The Impact of Brands on Consumer Buying Behavior: An Empirical Study on Smartphone Buyers

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Abstract

The aim of this research is to understand the factors behind smartphone purchase decisions of consumers. Nowadays companies make use of various strategies in order to attract new customers, retain existing customers and differentiate their products from those of their competitors. Perhaps, the most important and effective strategy to influence consumer behavior in the product selection is emphasizing the "brand name" of the products. Our aim in this paper is to investigate how smartphone brands can influence consumers' buying decisions. Brand equity is a set of brand assets and liabilities linked to a brand name and symbol, which add to or subtract from the value provided by a product or service. It enhances the customer's ability to interpret and process information, improves confidence in the purchase decision and affects the quality of the user experience. Using this construct widely discussed in the literature, we use and build our hypothesis based on Aaker model about the brand equity, including perceived quality, brand awareness, brand association and brand loyalty. The study involved a questionnaire administered to 171 smartphone consumers between December 2015 and March 2016. The consumers were chosen by convenience sampling among the students from a prestigious university in the Istanbul district of Turkey. Our findings indicate that a majority of the smartphone buyers' decisions are mainly influenced by brand loyalty and brand awareness. Perceived quality and brand association do not seem to influence purchase decisions for the sample of this study.

Keywords: Smart Phones, Brand Equity, Purchase Decision, Turkey, Internet, Mobile Marketing

JEL classification: M31

Introduction

Nowadays companies utilize various strategies in order to attract new customers, retain current customers and differentiate their products from their competitors. Perhaps, the most important and effective strategy to influence consumer behavior in the product selection is using the brand for the products. Brands are valuable to the consumers for two reasons: first, brands decrease the risks for the consumers. Second, it leads to saving the costs in decision-making (Aghdaie & Honari, 2014). Furthermore, Keller and Lehmann (2006) argue that for customers, brands can simplify choice, promise a particular quality level, and/or engender trust. They also believe that brands serve as reminders of a customer's overall past experience with a product. Aaker (1991) believes brands are important because companies are recognized through their brand. Customers have many brand choices but they have less time to make a choice. The brand specialty helps the customers in decision making to purchase a right product with less risk and according to set expectations. According to Ambler (2000) brand is considered to be the second most important asset of a company – only behind customers, however, according to Aaker (1991), it is the most important asset for a company.

Therefore, we deal with two significant concepts – consumer behavior and Brand. The Consumer behavior study involves how an individual or groups select, purchase, use or dispose of products, services ideas, or experience to satisfy their need and desires (Solomon et al, 2008). On the other hand "A brand is a name, term, sign, symbol or design or combination of them, intended to identify the goods and service of one seller or group of sellers and to differentiate them from those of competitors" (Kotler, 2000). Sometimes people make a mistake between brand and product, but they are two different things. According to McQuiston (2004), "A product is something that is made in a factory; a brand is something that is bought by a customer. A product can be copied by a competitor, a brand is unique. A product can be quickly outdated, a successful brand is timeless".

Marketing literature defines the relationship between customers and brands as "brand equity" (Wood, 2000). Our aim in this study is to show the impact of smartphone brands on consumer purchasing behavior through this relationship. In this way, we use and build our hypothesis based on Aaker model of brand equity, a model intended to measure brand equity based on consumer's point of view, including perceived quality, brand awareness, brand association and brand loyalty.

The study applies different analysis tools to investigate the impacts of smartphone brands on the purchase buying behavior of smartphone buyers in Turkey. The results provided strong support for our two hypotheses, which show the positive and direct role of brand awareness and brand loyalty in affecting brand equity. However, both perceived quality and brand association were found to have either very low or negative parameter estimates. Therefore, the results indicate that these two factors do not have a direct significant influence on brand equity. To our knowledge, our study is among the first in the literature that focus on the influence of smartphone brands on the consumer buying behavior in Turkey, at least in the English texts.

The remainder of this paper is structured as follows. First, we provide an overview of the literature on the related issues include brand equity, which consists of brand awareness, perceived quality, brand association and brand loyalty, as well as presenting our hypothesis based on these four variables. Then, we discuss the research methods selected for this study. Providing the empirical findings resulted from the online questionnaire in Google forms utility will be another part of the paper. In the next part, the findings will be analyzed and discussed in relation to the reviewed literature. Finally, in the last part, we will provide our conclusions and suggestions for further research.

Literature Review

Brand Equity

Different definitions have been provided for the "Brand Equity". Marketing literature defines the relationship between customers and brands as "brand equity" (Wood, 2000). According to Aaker (1991), brand equity is "a set of brand assets and liabilities linked to a brand name and symbol, which add to or subtract from the

value provided by a product or service". Keller (1993) believes that "Brand Equity is the added value endowed to products and services". This value may be reflected in how consumers think, feel and act with respect to the brand as well as the prices, market share and profitability that the brand commands for the firm (Keller, 1993). He explains, positive customer-based brand equity "can lead to greater revenue, lower cost, and so higher profit; it has direct implications for the firm's ability to command higher prices, a customer's willingness to seek out new distribution channels, the effectiveness of marketing communications, and the success of brand extensions and licensing opportunities." Finally according to Pride & Ferrell (2003) Brand equity can be defined as "the marketing and financial values linked with a brand's strength in the market, including actual proprietary brand assets".

Another aspect of the definition of brand equity that Aaker (1991) presented is the argument that brand equity also provides value to customers. It enhances the customer's ability to interpret and process information, improves confidence in the purchase decision and affects the quality of the user experience. He grouped the brand equity into five categories: perceived quality, brand loyalty, brand awareness, brand association, and other proprietary brand assets such as patents, trademarks, and channel relationships. Among these five brand equity dimensions, the first four represent customers' evaluations and reactions to the brand that can be readily understood by consumers (Barwise, 1993; Yoo et al, 2000), so they have been widely adopted to measure customer-based brand equity in previous studies (Tong & Hawley, 2009).

