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ADVANCES IN GLOBAL SERVICES AND RETAIL MANAGEMENT

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Effect of Brand Credibility and Innovation on Customer Based Brand Equity and Overall Brand Equity in Turkey: An Investigation of GSM Operators

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Abstract

Today, challenging and intense global competition conditions have led to the transformation of local and small markets into larger and more developed markets. For this reason, firms have had to make different strategic decisions in order to survive and profit. If firms want to challenge the competitors one way is to increase their brand equity. The main purpose of this research is the effect of brand credibility and innovation on customer based brand equity and overall brand equity in the context of three GSM operators in Turkey. The sample for the study is limited to 589 participants. The data was collected between 31th of May and 7th of June 2018. A convenience sampling process was used to collect data for this research and 589 pieces of data were collected through a questionnaire survey. Correlation and regression tests were performed to examine the relationship and effect between variables in the study. Regression analyses were employed with the purpose of revealing the effect of brand credibility and innovation on customer based brand equity, its dimensions and overall brand equity. The results of the analyses indicated that brand credibility and innovation had positive effect on customer based brand equity as well as its dimensions. Since there is no literature on the effect of credibility and innovation on both customer based brand equity dimensions and overall brand equity in a holistic approach in the GSM sector in Turkey, this paper aims to contribute to this gap.

Keywords: brand credibility, innovation, brand equity

Introduction

One of the most popular and potentially important marketing concepts that emerged in the 1980s is brand-name. According to Aaker (2014), brand equity is a global value created by factors such as quality perception, brand recall, brand knowledge, brand preference, brand image, brand loyalty and commitment, brand attitude in the mind of consumers in the mind of the brand. Keller (2008) stated that consumers' defining a firm's products / services and making them different from competitors is an important role a brand can play. Consumers may experience confusion and uncertainty when trying to purchase in a market where they are exposed to a wide variety of products. The availability of asymmetrical information due to the fact that firms always know more about their products than customers can cause greater confusion in consumers' decision to purchase a product. In such a case, brands can function as symbols or signals for product positioning (Erdem & Swait, 2004; Wernerfelt, 1988) Credibility, which affects the customer

purchase decision, is an important feature that determines brand positioning. According to Erdem and Swait (1998), brand credibility is the believability of a brand's product position information, which requires consistent realization of the product as promised to the consumer, and it is examined in two types as trustworthiness and expertise. Trustworthiness means that a brand is believable that it will deliver on what it promises, and expertise means that the brand is believed to deliver on its promises. The concept of brand credibility has been shown to be an important factor in the formation of consideration sets, and as a driver of purchase behavior. For brands that strive to be perceived as innovative, it would therefore be of considerable value to determine whether brand innovativeness exerts any influence upon perceptions of brand credibility. Brand credibility, which includes the dimensions of trustworthiness and expertise, is the extent to which consumers believe what a brand promises and the perceptions of consumers about whether the brand can consistently fulfill its claims (Erdem & Swait, 2004).

There may also be information asymmetries among the consumers of innovative brands. Innovative brands have a successful track record of innovations (Kunz, Schmitt, & Meyer, 2011). These brands can use their reputation for innovation for signaling purposes since their brands may have credibility as a result of clear and consistent past and present marketing activities. Brand innovativeness can provide credible marketplace signals, and consumers may build brand trustworthiness and expertise associations based on innovativeness cues of these brands. Previous research has agreed on the signaling role of innovativeness for consumers (Henard & Dacin, 2010; Stock, 2011). Aaker (2007) has suggested that an innovative brand provides credibility to its new offerings by reducing consumers' skepticism about the new offering. Furthermore, positive relationships between consumer perceived firm innovativeness and trustworthiness (Falkenreck & Wagner, 2011) and expertise (Kunz et al., 2011) have been observed in previous studies. Shams et al. (2015) define brand innovativeness as "consumers' perception of a brand's track record of product innovations, degree of creativity, and potential for continued innovative activity in the future in a given market". Successful innovations can help a brand achieve a market leadership position and create market entry barriers for competitors (Srinivasan, Lilien, & Ragaswamy, 2002). On the other hand, researchers suggest that consumers' perceptions of innovativeness can provide a sustainable competitive advantage for brands (Danneels & Kleinschmidt, 2001). As known, the widespread of globalization and technological developments have caused people to front to more innovative products. Firms have to use their limited resources in the most efficient way and get ahead of their competitors that is increasing day by day due to globalization. The brutal competition has pushed companies that aim to survive and be sustainable, not only to offer superior products but also to develop strategies that will make a difference for potential customers who will buy these products. Brand equity is very important for firms to gain an advantage over their competitors. That's why creating high brand equity is one of the most vital strategies that firms should implement. While choosing among many firms, consumers pay attention to the brand credibility of brands and the innovative approach of the brand. This situation has also affected businesses operating in the telecommunications sector. The GSM sector in Turkey serves a wide range of ages, most of which are active users. This study examines the impact of brand reliability and innovation on brand equity in the GSM industry, where competition is intense. Since there are not enough studies examining brand reliability and innovation together in brand equity studies for the GSM sector in Turkey, this study aims to contribute to this gap.

