



## The Effect of Brand Value on Consumers' Purchasing Decisions: An Application in Turkey

Şerife Keskin

Hasan Kalyoncu University Mater Student, Turkey

Yakup Durmaz (Corresponding Author)

Department of Marketing, Hasan kalyoncu University, Faculty of Economics Administrative, Şahinbey-Gaziantep, Turkey

Email: [yakup.durmaz@hku.edu.tr](mailto:yakup.durmaz@hku.edu.tr)

### Article History

Received: 26 April, 2021

Revised: 25 June, 2021

Accepted: 4 July, 2021

Published: 9 July, 2021

Copyright © 2021 ARPG & Author

This work is licensed under the Creative Commons Attribution International



BY: Creative Commons Attribution License 4.0

### Abstract

The purpose of this research is to determine the relationship between the purchasing decisions of consumers and their brand values depending on the factors that affect their wishes, desires, and needs while purchasing a product. Another purpose of the study is to determine whether the demographics of the participants change the opinions of the participants on purchasing decisions and brand values. In order to collect data 5-Point Likert type Consumer Decision-Making, Brand Loyalty, Perceived Quality, Brand Awareness and Brand Connotations Scales consisting of 22 questions, and 9 dimensions in addition to the Brand Value Scale including 19 items and 4 sub-dimensions were conducted on 400 consumers living in the Diyarbakır province of Turkey. The research is important both for consumers and businesses in terms of explaining how consumers are affected by brand value and make their consumption decisions.

**Keywords:** Brand; Brand value; Consumer buying decisions.

## 1. Introduction

In order for production to have an economic meaning, a consumer must be found. A consumer is a person who buys and uses goods or services in order to meet the wishes and needs of himself or his family. The customer is the permanent consumer of the business. It is necessary to understand human behavior in order to understand the process of understanding the choice of goods or services, their ideas, experiences, ideas and feelings after purchasing, using and using them to meet the demands and needs of consumers. Therefore, the activities related to the purchase and use of goods or services that have an economic value, and the decision process that is the source of these activities and directs them, is called consumer behavior.

The purpose of businesses is to satisfy consumers by meeting their demands and needs, as it is constantly emphasized. Therefore, consumer behavior in the field of marketing is concerned with how he selects, purchases, uses and after-use the goods or services in order to meet these demands and needs. The purchasing decision process of the consumer can be defined as performing a rational thinking process in order to eliminate the need or problem. The consumer emerges as a factor seeking good or service qualities, motivated by the information processing process, and making rational decisions. Therefore, researching the process and the reason the consumer goes through in the market is the main issue of consumer behavior. As a result of the change and development in the marketing approach over time, the consumer has been given importance and consumer behavior has been dealt with. In this context, the relationship between consumer purchasing decisions and brand value has been examined.

## 2. The Concept of Brand Value and Approaches Trying to Explain Brand Value

The first interest in the concept of brand value, which is defined as the value added by the brand to the product (Farquhar, 1990), was in the 90s. Brand value, which was first examined financially, has become an area of interest in the field of marketing. Today, most companies are aware of brand names as their most valuable asset associated with their products or services (Keller and ve Sood, 2003).

Marketers agree with consulting firms on their own, thinking that they will benefit from competitive advantages based on the strength of their brands (Chu and ve Keh, 2006). The presence of companies that now measure a lot of brand value shows the importance of the brand in the business world. Companies with high brand value; It gains advantages such as resisting the promotional pressure of its competitors, seizing successful brand expansion opportunities, and creating barriers to enter the competitive environment (Christodoulides and ve Chernatony, 2009).

Two of the many opinions within the scope of the literature on brand value have been the most emphasized opinion. In the first of these views, the brand value is approached on the basis of finance and researches are carried out in terms of companies. The second is the view that is based on consumers and prioritizes their perceptions about the brand and deals with the brand with the dimension of being able to market (Wood, 2000).

Although the purpose of marketing programs is to increase sales, first of all, information structures should be built in order to ensure that the consumer has a positive approach to the brand. In this way, there will be an increase in the brand value on which the customer is based and will contribute to the marketing mix activities of the companies. However, it should be known that; Regarding the brand value, firms are not the only buyers, and besides firms, consumers are the actors that determine the value of the brand (Christodoulides and ve Chernatony, 2009).

While it is possible to imitate the financial and physical assets of the companies easily by their competitors, the fact that the company's reputation, customer satisfaction, positive associations of the brand provide more competitive advantages is important in terms of prioritizing the consumers in determining the brand value. As a matter of fact, Falkenberg (1996) states that there is an example in terms of marketing investments in the value of the brand and that this value is in the memories of consumers and outside the company. These perceptions and evaluations in the memories of the consumers constitute the outputs of the company. These outputs create the value of the company's activities (Falkenberg, 1996).

According to Blackston (1995), the value and meaning of the brand constitute the value of the brand. Although the meaning of the brand, its connotations, being remarkable and being composed of the personality of the brand, it can be said that what makes a brand valuable is the result of managing the meaning of that brand. For this reason, while the power of the brand is the sum of the associations towards that brand that has a place in the customer's mind, the value of the brand is expressed as the gains that will occur due to its power (Blackston, 1995).

Aaker (1991) states that the power of the brands will increase the profits of the companies and they can easily navigate the distribution channels. In addition, he states that the value of the brand by offering value to the customer creates a relationship of trust when he / she purchases a product or a product and contributes to the formation of a satisfied customer. According to him, creating a strong brand is one of the problems marketers have (Aaker, 1991).

Erdem *et al.* (2006), the name of the brand acts as a signal for the consumer. The signal given by the brand corresponds to the sum of the past and present marketing activities by the brand. Trust in a brand can be evaluated as a signal for the product and thus reduce the consumer's perception of risks. Accordingly, the value of the brand on which the consumer is based can be expressed as the value of the signal received from the brand (Şahin, 2013).

None of the scales developed by the researchers to determine the brand value still cannot fully determine the value of the brand. These methods used are grouped as "direct" and "indirect" approach according to the approach style of measurement. In the measurement, which is expressed as a direct approach, the value of the brand is tried to be measured by focusing on the preferences and benefits of the consumer. In the indirect approach, the value of the brand is measured based on its performance, trust, awareness raising, and supportable symptoms such as loyalty (Yoo and ve Donthu, 2001).

Interest in the value of the brand was seen for the first time in the 1980s and was later adopted as a management concept. Brand value, which is a financial resource for companies, has become a concept based on the perspective of consumers (Dinçer and ve Dinçer, 2010)

Although there is a common and clear idea that brands are valuable assets, there is little opinion on what is the breadth of this value. According to Yapraklı and ve Can (2009), brand is a concept that adds value to businesses and consumers through the product and is one of the most important factors in the success of a business.

The competitive advantage of a successful brand is a valuable asset for the company that owns this brand. The value for this advantage is demonstrated in the money paid by companies with strong branded consumer packaged goods. Since 1986, many mergers and acquisitions have taken place wherever the brand is present. Brands have an important place in the eyes of companies in terms of directing consumer loyalty, which guarantees demand and future cash flow. For this reason, most businesses have the brand as their primary capital. According to Yapraklı and ve Kara (2015), the reputation of the companies is actually a result of the positive behavior of the consumer towards the brand. This situation increased the interest of those who manage the brand to the value of the brand (Yapraklı and ve Kara, 2015).

