An Application of Structure Equation Modelling in Determinants of Customer-Based Brand Equity (CBBE) in the Banking Area

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Abstract As the array of the Indian service sector is very vast, funding facilities are possibly the principal trade that provides the requirements of several sections of the people. Indian banks have begun to recognise that customer service and happiness are critical to their success. This compels them to emphasis on establishing brand equity, which tops to increased consumer happiness. Therefore, analyzing the factors of client-grounded brand equity in the finance area is of utmost importance which derives a strong impact on the minds of customers. The key objective of the learning is to analyze the determinants of customer-based brand equity (CBBE) in the banking sector. The sampling frame has been created of 574 customers of the Top 10 banks from the list of Brand Finance, a renowned brand valuation agency. Five banks each were chosen based on the top-rated brand values in the Brand Finance Banking 500 (2020) from the Public and Private sectors. The statistical approaches employed in the analysis are exploratory factor analysis, Confirmatory factor analysis and SEM. The products of the research have extracted seven determinants of customer-based brand equity and verified the impact of these determinants on Brand Resonance. This study offers fresh insights for marketing managers as well as bank managers in studying complicated decision-making challenges i.e. bank branding.

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R. E. Khoury and N. Nasrallah (eds.), *Intelligent Systems, Business, and Innovation Research*, Studies in Systems, Decision and Control 489,
https://doi.org/10.1007/978-3-031-36895-0_32

Keywords Banking industry · Customer-based brand equity · Determinants · SEM

1 Introduction

The brand is an abstract phenomenon in the attentions of customers. They doubt the tangibility of the brand. Although Branding is the focus of many marketing strategists because everything revolves around the brand. Revenue, Profits, Market capitalization, Customer satisfaction, and many more parameters depend on the level of branding [1]. This analysis is an attempt to explore the most neglected area in India i.e., the Branding of banks. Banking is the most cultured segment in the amenity industry. It connects people all over the world. Indian banks usually give less importance to branding concepts. This is the reason why Indian banks do not calculate brand value [6].

The research looks at the elements that influence consumer perceptions of brand equity in the banking industry. A brand's equity is the consequence of customer perception, which is impacted by a variety of variables. It is impossible to understand brand equity [5] without thoroughly considering its origins, i.e. the variables that contribute to the complete insight of brand equity in the minds of customers. The objective of the research is to analyze the factors of customer-based brand equity. For achieving this objective, factors have been explored and confirmed. Thereafter, the determinants of customer-based brand equity have been developed.

Precisely, this research emphasises the following purposes. To validate the factors of service brand equity [2].

To ascertain the link between the various constituents of brand equity.

To determine how much variation in Brand Resonance is explained by Brand Investments, Brand Judgements, Brand Apathy, Brand Feelings, Brand Interaction, Brand Differentiation, and Brand Salience [3].

2 Literature Review

We explored the role of branding in financial services [4] by examining consumer attitudes. The study examined the role of branding and its related factors, such as brand image and brand experience, in customer decision-making. The research was carried out in the Republic of Ireland. A consumer exploratory survey was also undertaken to uncover their insights and ideas on the significance of branding in financial services partnerships. For the consumer study, focus groups were chosen as the approach. A convenience sample of 20 customers was used to conduct four focus groups ranging in size from 4 to 7 members [8]. According to the findings, brand values, brand image, and brand experience are the aspects that influence customers'

impressions. According to the study, brand associations in terms of size and reputation serve as a proxy for brand traits such as familiarity and credibility, and brand image is significant in creating awareness, familiarity, and attracting customers. Most consumers stated that corporate brand advertising and emotional brand image and values had little influence on decision-making and were indistinguishable across institutions [9]. When the brand image was compared to brand experience, it was discovered that individual experience with the brand proved to be a key element in customer decision-making and satisfaction. According to the findings, a favourable brand experience and personal interaction had a key impact in developing a successful customer connection [7].

We aimed to investigate customer perceptions of brand equity [10] aspects among Malaysian bank service consumers. The research included MBA students from the Graduate Business School of at the University of Malaya City Campus in Kuala Lumpur. Structured questionnaires were used to collect data. Multiple regression analysis was used to determine the major predictors of customer happiness and loyalty. According to the findings, bank service operations, bank workers, brand-aroused sentiments, bank environment, and bank word of mouth are essential elements in explaining customer happiness and loyalty.