Brand awareness affects perceptions and taste: "people like the familiar and are prepared to ascribe all sorts of good attitudes to items that are familiar to them" (Aaker & Joachimsthaler, 2000). Perceived quality influences brand associations and affects brand profitability. Brand associations are anything that connects the consumer to the brand, including user imagery, product attributes, organizational associations, brand personality, and symbols. Finally, Brand loyalty is at the heart of brand's value. (Srivastava & Shocker, 1991). In summary, strong brand equity means that customers have high brand-name awareness, maintain a favorable brand image, perceive that the brand is of high quality, and are loyal to the brand (Tong & Hawley, 2009).

Brand Awareness

Based on Aaker (1991) brand awareness is the ability of the potential buyer to recognize or recall that a certain brand is a member of a certain product category. He also believes that brand name awareness plays an important role in decision making of a consumer; if the customer had already heard the brand name, the customer would feel more comfortable at the time of making a decision. Customers do not prefer to buy an unknown brand. Therefore companies' strong brand name is an important factor for customers to choose their brand over the unknown brand. Likewise, Grewal et al. (1998) believe brand awareness acts as a critical factor in the consumer purchase intention, and certain brands will accumulate in consumers' mind to influence consumer purchase decision. A product with a high level of brand awareness will receive higher consumer preferences. Because people generally tend to buy brands that they are familiar with and on which they have confidence. To be able to get the loyalty and awareness of the consumer, brand awareness is a must, for which unknown brand has to face the tough competition from the brands already having a place in the market (Hoyer & Brown, 1990). There are two key factors for brand awareness dimension, which are the brand name and the logo.

A brand name offers a symbol that can assist consumers to identify service providers and to predict service results (Herbig & Milewicz, 1993; Janiszewski & Osselaer, 2000; Turley & Moore, 1995). Therefore, the brand name is the most important element in brand awareness (Davis & Golicic, 2000). According to Aaker (1991), the name of a brand is the fundamental indicator of the brand. Moreover, it is the basis for raising awareness of the brand and communication efforts. Often even more important is the fact that it can generate association which serves to describe the brand (Aaker, 1991). Keller (2008) believes that brand name is the very significant choice because sometimes it captures the central theme or key association of a product in a very condensed and reasonable fashion. Brand names can be extremely successful means of communication. Some companies assign their product with a brand name that in reality has nothing to do with the emotional experience but is catchy and a name that people can easily memorize.

On the other hand, Aaker & Joachimsthaler (2000) define logo as Symbols with all that represent a brand, a tagline, a character, a visual metaphor, a logo, a color, a gesture, a musical note, a package, or a program. Logos help companies to develop the brand equity through raised brand identification and brand loyalty. Therefore, they are very important assets, which companies spend enormous time and money to promote them (Hem & Iversen, 2004). As a result of above discussion about brand awareness, we put our first hypothesis as follows.

H1: Brand awareness affects consumers buying behavior

Perceived Quality

Zeithaml (1998) defined perceived quality as "the customer's perception of the overall quality or superiority of a product or service with respect to its intended purpose, relative to alternatives." This issue is believed to be a competitive obligation and many companies today, have changed customer-focused quality to a powerful strategic tool. In addition, perceived quality provides value to customers by providing them a reason to buy by differentiating the brand from competing brands (Bolton & James, 1991). Perceived quality of a brand influences the decision-making process of a consumer. It also directly influences the brand loyalty of the consumers. This influence is very important when customers are in a condition, which makes them unable to make an analysis of the quality. Perceived quality can be used as a helping tool when the company intends to utilize a pricing strategy with a premium price and further extend a brand in several markets (Aaker, 1991). Therefore, any company that aims to gains a share of the market have to consider to the perceived quality closely, since Aaker (1996) argues a previous bad image of a product will influence consumers' judgment on product quality in the future. Moreover, even the product quality has been changed, consumers will not trust to that product because of their previous unpleasant experience. Therefore, perceived quality will be affected by factors such as previous experience, education level, and perceived risk and situational variables such as purchase purpose, purchase situation, time pressure, and social background from consumers (Jacoby & Olson, 1985).

Likewise, the term perceived quality refers to knowledge of customers about what they see and feel when they look and touch a product of a company. As Ajay and Murthi (2008) discuss because of perceived quality usually customers prefer to buy products from a well-known and familiar brand, rather than opting for the unknown and new brand. As a result, customers believe that always well-known branded products have more quality and always there is a risk for new brands. That's why they have more trust to familiar brands and their preference is to purchase from them. Hence, we can argue that perceived quality can change consumer behavior so that customers even are willing to spend more money to purchase high-quality products. Therefore, we can draw our next hypothesis as follows:

H2. Perceived quality affects consumers buying behavior.

Brand association

Aaker (1991) defined brand association as thoughts and ideas that held by individuals in their memory related to a specific service or a product. There are values of a brand that are not as visible as other brands. These values can be based on the association of the brand with certain factors or personalities that provide confidence and credibility among the customers. This Association can be made through famous people, who represent the brand, and their well-known personality and lifestyle. For example, cars can be associated with the lifestyle or fame of the celebrities and their association with the particular brand. A company tries to associate certain attribute to their brand, which makes it harder for the new brands to enter the market. Some brands can be associated with other attributes, like good service; competitors trying to compete with this attribute, it can be extremely difficult because of the established trust and faith of the customer in the market (Aaker, 1991).

Aaker (1991) believes that brand association and brand equity are strongly interrelated to each other because brand association enhances the memorable of a particular brand. According to Keller (2008), the brand association can be created via the association with attitudes, attributes and benefits respectively. According to Lee and Leh (2011) symbolic attributes that are commonly linked to a brand are: (1) Social Image: Lassar et al (1995) argue that social image can be viewed as the consumer's perception of the

esteem in which the consumer's social group holds the brand. It includes the attributions a consumer makes and a consumer thinks that others make to the typical user of the brand. (2) Perceived value: Consumer choice of a brand depends on a perceived balance between the price of a product and all its utilities (Lassar et al, 1995). A consumer might be willing to pay premium prices due to the higher brand equity. (3) Trustworthiness: Trustworthiness refers to the level of confidence consumer places in the organization (Lassar et al, 1995). As a customer buys a good or service before experiencing it, fostering of trust is a key to building a customer relationship (Kinard & Capella, 2006). (4). Country-of- origin: It refers to the country of origin of a firm or a product (Johansson et al, 1985). Country of origin leads to associations in the minds of consumers (Aaker, 1991; Keller, 1993). The country image can influence perceived quality and brand loyalty (Pappu et al, 2007). Accordingly, Ross et al. (2006) argue brand association, which is the strength of a brand's presence in the mind of the customers, contributes to enhancing the image, brand awareness, and brand loyalty. Thus, we can offer our next hypothesis:

H3: Brand association affects consumers buying behavior.

