



THE EFFECT OF BRAND MANAGEMENT PRACTICES ON PATIENT'S BRAND EQUITY PERCEPTION AND HOSPITAL PREFERENCE

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Abstract

Aim- It was aimed to examine the effect of brand management practices on patients' brand equity perception and hospital preference.

Methodology- Data were collected by using a convenience sampling method from 500 participants. Cronbach's alpha coefficient, factor analysis, and structural equation modeling were performed to analyze internal consistency, construct validity and hypothesis test.

Findings:

This study has shown that; "price" affects brand loyalty and brand preference; "distribution-promotion" affects perceived quality and brand awareness/ association; "physical evidence", and "people" affect all brand equity dimensions; "process" affects perceived quality and brand preference. All "brand equity dimensions" have an effect on brand preference. Brand management practices have also an indirect effect on brand preference except "price promotion" and "process".

Research limitations/Recommendations- The current study is limited by hospitals in İstanbul and Ankara. Further research could be done in different places and with more participants. Also, distribution-promotion structure could be examined separate structure by adding new variables.

Practical Implications- The findings provide insight for hospital managers and marketing managers to improve their hospital's brand equity productively.

Originality- In the literature, some studies can be found on hospital brand or hospital preference. However, studies that were previously carried out reviewed partially of brand management practices or brand equity dimensions. This study looks holistic perspective. For this reason, this study aims to fill in the gap in the literature to provide holistic insight.

Keywords- Hospital Brand Equity, Brand Preference, Service Brand, Structural Equation Modeling.

1. Introduction

Healthcare services are a highly competitive business, due to the increase in the number of private hospitals and service diversity. Brand management is crucial for hospitals to maintain their credibility, reduce the patient's perceived risk, and maintains their competitiveness (Vijande, Lanza, Álvarez, & Martín, 2011). A successful brand strategy must build, protect and promote brand equities to gain the patient's trust and to create positive emotions to the hospital (Kemp, Ravi, & Becerra, 2014). Brand strategy should consider competitors' current and future brand (Mangini, 2002).

Brand management practices aim to build brand equity. Hospitals that have strong brand equity assure the patients by decreasing medical and fiscal risks which they perceived. The most important resources of brand equity are brand management practices, which include service marketing mix elements; product, price, distribution, promotion, physical evidence, people, and process.

2. Basic Concepts and Literature Review

2.1. Service Marketing Mix Elements

The Product affects brand experience and what the company says about the brand (Keller, 2012). In health sector, product is the patient who is satisfied and cured. The outcome of given services affects the patient's brand experience.

Price is the money to be paid for a product or service (Karafakıoğlu, 1998). Price and quality relationship was found stronger in studies related to high price product and weaker in consumer durables, services, and products which participants familiar with (Völckner & Hofmann, 2007). Some researchers found positive relationships between price and perceived quality; price and brand equity (Chattopadhyay et al., 2010; Yoo et al., 2000; Mervish&Salman, 2019). Hussey et al (2013). found an inconsistent relationship between health care cost and quality (Hussey, Wertheimer, & Mehrotra, 2013). Aditi et al (2019) found that service, price promotion, and brand equity together have a positive significant effect on customers preference (Aditi & Muda, 2019). Napira et al (2016) found a significant relationship between price and patient brand loyalty (Napirah, Rau, & Hadijah, 2016).

Distribution for hospitals related to availability and accessibility of services (Sreenivas, Srinivasarao, & Srinivasa Rao, 2013). Easy access to services, service environment, and hospital image are the most important factors for hospital preference (Tengilimioglu, 2001). In some studies, it was found that distribution- promotion has an effect on perceived quality

(Chattopadhyay et al., 2010) and brand loyalty (Yoo, Donthu, & Lee, 2000). Distribution has a significant effect on the organizational image and consumer-based brand equity (Siwa Wunu, Alhabsji, Notosubroto, & Kusumawati, 2018).

The Promotion gives information to consumers and persuades them about services of the brand. (Keller, 2012). Some studies show a direct effect between promotion and brand equity dimensions and/or brand preference, but some studies found an indirect relationships. For instance, Promotional expenditures have an effect on brand awareness, and brand association (Yoo et al., 2000). Perceived advertisement spends has an effect on perceived quality, brand awareness and brand image (Villarejo-Ramos & Sánchez-Franco, 2005). Push and pull promotions have a significant effect on the dealer brand equity (Efanny, Haryanto, Kahif, & Vidyanto, 2018). Distribution- promotion has an effect on perceived quality, and higher level promotion generates a higher level brand quality signal (Chattopadhyay et al., 2010). However, the study of Mehvish and Salman(2019) shows an indirect relationship with promotion and brand equity(Mehvish & Salman, 2019). Gholipour et al found that advertising costs have the effect on the brand association, but they have no effects on perceived quality and brand awareness (Soleimani & Sedaghat, 2016). Daosue and Wanarat (2019) found significant positive effects between advertising and brand awareness (Daosue & Wanarat, 2019).