In the service market, we investigated the antecedents and implications of brand equity [12]. Brand attitude and brand image are seen to be the antecedents of brand equity, whereas brand preference and purchase intents are thought to be the outcomes of brand equity. The study employed 18 brands across three service categories: mobile telecommunications, ADSL, and bank credit card services. A systematic questionnaire has used to collect records from 456 defendants from each service sector in Taiwan [13]. For analysis, structural equation modelling was utilised. According to the findings, the brand attitude has a greater influence on brand equity than brand image [11]. Furthermore, brand equity has a direct and positive influence on brand preference and purchase intentions, resulting in greater levels of customer brand preference and buy intentions for businesses with a higher degree of brand equity [14].

In a business-to-business (B2B) services scenario, we evaluated the influence of customer experience on brand equity [8]. Structured questionnaires were used to collect data. The sample consisted of 647 customers of organisations that provide auditing services in Sweden. Structural Equation Modeling was the statistical test employed in the analysis. The study's findings revealed that customer experience was connected to Brand Awareness, Brand Associations, Perceived Quality, and Brand Loyalty in a favourable and substantial way. According to the research, customer experience has a positive and significant influence on all dimensions of Brand Equity.

We concentrated on measuring and analysing brand equity in the banking industry Aziz and Yasin [6]. The study investigated the numerous aspects that influence brand equity and studied consumer perceptions of service brand equity. The study's theoretical models were the Aaker model of CBBE and the Keller model of Brand resonance. A systematic questionnaire has used to collect information. The sample consisted of 480 Malaysian clients from private-sector banks. The statistical investigations utilised for the investigation included exploratory factor analysis, correlation, and regression.

Five components were identified using factor analysis: brand salience, brand performance, brand judgement, brand resonance, and brand feelings. According to the results of the regression analysis, only three elements have a substantial influence on brand resonance: brand feelings, brand judgement, and brand performance.

We conceptually examined the brand resonance model [16]. The model demonstrated that brand resonance might be essential in a competitive market.

Companies and commercial organisations have long understood that strong brand resonance provides them with a competitive edge in the marketplace while also improving their overall status and trustworthiness

We presented that the goal of the study is to look at how emotive elements [15] influence brand resonance in the context of a purpose brand. The importance of emotive elements in the brand equity chain was determined using Keller's brand resonance model. The study focused on the 'Sarajevo brand, with the hypothesis that affective rather than cognitive elements would influence brand resonance.

By calculating and rating destination brands CBBE and FBBE, we investigated the association between CBBVE and FBBE [17]. Customer statistics on CBBE components such as familiarity, image, and quality, as well as consumer value, quality, brand value, and loyalty, were analysed, as were public information on destination financial equity such as visitor numbers, market share, tourist spending, tourism taxes, and jobs. The CBBE and FBBE rankings did not tie any of the destinations analysed. Future research recommendations for understanding the relationship between CBBE and FBBE are proposed, taking into account the scarcity of time series facts in both CBBE and FBBE indicators.

We analyzed how decision-makers might improve brand resonance [17]. The study revealed that brand attachment and love, assignation with the brand, community, and brand loyalty develop the intention to re-purchase.

3 Research Hypotheses

Based on a thorough examination of the literature, the following study hypotheses were developed:

H1 Brand has a tremendous influence on Salience on Brand Resonance.
H2 Brand has a tremendous influence on Judgements on Brand Resonance.
H3 Brand has a tremendous influence Investments on Brand Resonance.
H4 Brand has a tremendous influence on Apathy on Brand Resonance.
H5 Brand has a tremendous influence Interaction on Brand Resonance.
H6 Brand has a tremendous influence on Feelings on Brand Resonance.
H7 Brand has a tremendous influence on Differentiation on Brand Resonance.

4 Research Methods and Results Analysis

The study is conducted in three parts. The first part deals with exploring the various factors which influence customer perceptions towards brand equity. Exploratory Factor Analysis has been used to draw out the influences. The second part consisted of confirming the factors explored in the first part. For this, Confirmatory Factor Analysis has been used. The third part deals with analyzing the significant impact of various factors on Brand Resonance. Structural Equation Modelling has been used for statistical investigation.

4.1 Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) has been applied to reduce the number of variables into meaningful factors. It is a multivariate data analysis technique which aims at the reduction and summarization of a large number of variables to identify some common dimensions i.e. factors. EFA has been applied only if a sufficient amount of variation exists within the variables [17].

In the current research, the Exploratory Factor Analysis technique has been applied to determine the factors representing the perceptions of customers towards brand equity. Before applying factor analysis, the model suitability has been examined through the Bartlett test of Sphericity and the Kaiser-Meyer-Olkin test.

