



# The Influence of Digital Marketing, Service Quality and Brand Image on Customer Decisions at Banco Nacional de Comercio De Timor Leste in BNCTL, Timor Leste

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KEY WORDS	ABSTRACT
Digital Marketing, service quality, Brand Image, customer decision, banking sector, customer loyalty, marketing strategy	<p>This study aims to analyze the influence of Digital Marketing, Service Quality, and Brand Image on customer decisions at Banco Nacional de Comercio de Timor Leste (BNCTL), Timor Leste. Using a quantitative method and multiple linear regression analysis, this research examines the extent to which these three variables contribute to shaping customers' decisions to use BNCTL's products and services.</p> <p>The results indicate that all three variables have a positive and significant effect on customer decisions, with Brand Image contributing the most (<math>B = 0.828</math>; <math>p &lt; 0.001</math>), followed by Service Quality (<math>B = 0.153</math>; <math>p = 0.003</math>) and Digital Marketing (<math>B = 0.078</math>; <math>p = 0.042</math>). These findings highlight the importance of innovative Digital Marketing strategies, improved service quality, and strong Brand Image development to compete effectively in Timor Leste's banking sector. The practical implication for BNCTL's management is to continuously develop and optimize these three factors to enhance customer loyalty and positive decision-making. This study contributes both theoretically and practically to the development of marketing and service strategies in the banking sector within the local context of Timor Leste.</p>

## 1. INTRODUCTION

The banking business has a very important role in the movement of the wheels of a country's economy, because it is one of the sectors that is able to grow rapidly and can support the national economy as well as play a major role in national development. Banking services are provided to support the smooth collection and distribution of funds to the community. On the other hand, banking services are a source of revenue for banks (Arthesa, Ade 2006). In the era of globalization and increasingly rapid advances in information technology, it has brought major changes in various sectors, including the banking sector. What's more, globalization and digitalization have made competition in the banking world even tighter. In the midst of this increasingly intense competition, banking institutions must be able to adapt to changes in technology and customer expectations. One of the most significant changes is the shift from traditional

marketing to Digital Marketing, which opens up new opportunities to interact with customers and offer more accessible and faster banking services. Digital Marketing, service quality, and Brand Image have become three very important factors in influencing decisions customers in choosing a bank

Digital Marketing refers to the use of digital media to promote and sell products and services. In the banking sector, Digital Marketing serves to convey information about banking products and services more efficiently and reach a wider audience. According to Kotler et al. (2017), Digital Marketing allows direct interaction with consumers and provides a platform for banks to showcase the excellence of their products. Media used in this context includes websites, social media, email, databases, mobile/wireless devices, and digital television. In addition to Digital Marketing, service quality is the root and most important factor to satisfy customers, in this case it is

related to the behavior of response from word of mouth, for example, complaints, recommendations, complaints, or transfers and exchanges (Sulistyawati, M. N. A., & Seminari, N. K. 2015).

In addition to Digital Marketing and service quality, Brand Image also plays a very important role in purchasing decisions. Brand Image is a perception or image formed in the customer's mind towards a bank, whether it is based on direct experience or information received through various communication channels. Aaker (1996) states that Brand Image encompasses the entire image that is built in the minds of consumers and greatly influences their decisions. In the context of banking, a strong brand image can create customer trust in the bank. A good brand image can also lead to increased customer loyalty and make it easier for banks to retain and attract new customers. For example, banks that are known to have a commitment to excellent service, financial inclusion, and community development tend to have a positive image in the eyes of customers.

In today's digital era, the use of technology and the internet has changed the way banks do marketing. Technological advances and ever-changing consumer behavior affect the way customers transfer, apply for an account and shop. In this context, Digital Marketing plays an important role in reaching a wider audience. One example of a company that has adopted a Digital Marketing strategy is Banco Nacional de Comercio de Timor Leste (BNCTL).