The value of the brand is determined by the customers, distributors, company that owns the brand or financial markets. However, the real determinant of brand value is the users. The higher the value of the brand, the more customers will gain and the existing customers will be protected (İpek, 2010).

Wood (2000), states that four criteria can guide the determination, interpretation and follow-up of the effects of the value of the brand on brands and markets;

- Measurement reflects the value of the brand, as well as enables the concept of the value of the brand to be understood and developed.
- On the one hand, measurement should accurately reflect the structures that direct the market, this measurement is about future sales and profits.
- The selected measurement should be correct, if the value of the brand changes, the measurement should be able to notice this change.
- Ultimately, measurement should be applicable in brand, production category and markets (Wood, 2000).

In the literature, three of the many approaches to the value of the brand have attracted the most attention. These are the consumer-based approach, the financial approach, and the comprehensive approach where both are taken together. In the financial approach, starting from the first appearance of the brand, all costs including marketing and advertising expenses are calculated and their value is determined (Kartono and ve Rao, 2005). In the approach that is

based on the consumers, it is essential to consider the values presented to the consumer, not the financial values. The comprehensive approach, on the other hand, is the combination of the financial approach and the consumer-based approach in determining the value of the brand. If a brand does not have the energy required to survive, it cannot be expected to have a value in terms of finances or the expected behavior of consumers (Ford, 2005).

In terms of businesses, it is grouped as an important step in determining the brand value on which the consumer is focused, revealing the positive and negative image created by the brand in the minds of the consumers and thus increasing the positive image while transforming the negative image into positive. In cases where the consumer gladly accepts a prominent brand, the company can have a competitive advantage. For this reason, it is important to attain brand value means in which valid and reliable consumers are determined as the focus, to understand how this value is created in the minds of consumers and how this becomes a behavioral preference (Aktepe and ve Şahbaz, 2010).

In a research that is based on the consumer regarding brand value, there is a wide scope including determining the psychological elements of this value for consumers. However, it does not include different methods to determine the value of the brand financially. The strong value of the brand from the consumer point of view will determine the preference of the consumer and consequently control its share in the market. In this respect, the consumer-oriented value of the brand forms the basis of the financial-oriented brand value (Karalar and ve Kiracı, 2007).

### 3. Consumer and Consumer Behavior Concepts and Some Reasons Affecting Consumer Behavior

People who buy or can buy marketing components such as products and services for their individual desires and needs are called consumers. The field of study that deals with the processes of choosing, purchasing, using and disposing of products, services, ideas or experiences for the satisfaction of the needs and desires of individuals or groups is called consumer behavior (Solomon, 2004). Increasing interest in consumer behavior is due to the following factors (Koç, 2013):

- (1) Due to the increase in the growth and internal layers of the companies, the upper levels reach the level of disconnection with customers
- (2) Increase in the number of consumers, increase in their expectations and awareness of consumers,
- (3) Focusing on emotional satisfaction rather than physiological satisfaction on purchased products by changing consumption from rationality to emotionality,
- (4) The need for innovation due to the shortening of the life curves of the products.

In studies on consumer behavior, it has been determined that a number of factors affect these behaviors. These factors can be considered in two categories as "Psychological" and "Socio-cultural" factors. In the category of psychological factors, perception, learning, motivation, values, personality, self, lifestyle and attitudes are discussed; In the category of socio-cultural factors, groups, family, social class, culture and generations are examined.

Perception refers to how an individual interprets and makes sense of the information received. It is affected by the personality, experience and mood of the individual. Therefore, individuals will comment differently against the same stimuli (for example, the packaging, taste, smell or texture of the product). Even the same individuals may not be able to give similar responses to the same stimuli at different times (Demircioğlu, 2012). In other words, perceptual differences occur between the interpretation of a consumer who watches a food advertisement while he is hungry, and that of the consumer who watches it when his stomach is full.

Firms that expect consumers to be impressed by them want to enable them to learn. In this way, a process of change is experienced in the knowledge, attitude and behavior of consumers through their experiences. This process is called learning (Engel *et al.*, 1978). In this way, businesses will be able to influence the behavior of consumers through learning and consequently increase their market share.

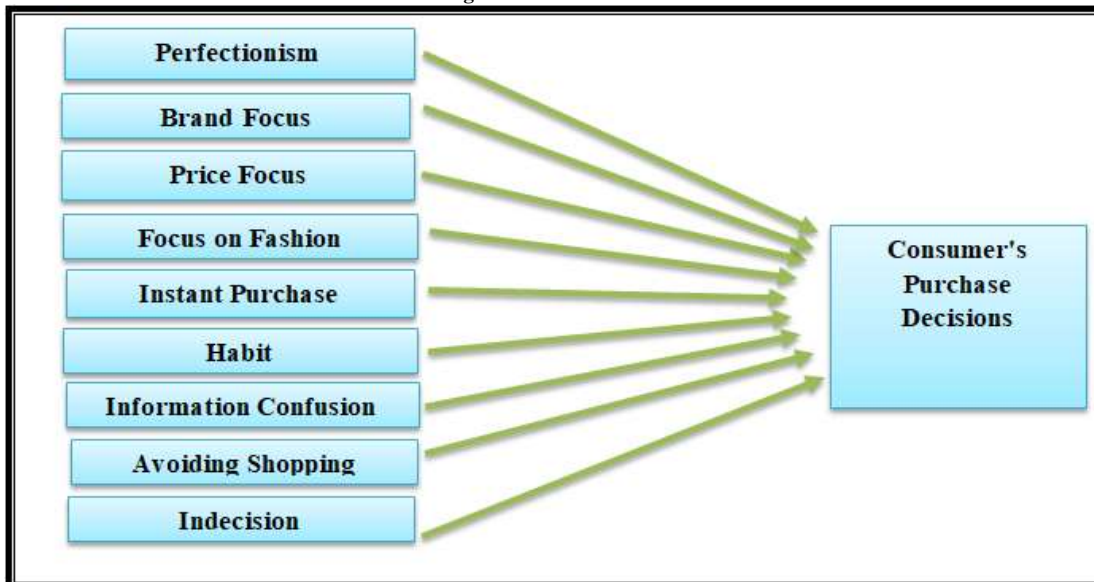
Consumers' attitudes also have an impact on how they perceive the outside world. People need to understand the outside world well for the continuation of their lives. These attitudes will also guide the behavior of consumers. Therefore, marketing experts should concentrate their research on the attitudes of individuals (Inceoğlu, 2010).

### 4. Method

In this study, scanning method, which is a quantitative research method, was used as a method. Survey method is the best way to reach large samples. This is the reason why the survey application in the study is preferred.

A diagram of the research limited to the subject of this study is shown in Figure 1. As can be seen from the diagram, the aspects of the sub-dimensions of the brand value examined in the study that affect the purchasing decisions of the consumer are specified. In this respect, the brand value is the independent variable and the consumer decisions about purchasing is the dependent variable. In addition, socio-demographic characteristics were also examined as a control variable.

