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Mapping Brand Equity and Service Quality Perceptions

A Comparative Study of National Private Banks in Indonesia

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ABSTRACT

Article history

Received 22 May 2023 Revised 13 August 2023 Accepted 14 August 2023 This study aims to create a map of brand equity and service quality perceptions of Bank C relative to four other banks in Indonesia, namely Bank KBMI Category 3. Customer perception maps were constructed by asking customers to provide overall similarity ratings for Brand Equity and Service Quality pairs on a metric scale. The study included Bank A, Bank B, Bank C, Bank D, and Bank E customers in Indonesia. One hundred eight respondents were sampled using the Exploratory Factor Analysis (EFA) method, which groups many variables into several factors with similar characteristics. Additionally, the Multidimensional Scaling (MDS) method was used, a data analysis technique used to explore the data structure based on similarities or dissimilarities. Based on the analysis results, it was found that according to the perceptions of Bank C customers, the bank scored low in the Reliability factor. At the same time, Bank B had the lowest scores in Brand Loyalty and Brand Awareness factors. This indicates that the strengths of both banks lie in these factors. Subsequently, Bank A, Bank E, and Bank D followed in sequential order.

Kevwords

Brand awareness
Brand equity
Brand loyalty
Customer perception
Multidimensional scaling
Service quality

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Introduction

In Indonesia, banks can be categorised based on their Core Capital. Four categories of Core Capital Group (KBMI) range from KBMI 1 to KBMI 4, where KBMI 1 represents banks with Core Capital below 6 trillion and KBMI 4 represents banks with Core Capital above 70 trillion. Investor.id Magazine, May 2022 edition, stated Best Bank based on bank rating and related to asset strength, and among them are five national commercial banks included in KBMI 3 with sequential rankings of 6, 7, 8, 9, and 10. Banks with rank six are represented by the name Bank A; ranked 7th with the name Bank B; ranked 8th with the name Bank C; ranked 9th with the name Bank D; and ranked 10 with the name Bank E.

Banks within the KBMI 3 category compete to attract more customers, ultimately leading to potential increases in business profits. Therefore, a strategy is needed to gain a competitive advantage among the KBMI 3 banks. This strategy should be based on the strengths and weaknesses of these banks, which must be assessed through customer perceptions. Hence, it is crucial to research how customers perceive the KBMI 3 banks.

This research holds significant importance for the banking industry, specifically for banks within the KBMI 3 category. This research will benefit the banking business and is expected to be input for banks, especially Banks A, B, C, D, and E, to determine the right strategy for customer penetration, which will ultimately improve performance and develop their business. Understanding the perception of customers towards these banks is crucial for several reasons. Firstly, gaining insights into customer perceptions of brand equity and service quality allows banks to identify their strengths and weaknesses. This knowledge enables them to leverage their advantages and address shortcomings to enhance market competitiveness. By aligning their strategies with customer expectations, banks can improve customer satisfaction and loyalty, critical drivers for long-term success.

Attracting and retaining customers is paramount in a highly competitive banking landscape. By analysing customer perceptions of KBMI 3 banks, this research provides valuable information on how these banks are perceived by each other. This insight allows banks to identify areas to differentiate themselves from their competitors and develop targeted marketing and branding strategies to attract a more extensive customer base. Thirdly, understanding customer perceptions can assist banks in effectively allocating resources and prioritising areas for improvement. Banks can focus their efforts and resources on enhancing those aspects by identifying the factors most influential in shaping customer perceptions. This targeted approach leads to optimised resource allocation and improved overall operational efficiency.

Furthermore, the findings of this research can serve as valuable input for decisionmaking processes within banking institutions. The insights gained can help these banks formulate effective strategies, develop tailored products and services, and make informed business decisions. Ultimately, this research has the potential to contribute to the growth and development of the banking industry by enabling banks to adapt and meet the evolving needs and expectations of their customers. In conclusion, this research on customer perceptions of KBMI 3 banks holds significant importance for the banking industry. Providing insights into brand equity and service quality perceptions enables banks to enhance their competitiveness, attract and retain customers, optimise resource allocation, and make informed business decisions. Ultimately, it contributes to the overall growth and success of the banking sector.