Banco Nacional de Comercio de Timor Leste (BNCTL) is one of the National Banks in Timor Leste and has branches in all districts in Timor Leste. As a National Bank, Banco Nacional de Comercio de Timor Leste also has competitors who are foreign banks that also operate in Timor Leste so that the competition is very competitive. In an effort to attract customer interest and increase the number of use of Banco Nacional de Comercio de Timor Leste products and services such as saving, applying for credit, using internet banking and so on, it is important for this bank to utilize an effective Digital Marketing strategy, provide good service and build a strong brand image so that it can be known by many people. Banco

Nacional de Comercio de Timor Leste to maximize customer service as one of the government banks with its slogan "Servi Diferente no Sai Diferensa".

Banco Nacional de Comercio de Timor Leste has 28 work units, consisting of one head office, 13 branch offices within the country, 8 sub-branch offices, 6 cash payment offices. The vast number of networks of Banco Nacional de Comercio de Timor Leste must always be Providing maximum service to customers for the sustainability of this business. In today's technological era, it is easier for customers to give reviews on their experience in receiving services in a company, these reviews can be a reference or benchmark in assessing customer perception of the products or services they receive from a company.

In terms of Digital Marketing, Banco Nacional de Comercio de Timor Leste uses social media such as Facebook, Instagram and Youtube to promote bank products. In addition, the quality of service, which is not only limited to physical banking transactions, but also includes the customer's experience in using digital platforms, will greatly affect the customer's decision to choose a bank for the long term. Likewise with Brand Image, customers tend to choose banks that have a positive image, which is not only related to the services provided, but also to the trust they can build in the bank. Given the highly trust-dependent nature of the banking industry, good service quality is an important factor in building customer loyalty.

Banco Nacional de Comercio de Timor Leste as a bank operating in Timor Leste needs to ensure that all services offered, both physical and digital, meet customer expectations in terms of convenience, speed, and satisfaction. Improving the quality of service can create a positive experience for customers, which in turn will improve customers' decision to use more products and services from the bank. The following is a table of the number of customers of Banco Nacional de Comercio de Timor Leste for the last three years, from 2021 to 2023.

Tabel 1. Data on the number of customers from 2021 to 2023 at BNCTL

No	Year	Number of Customer	Presentase (%)
1	2021	358.887	-
2	2022	426.284	18,8%
3	2023	455.804	6,96%

Source: 2021-2023 BNCTL Year-End Balance Journal, 2024

Based on Table 1 shows that In 2021, Banco Nacional de Comercio de Timor Leste has 358,887 customers. This year is a period in which Banco Nacional de Comercio de Timor Leste may still be adapting to the challenges of the COVID-19 pandemic, where the banking sector faces difficulties in providing services directly due to social restrictions. Nevertheless, the bank continues to try to retain and increase the number of customers through the improvement of digital services and limited promotions. In 2022, the number of customers of Banco Nacional de Comercio de Timor Leste increased to 426,284 customers, which represents an increase of 18.8% compared to the previous year. In 2023, the number of customers of Banco Nacional de Comercio de Timor Leste increased again to 455,804 customers, which means an increase of 6.96% compared to the previous year. Although there is a decrease in the growth rate compared to 2022

rom the researchers' observations, the researcher found various reasons and factors that affect the low interest of Banco Nacional de Comercio de Timor Leste customers. Banco Nacional de Comercio de Timor Leste needs to evaluate To what extent can the Digital Marketing approach applied be effective in attracting customer attention and increasing customer satisfaction or not?, many customers may not be fully familiar with digital services, it is important for Banco Nacional de Comercio de Timor Leste to be more creative in communicating the benefits of the digital services they offer. One of them is to hold socialization and introduction of the Banco Nacional de Comercio de Timor Leste link to customers so that customers do not have difficulty getting information about the products owned by Banco Nacional de Comercio de Timor Leste. In addition, the researcher also sees that the services provided

in the bank vault space have been vulnerable for a long time. The quality of service, which is usually used as the first benchmark for customers in making transactions, will certainly give rise to an assessment that is used as a form of assessment in itself, either subjectively or objectively. Narrow waiting room facilities while customers who come to the bank exceed capacity, no parking space for customers, long queues but not provided free Wifi so that customers are tired and bored because of long waits, the service provided by security officers to customer service employees and tellers is not as desired by customers, lack of control of ATM machines and also POS (Point of Sell) so that there are often claims from customers. From the things mentioned above, it will certainly tarnish the reputation of Banco Nacional de Comercio de Timor Leste and always leave a bad impression on customers.