Price promotion may be directed at consumers and retailers. Constant price promotion causes suspicion about brand quality (Bravo, Fraj, & Martinez, 2007). The results of studies in this field show that there is a negative effect between Price Promotion and perceived quality (Villarejo-Ramos & Sánchez-Franco, 2005; Chattopadhyay, Shivan, & Krishnan, 2010). There is a positive relationship between price promotion and brand awareness/association (Chattopadhyay, Shivan, & Krishnan, 2010). The promotional campaign is the least important factor for choosing the hospital (Dharmesh, & Devendra, 2014). However, price promotion and its tools, including cash discounts, volume discounts, price warranties, free services, frequent purchasing discounts, and promotional gifts were found positively related to brand equity as well as its dimensions (Nazari, Mira, & Esmaily, 2018).

For hospitals in addition to the above, physical evidence, human and process are important. *Physical Evidence* encompasses hospital building, in-hospital architecture, consistency of architecture, being enough space for patients, being a functionality of the physical elements involved in the environment. Other customers also provide an impression for what the customer

should expect (Bitner, 1990). *People* are the staff who delivered health services. Healthcare is personal because of the most human-centered services offered (DeGeeter, 2009). It was broadly accepted in the branding literature that the service staff has an important role in building successful and well-reputed service brands (Andriopoulos & Gotsi, 2000). *Process management* is to have the service available when the consumer needs it and to deliver it inconsistent quality (Tengilimoğlu, 2000).

Prabowo and Srividadi (2019) found the process, people, and physical evidence have a strongly effect on brand equity (Prabowo & Sriwidadi, 2019). Hoon et al (2008) determine five factors to build brand equity through strong consumer relationships. These are trust, consumer satisfaction, engagement, brand loyalty, and brand awareness. According to the findings of their study, if the hospitals can manage their customer relationships well, they can create a successful image and positive brand equity (Hoon, Kang Sik, Dong Yul, Jong Ho, & Suk hou, 2008). The study of Mohamed and Hilal (2019) demonstrates that three service marketing mix elements and marketing communication elements have an effect on brand equity and have a positive effect on the consumer response (Hilal, 2019). Findings of Aghaei et al (2014) show that there is positive and direct relationship among seven service marketing mix elements and brand equity (Aghaei, Vahedi, Kahreh, & Pirooz, 2014). Patient trust and satisfaction are crucial for hospitals. According to the study of Tüfekçi and Asıgbulmuş (2016) there are three most influential factors in hospital preference. Respectively; trust, physician, and satisfaction (Tüfekçi & Asıgbulmuş, 2016).

2.2. Brand Equity and Brand Preference

Brand equity is a set of assets and liabilities and provides value to its customers and organization by products or services (Aaker D., 1991). Aaker conceptualized brand equity as perceived quality, brand loyalty, brand awareness, brand associations (Aaker D., 1996). Brand Awareness is the possibility of brand name come to mind without making an effort (Field, Bergiel, Giesen, & Field, 2012). Brand associations are everything that connects the customer to the brand, including mental images, product features, brand personality, and symbols (Cottler & Pfoertsch, 2006). Perceived Quality is related to consumer's perception of a product's or services (Zeithaml, 1988). According to Aaker perceived quality, is differs from satisfaction and attitude. Consumers could be satisfied with his low expectation or could have a negative attitude because the product or service is overpriced (Aaker D., 1991). Brand Loyalty shows

the possibility of a customer changes the brand with similar if the brand change product's price (Aaker D. , 1991).

Brand Preference is the prejudice of consumer when choosing a specific brand among alternatives (Vinh & Huy, 2016). Brand Equity influences consumer choices, purchase intentions, and brand preference (Chen & Chang, 2008).

In the branding literature, there are many studies on the relationship between brand equity and brand preference, purchase intention. As stated in these studies, the brand association is an effective component of brand equity (Tong & Hawley, 2009). There is strong relationship between brand equity and brand preference (Myers, 2003; Cobb-Walgren et al., 1995; Vinh & Huy, 2016) and brand loyalty and purchase intention, brand preference (Latha, 2016; Jung & Sung, 2008 Washburn & Plank, 2002). However there are a low correlation between "brand awareness, brand association" and purchase intention (Washburn & Plank, 2002). It was found that brand image, brand loyalty, and patient satisfaction provide an understanding of the patient's relationship with the hospital brand (Charanah & Njuguna, 2015).