Literature Review

Assessment of previous studies and hypothesis development will be done in this section.

Brand Credibility

The concept of brand credibility has been included in the literature with the brand signaling theory, can be explained by knowledge economy. Brands act as signals of mix strategies contain all past and current marketing strategies to provide information exchange in a market defined by companies with flawed and asymmetrical information. There may also be information asymmetries among consumers who prefer innovative brands. Innovative brands have a successful history of innovation. Because brands can have credibility as a result of clear and consistent past and current marketing activities, these brands can use their reputation as a signal for innovation (Erdem & Swait, 2004). Wang and Yang (2010) examined the effect of brand credibility, which is defined by the dimensions of trustworthiness, expertise and attractiveness, on the brand purchase intentions of consumers in China, one of the auto industry-oriented economies. The authors draw attention to the moderate role of brand awareness and brand image in this examined relationship. The results obtained show that the effect of brand credibility on consumers' brand purchase intention is positive. In the study, they stated that the dimensions of brand image and brand awareness drive the relationship between brand credibility and the brand purchase intention of consumers in a positive way. Chaudhuri and Holbrook (2001) also point out important findings in their studies showing that there is a significant relationship between brand trust and both purchasing and attitudinal loyalty. Erdem and Swait (2004) found that brand credibility increases the likelihood of a brand being included in the evaluation group and the selection of the brand based on this evaluation. In addition, credibility is considered to be a very positive factor in brand selection when there is high uncertainty. In the light of this information, the researchers found that trustworthiness rather than expertise affects consumer preferences and consumer focus more on the brand. Mileti, Prete, and Guido (2013) tested the effects of mixed feelings on positioning and purchase intention in different categories of branded products on basic credibility components such as attractiveness-products, expertise-products, and trustworthiness-products. With the positioning and multiple regression analyzes conducted in the study, it was found that positive and negative emotions were positively associated with the positioning and purchase intention of attractiveness products, and positively and negatively associated with trustworthiness products, whereas negative emotions were found to be negatively related to specialty products. As a result, the emotional credibility of the brand can serve to identify the importance of unconscious elements and mixed feelings related to different products to satisfy consumers' desires and expectations. Also, when signaling theory is to be considered, brand credibility becomes one of the market signals. In this case, high reliability against a brand can cause the consumer to make a superior quality assessment. As a result, consumers can perceive brands as such that credible is quality. Brand credibility also plays an important role for firms' institutionalization goals. Hur, Kim, and Woo (2014) examined the issue of corporate social responsibility in terms of the relationships between corporate brand reliability, corporate brand equity and corporate reputation. The results indicate that corporate social responsibility has a direct positive effect on corporate brand credibility and corporate reputation. In addition, the research confirms that corporate brand credibility acts as an mediator in the relationship between corporate social responsibility and corporate reputation. Finally, it has been determined that corporate brand reliability and corporate reputation have an intermediary effect on the relationship between

corporate social responsibility and corporate brand equity.

- **H$_{1a}$:** Brand credibility has positive effect on perceived quality.
- **H$_{1b}$:** Brand credibility has positive effect on brand association.

Innovation

Schumpeter (1934), one of the first authors to describe innovation and associated with entrepreneurship, stated that they perceive brand innovation according to whether brands offer new, different and beneficial solution options for consumers' needs. According to Schumpeter, innovation creates new alternatives and applies these alternatives to new products and services, business processes or markets. According to Drucker (1985), innovation is useful information for the first time to enable people to make people with different knowledge and skills working together in an organization more productive. According to him, innovation is a special tool for entrepreneurs and is an activity that helps increase the capacity of resources to create prosperity. Damanpour (1987) defined innovation as a tool used to change the output, structure or processes of an organization to facilitate the adaptation process to the environment. Considering the definitions made for the concept of innovation, it is noteworthy that there are many narrow and wide definitions. What is important in these definitions is that innovation is done consciously for commercial success (Ayar and Erdil, 2018). In order to reduce the imitation of the product or service that the business produces, the ability to demonstrate its distinctiveness, that is, its branding, is usually a success that only innovative organizations can achieve. Having acquired an institutional identity, the firm can be influential on innovation, especially in terms of innovation strategies, by going branding with its innovative structure. Business innovation capacities and innovative behavior patterns also affect market performance and branding. When we consider Apple's successful innovations such as iPod, iPhone and iPad, it can help a brand gain market leadership and create market entry barriers for its competitors (Srinivasan, Lilien, & Ragaswamy, 2002). Innovation today one of the key factors that will help businesses compete with their competitors and increase their profitability. Durna (2002), International firms have gained a competitive advantage in the past by taking advantage of the economies of scale and labour shortages, material and capital deficiencies. Innovation is a factor that increases the loyalty of the business and the quality of the customers and the customer satisfaction with the effect of the quality image. Since businesses are open systems, it is necessary to adapt to environment and time. One of the most important elements in achieving this harmony is innovativeness. A non-innovative firm will also lack the development and survival power (Kleinschmidt, 1991). Product innovation and brand equity are key strategic elements in the growth and survival of companies (Slotegraaf and Pauwels, 2008). In addition, Kunz, Schmitt et al. get. (2011) put forward a consumer-based innovation approach expressed as "perceived firm innovation" in their studies. It is stated that perceived firm innovativeness is the perception of the consumer that is open to innovation, can offer creative and effective ideas and solutions. The results show that a firm should not only consider new products and technologies, but the firm should consider consumer perceptions as a whole and take into account consumer feelings and experiences as well as a functional-cognitive perspective. In this context, researchers emphasize that perceived firm innovation can affect consumer loyalty in two ways, both functionally-cognitively and emotionally-experientially.