Figure-1. Research model



In the scope of the study, the survey technique was used as a data collection method. In this respect, in order to measure the variables, questionnaire forms were prepared using scales that were accepted as valid and reliable within the scope of the literature. In this respect, 5-point Likert type scales were used to measure the Brand Value with the Purchasing Decision Styles variable of the Consumers. SPSS 22.0 and AMOS statistics package programs were used for the data obtained in the study. Then it was reviewed whether the distribution of the data was normal or not and factor analysis was made. Regarding the hypothesis test, the Structural Equation Model was established with T and F tests and regression analysis was applied. Although the scales applied within the scope of the study are valid and proven in terms of reliability, these processes have continued to be benefited from. Therefore, Factor Analyzes of the scales used for the validity study were also made. In terms of reliability analysis, the calculation of Cronbach's Alpha values and the applicability of the data used within the scope of the study for factor analysis were decided by the Kaiser-Meyer-Olkin (KMO) coefficient and the Barlett Sphericity test.

Table-1. KMO and bartlett test for consumer purchase decisions scale

KMO ve Bartlett Test		
Measuring Kaiser-Meyer-Olkin Sampling Adequacy		,837
Bartlett's Test of Sphericity	Approximate Chi-Square	2141,453
	Df	28
	Sig.	,000

As can be seen in Table 1, the sample adequacy value for the scale of consumer purchasing decisions is 0.837. According to this value, the sample size for factor analysis is good (Tatlidil, 1992). In addition, the significance of the Bartlett test shows that the relationships between the items are applicable to factor analysis.

The exploratory factor analysis rotated components matrix for the consumer purchasing decision scale is shown in Table 2. Definitions of the factors shown in the table are given in the part under the table.

Table-2. Consumer purchase decisions scale rotated components matrix

Faktors *									
Substances	1	2	3	4	5	6	7	8	9
1	,836								
2	,907								
3	,908								
4	,827								
5		,802							
6		,862							
7		,819							
8		,739							
9			,888						
10			,849						
11				,851					
12				,852					
13					,768				
14					,844				
15						,874			

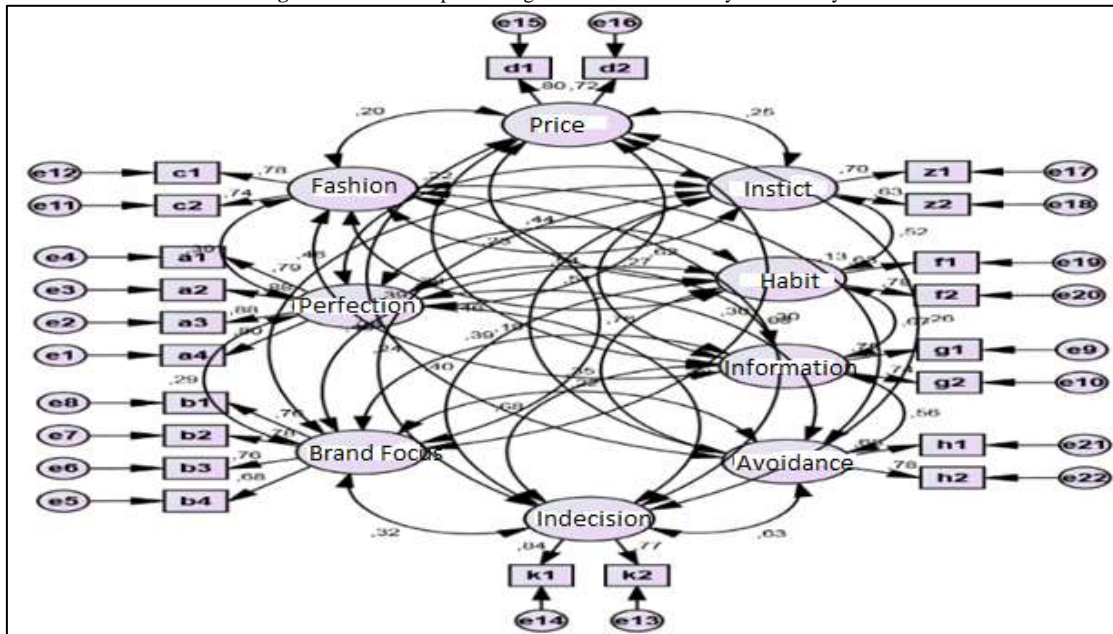
16						,692			
17							,779		
18							,790		
19								,860	
20								,797	
21									,809
22									,863

\* 1 = Perfectionism, 2 = Brand focus, 3 = Fashion focus, 4 = Price focus, 5 = Instant purchasing / impulsive / impulsive / instinctive, 6 = Habit, brand loyalty focus, 7 = Information confusion, 8 = Avoiding shopping 9 = Indecision

After the exploratory factor analysis was applied, all items were loaded on the relevant factors and the 9-dimension structure of the consumer purchasing decision scale was verified. As can be seen in the table, factor loadings of all factors are high. The loads belonging to the factors are between 0,682 and 0,908 values.

The factor structure consisting of items belonging to the consumer purchasing decision scale was determined by exploratory factor analysis. Afterwards, a confirmatory factor analysis was made to test the structural accuracy of the scale, and the analysis results are given in Figure 2.

Figure-2. Consumer purchasing decisions confirmatory factor analysis



As can be seen in Figure 2, after confirmatory factor analysis; Factor loadings are between 0.63 and 0.88. No modification was required due to the good fit values of the scale.

Table-3. Fit values for the scale of consumer purchasing decisions

	X <sup>2</sup>	df	CMIN/df	GFI	CFI	TLI	RMSEA
Cohesion Values	454,044	173	2,625	0,927	0,940	0,920	0,057
Acceptable	-	-	≤5	>0.900	>0.950	>0.900	≤0.080
Good Fit Values	-	-	≤3	>0.950	>0.970	>0.950	≤0.050

Table 3 is the goodness of fit criterion for the consumer purchasing decision scale; CMIN / df has good fit values and GFI, CFI, TLI and RMSEA values are at acceptable levels (Cengiz and ve Kirkbir, 2007).

Table-4. KMO and barlett test for brand value scale

KMO ve Bartlett Test	
Measuring Kaiser-Meyer-Olkin Sampling Adequacy	,935
Bartlett's Test of Sphericity	Approximate Chi-Square
	Df
	Sig.

The exploratory factor analysis rotated components matrix of the brand value scale is shown in Table 5.

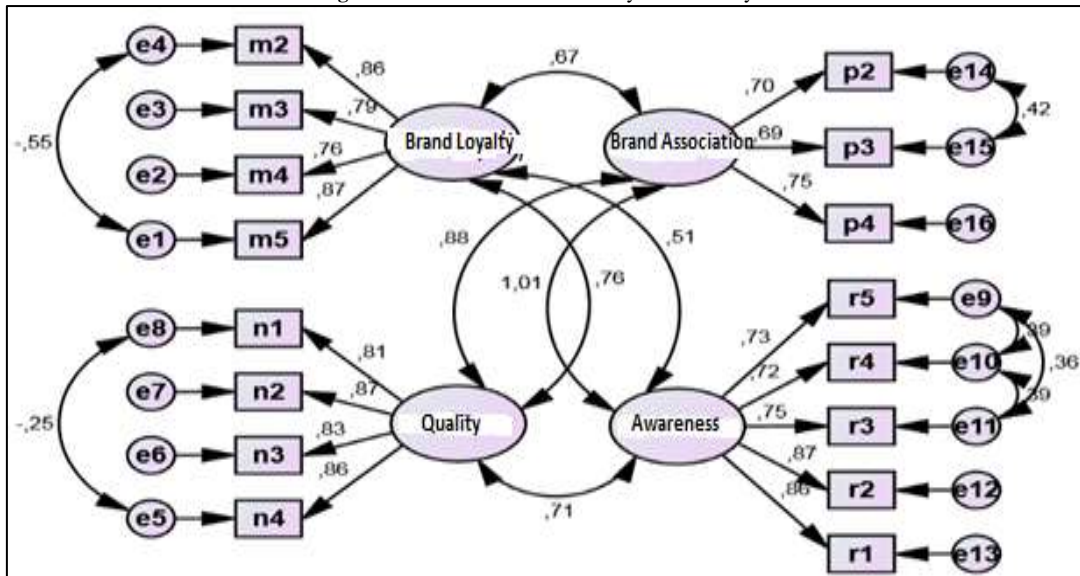
Table-5. Brand value scale rotated components matrix