Based on this background, the researcher is interested in conducting research on "The Influence of Digital Marketing, Service Quality and Brand Image on Customer Decisions at Banco Nacional de Comercio de Timor Leste.

## Literature Review

Research from Hartono Sanjaya Putra (2022) with the title The Influence of Digital Marketing and Service Quality on Consumer Purchase Decisions at Matahari Mall Mobile Stores. This research was conducted in mobile phone stores located in Matahari Mall Semarang which is located at Plaza Simpang Lima Matahari 1st, 2nd, and 3rd Floors. This study aims to find out and research the influence of Digital Marketing and service quality partially (individually) and simultaneously (together) on consumer purchase decisions at the Semarang Solar Mall mobile phone store. This study used 100 respondents as a research sample and sampling techniques using the convenience sampling method. The data analysis method used is a quantitative analysis method, which includes validity test, reliability test, multiple linear regression analysis, t test, and F test. Data that have met the validity and reliability test are then processed to produce the following regression analysis:  $Y = 10.859 +$

0.257X<sub>1</sub> + 0.334X<sub>2</sub> + e. The variables used in this study are Digital Marketing (X<sub>1</sub>), service quality (X<sub>2</sub>), and consumer purchase decisions (Y). The results of the study show that each independent variable (Digital Marketing and service quality) has a significant and positive effect on consumer purchase decisions at the Matahari Mall Semarang mobile phone store. The suggestion from the researcher for mobile phone stores there is to continue to improve Digital Marketing indicators and other service quality in every marketing activity even though it is considered good so that more consumers buy mobile phones online Research from Wati, Imbayani, & Ribek, (2020) with the title Influence Service quality, brand image, and trust in consumer satisfaction at Pt Prodia Widyahusada. The research on PT Prodia Widyahusada was conducted with the aim of determining the influence of service quality, brand image, and trust on consumer satisfaction at PT Prodia Widyahusada. The sample determination method in this study uses the incidental sampling method, where the number of samples to be taken is 97 customers at PT Prodia Widyahusada, multiple linear regression statistical analysis. Based on the results of analysis and discussion, it can be concluded that: (1) Service quality has a positive and significant effect on consumer satisfaction, this shows that the improvement of service quality will be followed by an increase in consumer satisfaction. (2) Brand Image has a positive and significant effect on consumer satisfaction, it shows that an increase in Brand Image will be followed by an increase in consumer satisfaction. (3) Trust has a positive and significant effect on consumer satisfaction, it shows that an increase in trust will be followed by an increase in consumer satisfaction

The research was conducted by Anggun Resti Aditiyan and Basri (2022) from the Master of Management Study Program, Faculty of Economics and Business, Janabadra University, Yogyakarta with the title "The Influence of Service Quality and Brand Image, on Customer Loyalty Mediated by Customer Satisfaction (Case Study of Bank BRI KCP Unit Sidoarum)" This study aims to analyze and describe the influence of service quality and