In the study conducted by Nørskov, Chrysochou and Milenkova (2015), it has been examined the effect of product innovation elements (complexity, relative advantage, compatibility, testability and observability) on brand equity and whether the said innovation elements would have a different effect for low and high equity brands. The moderate role of consumer innovativeness has been considered. As a result, it was observed that innovation factors influenced low and high perception of brand equity. It was emphasized that innovation leads to the perception of a brand with low brand equity with a higher level of brand equity. Schams, Brown, and Alpert (2017) investigated the interrelated effects of brand innovation, brand credibility, and consumer innovativeness on consumer purchasing intention. Although innovativeness has been investigated in detail in the context of product, firm and consumer, the number of studies examining innovativeness at the brand level is relatively low. Study on a structural model showed that brands perceived as more innovative lead to significantly higher purchase intent for consumers. Schams, Brown, and Alpert tried to clarify the mechanism of this relationship with brand credibility, which they identified as a partial intermediary factor. The researchers recommended that the marketing experts of the firms should be emphasized as the innovation credentials of the brand have a positive effect on credibility and purchase intention. Previous studies have identified the importance of product innovation strategy in improving the customer's perception of product quality by making changes in products that will give them an edge over competitors and have shown that this can also positively affect brand selection and purchasing decision (Hanaysha and Hilman, 2015). On the other hand, product innovation is very important for companies to increase their growth and strengthen their competitive advantages. Firms that have the ability to produce new products and services that benefit consumers are perceived as having a more positive brand image with high performance in the minds of the consumers (Sjöberg & Wallgren, 2013).

- **H$_{2a}$:** Innovation has positive effect on perceived quality.
- **H$_{2b}$:** Innovation has positive effect on brand association.

Brand Equity

Branding studies were first carried out in medieval Europe and were found in signs of Egyptian hieroglyphs and on pottery and ceramics made in the Chinese, Indian, Ancient Greek and Roman civilizations from around 1300s B.C. In the 18th century, branding gained more importance with the replacement of the trademark names with the names of famous people or places. In the 19th century, brands began to be used to emphasize the perceived value of the product, and in the 20th century, the issues of how to create a good brand and how to survive became an area where marketers focused on (Farquhar, 1989; Farquhar, 1990; Motemani & Shahrokhi, 1998). Should the definition wanted to be defined nowadays it is expressed by Turkish Language Association "A brand is a commercial property which is used for distinguishing an object from another by using a special name or mark ". The American Marketing Association defines the brand as "a name, term, sign, symbol or design that aims to identify and separate products and services from a dealer or a group of sellers." By defining the product, the brand creates an advantage that is differentiated from its competitors. This increases the competitiveness of the product. Firms try to gain competitive advantage with their brands compared to other products in the market (Tek and Özgül, 2005). Besides, when investigated in financial context, the brand has become a marketable value attribute (Uztuğ, 2003). In this case, the brand can be seen as again that can provide added value to the firm.

