

Investigation the Influence of Marketing-mix Efforts on Brand Equity in the Bangladesh Software Industry

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Abstract: Brand equity is a vital metric for measuring a brand's health, and monitoring it on a regular basis is an important part of efficient brand management. An already developed model is being used to examine the relationships among marketing-mix efforts (channel/place, price, promotion, and after-sales service), and three dimensions of brand equity (brand awareness, perceived quality, and brand loyalty). The goal of our research was to see how the marketing mix (pricing, product, place, promotion) and after-sales services affected three aspects of brand equity. The model is tested in the context of the Bangladesh software sector. The study focused more on the hypothesis that checks Bangladesh's software industry perspective. It's a descriptive survey in which the necessary information was gathered through a questionnaire. 70 responses were selected as sample data to analyze. The correlations between research variables have been investigated utilizing SPSS (correlation and regression) and Amos software. Structural equation modeling is used to test the model and research hypotheses. Cronbach's alpha was used to confirm reliability. Perceived quality is placed as a mediator between the marketing mix efforts and brand equity. The results show that few of the marketing-mix efforts and threedimensions of brand equity have significant relationships with brand equity.


1 INTRODUCTION


Brand value as gotten from the data plans may be represented by a lot of viewpoints. These angles integrate brand care, brand affiliations, product quality, and brand commitment (Aaker, 1996). Six components of brand esteem proposes, which are organized into four moderate levels: striking nature at the base level, execution and image at a higher level, judgment and feeling at the second-to-undeniable level, and resonation at the significant level (Keller, 2008). As depicted in that phrase, customer choice is heavily influenced by brand esteem, and thus those in purchaser markets are acutely aware of the need to appropriately direct brand esteem (Aaker, 1991, 1996; Keller, 2008). Of course, brand esteem is fairly downplayed in business markets due to a couple of specific pieces of the business market exchange (Webster and Keller, 2004). The data structures of brand care and constancy increases the value, buyers get from the prod-

uct by influencing their thinking, feelings, and actions concerning the product. Thus, the product is of more value when it is set apart than unbranded, and this more vital worth is implied as brand esteem (Aaker, 1991, 1996). Whenever the brand value of a product is adequately high, target buyers act decidedly towards the product.

A stronger brand reputation would elicit more confirmation of superior quality (Cretu & Brodie, 2007). For sure, even in an essentially earlier period, for example, it was once commonly referred to: "Purchase bosses favor IBM PCs to unbranded, high-quality different choices." A strong brand helps sellers maintain their control over the social exchange with buyers. For example, Intel really shipped off the "Intel Inside" campaign, which presented to Intel a more prominent measure of such control. Overall, brand esteem contributes to a more grounded buyer-seller relationship, and a more grounded relationship leads to higher brand esteem.

Three brand-material examinations itemized were conducted before 1990 (Cretu & Brodie, 2007). These three examinations are based mainly on is-

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sues, including the brand-naming part and its impact on promoting practices like arranging and headway. They don't totally ponder the key factors that concern (1) the traits of brand esteem in business market setting, (2) promoting mix attempts, and (3) market execution.

This basic association model is definitely huge because it helps firms with understanding which displays they should embrace to foster the parts of brand esteem that add to their market power and hence grow their financial show. The fundamental associations model is deeply rooted in purchaser advancing, and data conveyed from this model is critical for comprehending how brand esteem is created and what it implies for market execution in business markets (Yoo and Donthu, 2001).

Among these viewpoints, three are particularly significant. Regardless, it is often perceived that the occupation of corporate image is greater in current display than in customer promotion (Webster and Keller, 2004).

2 LITERATURE REVIEW

In research study, few authors attempted to identify beneficial determinants of consumer loyalty and selection (Kavosh and Asadi, 2014). Based on the theories of Baldinger and Robinson author investigated the impact of brand image on consumer loyalty and perceptions of public relations (Kavosh and Asadi, 2014). Customers' risk avoidance and brand loyalty were investigated by few authors to looked at online purchase brand enhancement (Nakhaei, 2013). Another author looked at the impact of brand image on the relationship between public perception and customer loyalty (Aulia & Briliana, 2017). The author from Iran, investigated the impact of brand equity on achieving loyal clients in the food machine industry (Sokachae, & Babaei, 2014).