Brand loyalty

According to Churchill and Peter (1995) brand loyalty is the consistency of a customer who continues to purchase the same brand of a particular product. These customers usually do not change their mind to switch to buy another brand even at a lower price. In addition, brand loyalty is a measure of attachment that a customer has to a brand. As brand loyalty increases, the customers' vulnerability base to competitive action decreases (Aaker, 1991). Aaker (1991) discusses that the brand loyalty of the customer base is often the core of brand equity. If customers are indifferent to the brand and, in fact, buy with respect to features, price and convince with little concern for the brand name there is likely little equity. If on the other hand, they continue to purchase the brand even in the face of competitors with superior features, price, and convenience, substantial value exists in the brand and perhaps in its symbol and slogan. Assael (1998) argues that brand loyalty is that consumers satisfy their past experience in the use of the same brand and incur repurchase behavior. Also, Oliver (1999) argues that brand loyalty represents a repurchase commitment in the future purchase that promise consumers will not change their brand loyalty in different situations and still buy their favorable brands . Bloemer and Kasper (1995) believe that a real brand loyalty include brand preferences and repurchase behaviors that present in a long term commitment, while Fornell (1992) proposes that brand loyalty include customer repurchase intention and price tolerance.

Therefore, when customers repeat purchases from one brand we can say that they have become loyal to that brand. As we discussed there are many factors related to brand awareness, brand quality, and brand association that can affect loyalty of customers such as brand name, logo, quality, good service, well warranty, innovation, price, design and others. However, it depends on the companies to choose the best strategies for attracting and retaining customers to become loyal to the company. For example, Apple's company uses a different operating system compare to other competitors for its products such as IOS for its smartphones and tablets, and MAC for its computers and laptops. As a consequence, this innovation has made many customers loyal to the company. Hence, customers may also be willing to pay more money to use the products of this company. Therefore, our last hypothesis will be:

H4: Brand loyalty affects consumers buying behavior.

Methodology

The questionnaire was administered using online data collection forms prepared by Google forms utility. The data collection lasted three months and took place between December 2015 and February of 2016 when the 2015-2016 academic year was in session. Most of the respondents are first-year and second-year management students at a prestigious university in the Istanbul district of Turkey. All of the students have smartphones which is a prerequisite for the participation in the survey.

The students were asked to complete the forms in class sessions or by mailing the class list the survey link. Out of 400 students who could complete the survey either in class or by mail, 171 of them completed the questionnaires. The questionnaire included 26 questions 4 of which are demographic questions. The

starting question of the survey was "What is the brand of your mobile phone?" with the option to check "none". Although the online form permitted the respondents to fill the rest of the questionnaire even though the answer to the first question is "none", no student who participated reported that they did not have a cell phone. As a result, 171 questionnaires were usable.

Of the students who filled the 171 surveys, 95 were males and 76 were females. All were university students and therefore between the ages 20-30. In terms of responses to the first question, by far the largest fraction of the consumers had the Apple brand with 86 over 171 (50.29%). The second largest fraction was Samsung with 41 students reporting (23.98%). LG came third with about 10% and this was followed by HTC, General Mobile, Sony, Nokia, Vestel, Asus, Blackberry, Casper and Microsoft (the last four represented by 1 user each only). It is evident from the results of this question that the students participating in the survey are actively using mobile phones and are aware of the brands (a total of 11 brands were reported), therefore the sample is adequate for the research purpose of the study.

The SPSS computer program was used to analyze the data. Frequencies, cross-tabulations, correlations and appropriate regression analyses were used. Also, in order to explain the structure within the 15 Likert-Scale questions in the survey EFA analysis was applied. In particular, the FACTOR option of SPSS was used to calculate the factor loadings.

Findings

As stated before a little more than 50% of the respondents indicated that they own Apple phones. One other set of questions asked the students what brand they would prefer if they chose to buy a new phone. In this case, an overwhelming 67.3% indicated that it would be an Apple. Second to that is Samsung with 15.8 %. The results are tabulated in Table 1.

Table 1. Preference of brand for a new phone.

Brand	Percentage
Apple	67.3%
Samsung	15.8%
LG	7.0%
Sony	4.1%
HTC	1.2%
Others	4.6%

The students were also asked their primary motivation for choosing the brand that they already use. Not surprisingly, and in accordance with the percentages that own Apple and Samsung, 55.6% indicated quality and 12.9 indicated price. The summary of the answers is given in Table2.

Table 2. Percentage of students' primary purpose in choosing their current brand.

Primary Purpose	Percentage
Quality	55.6%
Price	12.9%
Design	11.7%
Innovation	11.1%
Brand Name	5.3%
Others	4,4%

Four other questions which explicitly named brands were: "Which smartphone brand name comes to your mind first?" "Which smartphone company logo comes to your mind first?" "Which smartphone brand comes to your mind first in terms of quality?" and "Which smartphone brand do you think has better overall attributes?" On all of these again Apple was top of the list. Table 3 provides the results. Particularly

impressive is that Apple Logo is reported as the logo that comes to the consumer's mind first by 90% of the respondents. The Samsung Logo is very weak on this

Table 3. Brand recall, logo recall, quality, overall attributes.