Many of the studies mentioned above were carried out in the production sector. There is a little study about hospital brand equity and hospital preference. However, the study investigating the effect of brand management practices on hospital brand equity couldn't be found. This study aims to fill this gap.

3. Methodology:

3.1. Scale Development:

Three separate scales are used to measure brand management practices, brand equity and hospital preference. Brand management practices and the brand equity scales were taken from the study of Yoo et al (Yoo et al., 2000). They measured the reliability of the scale with cronbach's alpha coefficient, composit reliability and variance extracted. Their findings were; Price (rC = .88; VE = .72), Distribution intensity (rC = .87; VE = .70), Advertising spending (rC = .87; VE = .70), Price deals (rC = .80; VE = .58), Perceived quality (rC = .93; VE = .68), Brand loyalty (rC = .90; VE = .75), Brand associations with brand awareness (rC = .94; VE = .72) and Cronbach alpha coefficient is above 0.70 for all constructs, Because the study of Yoo et al didn't include service brand mix elements (Physical Evidence, People and Process), these dimensions were taken from scales which used in other studies (Kayaman & Arasli, 2007; W. G. Kim & Kim, 2004; Sreenivas et al., 2013).

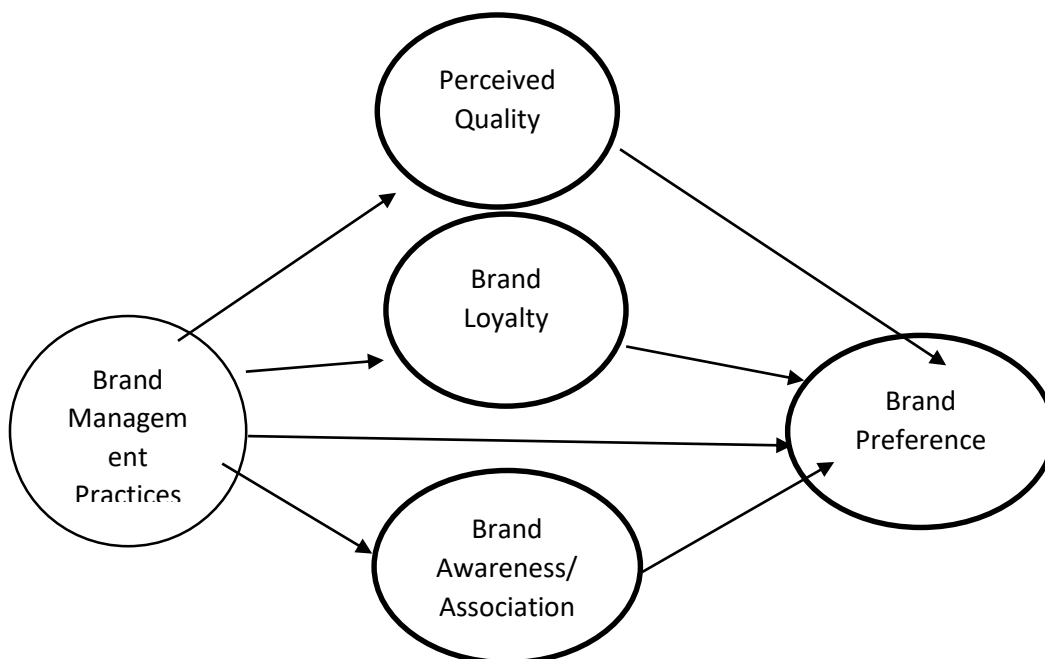
Brand Preference Scale was taken from the study of Vinh and Huy (2016) (Vinh & Huy, 2016). Validity and reliability results of their study were $\alpha = .766$; $CR = .767$; $AVE = .525$

In this study, validity and reliability of scales were re-measured because of the changes. The five points Likert-type scale was used for data collecting.

3.2. Research Model:

According to the research model, all Brand Management Practices have an effect on Brand Equity and have both direct and an indirect effect on Brand Preference; Brand Equity have an effect on Brand Preference.

Figure-1 Research Model



3.3. Selection of The Hospital Type and Research Region

According to the data of Turkey Statistical Office, İstanbul had the highest proportion of the hospital at 15,9 percent. Ankara was following İstanbul at 3,5 percent (Turkey, 2015). Thus, these two provinces were selected as a research area. The research was done for private hospitals because the brand management practices are being carried out usually by private hospitals. Hospital size or other features of the hospital were not important for this study. At the end of the data collection, 123 different hospitals were evaluated by their patients.