Based on customer perceptions, this study determines the relative perception of brand equity and service quality compared to other KBMI 3 banks. This research will be highly beneficial for the banking industry. It will provide valuable insights to Bank A, Bank B, Bank C, Bank D, and Bank E in formulating appropriate strategies for customer penetration, ultimately improving their performance and business development.

Literature Review

The importance of service quality in the success of service-based companies has been emphasised by Parasuraman [1]. Quality service can satisfy customers and generate a desire to continue transactions with a particular bank. Moreover, high-quality service can differentiate a bank from its competitors. Therefore, all banks must provide satisfactory customer service by delivering high-quality products or services. Customer perception plays a significant role in evaluating service quality. Customers assess the perceived service quality based on their mental representations. If customers perceive their specific needs as another service provider offering better understood and superior services, they will likely seek alternatives.

Service quality is influenced by two factors: perceived service and expected service. Service quality is considered excellent and satisfactory when the received or acknowledged service meets customer expectations. If it exceeds expectations, it becomes ideal service quality. Conversely, if the received service falls below expectations, it is perceived as poor service quality. The impact of service quality depends on the service provider's ability to meet customer expectations consistently. Ref. [2] states that service quality is an assessment measure of the services customers receive. The widely used measurement of service quality is the Servqual concept developed by Ref. [1], which includes dimensions such as tangibles (physical evidence), reliability, responsiveness, assurance, and empathy.

Brand equity refers to a set of assets and liabilities associated with a brand, its name, and its symbol, which enhance or protect the value provided by a product or service to customers [3]. Suppose the name or logo of a brand changes; some or even all of its assets may

change or even disappear, although some may shift to the new name or logo. Brand equity encompasses a brand's overall strength in the market and provides value to the company/business that produces the respective product/service. The role of marketers is crucial in designing appropriate strategies to create a memorable brand identity with solid assets in society.

Brand equity can be divided into four dimensions: awareness, associations, perceived quality, and loyalty [4]. Brand awareness measures the extent to which consumers in the market can recognise or recall a brand's existence within a specific category. Increased consumer awareness of a brand facilitates the purchase decision-making process. The second dimension, associations, as explained by Ref. [5], refers to attributes that already exist within a brand and are further reinforced through customer experiences. Brand associations are the connection between consumers and the product attributes associated with their brand recall. The third dimension, perceived quality, is closely related to perception. Perception is an individual's acquiring, organising, interpreting, and understanding information. The same information can be perceived differently by different individuals. Individual perceptions of information depend on knowledge, experience, education, interests, and attention. Perceived quality is the customers' perception of a product or service's overall quality or superiority over its benefits. It can be concluded that perceived quality refers to customers' impressions of a product or service's benefits, quality, and price. The fourth dimension, loyalty, as described by Ref. [5], refers to the behavioural manifestation of decision-making units continuously purchasing goods or services from a company. It is when customers exhibit a positive attitude towards a specific brand, are committed to it, and intend to continue purchasing it. Loyalty is achieved when individuals are committed to a particular brand, make repeat purchases due to positive feelings towards the brand, and feel that their needs are fulfilled.

Ref. [6] and Ref. [2] have conducted several studies on mapping consumer perceptions of brands or products. These studies used mapping techniques such as Multidimensional Scaling (MDS). The MDS method has created perceptual maps that position various brands or products based on consumer perceptions. This method has proven useful in business research, consumer behaviour studies, and even developing new products. MDS can also create perceptual maps of various objects, including products, brands, stores, and other variables. This helps companies understand how to position their products about competitive offerings properly.