Brand Name	Brand recall	Logo recall	Quality	Overall Attributes
Apple	73.7%	90.1%	69.6%	64.9%
Samsung	19.3%	3.5%	15.8%	14.6%
LG	2.3%	2.9%	5.8%	6.4%
Nokia	1.2%	1.2%	3.5%	4.1%
Others	3.5%	2.3%	5.3%	10%

Finally, the survey included a battery of Likert Scale (5 points) agreement questions on various aspects related to brand equity, awareness, perceived quality, brand loyalty and association. There were 15 such questions in total and the questions and variable codes to be used in the further analysis are presented in Table 4.

Table 4. Likert Scale questionnaire items.

Question	Variable Code
I prefer to buy smartphone from brands that I am familiar and have more information about	V1
I never consider any lesser-known smartphone brand when I purchase	V2
A well-known smartphone brand is always better in quality than a lesser-known brand	V3
Name of brand is an important factor when I am buying a smartphone	V4
Brand name of my smartphone is an indicator of social class	V5
I can quickly recall symbol or logo of my smartphone brand	V6
Logo of my smartphone brand helps me to feel more self-confident	V7
Quality of smartphone is an important factor in my decision-making	V8
It is safe to buy a branded smartphone as they always come with better features	V9
I prefer to buy smartphones that are advertised by my favorite celebrities	V10
Country of origin of my smartphone brand affects my product purchase decision	V11
I think well-known smartphone brands are more trustable	V12
I will buy the same smartphone brand if I decide to purchase a new one	V13
I will recommend other people to buy the same smartphone brand as mine	V14
I will keep purchasing from my smartphone company even if its price is higher than that of competitors	V15

The average levels of agreement for the 15 items in decreasing order are provided in Table 5. The standard deviation and standard error are also provided. We can see that the highest level of agreement is with variable 1 (preference to buy from brands which one is familiar with).

The lowest one was with variable 10 that is a preference to buy from smartphones endorsed by celebrities. In the Table below the average levels, less than 3 are marked with gray and those marked with an asterisk are less than 3 (the midpoint of the Likert Scale) with a level of confidence of 95%, and are thus tipped towards disagreement values. V10, V11 (country of origin), V5 (social class) and V7 (logo brings self-confidence) are related to Brand Associations and it seems that these do not affect the consumer behavior as evidenced by the low values of the agreement. This is evidence of lack of support for Hypothesis 3.

Table 5. Descriptive statistics for the levels of agreement.

Average	St. Deviation	St. Error	Variable Code
4.02	1.02	0.08	V1
3.94	1.12	0.09	V6
3.93	1.29	0.10	V8
3.66	0.98	0.08	V12
3.61	1.04	0.08	V9
3.51	1.19	0.09	V14
3.43	1.15	0.09	V4
3.42	1.29	0.10	V13
3.12	1.21	0.09	V2
2.90	1.09	0.08	V3
2.84	1.31	0.10	V15
2.82	1.27	0.10	V11
2.58*	1.24	0.09	V5
2.54*	1.22	0.09	V7
2.16*	1.15	0.09	V10

It would also be interesting to study the correlations among the scale items. Table 6 provides the Pearson product moment correlations. 20 of the correlations are not significant at the .05 level. 75 correlations are significant at the .01 level and the remaining are significant at the .05 level (105-75-20=10). The correlations are mostly positive with the largest being among V13 and V14 (0.70), namely "I will buy the same smartphone brand" and "I will recommend my smartphone to others". These two variables both measure the "Brand Loyalty" dimension. The second largest correlation is among V12 and V4 (0.61), namely "well-known smartphone brands are trustable" and "name of the brand is an important factor when I am buying a smartphone". Another high correlation following that is V13 and V15 (0.61) which are "I will buy the same smartphone if I decide to buy a new phone" and "I will keep purchasing from my smartphone company even if the prices are higher". V13 is a loyalty dimension and V15 is purchase behavior. There are only five negative correlations and they are really small. The most negative is V1 and V10 with -0.14. These are "I prefer to buy smartphones that I am familiar with" and "I prefer to but smartphones endorsed by my favorite celebrities". It is natural to think that those consumers who value known brands do not really pay attention to an advertising by celebrities. Celebrity endorsements are part of brand associations and therefore we can say that the brand associations do not affect purchase behavior as much as brand awareness.

Table 6. Correlations among the 15 Likert Scale items. The significance of the correlations is indicated in the symmetric portions of the table. * indicates significance at 0.05 level, ** indicates significance at the 0.01 level.

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15
V1	1.00	**	*	**		**		**	**			**	**	**	
V2	0.46	1.00	**	**	**	**	*	**	**			**	**	**	**
V3	0.16	0.38	1.00	**	**	**	**	*	**	**	**	**	**	**	**
V4	0.34	0.39	0.43	1.00	**	**	**	**	**	**	**	**	**	**	**
V5	0.05	0.28	0.33	0.37	1.00	**	**		**	**	**	**		*	**
V6	0.46	0.32	0.24	0.38	0.28	1.00	*	**	**			**	**	**	**
V7	0.03	0.18	0.43	0.37	0.57	0.19	1.00		**	**	**	**			**
V8	0.51	0.26	0.19	0.33	0.04	0.34	0.14	1.00	**		*	**	*	**	*
V9	0.41	0.40	0.45	0.37	0.32	0.27	0.29	0.35	1.00	*	**	**	**	**	**
V10	0.14	0.08	0.29	0.26	0.38	0.08	0.55	0.05	0.17	1.00	**	**			*
V11	0.08	0.06	0.25	0.23	0.32	0.15	0.40	0.15	0.30	0.31	1.00	**			
V12	0.40	0.37	0.49	0.61	0.21	0.34	0.27	0.33	0.47	0.21	0.24	1.00	**	**	**
V13	0.25	0.35	0.23	0.20	0.09	0.22	0.04	0.16	0.26	0.01	0.01	0.24	1.00	**	**
V14	0.30	0.32	0.27	0.29	0.18	0.35	0.14	0.23	0.24	0.03	0.08	0.31	0.70	1.00	**
V15	0.13	0.42	0.39	0.31	0.29	0.25	0.33	0.18	0.39	0.19	0.13	0.34	0.61	0.58	1.00