3.4. Characteristics of Sample and Sample Size

There are various practical rules in the literature in determining the sample size for the structural equation model. One of them is the sample volume being at least 8 times of the number of variables in the model (Bayram, 2010). The other one is the preferable sample size being 20 times of the number of variables in the model, but it is sufficient to take 10 samples for each variable (Çapık, 2014). Since 47 variables used in this study, 470 samples were decided as the minimum sample size.

Total numbers of hospitals in Istanbul and Ankara were 198 and 82% of these hospitals were in Istanbul and 18% of them were in Ankara. Therefore, it was aimed at 82% (385) of the total sample being provided from Istanbul and 18% (85) of the total sample being provided from Ankara. Data has been collected by using a convenience sampling method from individuals who have received health services from private hospitals in Istanbul or Ankara.

500 valid questionnaires were obtained, 408 of them from Istanbul, and 92 of them from Ankara. 70.4 percent of the participants were female and 29.6 percent were male; 43.8 percent were 30-39 years old, 32.2 percent were 20-29 years old, 15.8 percent were 40-49 years old, 8.2 percent were 50 years old and above; 82,2 percent had a university degree or post graduated, 14,4 percent had a high degree and 3,4 had primary education;81.6 percent of the evaluated hospital in Istanbul and 18.4 percent were in Ankara.

4. Data Analysis:

4.1. Reliability and Validity Test;

4.1.1. Cronbach's Alpha Reliability Analysis; Reliability is a concept that demonstrates the consistency of all variables on a scale (Kurtuluş, 2010). Cronbach's alpha coefficient was measured for all scales. As a result of analysis, reliability coefficients were found to be over 0.80 in all dimensions except the "distribution". Therefore, two items decrease reliability were eliminated from the distribution dimension. After elimination, the reliability coefficient of "distribution" increased to 0.91.

4.1.2. Exploratory Factor Analyze: Since some changes and adaptations were made in the scales, Exploratory Factor Analysis was used in order to determine factor structures of these scales and to understand the level of explaining the factor structures of related variables. Factor

analysis is a parametric test based on the assumption of normality. The normal distribution, also known as “Gauss” or “Gauss-Laplace” distribution, is a continuous probability distribution defined by the mean and standard deviation (DemİR et al., 2016). Thus firstly normality was tested, after that sample size was tested with the Kaiser-Myer-Olkin (KMO) test. If the KMO test is 60 or above it means that the data is enough (Beavers et al., 2013). In addition, Bartlett's Sphericity Test was used to determine whether scale expressions were related and whether factor analysis was applicable. If the Bartlett test results significant ($p < 0.05$), it means that the data appropriate for factor analysis.

As a result of analysis, KMO value found 0,862 for brand management practices scale; 0,894 for brand equity scale; 0.725 for brand preference scale and Bartlett's Sphericity Tests were $p:0.000$ (meaningful) for all three scales.

Exploratory Factor analysis was performed with the varimax technique. Variables which factor load less than 0.50 were deleted from the scale. Thus, one variable from “physical evidence”, one variable from “perceived quality” and one variable form “brand awareness/association” were deleted. Factor structures of brand management practices scale decreased from 7 to 6. Distribution and Promotion structures were gathered under a single factor and renamed as “Distribution-Promotion”. Other structures in Brand Equity and Brand Preference Scales remained the same.

4.1.3. Confirmatory Factor Analysis; This test was used to assess the variables of the constructs. In the Confirmatory Factor Analysis, fit indexes are checked. Marsh, Balla, and McDonald suggest that the ideal fit index should be independent relative to sample size, consistent and accurate in evaluating different models, supported by a predetermined range and easy to interpret (Garver & Mentzer, 1999). Chi-square test, CFI (comparative goodness-of-fit index), AGFI (Adjusted Goodness-of-Fit Index), NNFI (Non-Normed Fit Index), and RMSEA (Root Mean Square Error of Approximation) fit indices were examined by considering these criteria and other similar studies. Standardized regression coefficients were analyzed to improve the goodness of fit values. The standardized regression coefficient is expected to be close to 0.70. Therefore, the items with a standardized regression coefficient below 0,70, were removed from the scale and the analysis was repeated.

At the end of the repeated analysis, six items were removed from the brand management practices scale. After this improvement the fit statistics of the measurement model were as

follows; $X^2/df:1,95$, $p:0,00$, $AGFI:0,85$, $TLI:0,94$, $CFI:0,95$ and $RMSEA:0,06$. These values are admitted acceptable in literature.