When viewed from the customer's perspective, the importance of brand value becomes even more evident. We define brand equity as the difference in consumer choice between the focus branded product and the non-branded product, given the same level of product features (Yoo, Donthu & Lee, 2000). Based on this definition, studies show that it is possible to estimate the brand value by subtracting the benefit of the physical attributes of the product from the total benefit of a brand (Simon & Sullivan, 1993). Aaker evaluates brand equity from a behavioral perspective. According to him, brand equity is of critical importance to create points of differentiation that cause competitive advantages based on non-price competition. Aaker also states that brand equity is a multidimensional concept. He stated that brand equity consists of brand loyalty, brand awareness, perceived quality, brand associations and other proprietary brand assets (Aaker 1991, 1996). Brands help firms increase their competitive power, grow and provide profitability. The realization of this potential of brands is of key importance in the creation of business strategies aiming at sustainable competitive advantage (Urde, 1994, p.18) Farquhar, Han, and Ijiri (1991) stated brand equity as providing value added to a product by its brand name. Marketing professionals using the term "brand equity" point to the brand definition, or brand strength, known as customer brand equity, to avoid confusing this term with asset valuation. In line with all this information, brand equity has been analyzed from two different perspectives, mainly financial and customer-based. Financially based brand equity is not covered in detail in this article, but briefly, the first perspective of financial based brand equity is the financial asset value it creates for the business franchise. This approach measures the result of customer-based brand equity. Researchers have developed and objectively tested accounting tools for evaluating the asset value of a brand name (Farquhar et al., 1991; Simon and Sullivan, 1992). The second point of view, which is the approach attempted to be addressed in this article, is customer-based in evaluating the consumer's response to a brand (Keller, 1993; Srivastava, Shocker, & Rueckert, 1994). We focus on the customer-based perspective for two reasons. First, customer- based brand equity is the driving force for increased financial gains to the firm. Second, there is no customer-based measure for managers to evaluate brand equity (Martin & Brown, 1990). Consumer based brand equity approach lays on how consumer experiences brands and ultimately the perceptions in her mind. Through this view, brand equity is defined as "the incremental preference endowed by the brand to the product as perceived by an individual consumer" (Park & Srinivasan, 1994). Brand equity is conceptualized to consist of brand associations that include consumers' brand awareness, brand knowledge and brand image (Keller, 1991, 1993). However, as is known, brand equity includes two components as brand strength and brand value (Srivastava & Shocker, 1991). Brand strength creates the brand associations that the customers have. For this reason, some researchers see brand equity as the perceived brand quality of both the tangible and intangible components of the brand (Kamakura & Russell, 1991).

The relationship between brand equity creation and selected marketing mix elements Yoo, Donthu et. al. (2000). Researchers propose a conceptual framework in which marketing components are related to brand equity dimensions such as brand associations, which include the concepts of perceived quality, brand loyalty, and brand awareness. The results of the study emphasize that frequently applied price promotions lead to low brand equity perception, high advertising expenditures, high prices, good store image and high distribution opportunities provide high brand equity. Yoo and Donthu (1997) developed a multidimensional, consumer-based brand equity scale consisting of four theoretically defined structures and a separate multi-item general brand equity measure. In their later study, Yoo and Donthu (2001) state that there is not much systematic research done to develop a scale that can measure consumer-based

brand equity. Based on Aaker and Keller's conceptualization of brand equity, Yoo and Donthu are reliable, valid and parsimonious of the new brand equity scale created by applying multi-step psychometric tests in their study to develop and validate a multidimensional consumer-based brand equity scale (MBE). They also stated that the scale can be generalized according to various cultures and product categories. In Washburn and Plank's (2002) study, an independent analysis of many consumer-based brand equity measures was developed. In addition, slightly modified elements were used from a different angle to examine the robustness of the proposed scale. According to the results, it was stated that while Yoo and Donthu's scale represents a sufficient first step, it is necessary to develop more scales. Despite this, it was emphasized that the scale created by Yoo and Donthu approached the universally accepted consumer-based brand equity measure. In the model designed by Buil, Martínez, Chernatony (2013) in order to understand brand equity more clearly, it was aimed to examine the effects of brand equity on consumer reactions with the data obtained from two European countries. Considering the results, it was found that brand equity dimensions are related to each other. Accordingly, brand awareness positively affected perceived quality and brand relationships. Brand loyalty is basically influenced by brand associations. Finally, it has been determined that perceived quality, brand relationships and brand loyalty are the primary drivers of overall brand equity. Researchers also focused on the concept of overall brand equity in this study. The overall brand equity structure serves to understand the contribution of brand equity dimensions to brand equity. Besides, the findings also confirm the positive effect of brand equity on consumers' reactions. In addition, the overall framework proposed among the countries in the study has been proven empirically robust, despite several differences. Low and Lamb (2000) experimented with the conceptualization of brand associations, which consist of three elements: brand image, brand attitude and perceived quality. The results prove the effectiveness of the brand image protocol and reveal that brand associations differ between brands and product categories. Foroudi, Jin et. al. (2018) used the complexity theory to examine the effect of brand perception on brand loyalty and brand purchase intention. The results show how important brand awareness, perceived quality, brand association, brand fondness, brand image and product country image are in creating brand perception. In addition, different perceptual components of brand equity have been found to have strong effects on brand loyalty and brand purchase intention with its various associations. The study emphasizes that brand perception has a great role in increasing customers' loyalty to the brand and purchasing intentions. Moliner- Velázquez, Fuentes-Blasco and Gil-Saura (2019) argued in their study that consumers who perceive a firm with high brand equity trust this firm more than other competitors, and this leads to greater loyalty. The overall brand equity conceptualization was developed by Yoo and Donthu (2001), which estimated the basic idea of the construct through four items and defined it as "consumers' different response between a focal brand and an unbranded product when both have the same level of marketing stimuli and product attributes". Supporting this knowledge, Šerić (2017) addressed this holistic aspect of brand equity, which is highly neglected in hospitality marketing. In this study, four main components that make up the brand equity are handled with a holistic perspective. In the study, using the four components of the overall brand equity suggested by Yoo and Donthu (2001), the participants were given only a different brand name provided that all the characteristics of the brands are the same. Each component has been used to determine the increasing value of the product, depending on the brand name. In this case, it is possible to say that the overall brand equity is the general evaluation of a brand by customers. Each of the brand equity components can be important in customers' evaluations of the brand.