While previous research has explored customer perceptions of brands or products using MDS and generated perceptual maps in two dimensions, the novelty of this research lies in its focus on the relative brand equity and service quality perceptions of Bank C compared to the other four KBMI 3 banks in Indonesia. By incorporating the dimensions of brand equity

(awareness, associations, perceived quality, and loyalty) and service quality (tangibles, reliability, responsiveness, assurance, and empathy), this study aims to comprehensively understand how customers perceive these banks within the KBMI 3 category.

Additionally, including customer perceptions and using EFA (Exploratory Factor Analysis) and MDS methodologies contribute to the novelty of this research. The EFA allows for identifying and grouping variables with similar characteristics, while MDS. At the same time,s a visual representation of the relative positions of the banks based on customer similarity or dissimilarity perceptions. This combination of methodologies enables a holistic analysis of brand equity and service quality perceptions, shedding light on the strengths and weaknesses of each bank within the KBMI 3 category. By investigating customer perceptions of Bank A, Bank B, Bank C, Bank D, and Bank E, this research aims to provide valuable insights into the banking industry. The findings can serve as inputs for these banks to determine appropriate strategies for customer penetration, thereby improving their performance and facilitating business growth. Moreover, the study contributes to the existing literature by exploring the specific context of KBMI 3 banks, which has received limited attention in previous research on brand equity and service quality perceptions.

Overall, this research addresses the gap in knowledge regarding the relative perceptions of brand equity and service quality among KBMI 3 banks in Indonesia. It explores the multidimensional aspects of customer perceptions and provides practical implications for banks to enhance their competitiveness and customer satisfaction.

Methods

A. Variable Feasibility

The feasibility of the variables is tested by conducting validity and reliability tests on the initial variables to identify the appropriate ones. The observed variables are selected based on the correlation between variables. Variables with strong correlations are included in the factor analysis, while variables with weak correlations are excluded. The Measure of Sampling Adequacy (MSA) and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, and Bartlett's test of sphericity are used for this purpose. The extent of Sampling Adequacy (MSA) is used to determine whether the variables are adequate for further analysis. It is related to the correlations among the initial variables. If one or more initial variables have an MSA value < 0.5, they are excluded from the analysis. The invalid variables are eliminated separately, starting with the one with the lowest MSA value. The remaining variables that meet the criteria are retested until they reach an MSA value \geq 0.5. This index is used to examine the appropriateness of using factor analysis. Bartlett's test of sphericity aims to determine whether the correlation matrix formed is an identity matrix. In factor analysis, the

interrelationships between variables are essential, as the goal is to connect a set of variables into a single factor. Once the variables are determined and the correlation calculations meet the requirements for analysis, the next step is to form elements to discover the underlying structure of the relationships between the initial variables. The principal component method is commonly used in exploratory factor analysis.

B. Data Collection and Analysis

Customers are asked to provide overall similarity ratings for each pair of brands on a metric scale (without attributes). The results are averaged for all customers to generate a proximity matrix that represents the similarities/dissimilarities between products. With the specified dimensions, the MDS program will find locations for each brand that minimise stress (lack of fit). The approach used to determine the number of factors in this study is based on eigenvalues, percentage of variance, and the scree plot. The elements are then subjected to rotation to achieve simplicity and enhance interpretability. The orthogonal rotation method, precisely the varimax method, is used for analytical measurement. The varimax approach focuses on the simplification of factor matrix columns. Maximum simplification occurs when only 0 and 1 values are in a queue. This method produces several high factor loading values (approaching -1 or +1) and several factor loading values close to 0 in each matrix column. The interpretation becomes more accessible when the correlation between factors and variables is +1 or -1, indicating a perfect positive or negative association. A value of 0 indicates a fragile association. Once the elements are formed, each consisting of the variables under study, they are named based on their characteristics corresponding to the members. The details are called by considering the underlying factors and representing the qualities of the initial variables collected within each element.