Different approaches, such as company-oriented and customer-oriented, result in varied notions of brand equity (Fayrene & Lee, 2011). Customer-based Brand Equity (CBBE) is defined as the evaluation of a customer's perception toward a certain brand based on customer knowledge, awareness, and associations with respect to the brand (Tong & Hawley, 2009).

Customer-based Brand Equity has been proven as a complicated concept with multiple dimensions (Yoo & Donthu, 2001). Numerous studies have been conducted to measure the idea of customer-based brand equity as part of the broad literature review.

(1) Brand Awareness, (2) Brand Association, (3) Brand Loyalty, (4) Perceived Quality, and (5) other

proprietary brand assets (e.g., patents, trademarks, and channel partnerships) as the five dimensions to measure the idea (Aaker, 1991). Other author created and validated a multi-dimensional scale composed of three dimensions of brand equity in empirical investigations of developing customer-based brand equity (Yoo & Donthu, 2001).

Brand equity is viewed as a multidimensional notion in the literature (Aaker, 1991). Author considers brand awareness and brand image to be separate dimensions of brand equity, with more brand awareness and a more positive image resulting in higher brand equity. These factors have a beneficial impact on brand equity (Keller, 1998).

In general, the higher the brand awareness and the more positive the brand image of a service brand, the higher the brand equity, higher prices boost brand equity, with perceived brand quality acting as a mediator (Yoo, Donthu, & Lee, 2000). Advertising is an important part of the marketing mix that may be utilized to effectively raise brand awareness (Keller, 1998; Yoo, Donthu, & Lee, 2000).

Despite the short-term financial gains generated by increased sales, price bargains tend to reduce brand equity (Yoo, Donthu, & Lee, 2000). Consumers' perceptions of brands are negatively influenced by price deals before they even test out the goods. Consumer interactions with a service provider have a direct impact on the development of the service brand image, which affects brand equity (Berry, 2000). As a result, the service delivery process has an impact on the establishment of the service brand image, which in turn has an impact on brand equity, resulting in increased brand equity. This study show where hypotheses are acting correctly, and our research will verify it in our market place.

3 RESEARCH MODEL & HYPOTHESIS

3.1 Research Model

This study investigates the effects of brand awareness, perceived quality, and brand loyalty on brand equity. This model (Fig:1) also shows the relationship with place/channel, price, promotion, and after-sales services. This model is based on Aaker (1996), and Yoo and Donthu (2001). In this model, the marketing mix affects brand equity directly or indirectly. Also, the three dimensions affect the overall brand equity. In the model, brand awareness affects perceived quality and brand loyalty. Also, perceived quality affects

brand loyalty. In Figure 1, the author actually observes each criteria of the over-all brand equity. To begin, Figure 1 shows how each marketing mix is indirectly linked to the others, with the author taking into account three channel/place attributes, two price attributes, six promotion attributes, and three after-sales service attributes. Then there are the three elements of brand equity, which are inextricably linked to one another and to marketing mix activities. From then, three brand awareness attributes, two perceived quality attributes, and three brand loyalty attributes were taken into account. The three dimensions of brand equity have a direct relationship with overall brand equity, which influences the three brand equity qualities.

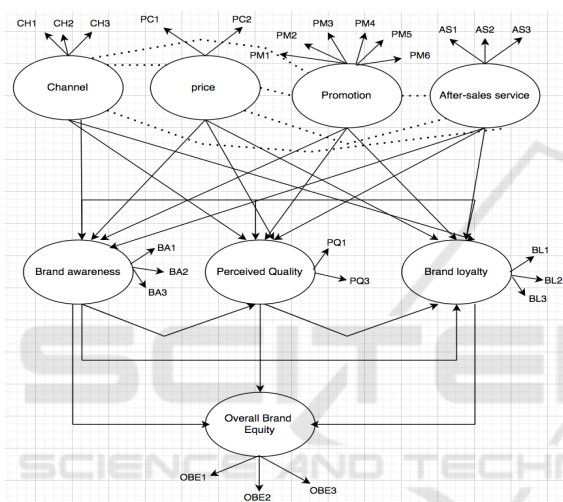


Figure 1: Conceptual Model.