- **H$_3$:** Customer based brand equity has positive effect on overall brand equity.
- **H$_4$:** Brand credibility has positive effect on overall brand equity.
- **H$_5$:** Innovation has positive effect on overall brand equity.

Methods

This study aims to investigate the effect of brand credibility and innovation on customer based brand equity and overall brand equity in GSM sector. (Considering 3 operators in GSM sector) A model has been put forward by the authors for the purpose of the study. The research model for this is as shown in Figure 1. Online survey method was used as data collection tool in the research. During the implementation of the survey, all necessary disclosures were made by respondents. In order to enable respondents to respond in a sincere, healthy, and accurate manner, there are no questions that could reveal the identity of respondents. In addition, when the online questionnaire is presented on a page-by-page basis, it is intended that the responders both respond to all questions thoroughly and that the respondents are not affected by the questions asked. The questionnaire consists of two parts. In the first part, participants were asked to answer the question of brand credibility, innovation, customer-based brand equity and overall brand equity that they perceive for the GSM operator they use. In the second part, questions were asked about the demographic and GSM operator usage ratios. The questionnaire used in the research consists of 43 questions. Of these questions, 35 items are five- likert types, 8 items are multiple-choice. All items were measured using a 5-point Likert scale (1: Strongly disagree, …, 5: Strongly agree).

Sample and Data Collection

The sample for the study is limited to 589 participants using any GSM operator. The data was collected between 31th of May and 7th of June 2018. A convenience sampling process was used to collect data for this research and 589 pieces of data were collected through an online questionnaire survey. The collected data were subjected to correlation test and regression test in order to produce meaningful results. The main purpose of the descriptive research is to identify the characteristics of a main mass or a phenomenon (Gegez, 2010). From these definitions, the type of this research is descriptive.

Analyses

It is aimed to measure the effect of brand credibility and innovation on customer- based brand equity and overall brand equity by using brand credibility and innovation as independent variables, customer-based brand equity and overall brand equity as dependent variables. Brand credibility was measured by six items which were adapted from Erdem and Swait (1998,2004). Innovation was measured by seven items which were adapted from Kunz, Schmitt and Meyer (2011). Customer based brand equity was measured by thirteen items which were adapted from Yoo and Donthu (2001). Overall brand equity was also measured by four items which were adapted from Yoo and Donthu (2001). In the research, questionnaire consisting of 43 questions and two parts was used. Of these 43 questions, 35 were determined as five-point Likert-type questions, and 8 as multiple-choice questions. All items in the questionnaire were measured using a 5-point Likert (1: Str. disagree, …, 5: Str. agree).

Figure 1: Research Model
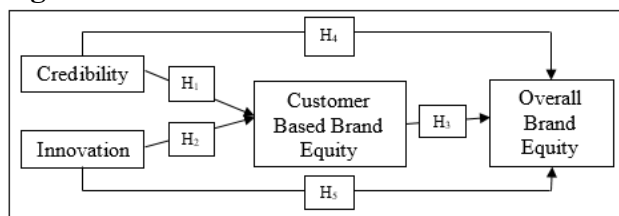
Findings

The demographic characteristics of respondents can be seen in the Table 1. 50,8% of the respondents are women, 49,2% are men. Mostly used operator is Turkcell (40,6%). 47,9% of the respondents are using their present operator more than 5 years where 41,8 % of the respondents are satisfied with their GSM operator. 54,2% of the respondents are willing to shift their GSM operator. 50,6% of the respondents have University degree.

Table 1: Demographic Characteristics of Respondents

Use	n	(%)		n	(%)	Satisfaction	n
Used GSM Operator			Year of Use			Strongly Disagree	117
Turkcell	239	40,6	Less than 1 year	94	16,0	Disagree	76
Vodafone	184	31,2	1-3 year	115	19,5	Undecided	95
Turk Telekom	166	28,2	3-5 year	98	16,6	Agree	246
Total	589	100	More than 5 years	282	47,9	Strongly Agree	55
			Total	589	100,0	Total	589

Use Different Operators			Switching Operators			Gender		
	n	(%)		n	(%)		n	(%)
Yes	280	47,5	Yes	319	54,2	Woman	299	50,8
No	309	52,5	No	270	45,8	Man	290	49,2
Total	589	100	Total	589	100	Total	589	100