Multidimensional Scaling (MDS), also known as perceptual mapping, is a procedure to determine the relative image of a group of objects (companies, products, ideas, or other perceptual-related aspects). MDS aims to transform customer assessments of similarity or preference into distances in a multidimensional space. To perform MDS analysis, three main steps are followed [7]:

- Collect similarity or preference measurement data from all analysed objects.
- Using the MDS technique to estimate the relative positions of each object in the multidimensional space (perceptual map).
- Identifying and interpreting the axes in the perceptual map, considering both perceptual and objective attribute perspectives.

By implementing these steps, the research aims to gain insights into the underlying structure of the variables, determine the number of factors, simplify and interpret the elements

through rotation, and ultimately map the objects in a perceptual space using MDS analysis. This approach facilitates understanding customer perceptions, preferences, and the relationships between variables or brands, enabling researchers to make informed decisions based on the results.

Results

Based on the conducted testing, the researcher has grouped the factors influencing customer perception of Brand Equity into two categories:

- Factor I: Brand Loyalty, Brand Association, and Perceived Quality are grouped as
 Factor I, referred to as the Brand Loyalty factor. This suggests that these variables are
 closely related and contribute to the perception of brand loyalty among customers. It
 implies that customers' loyalty towards a brand is influenced by their associations,
 perception of its quality, and other related factors.
- Factor II: Brand Awareness is grouped separately as Factor II, known as the Brand Awareness factor. This indicates that brand awareness is distinct from the other elements and influences customer perception. Brand awareness refers to the extent to which customers recognise or recall the existence of a brand within a specific category. It suggests that the level of brand awareness can impact customers' decision-making processes and their likelihood of choosing a particular brand.

By categorising the factors into these two groups, the researcher has identified distinct dimensions of Brand Equity and shed light on the specific elements that contribute to customers' perception of a brand. This analysis helps to understand the underlying structure of Brand Equity and provides insights for marketers to develop effective strategies for managing and enhancing brand perception.

Based on the factors influencing customer perception of Service Quality, the researcher has grouped Reliability, Responsibility, Assurance, Tangibles, and Empathy into a single category: Factor I or the Reliability factor. This suggests that these factors are closely related and collectively contribute to customers' perception of reliability in service delivery. Reliability refers to the consistency and dependability of a service provider in delivering the promised service. It encompasses fulfilling commitments, delivering services accurately and on time, and maintaining consistency in service performance. By grouping these factors, the researcher highlights the importance of reliability as a critical driver of customer perception regarding service quality. By consolidating these factors into one category, it becomes evident that the service provider's reliability heavily influences customers' perception of service quality. This finding underscores the significance of consistently meeting customer

expectations and delivering reliable service experiences to build positive customer perceptions.

Understanding the factors contributing to customers' perception of service quality, particularly regarding reliability, allows service providers to focus on enhancing these dimensions. Service providers can enhance customer satisfaction and loyalty by improving reliability through process optimisation, effective communication, and employee training.

The data was analysed for perceptual mapping using the PREFSCAL program in SPSS 26.0 for Windows. The coordinates of five stimuli and three attributes were obtained, representing respondents' preferences in evaluating the three characteristics of the five KBMI 3 Banks. The coordinates of the stimuli and points are presented in Table 1 and Table 2, respectively. These coordinates indicate the positioning of each inspiration and attribute in a two-dimensional space, representing the perceived preferences of customers regarding the characteristics of the KBMI 3 Banks. The coordinates can be visualised in a perceptual map.