4.2 Measure of Sample AdequacyBartlett's and KMO Test

The KMO test and Bartlett test of Sphericity. They were used to analyse the correlation between variables and the sample adequacy [18]. "The value of KMO should be bigger than 0.5," Keller [21] said. Table 1 displays the results of the Bartlett test of Sphericity and KMO.

Table 1 shows that KMO is 0.923, which is above the suggested limit of 0.5. This demonstrates that the data is suitable for factor analysis. Furthermore, Bartlett's Test of Sphericity is significant, indicating a substantial correlation between the variables at $P < 0.05$.

Table 1 KMO and bartlett's test

Kaiser-Meyer-Olkin measure of sampling adequacy		0.923
Bartlett's test of sphericity	Approx. Chi-Square	21,971.208
	Df	780
	Sig.	0.000

Source Calculated through SPSS 18

Table 2 Reliability statistics

Cronbach's Alpha	N of Items
0.812	40

4.2.1 Test of Reliability of Data

Cronbach's Alpha was also determined to ensure the data's credibility. Cronbach's Alpha values greater than 0.5 are generally regarded as ideal.

Table 2 reveals that the value of Cronbach's Alpha is 0.812, which is more than 0.5 and so meets the criterion for sample data dependability.

4.3 Total Variance Explained

The Principle Component Method is applied to lessen the variables into fix number of factors [25]. To decide the size of issues, the most commonly used criteria are based on Eigenvalues [22]. Those variables considered whose Eigenvalues are greater than 1. An Eigenvalue denotes the quantity of variance in the data. It reduced 40 statements to 8 factors. It reveals that the eight variables with Eigenvalues larger than unity are retrieved, and the total variance for all eight factors is 78.197. According to Mishra & Dutta [23, 24], a minimum of 50% of the variance should be accounted for in order to explain the fluctuation of components. In the current investigation, eight variables explained 78% of the total variation, which is quite acceptable.

4.4 Rotated Component Matrix

The factors are rotated using varimax rotation. The factors loadings better than 0.50 are reserved. Therefore, 40 variables are loaded in eight factors respectively. Table 3 shows the Eight factors with their respective loadings [26].

4.5 SEM (Structural Equation Modelling)

The study's numerous causal linkages hypotheses were evaluated [27]. The hypotheses were tested using structural path modelling and Brand Investments, Brand Judgements, Brand Apathy and Brand Resonance as the dependent variable, with Brand Salience, Brand Interaction, Brand Differentiation, and Brand Feelings as independent factors [28]. The study and bootstrap model estimate findings in the linear structural model analysis (SEM) reveal that the associations postulated in the formal research model are statistically significant, since the *p*-values are less than

Table 3 Factors loadings with factors labelling

Rank	Factor Name (Variance Explained %)	Eigen Value	Loading	Statements Included in the Factor
1	Brand investments (36.509)	14.604	0.832	My bank's advertisements have emotional value
			0.829	My bank's advertising campaigns are frequently seen
			0.821	My bank's advertisements address the needs of rural society by promoting various schemes
			0.809	The advertisements clearly state the vision and mission
			0.807	My bank has accepted societal responsibility
			0.800	My bank is considering a number of green initiatives
			0.798	My bank has a visually appealing website
			0.780	My bank profile is known to me
			0.779	My bank engages in innovative practises by launching novel programmes
			0.731	My bank is well-known through out the world
2	Brand judgements (11.361)	4.544	0.828	I have a lot of faith in my bank
			0.792	My bank's quality is consistent
			0.782	Overall, I am pleased with my bank
			0.772	My bank's services are effective
			0.739	I will most likely recommend my bank to others
			0.698	In comparison to other competing banks, my bank meets my basic needs
			0.690	My bank provides better services than other competing banks
3	Brand resonance (8.179)	3.272	0.884	Even if another bank offers the same services as my bank, I prefer to stick with my current bank
			0.872	Unless there are significant differences, I would not switch to another competitor
			0.859	I prefer my bank to its competitors in the area
			0.820	When I tell others that I use a certain bank, I feel proud
4	Brand salience (6.564)	2.625	0.864	I recognise the colour that represents my bank