In the Brand Equity scale, no deletion was performed because standardized regression coefficients were over 70 or close to 70, To improve fit index results, correction indexes were examined, and covariance was established among the values with the highest covariance. After this improvement the fit statistics of the measurement model were as follows; $X^2/df:2,53$, $p:0,00$, $AGFI:0,88$, $TLI:0,95$, $CFI:0,97$ and $RMSEA:0,08$

The validity and reliability analysis were repeated. The findings were given in Table

Table 1: Findings of Validity and Reliability Analysis after Exploratory and Confirmatory Factor Analysis

Scale Items	KMO	α	CR	AVE
B. Brand Management Practices	0,862			
B.1. Price B.1.1. The price of this hospital's service is high. B.1.2. The price of this hospital's service is low B.1.3. This hospital's service is expensive		0,88	0,87	0,69
B.2. Distribution-Promotion B.2.1. This hospital giving services with more branch as compared to its competing brands B.2.2. This hospital services are distributed through as many branches as possible. B.3.3. The promotional campaign of this hospital is seen quite often.		0,81	0,82	0,62
B4. Price Promotion B.4.1. This hospital offers price deals frequently. B.4.2. Too many times price deals for this hospital are presented B.4.3. Price deals for this hospital are emphasized more than seems reasonable.		0,87	0,85	0,66
B.5. Physical Evidence B.5.2. This hospital has modern equipment. B.5.3. Staff in this hospital clean dressed. B.5.4. Medical equipments in this hospital are operating. B.5.5. The interior decoration of this hospital is very good. B.5.6. Lightening and ventilation of this hospital is good.		0,91	0,90	0,62

B.5.7. This hospital is clean. B.5.8. This hospital is silent and restful.				
Scale Items	KMO	α	CR	AVE
B.6. People B.6.2. The employees of this hospital try to cheer patients up when they are down. B.6.3. This hospital staff are always <u>enthusiastic</u> to resolve patient complaints. B.6.4. This hospital staff are <u>enthusiastic</u> to consider things not requested by the customer or their accompanying persons		0,85	0,84	0,64
B.7. Process B.7.1. I received service at the time of an appointment in this hospital. B.7.2. Waiting times to receive service in this hospital were short. B.7.3. During the process I received healthcare from this hospital, I was told about my health status.		0,86	0,88	0,71
C. Brand Equity C.1. Perceived Quality C.1.1. This hospital is of high quality. C.1.2. The likely quality of this hospital is extremely high. C.1.3. I thought that this hospital could cure my illness. C.1.4. The reliability of this hospital is very high. C.1.6. The quality of this hospital appears very poor.	0,894	0,90	0,90	0,65
C.2. Brand Loyalty C.2.1. I am loyal to this hospital. C.2.2. This hospital would be my first preference C.2.3. I wouldn't apply to other hospitals if this hospital's bed and service capacity is available.		0,90	0,91	0,78
Scale Items	KMO	α	CR	AVE
C.3.Brand Awareness/ Association C.3.1. I can recognize this hospital among other competing hospitals. C.3.2. I am aware of this hospital. C.3.3. Some features of this hospital come to my mind quickly. C.3.4. I can quickly recall the symbol or logo of this hospital.		0,85	0,89	0,67
D. Brand Preference D.1. I feel this hospital is appealing to me.	0,725	0,88	0,90	0,76

D.2. I prefer this hospital to the other similar brand.				
D.3. If I need similar healthcare services, I would prefer this hospital again.				

Note: KMO= Kaiser-Meyer-Olkin; AVE = Average Variance Extracted;

CR=Composite Reliability

Results showed that KMO values were acceptable (more than 0,50); Cronbach's Alpha Reliability coefficients were highly reliable (above 0,80). Composite Reliability should be above 0,70 and AVE value should be above 0,50. It was seen from the table that these conditions were fulfilled and therefore these scales admitted valid and reliable.

4.2. Hypotheses Testing

Because Distribution and Promotion dimensions were united in one dimension after the Exploratory Factor Analysis, hypothesis numbers which were proposed initially reduced from 38 to 33. However, the hypothesis number codes were not changed to avoid confusion.

The structural equation model, the path analysis method was used to test the hypotheses. The structural equation model allows researchers to evaluate the measurement tool and measure the proposed theoretical relationships in a unified and holistic way.

The goodness of fit values was re-examined before testing the model. It was found as $X^2/df:2,54$, $p:0,00$, $AGFI:0,83$, $TLI:0,92$, $CFI:0,93$ and $RMSEA:0,06$. Since the values were within acceptable limits, hypotheses testing was initiated.