Regression analysis may also help us uncover some of the relationships among the variables. Here V15 can be taken as a Dependent Variable since it is about the purchase intentions of the current phone brand. When the other 14 variables are taken as Independent Variables and a multiple regression analysis is performed, we get an R^2 value of 0.565 and an adjusted R^2 value of 0.526. The model is significant with an F-stat of 14.475. Of the 14 independent variables, 6 of them have coefficients significantly different from zero and thus influence buying behavior as measured by V15. The regression coefficients and significance values are given in Table 7. Table 8 provides the same values but this time with decreasing order of significance and the original variable names. We observe that only six out of the 14 variables are significant and they are related to Brand Awareness and Brand Loyalty dimensions (Hypothesis 2 and 3). Therefore, to a large degree, these hypotheses are supported while the Perceived Quality and Brand Association hypotheses (H2 and H3) are not supported that well. For brand association, only the relationship of the logo to self-confidence seems to be significant.

Table 7. Regression Model coefficients.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	-.524	.390		-1.344	.181
	V1	-.285	.097	-.221	-2.921	.004
	V2	.190	.073	.175	2.596	.010
	V3	.045	.083	.037	.543	.588
	V4	-.025	.084	-.022	-.298	.766
	V5	.019	.075	.018	.253	.800
	V6	.035	.078	.030	.448	.655
	V7	.177	.084	.164	2.117	.036
	V8	.033	.067	.033	.502	.616
	V9	.198	.087	.157	2.264	.025
	V10	.020	.078	.018	.260	.795
	V11	-.038	.063	-.037	-.616	.539
	V12	.075	.101	.057	.748	.456
	V13	.377	.078	.369	4.806	.000
	V14	.254	.087	.229	2.905	.004

Dependent Variable: V15

Table 8. Likert Scale questionnaire items and the significance of the effect on buying behavior ordered from most significant to lowest.

Question	P-Value
I will buy the same smartphone brand if I decide to purchase a new one	.000
I prefer to buy smartphone from brands that I am familiar and have more information about	.004
I will recommend other people to buy the same smartphone brand as mine	.004
I never consider any lesser-known smartphone brand when I purchase	.010
It is safe to buy a branded smartphone as they always come with better features	.025
Logo of my smartphone brand helps me to feel more self-confident	.036
I think well-known smartphone brands are more trustable	.456
Country of origin of my smartphone brand affects my product purchase decision	.539
A well-known smartphone brand is always better in quality than a lesser-known brand	.588
Quality of smartphone is an important factor in my decision-making	.616
I can quickly recall symbol or logo of my smartphone brand	.655
Name of brand is an important factor when I am buying a smartphone	.766
I prefer to buy smartphones that are advertised by my favorite celebrities	.795
Brand name of my smartphone is an indicator of social class	.800
I will keep purchasing from my smartphone company even if its price is higher than that of competitors	.000

One way we can try to group together the variables multiple item scales is by using Factor Analysis. Exploratory Factor Analysis can separate scale items into different dimensions such as brand awareness, perceived quality, brand association and brand loyalty. In a similar fashion, we applied the SPSS FACTOR procedure to the 15 Likert items and obtained a five-dimensional solution with Varimax rotation and the loadings less than .4 suppressed in the loadings table. The observations we can make from here are also consistent with the findings from the correlations given in Table 6. The scree plot is given in Figure 1. The first 5 dimensions explain exactly 69.78% (nearly 70%) of the variance in the data. Variance explained table and the rotated factor loadings tables are provided as Table 9 and Table 10.

Table 9. Total Variance explained in five dimensions.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.002	33.345	33.345	5.002	33.345	33.345
2	2.180	14.535	47.881	2.180	14.535	47.881
3	1.526	10.170	58.051	1.526	10.170	58.051
4	.909	6.063	64.114	.909	6.063	64.114
5	.850	5.667	69.781	.850	5.667	69.781
6	.744	4.960	74.741			
7	.653	4.350	79.092			
8	.594	3.957	83.049			
9	.502	3.346	86.395			
10	.459	3.060	89.455			
11	.415	2.765	92.219			
12	.328	2.188	94.407			
13	.311	2.074	96.481			
14	.267	1.782	98.263			
15	.261	1.737	100.000			

Table 10. Rotated factor loadings, less than 0.4 suppressed.

	Component				
	1	2	3	4	5
V12	.777				
V3	.672				
V4	.636				
V9	.632				
V2	.573				
V3		.894			
V4		.838			
V5		.777			
V5			.829		
V7			.784		
V10			.606	-.403	
V6				.805	
V1	.454			.664	
V8				.488	.458
V11					.772
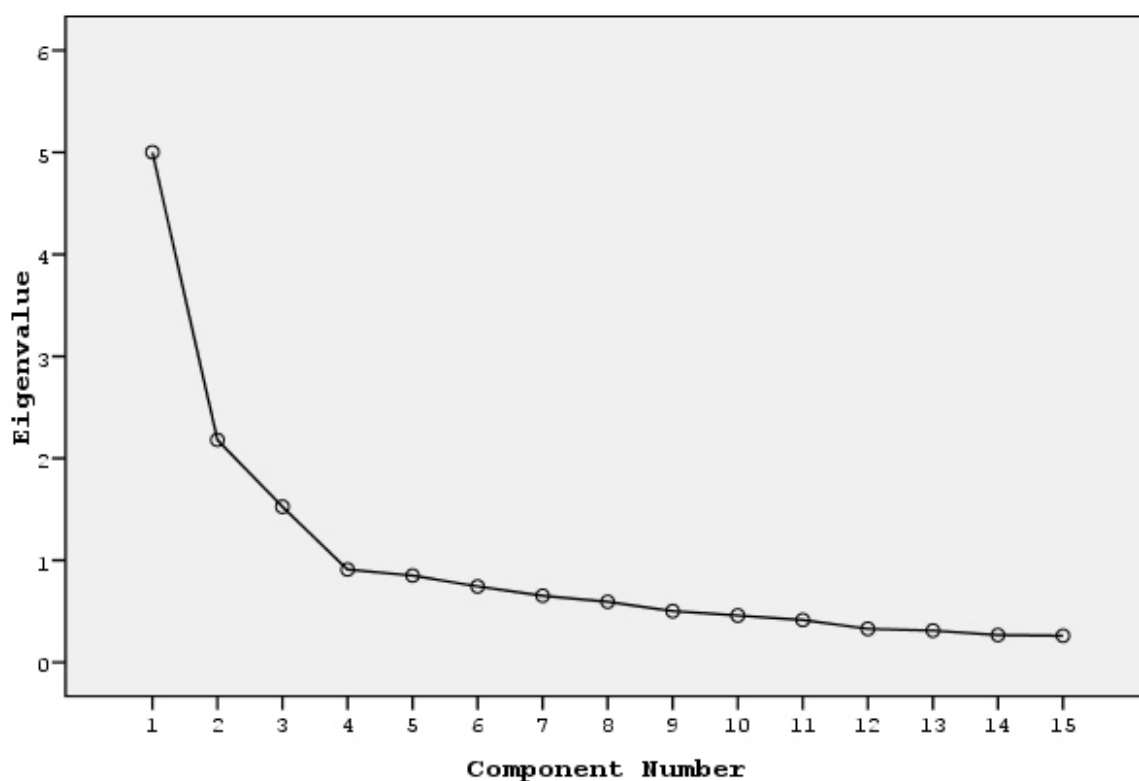
Figure 1. Scree Plot of the Factor Analysis of the 15 Likert Scale items.