Educational Status	n	(%)
Primary Education	2	0,3
High School	51	8,7
Univeristy	298	50,6
Master	161	27,3
Associate Degree	69	11,7
Bachelors	8	1,4
Total	589	100

Age	n	(%)
< 18	22	3,7
18-24	84	14,3
25-34	114	19,4
35-44	203	34,5
45-54	103	17,5
55-64	37	6,3
65 <	26	4,4
Total	589	100

Table 2: Cronbach's Alfa Values of Scales

	Cronbach's Alfa
Brand Credibility	0,936
Innovation	0,981
Customer Based Brand Equity	0,947
Overall Brand Equity	0,966

Table 2 shows Cronbach's Alfa Values of all scales. Especially, innovation has the highest value (0,981) and others also have high values. The one "I have doubts that this brand will keep her promises due to my experiences with my GSM operator (R)" used in first reliability analyse has the highest mean (4,17) in brand credibility scale however in general as it decreased brand credibility

scale it was taken out. Before it was taken out, Cronbach's alfa value was 0,857, after it was taken out the value increased to 0,936.

Table 3: Descriptive Statics

	Mean	St. Dvt.
Innovation	4,52	1,536512
Customer Based Brand Equity	3,20	1,00128
Brand Credibility	3,11	1,08889
Overall Brand Equity	2,85	1.28319

Table 3 shows mean, standard deviation values. The scale "innovation" (4,52) has the highest mean. The scale "overall brand equity" (2,85) has the lowest mean.

Table 4: Results of Factor Analyses

		Brand Credibility	Innovation	CB-Brand Equity	Overall Brand Equity
KMO		0,821	0,941	0,927	0,854
Bartlett's	Chi-Square	2989,437	6887,720	7327,405	3077,446
	df	10	21	78	6
	Sig.	0,000	0,000	0,000	0,000

Factor analysis was performed for all scales used in the research part of the study. Accordingly, Kaiser-Mayer-Olkin values were determined as 0.821, 0.941, 0.927 and 0.854 and Bartlett's test significance level was determined as 0.000. These results are also sufficient and adequate for sample factor analysis. According to the factor analysis, brand credibility, innovation and overall brand equity are divided into one factor group, and customer-based brand equity into two factor groups. These groups of factors are expressed as "perceived quality" (CBBE1, CBBE2, CBBE3, CBBE4, CBBE5, CBBE6) and "brand association" (CBBE7, CBBE8, CBBE9, CBBE10, CBBE11, CBBE12, CBBE13). In addition, the Cronbach's Alpha value of the two specified factor groups was determined as 0.944 and 0.847, respectively. The hypothesis of this study was revised as shown below after factor analysis;

- **H$_{1a}$:** Brand credibility has positive effect on perceived quality.
- **H$_{1b}$:** Brand credibility has positive effect on brand association.
- **H$_{2a}$:** Innovation has positive effect on perceived quality.
- **H$_{2b}$:** Innovation has positive effect on brand association.
- **H$_{3}$:** Customer based brand equity has positive effect on overall brand equity.
- **H$_{4}$:** Brand credibility has positive effect on overall brand equity.
- **H$_{5}$:** Innovation has positive effect on overall brand equity.

Table 5 shows mean and standard deviation of the variables. The item "My GSM brands' statements about technological infrastructure/services are convincing." (2,93) has the lowest mean. The item "I am a loyal customer of my GSM Operator." (3,35) has the highest mean in perceived quality scale and the item "I don't think to use another brand instead of my present GSM Operator" (2,88) has the lowest mean. The item "I know the symbol, logo and brand of my GSM operator." (3,73) has the highest mean in brand association scale and the item "The benefit provided by my GSM operator brand worth what I pay" (2,60) has the lowest mean. The item "It is logical to use my own GSM operator instead of another GSM operator, even if they provide the same product and service benefits." (2,91) has the highest mean in overall brand equity scale and the item "Even if I have the chance to choose other brands, I certainly choose my current GSM operator." (2,76) has the lowest mean. Finally, the item "My GSM operator is open to innovations." (3,31) has the highest

mean in innovation and the item "My GSM operator always creates new ideas." (3,19) has the lowest mean. The o ne "I have doubts that this brand will keep her promises due to my experiences with my GSM operator (R)" used in first reliability analyse has the highest mean (4,17) in brand credibility scale however in general as it decreased brand credibility scale it was taken out. Before it was taken out, Cronbach's alfa value was 0,857, after it was taken out the value increased to 0,936.