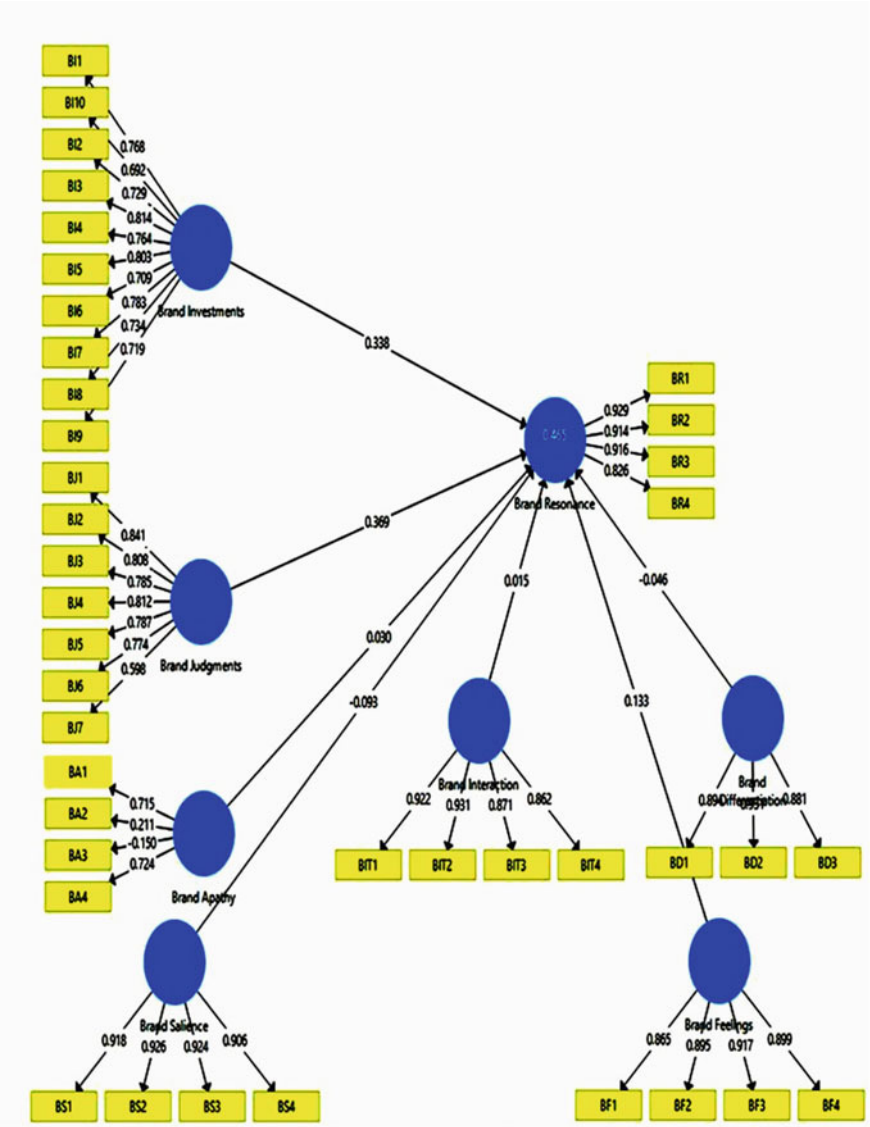
(continued)

Table 3 (continued)

Rank	Factor Name (Variance Explained %)	Eigen Value	Loading	Statements Included in the Factor
			0.824	I can quickly recall my bank's logo
			0.811	My bank's symbol is familiar to me
			0.805	I recognize my bank's symbol among competing banks because I am familiar with it
5	Brand interaction (5.252)	2.101	0.901	I am frequently invited to customer meetings
			0.877	On special occasions, my bank sends me greeting cards
			0.848	I usually go to customer meetings
			0.808	I am always eager to learn more about banking
6	Brand apathy (3.617)	1.447	0.858	My parents opened my youth accounts at my current bank, so I am a customer
			0.856	I use my present bank because I think I do not know enough about the banking business to make an informed decision. whether or not a bank switch is economically feasible for me
			0.777	I am a customer of my present bank since moving to another bank would take too much time
			0.647	My parents advised me to use my current bank
7	Brand feelings (3.571)	1.428	0.801	I get a rush from going to the bank
			0.785	Bank provides me with a sense of self-worth
			0.724	Banks provide me with a sense of social approbation
			0.710	The bank provides me with a sense of security
8	Brand differentiation (3.179)	1.272	0.871	My bank's service charge is high in comparison to other banks
			0.863	My bank's interest rate is high in comparison to other banks
			0.795	To learn more about my bank, I regularly follow news about it

Source Calculated through SPSS18

0.05, exceeding the required threshold (at 95% reliability). In other words, the formal research model's hypotheses are accepted.