3.2 Brand Equity

A brand is an important part of any product. It is a bridge between customer and company. When compared to a generic alternative, brand equity refers to a value premium that a company generates from a product with a distinctive name. Brand equity's perceptual and behavioral components are important aspects of branding that have been extensively addressed in the marketing domain (Foroudi, Pantea, 2018). Brand equity has a great impact on customer satisfaction. As a result of a customer's interactions with the brand, brand equity develops and grows. For a company that has positive brand equity, consumers are willing to pay more for the product. A set of dimensions can be used to describe brand equity derived from a knowledge model. These models include brand awareness, brand associations, perceived quality, and brand loyalty (Aaker, 1996).

3.3 Brand Awareness

Brand awareness refers to how well your target audience recognizes and is familiar with your brand. Brands with a high level of brand awareness are referred to as 'trending,' 'buzzworthy,' or simply 'popular.' A potential buyer's capacity to recognize and remember that a brand belongs to a specific commodity class is known as brand awareness (Aaker, 1996). Brand awareness is a tool for measuring the marketing and advertising of a product. Brand awareness is important for the following: promotes trust, establishes associations, builds brand equity

3.4 Perceive Quality

Basically, perceived quality is customers' thoughts or judgments of any product. What does one think of the product or the services that the company provides? It can also be interpreted as a general appraisal of a brand's desirability or superiority (Aaker, 1996). Perceived quality is based on brand loyalty, and higher levels of perceived quality can boost brand loyalty. In truth, perceived quality is the customer's mental appraisal of a product or service, which provides value to customers and gives them a reason to buy by distinguishing a brand from its competitors (Shamami, Roya, and Bahram 2019).

3.5 Brand Loyalty

Brand loyalty is one of the major elements of brand equity. Consumers' positive associations with a product or brand are referred to as "brand loyalty." Because loyal customers to a brand require fewer promotional activities than other customers, they are willing to pay more for the benefits and quality of their favorite brand and are willing to stand up to situational factors and competitors' marketing efforts, even though there may be logically other alternatives (Shamami, Roya, and Bahram 2019).

3.6 Marketing-mix

As a feature of a complete promoting plan, a showcasing blend envelops various areas of focus. The client value approach isn't distinct from the showcasing blend's essential ideas, including item, cost, place, advancement, individuals, process, and actual proof (Munawar, Mohamed, Yusliza, Saputra, Muhammad, Bon, 2021). Among those reviews that we have done, they are mostly centered around brand value and promoting blends. In a business, everything must be arranged and planned. This is done to gain an advantage

over the opposing organizations. A novel marketing mix is a unique combination of individual selling, traditional publicizing, exposure, deal advancement, online entertainment, and additionally captivating the part of internet business to energize the target market to purchase a decent item. At times, this is alluded to as the special blend too. The main component in the promotion blend is the item.

3.7 Price

Price is one of the significant components of promoting blend, which builds the benefits as well as expands the pieces of the pie. It influences organizations directly or by implication. Price encompasses both monetary and non-monetary charges that customers incurring exchange for the benefits of a product (administration) and includes both monetary and non-monetary uses (Shamami, Roya, and Bahram 2019). The deal cost of the item will reflect what is required by the buyers. That is the thing they will pay for. Solely after realizing the base expense, the selling cost can be fixed. The following terms can be used to estimate price: cost-plus, esteem basis, competition, input size, discount, physical, and so on (Beyene, Birhanu, 2018). As per the discoveries of another review, valuing is an aberrant benchmark of item quality for clients. This suggests that an item's cost is connected with its quality in a good manner (Shamami, Roya, and Bahram 2019).

3.8 Promotion

Promotion is another major element of marketing-mix. The marketing mix's promotion is a technique that aids in the dissemination of information, encourages purchase, and influences the buying decision process (Beyene, Birhanu, 2018). A firm's whole promotion mix is a unique blend of promotional activities, public relations, individual sales, sales promotion, and marketing that the company uses to communicate product value to customers and build effective relationships with them (Shamami, Roya, and Bahram 2019). A customer may be informed about a firm, a specific product, or another marketing mix ingredient, such as a cheap price during summer sales, through a promotion. Personal selling, advertising, publicity or public relations, and sales promotion are all examples of different types of promotion (Beyene, Birhanu, 2018).

3.9 Place

In the marketing mix, the process of moving products from the producer to the intended user is called place. It also entails where the product is stored and manufactured. According to different research it shows that Place plays a big role in Brand Equity (Kim, Ji-Hern, and Yong J. Hyun, 2011). Because many of the actions mentioned occur within the distribution functions of marketing, the Place is sometimes known as the distribution Place. Order processing, coverage, and delivery are proven to be crucial for creating brand equity in industrial marketing (Kim, Ji-Hern, and Yong J. Hyun, 2011).