Table 5: Mean and Standard Deviation Values of Variables of All Scales

Scale	Item No	Item	Mean	Std. Dev.
Brand Credibility	BC1	My GSM operator is a competent brand and knows what it is doing.	3,15	1,190
	BC2	My GSM brand keeps her promises	3,02	1,227
	BC3	My GSM brands' statements about technological infrastructure/services are convincing.	2,93	1,316
	BC4	I have doubts that this brand will keep her promises due to my experiences with my GSM operator (R)	4,17	0,728
	BC5	My GSM operator has trustful brand image	3,26	1,190
	BC6	My GSM operator is a leader/pioneer brand to present better product/service	3,21	1,168
Perceived Quality	CBBE1	I am a loyal customer of my GSM Operator.	3,35	1,346
	CBBE2	My first choice is always my GSM Operator Brand	3,14	1,349
	CBBE3	I don't think to use another brand instead of my present GSM Operator	2,88	1,378
	CBBE4	The customer service quality of my GSM operator is high	3,23	1,231
	CBBE5	My GSM operator has high transmission quality	3,27	1,294
	CBBE6	My GSM operator has seamless wireless connectivity	3,31	1,277
Brand Association	CBBE7	I know the symbol, logo and brand of my GSM operator.	3,73	1,302
	CBBE 8	Features of my GSM operator comes to my mind in to time	3,24	1,318
	CBBE9	The benefit provided by my GSM operator brand worth what I pay	2,60	1,377
	CBBE10	My GSM operator has powerful infrastructure	3,33	1,235
	CBBE11	I love my GSM operator brand	3,16	1,175
	CBBE12	I trust my GSM brand	3,17	1,170
	CBBE13	My GSM operator is prestigious	3,29	1,205
Overall Brand Equity	OBE1	It is logical to use my own GSM operator instead of another GSM operator, even if they provide the same product and service benefits	2,91	1,338
	OBE2	I prefer to use my own GSM brand, even if another brand has the same characteristics	2,86	1,350
	OBE3	Although the prices of other GSM operators are the same, I would still prefer to use my current GSM operator	2,88	1,378
	OBE4	Even if I have the chance to choose other brands, I certainly choose my current GSM operator	2,76	1,324
Innovation	INO1	My GSM operator is open to innovations	3,31	1,167
	INO2	My GSM operator I creative	3,22	1,153
	INO3	My GSM operator always introduces new products to the market	3.24	1,134
	INO4	My GSM operator is the pioneer in its field	3.25	1,194
	INO5	My GSM operator always creates new ideas	3,19	1,154
	INO6	My GSM operator creates new trends in the market with its products and services	3,20	1,152
	INO7	My GSM operator is a foresight brand	3,22	1,147

Table 6: Results of Correlations

	1	2	3	4	5
1.Brand Credibility	1	0,608	0,798	0,683	0,638
2. Overall BrandEquity		1	0,646	0,746	0,634
3. Innovation			1	0,724	0,670
4. Perceived Quality				1	0,779
5. Brand Association					1

The hypothesis has been tested using correlation and regression analysis. Table 6 shows the result of the correlation analysis. As indicated in the table, since the significance level of the upper value was below 0.05 in the correlation analysis, it was found that there were statistically significant relationships between the variables. The hypothesis has been tested by correlation and regression analysis. The results of the correlation analysis are given in Table 4. The fact that the relationship between brand credibility and overall brand equity is at the level of 0.608 indicates that the relationship is medium and positive. Similarly, it was seen from the results obtained that

the relationship between brand credibility and perceived quality was medium and positive. The level of correlation between brand credibility and brand association was found to be 0.638. It can be said that this level indicates a positive relationship between these variables. The fact that the relationship between overall brand equity and innovation is at the level of 0.646 shows that the relationship is medium and positive. The relationship between overall brand equity and brand association was found at the level of 0.634, which shows that the relationship is medium and positive. The 0.670 level of relationship between innovation and brand association shows that the relationship is medium and positive. The relationship between innovation and perceived quality at the level of 0.724 indicates that the relationship is medium and positive. There is a strong and positive relationship between brand credibility and innovation has been found to be at 0,798. In addition, the similar relationship can we seen between perceived quality and brand association.

Table 7: Results of Regression Analyses

Model (Hypothesis)		Un Std. Coefficients B	Std. Coefficients Beta	T	Sig.	F & R Square
Model 1(H1a)	(Constant)	1,078		10,956	0,000	**F**= 514,635
	Brand Credibility	0,676	_0,683_	22,686	0,000	**R²**=0,466
Model 2 (H1b)	(Constant)	1,370		13,855	0,000	**F**= 402,562
	Brand Credibility	0,601	_0,638_	20,064	0,000	**R²**= 0,406
Model 3 (H2a)	(Constant)	0,888		9,300	0,000	**F**= 645,628
	Innovation	0,102	_0,724_	25,409	0,000	**R²**= 0,523
Model 4 (H2b)	(Constant)	1,217		12,440	0,000	**F**= 478,646
	Innovation	0,90	_0,670_	21,878	0,000	**R²**= 0,448
Model 5 (H3)	(Constant)	-0,160		-1,330	0,000	**F**= 688,690
	Customer Based BE	0,942	_0,735_	26,243	0,000	**R²**= 0,539
Model 6 (H4)	(Constant)	0,620		4,869	0,000	**F**= 344,867
	Brand Credibility	0,717	_0,608_	18,571	0,000	**R²**=0,369
Model 7 (H5)	(Constant)	0,413		3,286	0,000	**F**= 419,479
	Innovation	0,108	_0,646_	20,481	0,000	**R²**=0,416