Notes BI = Brand Investments, BJ = Brand Judgements, BA = Brand Apathy, BS = Brand Salience, BR = Brand Resonance, BIT = Brand Interaction, BD = Brand Differentiation, BF = Brand Feelings

Table 4 Results of structural model

Hypotheses	Paths	Critical Ratios	Decision
H1	Brand apathy–> Brand resonance	**0.664**	Rejected
H2	Brand differentiation–> brand resonance	**0.373**	Rejected
H3	Brand feelings–> brand resonance	*0.009****	Accepted
H4	Brand interaction–> brand resonance	**0.605**	Rejected
H5	Brand investments–> brand resonance	*0.000****	Accepted
H6	Brand judgments–> brand besonance	*0.000****	Accepted
H7	Brand salience–> brand resonance	*0.030*	Accepted

Note *** *p*-value < 0.01

The evaluation of the model summary is a necessary step in the analysis process for testing hypotheses to determine whether the proposed conceptual model matches the facts and the hypothesized model (Table 4).

The results of the SEM revealed that Brand Feelings, Brand Investments, Brand Judgments and Brand Salience have a significant impact on Brand Resonance. Customers are observed to have positive feelings about brands when the company's services meet their expectations [29]. According to the research, when consumers have a strong emotional bond with a brand (brand feeling), they move on to form strong associations with it. Customers' strong associations with a brand are also influenced by factors such as the calibre of a brand's offerings, its legitimacy, and its availability to a select group of customers (together referred to as Brand Judgment). Additionally, the expenditures made by the banks to improve their brand value provide them with a solid position in the minds of their clients, Brand recall and brand recognition, referred to jointly as brand salience, are discovered to be major variables in forming a strong relationship with the brand. Brand recognition is how readily a consumer can recognise a brand after being exposed to some cue or a physical object, but brand recall is how easily a customer can recall the brand without being exposed to a cue when making a purchase choice or thinking about the product category [30]. Banking organisations that choose to build strong brand equity may be encouraged to consider brand judgement and brand feeling to build the brand associations with consumers. However, it has been discovered that certain of the CBBE model's building blocks, such as Brand Apathy, Brand Interaction, and Brand Differentiation, do not significantly add to the development of brands [31].

5 Conclusion

The Brand Resonance model, a customer-based brand equity ideal, believes that creating a successful brand necessitates adhering to Keller's recommended logical procedures [20]. Developing a brand's identity, giving it the appropriate meaning,

eliciting the appropriate response from customers, and cultivating the appropriate relationships with them are specific examples. It infers that consumer consciousness aids in the creation of the brand's sense, which in turn affects consumer answers to the brand and aids in the development of a relationship between the customer and the brand. This idea is important because it provides marketers with a strategy and direction for building strong brands. It also suggests that to establish customer resonance, marketers must take charge of creating and implementing successful brand-building initiatives.

In the study, an effort has been made to give the bank useful guidance regarding their current level of preparedness for customer brand acceptability through a variety of aspects. To create and maintain competitiveness in the banking industry, which is characterized by operational fluctuations, the admission of new companies, and client expectations, the field requires ongoing improvement. To provide their customers with better value, the bank is compelled to concentrate on a few key capabilities. The banks must develop their brand investment, brand awareness programme, brand attachment, and brand offerings policies.

Extrinsic value is not as crucial to building brand resonance between a company and its customers as inherent worth, such as brand moods and decisions. Intangibility and facility experience make a key difference in the service sector. Technical and functional service quality, therefore, occur together and cannot be separated. It has been discovered that Brand Feelings, Brand Judgments, and Brand Investments and Brand Salience are crucial elements in the development of Brand Resonance. These factors have an impact on the development of consumer relationships, which in turn help to foster brand loyalty.

The conclusions of this research are similar to those of Brodie et al. (2002) and [4], which support the idea that the brand has a broader sense when applied to services. The focus of the brand in the context of relational services is on the client's interaction with the company and how this shapes brand meaning and perceptions. This study's methodology is based on the viewpoint of the customers, and Keller [19] coined the word "customer-based brand equity" (CBBE). This strategy demonstrates how the strength of a brand lies in what consumers have come to understand, feel, see, and hear about it over time. Financial service providers should therefore acknowledge that consumers can interact with brands and that consumers can engage with brands.

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