Maddeler	Faktörler			
	1	2	3	4
Another brand, I would prefer the XYZ brand even if it has the same features as the XYZ.	,810			
I recommend the XYZ brand, although there is no difference from any other brand.	,747			
If the XYZ brand is not available in the relevant store, I will not buy another brand.	,840			
If I am going to buy a different model, I will buy the XYZ brand again.	,731			
The expected quality of the XYZ brand is quite high.		,634		
The reliability of the XYZ brand has a very high probability.		,726		
There is a very high probability that the XYZ brand will be functional.		,716		
The XYZ brand is of high quality.		,766		
Some features of the XYZ brand come to my mind immediately.			,661	
I immediately remember the logo or symbol of the XYZ brand.			,660	
The stores where I buy the XYZ brand are selling the most well-known brands.			,605	
I know the XYZ brand (I'm aware)				,617
I can distinguish the XYZ brand from other competing brands.				,623
More stores sell the XYZ brand compared to competing brands.				,818
The XYZ brand offers a wide variety of price distribution.				,826
The XYZ brand is a pioneer and leader in new product development.				,800

\* 1 = Brand Loyalty, 2 = Perceived Quality 3 = Brand Associations, 4 = Brand Awareness

After the exploratory factor analysis applied to the brand value scale, the 4-factor structure was verified. It loaded on factors related to the items related to the factors. Among the brand loyalty factors, "The brand XYZ will be my first choice" and "Even if other brands have the same features, it makes sense to buy the XYZ brand." "Some features of the XYZ brand come to my mind immediately." items were excluded from the analysis because they were not loaded on related factors. The analysis continued with 16 items. Factors related to brand value; It is seen that it takes factor load values between 0.605 and 0.840.

Figure-3. Brand Value Confirmatory Factor Analysis



As can be seen in Figure 3, after the brand value confirmatory factor analysis, factor loads are between 0.63 and 0.88. The fit values of the scale were obtained by modifications made between the error terms of items e1 and e4, e5 il3 e8, e9 and e10 and e11, e10 and e11 and e14 and e15.

Table-6. Compliance values for brand value scale

	X <sup>2</sup>	df	CMIN/df	GFI	CFI	TLI	RMSEA
Cohesion Values	318,460	92	3,462	0,929	0,962	0,950	0,070
Acceptable	-	-	≤5	>0.900	>0.950	>0.900	≤0.080
Good Fit Values	-	-	≤3	>0.950	>0.970	>0.950	≤0.050

As can be seen in [Figure 3](#), after the brand value confirmatory factor analysis, factor loads are between 0.63 and 0.88. The fit values of the scale were obtained by modifications between the error terms of items e1 and e4, e5 il3 e8, e9 and e10 and e11, e10 and e11 and e14 and e15.

Table-7. Reliability Analysis

Variable	Cronbach Alpha Coefficient	Number of Items
Purchase Decision	,876	22
• Perfectionism	,901	4
• Brand Focus	,832	4
• Price Orientation	,728	2
• Focus on Fashion	,732	2
• Instant Purchase	,615	2
• Habit	657	2
• Information Confusion	713	2
• Avoiding	696	2
• Indecision	784	2
Brand Value	944	16
• Brand loyalty	878	4
• Perceived Quality	903	4
• Brand Association	806	3
• Brand Awareness	910	5

As can be seen in [Table 7](#), the reliability level of all variables is sufficient. This shows that the data to be used in the research have the reliability level suitable for the analysis.

In order to determine which tests will be used in the analysis of the data, it was checked whether the data showed a normal distribution. In this context, it was decided whether the data obtained had a normal distribution or not, by looking at the kurtosis and skewness values.

Table-8. Skewness and kurtosis values

Scales	Distortion	Flatness
Purchase Decision	,062	,698
• Perfectionism	-,389	-,989
• Brand Focus	,563	-,227
• Price Orientation	-,336	-,853
• Focus on Fashion	,376	-,620
• Instant Purchase	,270	-,736
• Habit	,132	-,789
• Information Confusion	,034	-,866
• Avoiding	,175	-,912
• Indecision	,246	-,929
Brand Value	-,083	-,410
• Brand loyalty	,414	-,391
• Perceived Quality	,076	-,621
• Brand Association	-,016	-,890
• Brand Awareness	-,128	-,615

Kurtosis and skewness values taking a value between -2 and +2 shows that the data have a normal distribution. As can be seen in [Table 8](#), all variables have a value between -2 and +2 in terms of kurtosis and skewness values. The resulting data are normal in distribution ([George and ve Mallery, 2010](#)). For this reason, the T test and F test, which are parametric tests in terms of demographic data, were used in the hypothesis analysis within the scope of the research, since the data show normal in the distribution and the size in the sample is more than 30.

The study mainly includes consumers over the age of 18 who continue their lives in Diyarbakır. In 2017, 1,302,426 people over the age of 18 lived in Diyarbakır ([www.tuik.gov.tr](http://www.tuik.gov.tr)). The sampling method was used in the studies because it is difficult to reach the entire consumer mass. In this way, the data specified within the scope of the study were obtained through face-to-face interviews with 400 people.

## 5. Findings

Within the scope of this section, analysis of the data obtained in the research will be emphasized. Then, the findings of the demographic characteristics of the participants and the findings regarding the assumptions will be examined. The findings including demographic characteristics of the participants are given in [Table 9](#).