Table 1. Final Stimuli Coordinate

| Davil. | Dimer | Dimension | | | |
|--------|-------|-----------|--|--|--|
| Bank | 1 | 2 | | | |
| Bank C | 196 | 2.339 | | | |
| Bank A | .730 | -1.249 | | | |
| Bank E | 1.979 | .082 | | | |
| Bank D | 2.971 | .100 | | | |
| Bank B | 713 | -1.205 | | | |

Table 2. Final Attribute Coordinate

| Eastona | Dimension | | | |
|------------------------|-----------|--------|--|--|
| Factors | 1 | 2 | | |
| Brand Loyalty Factor | -1.726 | .031 | | |
| Brand Awareness Factor | -1.501 | -1.073 | | |
| Reliability Factor | -1.543 | .976 | | |

Based on the coordinates of the stimulus and attributes, the perceptual map of the five banks, including the details, can be obtained as shown in Fig. 1.

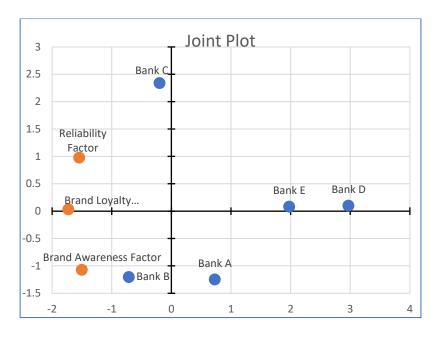


Fig. 1. Perception map

Based on the stimuli and attributes coordinates, the distances between each attribute and stimulus were measured to determine the order of stimuli closest to each point. Table 3 presents the spaces, allowing us to rank the KBMI 3 Banks from smallest to most extensive considerable stance for each attribute. A smaller distance indicates a more robust perception of a particular factor for a KBMI 3 Bank, while a more substantial distance indicates a lower perception of that factor.

Table 3. Distance Between Stimuli and Attribute

| Factors | Bank C | Bank A | Bank E | Bank D | Bank B |
|------------------------|--------|--------|--------|--------|--------|
| Brand Loyalty Factor | 2.769 | 2.769 | 3.705 | 4.697 | 1.597 |
| Brand Awareness Factor | 3.653 | 2.238 | 3.667 | 4.624 | .799 |
| Reliability Factor | 1.916 | 3.181 | 3.634 | 4.599 | 2.333 |

Analysing the distance table (see Table 3), it can be observed that Bank C has a low value for the Reliability factor, and Bank B has the lowest value for Brand Loyalty and Brand Awareness factors. This suggests that both banks have strength in these specific factors.

The obtained results can be transformed into ranking orders for each bank and factor, as shown in Table 4. Bank B has the lowest ranking score of 4, indicating an overall advantage in all the elements. Bank C has the second lowest ranking score of 6, suggesting the need for continuous improvement in other factors to enhance customer perception. Specifically, the areas for improvement are Brand Awareness and Brand Loyalty factors.

Table 4. Transformation result

| Factors | Bank C | Bank A | Bank E | Bank D | Bank B |
|------------------------|--------|--------|--------|--------|--------|
| Brand Loyalty Factor | 2 | 2 | 4 | 5 | 1 |
| Brand Awareness Factor | 3 | 2 | 4 | 5 | 1 |
| Reliability Factor | 1 | 3 | 4 | 5 | 2 |
| Total | 6 | 7 | 12 | 15 | 4 |

The provided analysis allows for a better understanding of the perceptual mapping results. It provides insights into the relative strengths and weaknesses of the KBMI 3 Banks in terms of the evaluated factors. The banks can utilise this information to identify areas of improvement and enhance their competitive positioning based on customer perceptions.

Research from Ref. [8] categorises bank branches into efficiency classes through a three-step procedure that combines the bank's strengths from variables. The process begins by taking the most comprehensive number of efficiency indexes proposed in the literature, reducing redundant information through collinearity analysis and categorising bank branches into efficiency classes through a clustering procedure tested on 23 units of Italian regional banks. The results show that the grouping is obtained based on the index, Which represents the difference in parts of production, stock and costs.