Model 1 (H1a) Dependent Var.:Perceived Quality   Model 4 (H2b) Dependent Var.: Brand Association
Model 2 (H1b) Dependent Var.:Brand Association   Model 5 (H3) Dependent Var.: Overall Brand Equity
Model 3 (H2a) Dependent Var.: Perceived Quality   Model 6 (H4) Dependent Var.: Overall Brand Equity
Model 7 (H5) Dependent Var.: Overall Brand Equity
*p<0,05

By applying customer-based brand equity components and overall brand equity regression analysis, it is aimed to determine the effect of brand credibility and innovation on customer-based brand equity. H1a stated that brand credibility had a significant and positive effect on perceived quality (β: 0,683 - sig: 0,000) and in this case H1a was accepted. H1b showed that brand credibility has a positive effect on brand association (β: 0.638- sig: 0.000) and accordingly H1b was confirmed. H2a revealed that innovation has a positive effect on perceived quality (β: 0.724 - sig: 0.000). This led to the acceptance of H2a. H2b showed that innovation has a positive effect on brand association (β: 0,670 - sig: 0,000). This effect is important. H3 showed that customer-based brand equity has a significant and positive effect on overall brand equity (β: 0.735 - sig: 0,000). Thus, H3 was accepted. H4 showed that brand credibility has a significant and positive effect on overall brand equity (β: 0.608 - sig: 0,000) and was therefore considered H4. Finally, H5 was found to have a significant and positive effect of innovation on overall brand equity (β: 0.646 - sig: 0.000) and therefore H5 was supported.

Conclusion, Implications and Further Research

The main goal of this research is the effect of brand credibility and innovation on customer based brand equity and overall brand equity in the context of three GSM operators in Turkey. The correlation analysis applied revealed that there are positive relationships between brand credibility, innovation, customer-based brand equity and overall brand equity. It should be noted that the strongest relationship is formed between brand credibility and innovation. For brands striving to be perceived as innovative, it will be important to determine whether brand innovation has any impact on perceptions of brand credibility. Brand credibility, which includes trustworthiness and expertise, is the perception of consumers about how much they believe in "what a brand promises" and the brand's continuity in this regard (Erdem & Swait, 2004). Brand innovation can provide reliable market signals, and consumers can build relationships of brand credibility and expertise based on these brands' innovation tips (Stock, 2011). Aaker (2007) argued that consumers are less suspicious of new products offered by innovative brands and perceive them more credible. Studies show that there is a positive relationship between firm innovativeness and brand credibility, trustworthiness and expertise dimensions (Kunz, Schmitt & Meyer, 2011).

Nowadays, there are many options for consumers who intend to buy, and consumers want to choose well-known, innovative goods and services that offer the most effective solutions to their needs. Therefore, it is thought that firms should offer high quality products with high brand credibility. In addition, branding is one of the options a firm will choose to strengthen its reputation. Therefore, considering the importance of branding by firms, investing in this issue will help them strategically increase market performance and brand performance.

In this study, it was revealed that the concepts of "perceived quality" and "brand association", which are among the customer-based brand equity components, are interrelated. Brand credibility and the impact of innovation on customer-based brand equity, dimensions and overall brand equity were determined by regression analysis. According to the analysis results, it was determined that brand credibility and innovation have a positive effect on customer-based brand equity and dimensions. As a result of analyzing β values and comparing them with each other, it has been determined that innovation is more effective on perceived quality and customer-based brand equity is more effective on overall brand equity (check β values).

As a conclusion, GSM operators who want to increase their brand equity have to improve themselves, especially in the field of innovation. Challenging global conditions and evolving technology have forced firms to adopt a customer-focused approach to gain competitive advantage and increase brand equity. This study shows that the innovative approaches they take to companies and managers increase the perception of quality and positive brand image in customers. In addition, this situation indicates that the credibility perception of the brand is significantly affected. The more trustworthiness and expert consumers see the brand, the higher the perception of quality. This, in the long run, causes the firm not only to increase its brand equity, but also to gain an important advantage over its competitors. Likewise, the society will have the opportunity to reach higher quality products in the competition of companies trying to be more innovative and credible.

This research we have done has its own limitations, as in other studies. It may only be possible to generalize the findings obtained in the context of brand credibility and innovation. Further research in the future may point to a different comprehensive brand equity scale and other dimensions of brand equity and the relationships of these dimensions with other independent variables. In addition, in future studies, the effect between variables can be measured using different research methods.

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