brand image on customer loyalty mediated by satisfaction customer. This study uses quantitative research. The population in this study is 15,466 customers of Bank BRI Sidoarum Branch Office Unit. The sampling technique used purposive sampling, as many as 100 customers. The data analysis technique uses structural equation modeling techniques. Data collection was done using a questionnaire list. The results of the study show that service quality, brand image, have a positive effect on customer satisfaction, service quality, brand image has a positive effect on customer loyalty, customer satisfaction has a positive effect on customer loyalty, customer satisfaction mediates service quality on customer loyalty, customer satisfaction mediates brand image on customer loyalty. The research was conducted by Ni Wayan Arie Ermawati (2020) from the Postgraduate School of Triatma Mulya University with the title "The Influence of Digital Marketing and Customer Relationship Marketing on Travelers' Decisions with Brand Image as a Intervening Variable". Based on the results of the research in the analysis test of track 2, it shows that only Brand Image and customer relationship marketing have a positive and significant effect on tourist decisions, while Digital Marketing has no effect on tourist decisions. Indirectly mediated by Brand Image, Digital Marketing also has no effect on tourists' decisions. On the other hand, Brand Image is able to mediate and strengthen the relationship between customer relationship marketing and traveler decisions. The results of this research are expected to help improve Digital Marketing and customer relationship marketing efforts at The Oberoi Beach Resort hotel, Bali so that it can strengthen the Brand Image and improve tourist decisions.

### Digital Marketing

Digital Marketing is a marketing practice that utilizes digital technology, especially the internet, to promote products and services to user. According to Kotler and Keller (2016), Digital Marketing involves various techniques and channels to reach a wider audience at a more cost-efficient rate compared to traditional marketing methods. By using digital platforms such as search



engines, social media, and email, companies can increase the visibility of their products and build closer relationships with consumers.

In Digital marketing, there are five key strategies that can be used to stimulate digital marketing, namely:

### **Social Media Marketing**

Social media has taken center stage in the world of digital marketing because of its ability to connect marketers with customers and potential customers directly. Singh & Singh (2017) state that internet marketing users spend more than half of their time using social media. Social media itself is a web-based service that allows individuals or groups to gather online, discuss, exchange ideas, and interact through text, images, audio, and video (Ryan, 2017). Examples of popular social media channels are Facebook, Twitter, Instagram, Google Plus, Pinterest, YouTube, and LinkedIn.

### **Content Marketing**

Content marketing is an important strategy that relies on the presentation of quality content to attract the attention of customers and potential customers to a company's digital platforms, such as websites. Holliman & Rowley (2014) mentioned that this marketing is based on creating educational content that is able to build long-term relationships. According to Pulizzi (2013), in order for a strategy to be called content marketing, the content must be delivered consistently, attractively, relevantly, and able to maintain the interest of the intended audience, not just a one-time campaign.

### **Search Engine Marketing (SEM)**

Search Engine Marketing (SEM) is a digital marketing strategy that combines Search Engine Optimization (SEO) and Paid Search Advertising (PSA) to increase a website's visibility on search results on search engines such as Google (SERPs). SEO focuses on optimizing keywords so that websites appear at the top of organic search results, while PSA places more emphasis on paid ads placed on search engines to attract more visitors (Charlesworth, 2014). Ryan (2017) added that most users only see the first page of search

results, so companies work hard to target various relevant keywords in order to achieve the best position in the SERPs. **Email Marketing:** Email marketing is a strategic approach that involves collecting email addresses from individuals who are interested in a particular product or service, as well as from customers who have already transacted. After that, the company sends out newsletters, information, or special offers on a regular basis. Housh (2015) emphasized that this approach is highly focused and useful for maintaining a sustainable close relationship between companies—including small businesses—with customers and potential customers, thereby increasing loyalty and repurchase opportunities. **Mobile Marketing:** Mobile marketing is a marketing technique that utilizes mobile devices as an interactive communication medium between companies and customers. Ryan (2017) explains that this approach allows organizations to reach customers in a meaningful way, relevant through customized messages and delivered over mobile phones or wireless networks. As mobile usage continues to increase globally, this strategy is crucial in creating direct, fast, and personalized engagement with the target audience.

### **Quality of Service**

Service quality is a customer's assessment of the extent to which the service received is in accordance with their expectations, so that when services are provided appropriately and meet customer needs, satisfaction will be achieved (Lupioyadi, 2001). Kotler and Armstrong (2019) explained that service quality includes all characteristics of products or services that are able to satisfy customer needs directly or indirectly. According to Maulana (2018), service quality is very important to ensure the company's competitiveness in meeting the needs of consumers who are now increasingly critical of products and services. Alma (2019) added that service quality is an important condition for the survival of a company, because high quality reflects the level of customer satisfaction. In general, the quality of service is influenced by the conformity between customer expectations

and the actual performance of the services received; The higher the suitability, the higher the perception of the quality of service received by customers.