3.10 After Sales Service

An After-Sales Service is a kind of service that is given after purchasing any product. A store, a manufacturer, or a third-party customer service or training provider may provide after-sales assistance. According to a review of the literature on after-sales service, there are five aspects that are critical to customer expectations of acceptable service levels. Parts availability, warranty and (insurance) full coverage, technical support, pricing policies, and technical help are among the five aspects. After-sales service is one of the most important aspects of developing a brand in the automotive business (Shamami, Roya, and Bahram 2019).

3.11 Hypothesis

A hypothesis is utilized to decide the connection between two factors, which are the two things that are being tried. One variable is free and is responsible for any progressions in the outcome. The used hypotheses are significant in controlled tests since they assist with outlining the plan of the trial and the normal outcomes. Theories are a significant device for making logical reasoning and organizing tests in an unmistakable manner that considers solid information that can be utilized to illuminate further trials.

For the present study the following hypothesis are drawn from the Aaker model:

Relationships between Marketing Activities and Brand Equity Dimensions

- H1a. Channel positively affects brand awareness.
- H1b. Channel positively affects perceived quality.
- H1c. Channel positively affects brand loyalty.
- H2a. The value-oriented price positively affects brand awareness.
- H2b. The value-oriented price negatively affects premium-quality perception.
- H2c. The value-oriented price positively affects brand loyalty.
- H3a. Promotion positively affects brand awareness.
- H3b. Promotion positively affects perceived quality.
- H3c. Promotion positively affects brand loyalty.
- H4a. After-sales service positively affects brand awareness.
- H4b. After-sales service positively affects perceived quality.
- H4c. After-sales service positively affects brand loyalty.

Relationships between Brand Equity Dimensions and Overall Brand Equity Value

- H7a. Brand awareness positively affects the overall value of brand equity.
- H7b. Perceived quality positively affects the overall value of brand equity.
- H7c. Brand loyalty positively affects the overall value of brand equity.
- H8a. Brand awareness positively affects perceived quality.
- H8b. Brand awareness positively affects brand loyalty.
- H8c. Perceived quality positively affects brand loyalty.

4 METHOD

4.1 Market Context

The Aaker model is tested in the context of a Bangladesh software company where small-to-midsize firms purchase customized software for their custom needs from software service providers. It is common that they lack the resources to maintain and update the purchased IT software, and thus software companies take on the responsibility for the related service and customization. Many companies set up their own customized solution packages (e.g., software programs for CRM, channel management, timesheet, accounting, credit card payment, e-commerce, management software, and ERP) according to customer needs (Kim, Ji-Hern, and Yong J. Hyun, 2011). They also provide support services, such as recovering broken software systems and installing freshly available application packages (Kim, Ji-Hern, and Yong J. Hyun, 2011). The entire software industry's promotional spending could not be accurately estimated (Kim, Ji-Hern, and Yong J. Hyun, 2011).

Salesperson promotion and above-the-line advertising are two of the most common types of these actions (Kim, Ji-Hern, and Yong J. Hyun, 2011).

4.2 Sampling and Data Collection

A software engineer for a Bangladeshi software company prepared a list of the software purchasing companies. This list of all the listed companies (who provide services and sell software) was delivered to the purchasing committee of the end-user companies from where the responses have been collected. All the responses from the list were considered. Respondents were those who participated in the process of purchasing any IT software. A survey form was shared to gather data from the Bangladeshi market as mentioned above. The response size is 73. Elimination of incomplete responses leaves 70 eligible for analysis. Respondents were used for more than one year in their department and were distributed across various products. More than 80 percent of the respondents belonged to companies that had more than 20 employees. During the survey, the author adheres to confidentiality and informed consent. The survey questions maintain order randomization, so the results are never shown to the respondent. A confidential research survey was carried out.

4.3 Questionnaire

The questionnaire is organized as follows: First, after a short introduction, respondents are requested to answer questions about their connection and role with the product. Then, 3 dimensions of brand equity, the overall value of brand equity, and marketing-mix efforts are measured. All items are measured on the 7-point Likert scale with anchors of 1 = strongly disagree and 7 = strongly agree. Finally, questions about demographics are asked.