**Table-9.** Demographic characteristics of individual

Gender	Frequency	Percent	Cumulative Percent
Woman	251	60,2	60,2
Male	149	39,8	100
Total	400	100	
Age Groups	Frequency	Percent	Cumulative Percent
18-25 Yaş	68	13,6	13,6
26-35 Yaş	124	34,8	48,4
36-45 Yaş	124	34,8	83,2
46-55 Yaş	40	8	91,2
56 Yaş ve üstü	44	8	100
Total	400	100	
Income Groups	Frequency	Percent	Cumulative Percent
2000 TL ve altında	51	10,2	30,2
2001-3000 TL	203	50,6	70,7
3001-4000 TL	66	23,2	83,9
4001 TL ve üstü	80	16	100
Total	400	100	
Level of education	Frequency	Percent	Cumulative Percent
Primary school	79	15,8	15,8
Middle School	56	11,2	27
High school	209	41,8	68,8
Associate degree	51	10,2	79
License	88	17,6	96,6
Postgraduate	17	3,4	100
Total	400	100	
Marital status	Frequency	Percent	Cumulative Percent
Single	146	39,2	39,2
Married	254	60,8	100
Total	400	100	
Profession Group	Frequency	Percent	Cumulative Percent
Officer-Retired	61	18,2	18,2
Tradesman / Self-Employed	41	8,2	26,4
Forensic and Security	135	37	53,4
Private Sector- Blue Collar	46	9,2	62,6
Private Sector- White Collar	39	7,8	80,4
Student	25	5	85,4
Housewife	53	14,6	100
Total	400	100	

In Table 9, the individuals within the scope of the study; gender distributions are balanced. Among the participants, there are 60.2% women and 38.2% men. The majority are young people under the age of 45 (83.2%). The rate of participants between the ages of 46-65 is 8%. Most of the participants (60.8%) have a monthly income of less than 3000 TL. The ratio of those with an income level of 4001 TL and above is 16%. Therefore, the majority of the participants covered by the research have a low income. Participants also have a balanced distribution in terms of their educational background. Most of them (41.8%) are high school graduates and a small portion (3.4%) has graduated from a postgraduate level. While the rate of married participants is 60.1%, the rate of those who are single is 39.2%.

The demographic variable hypotheses tested in the study were analyzed with T and F tests. The structural equation model of the hypotheses related to consumer purchasing decisions regarding brand value was established and regression analyzes were made. Some of the findings obtained in this way are shown below.

**Table-10.** t-test according to marital status of participants

		N	Ort.	Std. Sapma	t	Anlamlılık
Perfectionism	Single	146	3,3082	1,23283	-,867	,386
	Married	254	3,4110	1,19394		
Brand Focus	Single	146	2,5223	1,00255	-,337	,737
	Married	254	2,5551	,98670		
Price Focus	Single	146	3,2774	1,14475	-,243	,808
	Married	254	3,3051	1,16372		



Focus on Fashion	Single	146	2,6404	1,10289	,696	,487
	Married	254	2,5664	1,07270		
Instant Purchase	Single	146	2,5616	1,08896	-,682	,495
	Married	254	2,6342	1,07755		
Habit	Single	146	2,9555	1,08106	,305	,761
	Married	254	2,9223	1,11659		
Information Confusion	Single	146	2,7089	1,01838	-,782	,434
	Married	254	2,7910	1,08561		
Avoidance	Single	146	2,6610	1,15061	-1,096	,273
	Married	254	2,7839	1,13559		
Instability	Single	146	2,6918	1,16598	-,630	,529
	Married	254	2,7627	1,13665		
Brand Loyalty	Single	146	2,5057	,97270	-,693	,489
	Married	254	2,5744	1,02231		
Perceived Quality	Single	146	2,8253	1,02611	,420	,675
	Married	254	2,7818	1,06576		
Brand Association	Single	146	2,9127	1,08262	1,164	,245
	Married	254	2,7924	1,03770		
Brand Awareness	Single	146	2,9110	1,08228	,605	,545
	Married	254	2,8492	1,01978		

Table 10 indicates the ranges of values of the responses given by the participants, taking into account the variables. However, when we state the difference situation here statistically, the significance ratio should be below 5% (p <0.05). In terms of the results of the t-test, the decisions regarding the purchases of the consumers were determined as "Perfectionism (p = 0.386), Brand Orientation (p = 0.737), Price Orientation (p = 0.808), Fashion Orientation (p = 0.487), Instant Purchasing (p = 0.495), Habituation (p = 0.761), Information Confusion (p = 0.434), Avoidance (p = 0.273) and Indecision (p = 0.529) "all seem to be statistically insignificant. Therefore, the participants in the study had similar levels of views in terms of the variables related to the purchasing decisions of consumers in terms of their marital status. In other words, there was no statistically (p> 0.05) difference. In this case, "H2f: Consumers differ in terms of their marital status according to their purchasing decisions." It was seen that the hypothesis was not supported. In terms of marital status of the participants in the study, their opinions including "Brand Loyalty (p = 0.529), Perceived Quality (p = 0.489), Brand Association (p = 0.245) and Brand Awareness (p = 0.545)" sub-variables were statistically 5% level (p> 0.05) does not have a difference. Therefore, brand value variables are at the same level in terms of married or single status of the participants. Thus, "H3f: There are no differences according to the marital status of the consumers in terms of their opinions about the brand value." his hypothesis is not supported.

In the study, whether there are differences of opinion on consumer purchasing decisions and brand value variables according to the age group, income, education level and profession of the participants was analyzed with the ANOVA test.

Table-11. ANOVA analysis according to the age of participants

		Sum of Squares	Df	Average of Squares	F	Sig	Differences *
Perfectionism	Between groups	Sum of Squares	Df	Average of Squares	5,551	,000	1-2, 2-3 2-5
	In-group	31,112	4	7,778			
	Total	693,558	395	1,401			
Price Focus	Between groups	14,942	4	3,735	2,831	,024	2-5
	In-group	653,204	395	1,320			
	Total	668,146	399				
Focus on Fashion	Between groups	11,834	4	2,958	2,563	,038	2-3
	In-group	571,294	395	1,154			
	Total	583,128	399				
Habit	Between groups	19,026	4	4,757	3,986	,003	2-5, 4-5
	In-group	590,662	395	1,193			
	Total	609,688	399				
Avoidance	Between groups	12,355	4	3,089	2,403	,049	1-2
	In-group	636,393	395	1,286			
	Total	648,748	399				
Perceived Quality	Between groups	17,915	4	4,479	4,137	,003	2-3
	In-group	535,908	395	1,083			
	Total	553,822	399				

Brand Association	Between groups	18,022	4	4,506	4,180	,002	2-3, 3-4
	In-group	533,537	395	1,078			
	Total	551,559	399				
Brand Awareness	Between groups	18,891	4	4,723	4,509	,001	2-3, 2-5
	In-group	518,451	395	1,047			
	Total	537,342	399				

1=18-25 Age, 2=26-35 Age, 3=36-45 Age, 4=46-55 Age, 5=56 Age and older

Table 11 shows "Perfectionism (p = 0.000), Price Orientation (p = 0.024), Fashion Orientation (p = 0.038), Habit (p = 0.003) and Avoidance (p = 0.049)" variables were found to be statistically different. In order to determine which age groups these differences are, Tukey, one of the Post Hoc tests, was applied. According to the results of this test, in terms of the opinions of the consumers in the variable of perfectionism; Participants between the ages of 26-35 are over the age of 18-25, 36-45 and 56, while those between the ages of 26-35 in terms of participants in the price-oriented variable; Of those over the age of 56; In terms of the opinions in the fashion orientation variable; Participants between the ages of 26-35 are among those between the ages of 36-45, in terms of opinions in the habit variable; Participants between the ages of 26-35 are over 56 years old and those between the ages of 46-55 are over the age of 56 and in terms of their opinions in the avoidance variable; It was determined that those between the ages of 26-35 are higher than those between the ages of 18-25. However, it was determined that there was no statistically significant difference in the other groups. According to these results, "H2b: The purchasing decisions of the consumers differ according to their ages." It is understood that the hypothesis is supported.

