileappsforretailers.pdf](https://www.retailmenot.com/corp/static/filer_public/78/9c/789c947a-fe7c-46ce-908a-790352326761/stateofmobileappsforretailers.pdf) (Erişim tarihi; 25.12.2016).
- Gupta, Sunil (2013) For Mobile Devices, Think Apps, Not Ads. <https://hbr.org/2013/03/for-mobile-devices-think-apps-not-ads> (Erişim tarihi; 16.12.2016).
- IAB Europe (2016). IAB Europe Advertiser Mobile Audit Report. <http://iab europe.eu/wp-content/uploads/2016/09/IABEuropeAdvertiserMobileAuditReport.pdf> (Erişim tarihi; 25.12.2016).
- Kim, Su Jung. Wang, Rebecca Jen-Hui and Malthouse, Edward C. (2015) The Effects of Adopting and Using a Brand's Mobile Application on Customers' Subsequent Purchase Behavior. *Journal of Interactive Marketing* 31 (2015) 28–41.
- Kim, Junghyun and Yu, Eun Ah (2016) The Holistic Brand Experience Of Branded Mobile Applications Affects Brand Loyalty. *Social Behavior and Personality*, 2016, 44(1), 77–88
- Kim, Eunice, Lin, Jih-Syuan & Yongjun Sung (2013) To App or Not to App: Engaging Consumers via Branded Mobile Apps. *Journal of Interactive Advertising*, 13(1), 53–65.
- Kim, Angella and Ko, Eunju. (2012) Do social media marketing activities enhance customer equity? A non-empirical study of luxury fashion brand. *Journal of Business Research* 65 (2012) 1480–1486
- Kizgin, Y & Benli, T. (2013) The Examining of GSM Operators' Customer Complaint Management (CCM) Applications in Turkey with Discriminant Analysis. *International Journal of Business and Management*; Vol. 8, No. 3; 2013.
- Lieb, Rebecca and Szymanski, Jaimy (2014) Why Mobile is Essential for Brand Marketing. [https://fbcdn-dragon-a.akamaihd.net/hphotos-ak-xap1/t39.2365/10541001\\_704049666333013\\_307545824\\_n.pdf](https://fbcdn-dragon-a.akamaihd.net/hphotos-ak-xap1/t39.2365/10541001_704049666333013_307545824_n.pdf) (Erişim tarihi: 14.12.2016).
- Moital, Miguel, Vaughan, Roger. Edwards, Jonathan and Peres, Rita. (2012) Determinants of Intention to Purchase Over the Internet. *Anatolia: An International Journal of Tourism and Hospitality Research* Volume 20, Number 2, pp. 345-358, 2009.

Monitise (2015) Türkiye Mobil Alışveriş Uygulamaları araştırması.

<http://www.slideshare.net/PozitronMobile/monitise-trkiye-mobil-alveri-uygulamalar-aratrması> (Erişim tarihi; 16.12.2016).

Olmo, Francisco-JavierRuiz-Del and JIMÉNEZ Ana-MariaBelmonte (2014) Young People as Users of Branded Applications on Mobile Devices. *Comunicar*, n. 43, v. XXII, 2014.

Özkoçak, Yelda. (2012) Türkiye’de Akıllı Telefon Kullanıcılarının Oyalanma Amaçlı Tercih Ettikleri Mobil Uygulamalar. *Global Media Journal TR Edition*, 6 (12).  
Bahar/Spring 2016

Reddy, Trips (2015) 14 Brands Using Mobile Apps Instead of Ads to Build Customer Loyalty. <https://www.umbel.com/blog/marketing/14-brands-using-mobile-apps-instead-ads-build-loyalty/>. (Erişim tarihi; 16.12.2016).

Suhi, Saidi and Mwakalonge, Judith (2016) Opportunities and challenges of smart mobile applications in transportation. *J. Traffic Transp. Eng. (Engl. Ed.)* 2016; x (x): 1e11

Thinkwithgoogle.com (2015). Mobile App Marketing Insights: How

Consumers Really Find and Use Your Apps.

<https://think.storage.googleapis.com/docs/mobile-app-marketing-insights.pdf> (Erişim tarihi; 26.12.2016).

UxBooth (2010) User Expectations with Mobile Apps – Catching up with Effective

UI <http://www.uxbooth.com/articles/12207/> (Erişim tarihi: 14.12.2016).

Yoo, Boonghee and Donthu, Naveen (2001) Developing and validating a

multidimensional consumer-based brand equity scale. *Journal of Business Research* 52 (2001) 1±14.

Zhao, Zhenzhen and Balague, Christine (2015) Designing branded mobile apps: Fundamentals and recommendations. *Business Horizons* (2015) 58, 305—315.

Wearesocial (2016) Digital in 2016. <http://wearesocial.com/uk/special-reports/digital-in-2016>. (Erişim tarihi; 16.12.2016).

www.itu.int (2016) ICT Facts and Figures 2016 <http://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx>. (Erişim tarihi; 23.12.2016).