Ref. [9] examines a multidimensional scale of service value based on a typology of hotel customer value in Holbrook. Following the literature on the merits of Holbrook's value typology, results are presented in three concatenated phases: validation of Holbrook's eight value scales corresponding to his eight value types; interrelationships between these value types showing a predominance of the extrinsic-intrinsic and self-other dimensions; and construction of six indices based on the $2 \times 2 \times 2$ matrix (self, other, extrinsic, intrinsic, active, and reactive) and a value index as a higher-order representation. The results support Holbrook's typology, thereby supporting construct validity for the multidimensional scales.

Ref. [10] examines the Relationships between service quality, satisfaction, motivation and loyalty: a multi-dimensional perspective on students. The study's findings showed the direct effect of service quality on students' satisfaction and its indirect impact on students' loyalty. The result of the immediate product of service quality on satisfaction is empirically proven. The indirect effect of service quality on students' dedication through satisfaction is also widely accepted as a causal relationship in services marketing literature. The results show a negative impact of service quality on students' commitment. Some empirical studies support it, where service quality only indirectly affects students' responsibility. Similarly, service quality also affects loyalty through students' motivation. This relationship is formed based on the conative loyalty component in the customer loyalty process. It is related to the behavioural

intention of the customer to purchase a particular brand repeatedly. In higher education, students' motivation results in better educational outcomes and creates positive intentions towards the institution, reflected in students' loyalty. Further, service quality, directly and indirectly, affects students' motivation through student satisfaction. Students' satisfaction has a positive impact on student's motivation consequence of students' motivation. Poor services by the academicians, administrators and other supporting staff make students feel estranged, ultimately resulting in poor academic performance. The quality of services could directly impact students' mood, well-being and participation, building motivation. Hence, service quality and satisfaction are vital to students' motivation.

Ref. [11] conducted research aimed at developing a more comprehensive customer-based brand equity model. The data was obtained from 478 domestic and foreign tourists visiting Alanya in Turkey. The results showed that all antecedent variables positively affected the consequence variable. Furthermore, destination natural quality perceptions on goal hedonic value perceptions have been found to have a more substantial influence than destination service quality perceptions. On the other hand, it has been found that destination service quality perceptions affect destination functional value perceptions more strongly than destination natural quality perceptions. Hedonic value perceptions of tourists were a more determinant antecedent for trust. Also, metric and scalar invariance of destination brand awareness, confidence, and satisfaction scales are filled. In contrast, scalar invariances of the destination brand quality, value, and loyalty are partially filled. By developing a more comprehensive CBDBE model, the present study contributes to helping destination management organisations to understand the relationships among the factors affecting the tourists' general perceptions of a destination.

Ref. [12] examines how to increase customer loyalty by conducting customer engagement. The results reveal a strong relationship between customer engagement and customer loyalty. This research implies that combining branding strategy at the corporate level and relational marketing strategy at the branch office level creates a situation where customer engagement and belief can develop. Communication campaigns designed to promote brand image and associate brand values with the personalities of the bank's current and potential customers help to create emotional bonds that represent switching costs for customers. Moments of truth at the branch are essential to a retail bank's strategy. Research by Ref. [13] in Spain research on engagement variables that can mediate customer experience variables and two non-transactional behaviours (advocacy and attitudinal loyalty) with a sample of 1,790 customers. The results confirm that customer engagement is a mediating variable between customer experience and non-transactional behaviour.