According to the ANOVA analysis, it is seen that the opinions of the subscales of "Perceived Quality (p = 0.003), Brand Association (p = 0.002) and Brand Awareness (p = 0.001)", which are brand value variables, have a statistically 1% difference. In order to determine which of the age groups these differences were found, the test named Tukey from Post Hoc tests was used. According to the opinions on the perceived quality variable in this test; Participants between the ages of 26-35 and those in the 36-45 age range, in their opinions about the brand association; According to the opinions in the brand awareness variable, the participants between the ages of 26-35 and those in the range of 36-45 years old and those in the 36-45 age range from the 46-55 age range; It was determined that those in the 26-35 age group were more than those over the age of 36-45 and 56. However, no statistical differences were found in the other groups. According to the tested "H3b: The opinions of the consumers about the brand value differ according to their age." It is understood that the hypothesis is supported.

Table-12. ANOVA analysis according to income status of the participants

		Sum of Squares	Df	Average of Squares	F	Sig	Differences *
Perfectionism	Between groups	49,983	4	12,496	9,138	,000	1-3, 1-4 2-3, 2-4
	In-group	674,158	393	1,367			
	Total	724,141	397				
Brand Focus	Between groups	17,950	4	4,488	4,718	,001	1-3
	In-group	468,956	393	,951			
	Total	486,906	397				
Focus on Fashion	Between groups	7,342	4	1,835	6,156	,000	1-3, 1-4
	In-group	657,477	393	1,334			
	Total	664,819	397				
Habit	Between groups	52,286	4	13,072	11,561	,000	1-2, 1-3 1-4, 2-4
	In-group	557,392	393	1,131			
	Total	609,679	397				
Information Confusion	Between groups	15,635	4	3,909	3,502	,008	1-2, 1-3
	In-group	550,289	393	1,116			
	Total	565,924	397				
Instability	Between groups	24,564	4	6,141	4,817	,001	1-2, 1-3
	In-group	628,537	393	1,275			
	Total	653,100	397				
Brand Loyalty	Between groups	46,135	4	11,534	12,359	,000	1-2, 1-3 1-4, 2-3 2-4
	In-group	460,074	393	,933			
	Total	506,208	397				
Perceived Quality	Between	66,843	4	16,711	16,951	,000	1-2, 1-3

	groups						1-4, 2-3 2-4
	In-group	486,022	393	,986			
	Total	552,864	397				
Brand Association	Between groups	56,020	4	14,005	13,957	,000	1-2, 1-3 1-4, 2-3 2-4
	In-group	494,681	393	1,003			
	Total	550,701	397				
Brand Awareness	Between groups	60,645	4	15,161	15,711	,000	1-2, 1-3 1-4, 2-3 2-4
	In-group	475,755	393	,965			
	Total	536,400	397				

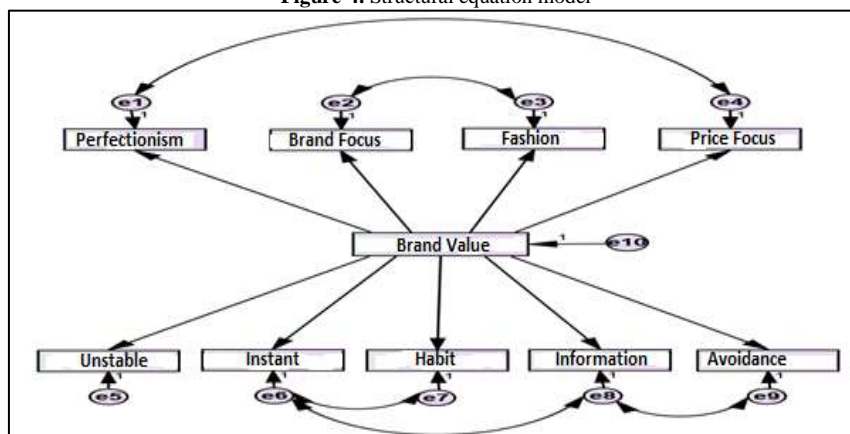
1=2000 TL and below, 2=2001-3000 TL, 3=3001-4000 TL, 4= 4001 TL and above

Table 12 according to the income levels of the participants within the scope of the research, which are the variables of consumer purchasing decisions, "Perfectionism (p = 0.000), Brand Orientation (p = 0.001), Fashion Orientation (p = 0.000), Habit (p = 0.000), Information Confusion (p = 0.008)." ) and Indecision (p = 0.001)" there are statistical differences between sub-variables. Tukey, one of the Post Hoc tests, was used to determine the differences between income groups. Opinions about perfectionism variable at the end of the test; Participants whose income is 2000 TL and below will have an income of 3001 - 4000 TL and 4001 TL and above; The opinions of the brand orientation variable; Participants whose income is 2000 TL and below are among those whose income is 3001-4000 TL; The opinions of the fashion orientation variable; Participants whose income is 2000 TL and below will have an income of 3001 - 4000 TL and 4001 TL and above; opinions about the habit variable; Participants whose income is 2000 TL and below are those whose income is 2001 - 3000 TL, 3001 - 4000 TL and 4001 TL and above, and the participants whose income is 2001 - 3000 TL and whose income is 4001 TL and above; Opinions on information complexity variable; For those whose income is 2000 TL and below, those whose income is 2001 - 3000 TL and 3001 - 4000 TL; Opinions on the indecision variable; Participants with an income of 2000 TL or less were found to be lower than those of 2001 - 3000 TL and 3001 - 4000 TL. However, no statistical difference was found between the other groups. According to this result, tested within the scope of the research "H2c: Purchasing decisions differ according to the income level of the consumers." It is understood that the hypothesis is supported.

According to the results of ANOVA analysis, the opinions of the "Brand Loyalty (p = 0.000), Perceived Quality (p = 0.000), Brand Affiliation (p = 0.000) and Brand Awareness (p = 0.000)" sub-variables of the brand equity variables are% according to the income status of the participants. It shows a statistical difference at the level of 1. Tukey test, one of the Post Hoc tests, was used to determine the income groups among which the difference is. Opinions on brand loyalty variable as a result of Tukey test; Participants with an income of 2000 TL and below will have an income of 2001 - 3000 TL, 3001 - 4000 TL and 4001 TL and above, and those with an income of 2001 - 3000 TL, with an income of 3001 - 4000 TL and 4001 TL and above; Perceived quality; opinions of the variable; Participants with an income of 2000 TL and below will have an income of 2001 - 3000 TL, 3001 - 4000 TL and 4001 TL and above, and those with an income of 2001 - 3000 TL, with an income of 3001 - 4000 TL and 4001 TL and above; The opinions of the brand association variable; Participants with an income of 2000 TL and below will have an income of 2001 - 3000 TL, 3001 - 4000 TL and 4001 TL and above; The opinions of the brand awareness variable; Participants with an income of 2000 TL or less were found to have less than those with an income of 2001 - 3000 TL, 3001 - 4000 TL and 4001 TL and above, and those with an income of 2001 - 3000 TL and those with an income of 3001-4000 TL and 4001 TL and above. However, there is no statistical difference between the other groups. According to this result, "H3c: The opinions of consumers about the brand value differ according to their income level." It was found that the hypothesis was supported.

In the study, the tests of causal hypotheses were analyzed by establishing a structural equation model. The structural equation model of the research is given in Figure 4. As seen in the model, modifications were made between the error terms of variables e1 and e4, e2 and e3, e6 and e7 and e8, e8 and e9 variables in order to provide the model fit goodness values.