5 RESULT

5.1 Measurement Model

To test convergent and discriminant validity, the model's constructs are compared to one another in pairs (Kim, Ji-Hern, and Yong J. Hyun, 2011). We use AMOS to perform confirmatory factor analysis (CFA) on a measurement model that includes four exogenous components (marketing-mix efforts), three endogenous constructs (brand equity dimensions), and total brand value (Kim, Ji-Hern, and Yong J. Hyun, 2011).

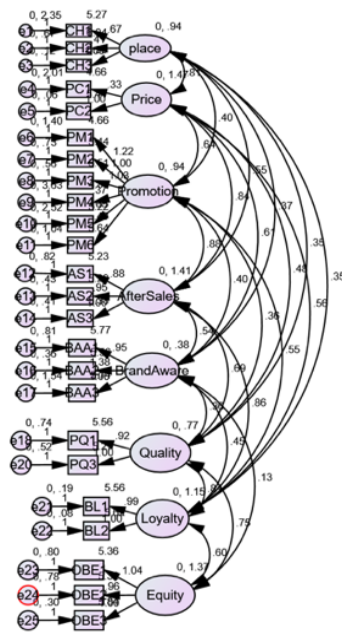


Figure 2: Result.

Table 1: Operational measures and scale reliability values.

Efforts	Standard loading	t-value
CH1:	0.712	5.27
CH2:	0.806	6.04
CH3:	0.840	5.96
PC1:	0.790	4.66
PC2:	0.909	5.41
PM1:	0.710	4.66
PM2:	0.738	5.44
PM3:	0.838	5.51
PM4:	0.757	4.56
PM5:	0.805	5.22
PM6:	0.788	5.64
AS1:	0.794	5.22
AS2:	0.861	5.29
AS3:	0.813	5.38
BAA1:	0.699	5.77
BAA2:	0.855	5.56
BAA3:	0.804	5.74
PQ1:	0.792	5.56
PQ2:	0.808	5.27
BL1:	0.906	5.56
BL2:	0.906	5.62
OBE1:	0.788	5.36
OBE2:	0.844	5.32
OBE3:	0.870	5.84

Acceptable goodness-of-fit is measured. To improve convergent validity, two items for perceived quality and one item for brand loyalty with corporate image are removed. With the remaining items,

we conduct CFA (Kim, Ji-Hern, and Yong J. Hyun, 2011). The goodness-of-fit statistics are acceptable, and all coefficients are statistically significant ($p > 0.05$) (Kim, Ji-Hern, and Yong J. Hyun, 2011).

The response size is 70 and the used model is recursive in AMOS. Total Number of variables in the model is 56 where 32 are observed variables and 24 are unobserved variables.

Table 2: Results of hypotheses testing.

	Saturated Model	Estimated Model
SRMR	0.123	0.126
d_ULLS	4.551	4.767
d_G	1.720	1.832
Chi_square	596.439	609.331
NFI	0.566	0.556

Number of distinct sample moments: 324,
 Number of distinct parameters to be estimated: 96,
 Degrees of freedom (324 - 96): 228

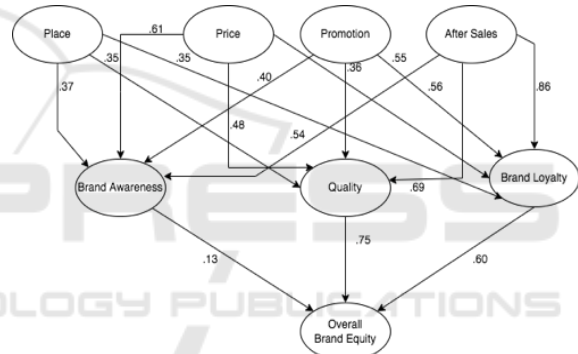


Figure 3: Results of the structural equation modeling.

5.2 Structural Model

The AMOS constructs of marketing-mix efforts are defined as exogenous constructions in the structural equations model Equity (Kim, Ji-Hern, and Yong J. Hyun, 2011). The three endogenous constructions (i.e. three dimensions of brand equity) are related to the overall value of brand equity, and the exogenous constructs are related to them. The goodness-of-fit statistics are acceptable or not. The results of the test are presented in the following table:

Table 3: Results of hypotheses testing.