Conclusion

The study applied different analysis tools to investigate the effects of smartphone brands on the purchase buying behavior of smartphone buyers in Turkey. The results provided strong supports for H1 and H4,

which indicated the positive and direct role of brand awareness and brand loyalty in affecting brand equity. However, both perceived quality and brand association were found to have either very low or negative parameter estimates. Therefore, the results show that these two factors did not have a direct significant influence on brand equity.

According to Aaker (1991) brand awareness plays an important role in decision making of a consumer; if the customer had already heard the brand name, he or she would feel more comfortable at the time of decision making, which means customer would not prefer to buy an unknown brand. Our results support this idea when we examine that Turkish customers are willing to buy smartphone from brands that they are familiar and have more information about them (P=0.00) and on the other hand, they never consider any lesser-known brands when they purchase smartphone (P=0.01). The results are also in line with Grewal et al. (1998) that believe brand awareness acts as a critical factor in the consumer purchase intention. One factor related to the brand awareness is brand name which Keller (2008) believes that it is very significant choice because sometimes it captures the central theme or key association of a product in a very condensed and reasonable fashion. However, our findings show that just name of the brand is not an important factor for Turkish smartphone buyers (P=0.76).

Another factor related to brand awareness is logo. Hem and Iversen (2400) argue that logos are very important assets for companies, and they spend enormous time and money to promote brand logos and symbols. Our results confirm the importance of logos for firms because Turkish respondents think logos of their smartphone brands help them to feel more self-confident (P=0.03). However, it is interesting that most of them are not able to recall symbol or logo of their smartphone brand (P=0.65). Particularly impressive is that Apple Logo is reported as the logo that first comes to the consumers' mind by 90% of the respondents. The Samsung Logo is very weak on this issue by 3.5%. It seems that since the Apple Logo is catchy (an apple which is bitten on one side) and also its brand name and logo are the same, thus it has been more effective on the consumer's behavior in terms of brand awareness than other smartphone competitors.

Bolton and James (1991) argue that perceived quality provides value to customers by providing them a reason to buy by differentiating the brand from competing brands. Besides, Aaker (1991) states that perceived quality of a brand influences the decision-making process of a consumer. Our findings are interesting when we analyze the Likert scale. Results show that for Turkish customers, the quality of smartphone is not an important factor in making decision (P=0.61). However, when we ask separately the Turkish buyers' primary purpose in choosing their current brand around 56% of respondents answered quality, about 13% price, 11% design, 11% innovation, and 10% others. Respondents also did not agree that a well-known smartphone brand is always better in quality than a lesser-known brand (P=0.59) even though, their preference is to buy a branded smartphones since they always come with better features (P=0.02). As a result, our findings in the Likert scale is not in the same line with Ajay and Murthi (2008) that discuss because of perceived quality usually customers prefer to buy products from a well-known and familiar brand, rather than opting for the unknown and new brand.

According to Aaker (1991) brand association is thought that held by individuals in their memory related to a specific service or a product. He believes that brand association and brand equity are strongly interrelated to each other because brand association enhances the memorable of a particular brand. This Association can be made through famous people, who represent the brand such as famous actors. However, the findings of this paper indicate that the preference of Turkish buyers to buy smartphones that are advertised by their favorite celebrities is very low (P=0.8). On the other hand, some studies (Aaker, 1991; Keller, 1993) argue that country-of-origin leads to associations in the minds of consumers, thus it is an important factor for customers at the time of shopping. However, most of our respondents are disagree that country of origin of the smartphone brand affects their product purchase decisions (P=0.54). They think branded smartphone are associated with better features which again show the importance of brand awareness (P=0.02), even though they do not highly believe that well-known smartphone brands are more trustable than lesser known ones (p=0.45).

There are many factors related to brand awareness, brand quality, and brand association that can affect loyalty of customers such as brand name, logo, quality, good service, well warranty, innovation, price,

design and so on. According to Churchill and Peter (1995) when customers become loyal to the company they usually do not change their mind to switch to buy another brand even at a lower price. Our results demonstrate that Turkish buyers are loyal to their smartphone brands to a high extent since they state that they will buy the same smartphone brand if they decide to purchase a new one (P=0.00); The result is interesting when we know that around 68% of respondents possess Apple smartphone. Besides, they argue that they will recommend other people to buy the same smartphone brand (P=0.04). It is also interesting that Turkish customers say they will keep purchasing from their smartphone brand even if its price be higher than that of competitors (P=0.00), which again illuminates that they are highly loyal to their smartphone brand. These results confirm Aaker (1991) discussion that the brand loyalty of the customer base is often the core of brand equity. Because Turkish customers are not indifferent to the brand and, in fact, they buy smartphone not only with respect to features and price but also with high concern to the brand name.