Figure-4. Structural equation model



**Table-13.** Structural equation model goodness of fit values

	X <sup>2</sup>	df	CMIN/df	GFI	CFI	TLI	RMSEA
Cohesion Values	73,901	19	3,89	0,978	0,98	0,917	0,076
Acceptable	-	-	≤5	>0.900	>0.950	>0.900	≤0.080
Good Fit Values	-	-	≤3	>0.950	>0.970	>0.950	≤0.050

As a result of the modifications made to the structural equation model, the fit values; CMIN / df, TLI and RMSEA are within acceptable range, while GFI and CFI values are in the range of good fit values

**Table-14.** Structural equation model regression weights

Tested Path		Prediction	Std. Error	Critical Rate	Expressiveness	
Perfectionism	←	Brand Value	,404	,055	9,865	0.0017
Brand Focus	←	Brand Value	,489	,043	12,535	0.0011
Price Focus	←	Brand Value	,225	,056	5,168	0.0067
Focus on Fashion	←	Brand Value	,461	,048	11,591	0.0014
Instant Purchase	←	Brand Value	,290	,051	6,761	0.0051
Habit	←	Brand Value	,391	,050	9,500	0.0016
Information Confusion	←	Brand Value	,258	,051	5,960	0.0072
Avoiding Shopping	←	Brand Value	,247	,055	5,682	0.0088
Instability	←	Brand Value	,263	,055	6,095	0.0064

In Table 14, the structural equation model shows the regression weights. According to this, it is seen that the effect of perfectionism, one of the sub-dimensions of brand value, on the purchasing decisions of the consumers is at the 1% significance level and this effect is 0.404%. One of the sub-dimensions of brand value, it is seen that the effect of brand focus on the purchasing decisions of consumers is at the 1% significance level and this effect is 0.489%. It is seen that the effect of price focus, one of the sub-dimensions of brand value, on the purchasing decisions of consumers is at the 1% significance level and this effect is 0.225%. One of the sub-dimensions of brand value, it is seen that the effect of fashion focus on the purchasing decisions of consumers is at the 1% significance level and this effect is 0.461%. One of the sub-dimensions of brand value, it is seen that the effect of instant purchasing on the purchasing decisions of consumers is at the 1% significance level and this effect is 0.290%. One of the sub-dimensions of brand value, it is seen that the effect of habit on the purchasing decisions of consumers is at the 1% significance level and this effect is 0.391%. One of the sub-dimensions of brand value, it is seen that the effect of information confusion on the purchasing decisions of consumers is at the 1% significance level and this effect is seen to be 0.258%. It is seen that the effect of avoiding shopping, which is one of the sub-dimensions of brand value, on the purchasing decisions of the consumers is effective at the 1% significance level and this effect is seen to be 0.247%. One of the sub-dimensions of brand value, it is seen that the effect of indecision on the purchasing decisions of consumers is at the 1% significance level and this effect is 0.263%. Brand value as seen in the estimated values; brand orientation, fashion orientation and perfectionism, respectively. On the other hand, the brand value, respectively; price orientation, avoidance of shopping and information confusion have the least effect. According to these findings, "H1: Brand value positively affects the purchasing decisions of consumers." The basic hypothesis and the "H1a, H1b, H1c, H1d, H1e, H1f, H1g, H1h and H1h" hypotheses belonging to the sub-dimensions of this hypothesis were not supported.

Among the hypotheses developed within the scope of the research, 3 basic hypotheses and 19 sub-hypotheses were supported. However, 2 of the sub-hypotheses were not supported. The summary table of these hypotheses is given below.

**Table-15.** Results of research hypotheses

Hypotheses	Results
H1: Brand value positively affects the purchasing decisions of consumers.	Desteklendi
H1a: Brand equity positively affects perfectionism.	Desteklendi
H1b: Brand equity positively affects brand focus.	Desteklendi
H1c: Brand value positively affects price orientation.	Desteklendi
H1d: Brand value positively affects fashion orientation.	Supported
H1e: Brand equity positively affects instant purchasing.	Supported
H1f: Brand value positively affects habit.	Supported
H1g: Brand equity positively affects information complexity.	Supported
H1h: Brand equity positively affects shopping avoidance.	Supported
H1h: Brand value positively affects instability.	Supported
H2: Opinions of consumers on purchasing decisions differ according to their socio-demographic characteristics.	Supported
H2a: Purchasing decisions of consumers vary according to their gender.	Supported
H2b: Purchasing decisions of consumers vary according to their ages.	Supported
H2c: Purchasing decisions vary according to the income level of the consumers.	Supported
H2d: Purchasing decisions vary according to the education level of consumers.	Supported

H2e: Purchasing decisions of consumers vary according to their professions.	Supported
H2f: Purchasing decisions vary according to the marital status of consumers.	Not supported
H3: Opinions of consumers on brand value differ according to their socio-demographic characteristics.	Supported
H3a: Opinions of consumers on brand value differ according to their gender.	Supported
H3b: The opinions of the consumers on the brand value differ according to their ages.	Supported
H3c: Opinions of consumers on brand value differ according to their income.	Supported
H3d: Opinions of consumers on brand value differ according to their education level.	Supported
H3e: Consumers' opinions on brand value differ according to their professions.	Not supported
H3f: Consumers' opinions on brand value differ according to their marital status.	Supported

Fit values with structural equation model modifications; CMIN / df, TLI and RMSEA are in acceptable ranges, GFI and CFI values are in the range of good fit values.

## 6. Conclusion

In the research, survey measurement method was used on 400 consumers living in Diyarbakır. According to the data obtained as a result of the survey; It has been determined that most of the participants are less than 45 years old, their income earned in a month is less than 3000 TL, the education level of the majority of them is at the high school level and they are married. In addition, it was observed that the gender and occupation of the participants were determined in a balanced way. In other words, the majority of the participants in the study are married and young people with low income and education levels. The reason for these rates is the socio-economic characteristics of Diyarbakır.

In the study, it was determined that the opinions of consumers on the variables of purchasing decisions vary according to their gender. It has been found that the participation of men in the variables is higher than that of women. On the other hand, women and men are at the same level in the participation of variables related to the purchasing decisions of consumers. Men are at a higher level than women in terms of brand value variables.

In the study, it was determined that the marital status of the participants according to the purchasing decision variables of the consumers was similar as men and women. Therefore, participating consumers do not have a difference in their purchasing decisions in terms of their marital status.

Participants have differences in their purchasing decisions in terms of their age. However, it has been determined that there are obvious differences between the opinions of the consumers in terms of their income. On the other hand, the participants have differences among the variables in terms of their education levels. Therefore, the increase in education and income levels causes an increase in the variables of brand value.

When the research results are examined from a professional point of view, there are differences among consumers in terms of variables. Therefore, when the tables are examined, the opinions of the housewives' brand value are lower than the others. The participation of other professions to the opinions in the consumer purchasing decision variables is the same.

In the research, brand value positively affects all sub-dimensions of consumer purchasing decisions. Brand equity affects the variable related to brand orientation, which is the sub-dimension of consumers' purchasing decisions, at the highest level. Then, it was determined that the variable related to fashion-oriented and perfectionism was affected, respectively. In addition, the brand variable was found to have a lower effect on the sub-dimensions of consumers' purchasing decisions: price focus, avoidance of shopping and information confusion. Therefore, when the data are considered together, the increase in brand value causes an increase in consumer purchasing decisions. In other words, the results obtained from the data are consistent with the views based on the literature. Because the high brand value is an advantage for companies. For example; If the perception of consumers towards a certain brand is positive, companies will be able to use this situation as an advantage against their competitors (Keller, 1993).