Relationships between	Activities
H1a, H1c, H3a, H7b, H8a	Supported
H1b, H2a, H2b, H2c, H3b, H3c	Not Supported
H4a, H4b, H4c, H7a, H7c, H8b	Not Supported

5.3 Hypotheses Acceptance

Relationships between Marketing-mix Efforts and Brand Equity Dimensions

H1a and H1c are accepted where others are not accepted by the survey. After-sales service should positively affect brand equity dimensions. Channel performance and promotion are the most influential, followed by after-sales service. Promotion positively affects the perceived quality (H3a)

Relationships among Brand Equity Dimensions and Overall Value of Brand Equity

The relationship between perceived quality and brand loyalty is significant, as expected (H8c). However, H8a and H8b are not accepted. Perceived quality has an impact on brand equity. The relationships between the overall value of brand equity and the three dimensions of brand equity are not all positive and significant (H7b and H8c). Surprisingly, brand awareness has no significant impact on overall brand equity value.

5.4 Summary of Key Findings

Five findings are noteworthy. First, channels are found to play a pivotal role in the process of brand awareness development. Prior research reveals that place contributes more to brand equity in business markets than in consumer markets. In the estimated model, channel performance, promotion, and after-sales service impact perceived quality indirectly. Second, the place of IT software is an integrative part of the product brand loyalty. The estimated model shows that promotion has a strong impact on brand awareness, whereas it does not significantly affect brand loyalty. Third, brand awareness is strongly affected by the value of promotion while it does not relate to the other two brand equity dimensions of perceived quality and brand loyalty. On the other hand, perceived quality positively relates to brand awareness. The finding would imply that perceived quality contributes to the overall value of brand equity in a very different manner as compared to the other two dimensions.

6 DISCUSSION

Brand equity can be built through the marketing mix. This study emphasizes a different marketing mix, which has a huge impact on brand equity in the context of the software industry in Bangladesh. Brand equity is a factor that influences customer lifetime value (Huang, Yao, Liu, & Xie, 2020). From the model

that we have created, we have got some hypotheses that show brand equity has various impacts (positive or negative) on the marketing mix efforts. Also, in the result analysis part, we analyze our hypothesis to see if it is correct or not. In this model, author get some characteristics of industrial marketing based on software firms. Author studied several research papers based on marketing-mix efforts on brand equity. But author didn't find any reports based on the Bangladeshi context. So, the purpose of this study is to determine the impact of marketing mix variables and three dimension of brand equity on brand equity based on the Bangladeshi context.

As per our analysis, author have following items of reliability and Validity.

Table 4: Construct Reliability.

-	Cronbach	rho_A	CR	AV
AS	0.859	0.876	0.914	0.780
BAA	0.646	0.711	0.807	0.586
BL	0.958	0.959	0.979	0.959
CH	0.652	0.879	0.790	0.563
OBE	0.872	0.888	0.921	0.795
PC	0.328	1.158	0.663	0.548
PM	0.592	0.674	0.733	0.353
PQ	0.805	0.807	0.911	0.837

	AS	BAA	BL	CH	OBE	PC	PM	PQ
AS	.883							
BAA	.642	.766						
BL	.767	.623	.979					
CH	.408	.516	.382	.750				
OBE	.680	.577	.743	.368	.892			
PC	.484	.689	.503	.622	.439	.740		
PM	.651	.581	.560	.433	.495	.500	.594	
PQ	.769	.656	.833	.426	.780	.556	.531	.915

Figure 4: Discriminant Validity.

7 CONCLUSIONS

The model has been tried with regards to the Bangladesh software sector. The review accentuated the speculation that Bangladesh's product industry's point of view is rectified or not. It's an unmistakable overview wherein the fundamental data was accumulated through a survey. 70 reactions were chosen to investigate. The outcome showed that brand value is an indispensable measurement for estimating a brand's well being, and observing it consistently is a significant piece of productive brand management. An underlying condition demonstration is used to test the model and investigate speculation. Cronbach's alpha was utilized to affirm unwavering quality. The

objective of our exploration was to perceive the way in which the advertising blend and after-deals administrations impacted three parts of brand value. The relationships between exploration factors have been researched using SPSS (connection and relapse) and Amos programming.

In conclusion, the model of this examination is tended to from a static perspective. From the standpoint of Bangladesh, the channel or location has a good impact on enhancing brand awareness and loyalty. The promotional effort has an impact on brand recognition as well. Brand awareness has a good impact on perceived quality, which in turn has a positive impact on overall brand equity.

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