In the context of financial services firms Internet banking and use of apps and social media sites is becoming extremely important. As youngsters are moving on to college and becoming users of financial services the study of their online behavior becomes more important for marketing managers of these firms and others in different sectors such as FMCG and services (Akkucuk & Turan, 2016). The emergence of Internet-based social media has made it possible for people to communicate online, and this new world changed rules of old-style offline socialization (Gencer, 2015). Since most online transactions are now carried out via mobile phones (smart phones), the driving forces behind consumer behavior in this area need further investigation. Based on the results of our survey on 171 people, we observe that a majority of the consumers' purchase decisions are mainly influenced by brand loyalty and brand awareness. Perceived quality and brand association did not seem to influence customers' purchase decisions as much as brand loyalty and brand awareness for the sample of this study.

Like in all other research studies, the present study also has some limitations. The first limitation of our study was limited time. Another limitation lies in the use of the limited number of variables that were explored during the study. Further research can use more and different variables for testing the relationship between brand equity and purchase behavior of customers. Furthermore, this study presented, for the case of Istanbul district of Turkey and most of the respondents of the online questionnaire were students. Therefore, Future studies may be applied to different age groups or in different districts of Turkey or around the world. In addition to Factor Analysis and Regression analysis, visualization tools such as MDS can be used to create visual maps that can tell us how consumers perceive smartphone brands (France & Carroll, 2011; Akkucuk & Carroll, 2010; Akkucuk & Kucukkancabas, 2007; Akkucuk et al, 2013; Akkucuk, 2011). Having been completed in 2016 this study will act as a very recent quantitative study with results being usable in the near future.

Global firms such as Apple, Samsung, Sony, HTC, Nokia and others need to pay very close attention to the determinants of behavior in the global consumers. Globalization has led to the development of the new notion of Global Customer Relationship Management as opposed to having independent local CRM programs operating in the subsidiaries (Akkucuk, 2015; Akkucuk, 2014). When making decisions on a global scale research studies in different cultural contexts may prove to be very useful. To make informed decisions, critical macroeconomic, demographic and cultural data elements must be available for analysis (Akkucuk, 2013).

References

Aaker, D. A. (1991). *Managing brand equity: Capitalizing on the value of a brand name.* New York: Free Press.

Aaker, D. A., & Joachimsthaler, E. (2000). *Brand leadership.* New York: Free Press.

Aghdaie, SFA, Honari, R (2014). Investigating the Role of Brand in Forming the Consumer Involvement. *International Review of Management and Business Research, 3*(1), 254-266.

Akkucuk U. (2011). A Study on the Competitive Positions of Countries Using Cluster Analysis and Multidimensional Scaling. *European Journal of Economics Finance and Administrative Sciences*

37, 17-26. https://www.researchgate.net/publication/286042216_A_Study_on_the_Competitive_Positions_of_Countries_Using_Cluster_Analysis_and_Multidimensional_Scaling

Akkucuk, U. (2013). Market Prioritization Methods for Global Firms. Managerial Issues in Finance and Banking, 3-20. Doi: 10.1007/978-3-319-01387-9_1

Akkucuk, U. (2014). From Local Information Systems to Global Customer Relationship Management. Globalization and Governance in the International Political Economy, 299-305. doi:10.4018/978-1-4666-4639-1.ch023

Akkucuk, U. (2015). From Local Information Systems to Global Customer Relationship Management. Marketing and Consumer Behavior: Concepts, Methodologies, Tools, and Applications, 759-765. doi:10.4018/978-1-4666-7357-1.ch034

Akkucuk, U., & Carroll, J. D. (2010). Nonlinear Mapping Using a Hybrid of PARAMAP and Isomap Approaches. Studies in Classification, Data Analysis, and Knowledge Organization Classification as a Tool for Research, 371-380. Doi: 10.1007/978-3-642-10745-0_40

Akkucuk, U., Carroll, J. D., & France, S. L. (2013). Visualizing Data in Social and Behavioral Sciences: An Application of PARAMAP on Judicial Statistics. Algorithms from and for Nature and Life Studies in Classification, Data Analysis, and Knowledge Organization, 147-154. Doi: 10.1007/978-3-319-00035-0_14

Akkucuk U. & Kucukkancabas S. (2007). Analyzing the Perceptions of Turkish Universities Using Multidimensional Scaling (Mds) Analysis. *Bogazici Journal of Economics and Administrative Sciences, 21*, 125-141. http://www.bujournal.boun.edu.tr/docs/13315907308.Ulas%20Akkucuk.pdf

Akkucuk U. & Turan C. (2016). Mobile Use and Online Preferences of the Millenials: A Study in Yalova. *J Internet Bank Commer, 21*(1), 142.

Ambler, T. (2000). *Marketing and the bottom line*. Harlow: Financial Times Prentice Hall.

Assael, H. (1998). *Consumer behavior and marketing action*. Cincinnati, OH: South-Western College Publ.

Barwise, P. (1993). Brand equity: Snark or boojum? *International Journal of Research in Marketing, 10*(1), 93-104. Doi: 10.1016/0167-8116(93)90036-x

Bloemer, J., & Kasper, H. D. (1995). The complex relationship between consumer satisfaction and brand loyalty. *Journal of Economic Psychology, 16*(2), 311-329. Doi: 10.1016/0167-4870(95)00007-b

Bolton, R. N., & Drew, J. H. (1991). A Longitudinal Analysis of the Impact of Service Changes on Customer Attitudes. *Journal of Marketing, 55*(1), 1. Doi: 10.2307/1252199

Churchill, G. A., & Peter, J. P. (1995). *Marketing: Creating value for customers*. Boston: Irwin/McGraw Hill.