4.2.1. Testing The Direct Effect of Brand Management Practices and Brand Equity Dimensions on Brand Preference;

The test results were given in the table below. The table shows only accepted hypotheses.

Table: 2 Test Results for The Direct Effect of Brand Management Practices and Brand Equity Dimensions on Brand Preference;

HYPOTHESIS				Estimate	Standard Error	C.R. (t value)	P Value	Results
H2: Price has an effect on Brand Loyalty	Brand Loyalty	←	Price	-0,151	0,047	-3,201	0,001	ACCEPTED*
H4: Price has an effect on Brand Preference	Brand Preference	←	Price	-0,088	0,033	-2,639	0,008	ACCEPTED *
H5: Distribution-Promotion has an effect on Perceived Quality	Perceived Quality	←	Distributi on-Promotion	0,203	0,052	3,897	***	ACCEPTED
H7: Distribution-Promotion has an effect on brand awareness/ brand association	Brand Awareness/ Association	←	Distributi on-Promotion	0,17	0,073	2,325	0,02	ACCEPTED*
H17: Physical Evidence has an effect on Perceived Quality	Perceived Quality	←	Physical Evidence	0,66	0,066	10,029	***	ACCEPTED
H18: Physical Evidence has an effect on Brand Loyalty	Brand Loyalty	←	Physical Evidence	0,424	0,088	4,819	***	ACCEPTED
H19: Physical Evidence has an effect on Brand Awareness/ Association	Brand Awareness/ Association	←	Physical Evidence	0,631	0,082	7,691	***	ACCEPTED
HYPOTHESIS				Estimate	Standard Error	C.R. (t value)	P Value	Results

H21: People has an effect on Perceived Quality	Perceived Quality	←	People	0,109	0,044	2,49	0,013	ACCEPTED*
H22: People has an effect on Brand Loyalty	Brand Loyalty	←	People	0,502	0,076	6,598	***	ACCEPTED
H23: People has an effect on Brand Awareness/ Association	Brand Awareness/ Association	←	People	0,131	0,065	2,035	0,042	ACCEPTED*
H25: Process has an effect on Perceived Quality.	Perceived Quality	←	Process	0,147	0,047	3,106	0,002	ACCEPTED*
H28: Process has an effect on Brand Preference	Brand_ Preference	←	Process	0,113	0,054	2,091	0,037	ACCEPTED*
H29: Perceived Quality has an effect on Brand Preference	Brand_ Preference	←	Perceived Quality	0,321	0,071	4,499	***	ACCEPTED
H30: Brand Awareness/ Association has an effect on Brand Preference	Brand Preference	←	Brand Awareness/ Association	0,201	0,045	4,518	***	ACCEPTED
H31: Brand Loyalty has an effect on Brand Preference	Brand Preference	←	Brand Loyalty	0,46	0,04	11,394	***	ACCEPTED

ACCEPTED: $p < 0,001$, ACCEPTED*: $p < 0,05$ REJECTED: $p > 0,05$

5 of the 24-hypotheses proposed that brand management practices have an effect on brand equity were accepted at $p < 0,001$ significance level, 7 of 24 hypothesis were accepted at $p < 0,05$ significance level and 12 of 24 hypothesis were rejected (H1,H3,H6,H8, H13,H14,H15,H16,H20,H24,H26,H27).

All hypotheses proposed that brand equity dimensions have effect on hospital preference were accepted at $p < 0.001$ significance level.

Standardized regression coefficients of the accepted hypotheses show that;

Price has a significant negative effect on brand loyalty and brand preference. The effect of price on brand loyalty (estimated value: -0,154) is stronger than the effect on brand preference (estimated value: 0.097). Price has no significant effect on perceived quality and brand awareness / association.

Distribution-Promotion has a significant positive effect on perceived quality and brand awareness / association. The effect on perceived quality (estimated value: 0,15) is stronger than the effect on brand awareness / association (estimated value: 0,106). Distribution-Promotion has no significant effect on brand loyalty and brand preference.

Price Promotion has no direct significant effect on any dimensions of brand equity and brand preference

Physical Evidence has a significant positive effect on all three dimensions of brand equity. The highest effect of physical evidence is on perceived quality (estimated value: 0.623), subsequent effects are on brand awareness / association (estimated value: 0.505) and on brand loyalty (estimated value: 0.297). Physical Evidence has no direct significant effect on brand preference.

People has a significant positive effect on all dimensions of brand equity. The highest effect of People is on brand loyalty (estimated value: 0,374), subsequent effects are on brand awareness/association (estimated value: 0,111) and perceived quality (estimated value: 0,109) People has no significant direct effect on brand preference.