According to Aaker (1991), companies with strong brands will multiply their profits and will be able to move easily in distribution channels. In addition, the value of the brand will ensure the trust of the customers and contribute to their satisfaction in their purchases. The value of a brand is effective in mergers and purchasing decisions of companies. Keller (1993) states this by stating that the value of the brand depends on its contribution to the increase in profit margins. In addition, according to him, marketing communication increases positively thanks to the brand values of the companies.

The awareness of the brand, which is a dimension that determines the brand value, has a determining role in consumers' decisions. At first, the brand is determined when consumers have determined a product they want to buy. The more awareness of a brand is, the more it will affect the probability of evaluating that brand. Therefore, the possibility of purchasing that brand increases with it. On the other hand, consumers prefer the brands they know in their evaluations. In addition, the awareness of the brand will affect the purchasing decisions of the consumer by evoking that brand more in the memory of the consumer (Keller, 1993).

Aaker (1991) brand associations provide value for consumers. For this reason, it causes consumers to decide on a brand and their attitude towards that brand is positive.

## Acknowledgement

The invaluable responses given by all the respondents in this study are highly appreciated.

## References

- Aaker, A. D. (1991). *Managing brand equity*. The Free Press, Macmillan, Inc.: New York, USA.
- Aktepe, C. and ve Şahbaz, R. P. (2010). Türkiye'nin En Büyük Beş Hava yolu İşletmesinin Marka Değeri Unsurları Açısından İncelenmesi ve Ankara İli Uygulaması, Cumhuriyet Üniversitesi İktisadi ve İdari Bilimler Dergisi. 11(2): 69-90.
- Blackston, M. (1995). The qualitative dimension of brand equity. *Journal of Advertising Research*, 35(4): 71-76.
- Cengiz, E. and ve Kırkçbir, F. (2007). Yerel Halk Tarafından Algılanan Toplam Turizm Etkisi İle Turizm Desteği Arasındaki İlişkiye Yönelik Yapısal Bir Model Önerisi, Sosyal Bilimler Dergisi. 1(1): 19-37.
- Christodoulides, G. and ve Chernatony, L. (2009). Consumer-Based Brand Equity Conceptualisation And Measurement: A Literature Review. *International Journal of Market Research*, 52(1): 43-66.
- Chu, S. and ve Keh, H. T. (2006). Brand value creation: analysis of the interbrand-business week brand value rankings. *Market Letters*, 17(1): 323-31. Available: <https://doi.org/10.1007/s11002-006-9407-6>.
- Demircioğlu, İ. H. (2012). *History teacher education in Turkey: status and issues*, in: A. McCully, G. Mills and C. boxtel, Eds., *the professional of teaching of history*. University of Ulster: Belfast. 159-68.
- Dinçer, B. and ve Dinçer, C. (2010). Rethinking Brands in the Emerging Financial Markets, Celal Bayar Üniversitesi İktisadi ve İdari Bilimler Fakültesi Yönetim ve Ekonomi Dergisi. 17(1): 11-20.
- Engel, J. F., Blackwell, R. D. and Kollat, D. T. (1978). *Consumer behavior*. Dryden Press: Hinsdale, IL.
- Erdem, T., Swait, J. and Valenzuela, A. (2006). Brands as signals: A cross-country validation study. *Journal of Marketing*, 70(1): 34-49.
- Falkenberg, A. W. (1996). Marketing and the wealth of firms. *Journal of Macromarketing*, 16(1): 4-24. Available: <https://doi.org/10.1177/027614679601600102>
- Farquhar, P. H. (1990). Managing brand equity. *Journal of Advertising Research*, 30(4): 12-24.
- Ford, K. (2005). *Brands laid bare: Using market research for evidence-based brand management*. John Wiley and Sons Ltd: England.
- George, D. and ve Mallery, M. (2010). *SPSS for windows step by step: A simple guide and reference, 17.0 update*. 10. ed. edn: Pearson: Boston.
- İnceoğlu, M. (2010). *Tutum Algı İletişim*. Beykent Üniversitesi Yayınları: İstanbul.
- İpek, H. Z. (2010). *Markalaşmanın İşletmelerin Rekabet Gücü Üzerindeki Etkisi ve Türk Zeytinyağı Sektöründe Bir İnceleme*. Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü, Balıkesir: Yayınlanmamış Yüksek Lisans Tezi.
- Karalar, R. and ve Kiracı, H. (2007). Marka Değeri Bileşeni Olarak Marka Bağımlılığı: Kolalı İçecekler Üzerine Bir Araştırma Anadolu Üniversitesi Sosyal Bilimler Dergisi. 7(2): 205-26.
- Kartono, B. and ve Rao, V. R. (2005). Linking consumer-based brand equity to market performance: An integrated approach to brand equity management, working paper zyman institute of brand science. Zyman institute of brand science technical Report. Available: <https://www.yumpu.com/en/document/read/38464307/linking-consumer-based-brand-equity-to-market-performance>
- Keller, K. L. (1993). Conceptualizing, measuring and managing customer-based brand equity. *Journal of Marketing*, 57(1): 1-22.
- Keller, K. L. and ve Sood, S. (2003). Brand equity dilution, MIT sloan management review. *Mit Sloan Management Review*, 45(1): 12-15.
- Koç, E. (2013). *Tüketici Davranışı ve Pazarlama Stratejileri*. Seçkin Yayınları: Ankara.
- Şahin, Ş. (2013). *Yabancı Marka İsimlerinin Tüketici Satın Alma Davranışları Üzerine Etkisi: Teknolojik Ürünler Üzerine Bir Araştırma, Yayınlanmamış Yüksek Lisans Tezi*. Gazi Üniversitesi Sosyal Bilimler Enstitüsü: Ankara.
- Solomon, M. R. (2004). *Consumer behavior, buying having and being*. Pearson: New Jersey.
- Tatlıdil, H. (1992). *Uygulamalı Çok Değişkenli İstatistiksel Analiz*. Hacettepe Üniversitesi İstatistik Bölümü: Ankara.
- Wood, L. (2000). Brands and brand equity: Definition and management. *Management Decision*, 38(9): 662-69.
- Yapraklı and ve Can, P. (2009). Pazarlama Faaliyetlerinin ve Ailenin Tüketici Temelli Marka Değeri Boyutlarına Etkisi, Atatürk Üniversitesi İktisadi ve İdari Bilimler Fakültesi. 23(1): 265-90.
- Yapraklı and ve Kara, E. (2015). Marka Değeri Bileşenlerinin Müşteri Temelli Ölçülmesi: Kahramanmaraş Dondurma Sektörüne Yönelik Bir Uygulama, Kahramanmaraş. *Sütçü İmam Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 5(2): 133-54.
- Yoo, B. and ve Donthu, N. (2001). Developing and deęişkenating a multidimensional consumer-based brand equity scale. *Journal of Business Research*, 52(1): 1-14. Available: [http://dx.doi.org/10.1016/S0148-2963\(99\)00098-3](http://dx.doi.org/10.1016/S0148-2963(99)00098-3)