In order for services to have quality and provide satisfaction to their customers, companies must pay attention to various dimensions that can create and improve the quality of their services. The five dimensions of service quality are arranged in order of relative importance level as follows Tjiptono and Chandra, (2011:198):

- 1) Reliability, related to the company's ability to provide accurate services from the first time without any errors and prepare services according to the agreed time.
- 2) Responsiveness, refers to the willingness and ability of employees to assist customers and respond to their requests, as well as inform when services will be provided and then deliver services quickly.
- 3) Assurance, which is the behavior of employees is able to foster consumer trust in the company and the company can create a sense of security for its consumers. Assurance also means that employees are always courteous and master the knowledge and skills needed to handle any consumer questions or concerns.
- 4) Empathy means that a company understands the problems of its consumers and acts in the interests of consumers, as well as gives personal attention to consumers and has comfortable operating hours.
- 5) Physical evidence (tangibles), with regard to the attractiveness of the physical facilities, equipment, and materials used by the company, as well as the appearance of employees

## Brand Image

A brand is a product name or product identity to distinguish companies and individuals from each other in terms of what they offer consistently, (Buchori, 2014). Image is something that is easy to understand but difficult to explain because it is abstract and

invisible (Simamora, 2012). According to Mardiana (2013), image is the sum of several images, impressions, and beliefs that a person has about an object or object. Rangkuti (2013) argues that "brand image is a set of brand associations that are formed in the minds of consumers. A brand is a product name that aims to recognize it from many similar items. When a brand has been known to consumers for a long time, it will leave an image. This image can make a product sell or not be on the market. Shimp (2014) argues that Brand Image can be considered as an imagination that appears in the minds of consumers when they see a certain product or brand. Such an imagination appears in the minds of consumers in the form of thoughts or images owned by a certain brand. The same is true when someone is thinking about other people. From the opinions above, it can be said that brand image can have a positive or negative effect on a product, depending on what other people think or describe about the product.

According to Kotler and Keller (2016), brand image indicators can be seen from:

- 1) Strength of brand association, how information enters the consumer's memory and how it persists as part of the Brand Image.
- 2) Advantages of brand association, the success of a marketing process often depends on the process of creating a profitable brand association, where consumers can trust that their given attributes can satisfy the needs and desires of consumers.
- 3) Uniqueness of brand association, having a competitive advantage is the reason for consumers to choose a particular brand. The uniqueness of a brand association can be based on product attributes, product functions or the image enjoyed user.

## Purchase Decision

Purchase decisions are a complex process that consumers go through in choosing a certain product or service. According to Schiffman and Wisenblit (2022), purchasing decisions are the result of evaluating alternatives that consumers do before finally choosing a product that meets

their needs. This process involves the stages of problem identification, information search, alternative evaluation, purchase decisions, and post-purchase behavior. The actions taken by customers in the process of making purchase decisions can be explained through the indicators that have been identified by Sutisna (2002). Some of the dimensions can be described as follow:

- 1) Benefit Association:
  - The act of seeking specific benefits obtained from the product.
  - The level of ease of remembering the name and brand of the product as cognitive indicators.
- 2) Priority in Purchase:
  - Prioritize information when making a purchase decision.
  - The process of comparing product brand quality as part of the evaluation process.
- 3) Purchase Frequency:
  - The level of confidence that consumers have in the product to be purchased.
  - The level of consumer satisfaction with the products that have been used.
  - The likelihood of consumers recommending the product to others, which reflects the consumer's level of trust and satisfaction