Process has a significant positive effect on perceived quality and brand preference. The effect of process on perceived quality (estimated value: 0.14) is stronger than the effect on brand preference (estimated value: 0.086) Process has no significant effect on brand awareness/ association and brand loyalty.

All Brand Equity dimensions have a significant positive effect on brand preference. Brand Loyalty has highest effect on Brand Preference (estimated value: 0.496), it is followed by perceived quality (estimated value: 0.256) and brand awareness /association (estimated value: 0.19).

4.2.2. Test for Indirect Effect of Brand Management Practices on Brand Preference;

Indirect effect describes as the first variable acts on the third variable through the second variable, regardless of whether a direct path is drawn to the third variable or not (Maruyama, 1997). The mediator variable has two types as partial mediator and full mediator according to the effect type. Partial mediator means that, X has a direct effect on the Y output and also has an indirect effect through the M mediator(Shrout & Bolger, 2002). Full mediator means that, X has not direct effect on the Y output but it has indirect effect on Y output through the M mediator.

The results of the test for indirect effects of Brand Management Practices on Brand Preference, and the type of mediator are shown in the table below.

Table: 3 Indirect Effect of Brand Management Practices on Brand Preference;

HYPOTHESES				Direct Effect	p	Indirect Effect	p	Results
H32: Price has indirect effect on brand preference through brand equity dimensions.	Price	→	Brand Equity → Brand Preference	-0,970	0,01	-0,092	0,007	ACCEPTED (PM)
H33: Distibution-Promotion has indirect effect on brand preference through brand equity dimensions.	Distibution-Promotion	→	Brand Equity → Brand Preference	0,004	0,746	0,086	0,038	ACCEPTED (FM)
H35: Price Promotion has indirect effect on brand preference through brand equity dimensions.	Price Promotion	→	Brand Equity → Brand Preference	0,016	0,639	-0,001	0,993	REJECTED

H36: Physical Evidence has indirect effect on brand preference through brand equity dimensions.	Physical Evidence	→	Brand Equity	→	Brand Preference	0,013	0,928	0,403	0,007	ACCEPTED (FM)
H37: People has indirect effect on brand preference through brand equity dimensions.	People	→	Brand Equity	→	Brand Preference	0,071	0,190	0,234	0,006	ACCEPTED (FM)
H38: Process has indirect effect on brand preference through brand equity dimensions.	Process	→	Brand Equity	→	Brand Preference	0,086	0,033	0,085	0,089	REJECTED

PM: Partial Mediator

FM: Full Mediator

As can be seen from the table above, 4 of 6 hypotheses were accepted at $p > 0.05$ significance level. 2 of 6 hypotheses were rejected.

Price has a direct and indirect effect on brand preference. Therefore, brand equity dimensions are the partial mediator for price.

Distribution-Promotion, physical evidence, and people have no effect on brand preference, but they have an indirect effect on brand preference, through brand equity dimensions as a full mediator.

Price Promotion and Process have no effect on Brand Preference. Hypotheses H35 and H38 were rejected.

5. Conclusion and Discussions:

Hospital brands are an important tool to provide patient's trust in the hospital. Therefore, positive brand equity perception of patients increases the hospital preference. This study analyzed the effect of brand management practices on brand equity and brand preference. Previous studies were mostly carried out in the production sector. This study focused on hospitals.

Brand Management Practices were the independent variables, “Brand Equity” and “Brand Preferences” were dependent variables of the study. In addition, “Brand Equity” has been designated as a mediator variable.

The structural equation model was used to test the hypothesis. Firstly, the direct effects were examined. 12 of the 24 hypotheses proposed that “brand management practices have a direct effect on brand equity and brand preference” were accepted and 12 hypotheses were rejected. 3 of the 3-hypothesis proposed that Brand Equity dimensions have a direct effect on Brand Preference were accepted.

After examining direct effects, indirect effects of brand management practices on Brand Preference were tested. As a result of the test, 4 of 6 hypotheses were accepted and 2 hypotheses were rejected.

5.1. Brand Management Practices;

Price; This study found that price has a direct negative effect on “brand loyalty” and “brand preference” In other words, increasing in the prices of health services will reduce the “brand loyalty” and “brand preference” and vice versa. The effect of price on brand loyalty (estimated value: -0,154) is stronger than its effect on brand preference (estimated value: 0.097).

It wasn't found the relationships between price-perceived quality, and price-brand awareness/association.