Ref. [14] researched the banking business during the COVID-19 pandemic. Canada's banking system is among the best in the world. During the pandemic, the business world experienced a change in their business methods in meeting the community's needs. Banks in Canada supported their clients during the health crisis. The technique used is content analysis to analyse bank support actions, producing 125 documents and 19 activities. Multidimensional grouping carried out with a CSR approach, three groups of banks were identified: sweeping action, cautious action, and wait and see. Ref. [15] researched that the service quality of any institution is a pull factor to attract and retain customers. This study examines customer satisfaction with the quality of services offered by Islamic banks in Oman. It also aims to determine which dimensions influence customer satisfaction, paying more attention to the other sizes chosen for research. Structured questionnaires were distributed among 100 customers of Islamic banks. The collected data were analysed using multiple linear regression and correlation techniques. The results showed that timely services provided by banking officers had an average value of 4.57, the readiness of bank officers to serve customers had an average value of 4.36, and banking operational security had an average value of 4.37, ranking top. The highest ranking in each dimension was selected for the study. The results show that the three sizes of service quality, represented by Service Reliability, Service Responsiveness, and Service Security, correlate positively and significantly with customer satisfaction. The regression results also show that the three dimensions influence customer satisfaction in Islamic banks.

Research from Ref. [16] generates research about resilience. Resilience is a bank's ability to survive in the face of shocks caused by a crisis and recover quickly. Ref. [16] answers the research question what is the level of banking resilience in Indonesia during the Covid-19 pandemic? Especially when measured by considering the impact of differences in the handling of the pandemic in Indonesia and the policy of classifying banks based on the established core capital. The banks studied were banks at the KBMI 3 level, with the variables measured as differentiating levels of resilience being the capital adequacy ratio, liquidity ratio, profitability ratio and credit quality level; the results of Bank E and Bank D in this study sample were the banks with the highest resilience while Bank B is the bank with the lowest resilience in dealing with the negative impacts of the Covid-19 pandemic. Ref. [17] examines mobile banking, which is becoming an essential part of today's e-commerce business because mobile banking facilitates many banking transactions quickly and in less time. But to receive mobile banking services, for the most part, it becomes so mandatory that various variables are required. The success of the mobile banking application must be explored, analysed, and measured, which influences the customer's intention to continue using the M-banking application. The variables used in this study are security, reliability, user interface, serving quality, response time, and information quality are essential constructs for the success of a mobile banking application. All these constructs have an impact on satisfaction and intention behaviour.

This research also complements previous studies, such as from Ref. [18], which analyses the efficiency of interbank merger activities. Bank A, B and Bank C experienced an increase in efficiency after the merger. Furthermore, Ref. [19] examines the effect of Bank C's corporate image and services on Bank C's customer satisfaction, where the results of his research are that only corporate appearance affects Bank C's customer satisfaction. In addition, Ref. [20] examines the health of Bank C in carrying out its operational activities typically and carrying out their obligations by the applicable law.

Conclusion

The study on Brand Equity revealed two groups of factors that influence customer perception:

- The first group, Brand Loyalty, consists of Brand Loyalty, Brand Association, and Perceived Quality.
- The second group, known as Brand Awareness, comprises the factor of Brand Awareness.

In the investigation of Service Quality, it was found that the factors affecting customer perception can be grouped into one category, Reliability. This category includes Reliability, Responsibility, Assurance, Tangible, and Empathy. Analysing the coordinates of stimuli and attributes provided insights into respondents' preferences in evaluating the five KBMI National Banks based on their characteristics. The results indicated that Bank C scored low on the Reliability factor, while Bank B scored lowest in Brand Loyalty and Brand Awareness. The Shepard data perception diagram demonstrated a relationship between distance and dissimilarity, with a monotonous pattern indicating the accuracy of the relationship. The ranking transformation revealed that Bank B ranked the lowest, showing its overall excellence in all factors. Bank C ranked second lowest, suggesting the need for improvement in other factors such as Brand Awareness and Brand Loyalty. These findings provide valuable insights into customers' perceptions of the studied banks and highlight areas where improvement is needed to enhance customer perception and satisfaction. This research also complements previous studies that analyse the effect of bank brand equity and services on customer satisfaction. This enriches and finds important input and information for consumers on banking, especially the five banks studied in this study. Further research can be done by a broader analysis of all thirteen KBMI 3 banks and also to check the correlation of digital technology and government policy to brand equity.

Conflict of Interest

The authors declare that there is no conflict of interest.

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