Davis, D. F., Golicic, S. L., & Marquardt, A. J. (2008). Branding a B2B service: Does a brand differentiate a logistics service provider? *Industrial Marketing Management, 37*(2), 218-227. doi:10.1016/j.indmarman.2007.02.003

Desai, P. S., Kalra, A., & Murthi, B. (2008). When Old Is Gold:The Role of Business Longevity in Risky Situations. *Journal of Marketing, 72*(1), 95-107. doi:10.1509/jmkg.72.1.95

Fornell, C. (1992). A National Customer Satisfaction Barometer: The Swedish Experience. *Journal of Marketing, 56*(1), 6. Doi: 10.2307/1252129

France, S. L., & Carroll, J. D. (2011). Two-Way Multidimensional Scaling: A Review. *IEEE Transactions on Systems, Man, and Cybernetics, Part C (Applications and Reviews), 41*(5), 644-661. doi:10.1109/tsmcc.2010.2078502

Gençer, Y. G. (2015). Relationship Between New Online-Socialized World And Organization Based Self Esteem. *The Online Journal of Communication and Media–October, 1(*4).

Grewal, D., Krishnan, R., Baker, J., & Borin, N. (1998). The effect of store name, brand name and price discounts on consumers' evaluations and purchase intentions. *Journal of Retailing, 74*(3), 331-352. Doi: 10.1016/s0022-4359(99)80099-2

Hem, L. E., & Iversen, N. M. (2004). How to Develop a Destination Brand Logo: A Qualitative and Quantitative Approach. *Scandinavian Journal of Hospitality and Tourism, 4*(2), 83-106. Doi: 10.1080/15022250410003852

Herbig, P., & Milewicz, J. (1993). The relationship of reputation and credibility to brand success. *Journal of Consumer Marketing,10*(3), 18-24. Doi: 10.1108/eum0000000002601

Hoyer, W. D., & Brown, S. P. (1990). Effects of Brand Awareness on Choice for a Common, Repeat-Purchase Product. *Journal of Consumer Research, 17*(2), 141. Doi: 10.1086/208544

Jacoby, J., & Olson, J. C. (1985). *Perceived quality: How consumers view stores and merchandise*. Lexington, MA: Lexington Books.

Janiszewski, C., & Osselaer, S. M. (2000). A Connectionist Model of Brand–Quality Associations. *Journal of Marketing Research,37*(3), 331-350. doi:10.1509/jmkr.37.3.331.18780

Johansson, J. K., Douglas, S. P., & Nonaka, I. (1985). Assessing the Impact of Country of Origin on Product Evaluations: A New Methodological Perspective. *Journal of Marketing Research, 22(*4), 388. Doi: 10.2307/3151584

Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing, 57*(1), 1. Doi: 10.2307/1252054

Keller, K. L., & Lehmann, D. R. (2006). Brands and Branding: Research Findings and Future Priorities. *Marketing Science, 25*(6), 740-759. doi:10.1287/mksc.1050.0153

Keller, K. L. (2008). *Strategic brand management: Building, measuring, and managing brand equity*. Upper Saddle River, NJ: Pearson/Prentice Hall.

Kinard, B. R., & Capella, M. L. (2006). Relationship marketing: The influence of consumer involvement on perceived service benefits. *Journal of Services Marketing, 20*(6), 359-368. Doi: 10.1108/08876040610691257

Kotler, P. (2000). *Marketing management*. London: Prentice Hall International (UK).

Lassar, W., Mittal, B., & Sharma, A. (1995). Measuring customer-based brand equity. *Journal of Consumer Marketing, 12*(4), 11-19. Doi: 10.1108/07363769510095270

Lee, G., & Leh, F. (2011). Dimensions of Customer-Based Brand Equity: A Study on Malaysian Brands. *Journal of Marketing Research and Case Studies JMRCS*, 1-10. doi:10.5171/2011.821981

Mcquiston, D. H. (2004). Successful branding of a commodity product: The case of RAEX LASER steel. *Industrial Marketing Management, 33*(4), 345-354. doi:10.1016/j.indmarman.2003.07.001

Oliver, R. L. (1999). Whence Consumer Loyalty? *Journal of Marketing, 63*, 33. Doi: 10.2307/1252099

Pappu, R., Quester, P. G., & Cooksey, R. W. (2007). Country image and consumer-based brand equity: Relationships and implications for international marketing. *Journal of International Business Studies J Int Bus Stud*. doi:10.1057/palgrave.jibs.8400293

Pride, W. M., & Ferrell, O. C. (2003). *Marketing: Concepts and strategies*. Boston: Houghton Mifflin.

Ross, S. D. (2006). A Conceptual Framework for Understanding Spectator-Based Brand Equity. *Journal of Sport Management, 20*(1), 22-38. doi:10.1123/jsm.20.1.22

Solomon, M. R., Polegato, R., & Zaichkowsky, J. L. (2008). *Consumer behaviour: Buying, having, and being*. Toronto: Pearson Prentice Hall.

Srivastava, R. K., & Shocker, A. D. (1991). *Brand equity: A perspective on its meaning and measurement*. Cambridge, MA: Marketing Science Institute.

Tong, X., & Hawley, J. M. (2009). Measuring customer-based brand equity: Empirical evidence from the sportswear market in China. *Journal of Product & Brand Management Jnl of Product & Brand Mgt, 18*(4), 262-271. Doi: 10.1108/10610420910972783

Turley, L. W., & Moore, P. A. (1995). Brand name strategies in the service sector. *Journal of Consumer Marketing, 12*(4), 42-50. Doi: 10.1108/07363769510095298

Wood, L. (2000). Brands and brand equity: Definition and management. *Management Decision, 38*(9), 662-669. Doi: 10.1108/00251740010379100

Yoo, B., Donthu, N., & Lee, S. (2000). An Examination of Selected Marketing Mix Elements and Brand Equity. *Journal of the Academy of Marketing Science, 28*(2), 195-211. Doi: 10.1177/0092070300282002

Zeithaml, V. A. (1988). Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence. *Journal of Marketing, 52*(3), 2. Doi: 10.2307/1251446