Therefore, Hospital managers who want to improve their brand loyalty and brand preference could use price strategy, but using price strategy to improve perceived quality and brand awareness/association would be useless for hospitals. However, there are some studies in the literature showing the relationship between price and perceived quality (Chattopadhyay et al.,

2010; Yoo et al., 2000; Mehvish and Salman 2019; Aditi & Muda, 2019), but it must be noted that these studies didn't carry out in the hospital.

Distribution-Promotion; Distribution in hospitals is related to access to health services. Giving health services timely and with more branches is important for patients. Promotion in hospitals is subject to some restrictions. However, patients aware of the hospital's services through their promotions. The result of this study shows that distribution-promotion has a direct effect on perceived quality and brand awareness/association and indirect effect on brand preference. These findings are consistent with previous studies (Chattopadhyay et al., 2010; Yoo et al., 2000; Villarejo-Ramos and Sánchez-Franco, 2005).

However, no significant relationship was found between distribution-promotion and brand loyalty. This result differs from the study of Yoo et al. (2000).

Based on these results, it can be said that distribution-promotion strategy was an essential tool to create brand awareness and to improve perceived quality and brand preference.

Price Promotion; Price Promotion has no effect on Brand Equity dimensions, neither direct nor indirect effect on Brand Preference. Therefore, Price Promotion is not a good strategy to create brand equity and to increase Brand Preference for the health sector. As like this study, Aaker stated that most sales promotions are easily copied so it is not a preferable way to build brand equity (Aaker D. , 1991). In a similar way, Dharmesh and Devendra (2014) found the promotional campaign is the least important factor for choosing the hospital. In contrast to these studies, Daosue and Wanarat (2019) found a significant positive relationship between sales promotions and brand awareness (Daosue & Wanarat, 2019). However, it should be kept in mind that their research areas are not service sector or hospitals, but on food production.

Physical Evidence; Physical Evidence includes hospital lighting, ventilation, cleaning, equipment in working conditions, employee clothing, etc. A comfort and cozy physical environment for patients and their relatives has an effect positively on the Brand Equity. According to the results, Physical evidence has a direct effect on brand equity dimensions and has an only indirect effect on brand preference.

Therefore, as a service marketing mix element, physical evidence could be used to create and elevate brand equity. High brand equity will increase brand preference.

People; According to the result, people has a direct effect on Brand Equity dimensions. People are very important for patient in the health sector. The patient trusts the hospital because of the characteristics of the person providing the service to him/her by his knowledge, interest, kindness, etc. Therefore, hospital managers should give close interest to their employee and motivate them. The brand management process requires the participation of everyone in the organization. So, top management and human resources management should motivate all employees to provide their participation. The effect of people on brand preference is found indirectly. In other words, a hospital employee creates brand equity, and high brand equity results in brand Preference.

Process; Patient is affected by many processes beginning from hospital admission to discharge, even after-discharge process. According to the results of this study, the proper functioning of the processes shapes the quality perception of the patient and effects the hospital preference. However, no significant effect was found on brand loyalty and brand awareness/ association. Therefore, hospital managers who want to increase perceived quality and preferability should give importance to their processes. But the process isn't a proper strategy to increase brand loyalty and to create Brand awareness/association

Findings related to physical evidence, People, and Process consistent with previous studies (Prabowo and Srividadi,2019; Mohamed and Hilal, 2019; Aghaei, Vahedi, Kahreh , & Pirooz, 2014).

5.2. Brand Equity Dimensions

All brand equity dimensions have an effect on brand preference. The most influential brand equity dimension on brand preference was found as brand loyalty, it was followed by perceived quality and brand awareness/association. These results show that high and good perception of hospital brand equity results in a high level of hospital preference.

As a result, hospitals should have strong brand equity to being preferable by patients. Therefore, brand managers should measure their hospital's brand equity and analyze their current situation periodically, as a result of this measurement, they should decide which brand equity subdimension needs to be improved more and which brand management practices should be select in light of this study. In this way effective and efficient use of marketing budget would be provided and return on investments would increase.

6. Recommendation for Future Research

The purpose of this study is to understand the effect of brand management practices in hospitals on dimensions of brand equity and brand preference. In this concept, there was little research, which was carried out in the hospitals, therefore similar researchers, for hospitals should be increased in a different region.

In this study distribution-promotion structure united after exploratory factor analysis. So, in the next studies, distribution-promotion structure should examine as two different structures by adding new variables and found their effects on brand equity and brand preference separately.

The final recommendation is, based on this holistic study, a similar study could be conducted by choosing only one or several subdimensions of brand management practices with more participants. The results of the next studies could be compared by the results of this study.

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