## 2. METHOD

This study was conducted to determine the effect of Digital Marketing, service quality, and Brand Image on customer decisions in Dili, Timor-Leste. There are four latent variables, three exogenous latent variables and one endogenous latent variable. The exogenous latent variables consist of: Digital Marketing (X1), Service quality (X2) and Brand Image (X3). And there is one endogenous latent variable, namely Customer Decision (Y). This study uses a quantitative approach that allows for collecting data in the form of numbers, allowing for strong statistical analysis to answer this research question. The reason for

using this type of research is to determine the effect of the independent variables of digital marketing, service quality and brand image on the dependent variable, namely customer decisions. The population in this study were BNCTL customers totaling 455,804. Due to the limited time of the study, the study was conducted using a purposive sample. In this study, the sample used was BNCTL customers, totaling 210 customers. The data collection method used in this study was a questionnaire that had a score using a Likert scale. The questionnaire will be filled out by each respondent in this study. The questionnaires distributed based on the population in this study were 210 questionnaires at BNCTL. The data analysis method used in this study was descriptive analysis, classical assumption test and multiple linear regression analysis using SPSS software to answer the three hypotheses. In the descriptive analysis, the calculation of the average (mean), median, mode, standard deviation, and frequency distribution. Descriptive statistics help researchers understand the characteristics of the data collected, such as the demographic profile of respondents or the average level of assessment on each research variable. The classical assumption test includes the normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. Multiple linear regression analysis contains a Significance Test (F Test) a significance test is carried out to test the research hypothesis.

The results of the data analysis are then presented and interpreted, the final step is the technique of drawing conclusions and suggestions. The stages in quantitative research consist of (1) Formulating the problem, (2) Reviewing the theory, (3) Formulating Hypotheses, (4) Collecting data, (5) Processing data and (6) Drawing conclusions.

## RESULT AND DISCUSSION

This study consists of four latent variables, three exogenous latent variables and one endogenous latent variable. Exogenous latent variables from: Digital Marketing (X1), Service

Quality (X2) and Brand Image (X3). And there is one endogenous latent variable, namely Customer Decision (Y). The hypothesis of this study is:

H1 : *Digital Marketing*(X1) has a positive and significant influence on customer decisions at BNCTL (Y).

H2 : Service Quality (X2) has a positive and significant influence on customer decisions at BNCTL (Y)

H3 : *Brand Image*(X3) has a positive and significant influence on customer decisions at BNCTL (Y)

The analysis was conducted using multiple linear regression (SPSS software) to answer the three hypotheses. In multiple linear regression there is a Significance Test (F Test) the significance test is conducted to test the research hypothesis.

In descriptive analysis, the calculation of the mean, median, mode, standard deviation, and frequency distribution. Descriptive statistics help researchers understand the characteristics of the data collected, such as the demographic profile of respondents or the average level of assessment on each research variable. Classical assumption tests include normality tests, multicollinearity tests, heteroscedasticity tests, and autocorrelation tests.

## Research Instrument Test Results

Loading Factor must meet the 3 dimensions, namely convergent validity, discriminant validity, and reliability. Convergent validity can be seen based on the Loading Factor value or Average Variance Extracted (AVE). The Loading Factor value is above 0.7 or the AVE value is greater than 0.5, then it can be said that the indicator meets good convergent validity. Table 2 presents the Loading Factor value of each indicator.

Tabel 2. Validity and Reliability Test Results

Variables	Item	Correlation Coefficient	Information	Cronbach's Alpha	Information
Digital Marketing	X1.1	0.84	Valid	0.898	Reliability
	X1.2	0.862	Valid		
	X1.3	0.867	Valid		
	X1.5	0.844	Valid		
	X1.7	0.804	Valid		
Quality of Service	X2.3	0.805	Valid	0.847	Reliability
	X2.4	0.827	Valid		
	X2.5	0.796	Valid		
	X2.6	0.738	Valid		
	X2.7	0.777	Valid		
Brand Image	X3.4	0.864	Valid		Reliability
	X3.5	0.854	Valid		
	X3.6	0.825			
	X3.7	0.877	Valid		



				0.877	
Customer Decision	Y1	0.864	Valid	0.896	Reliability
	Y2	0.853	Valid		
	Y3	0.832	Valid		
	Y4	0.823	Valid		
	Y5	0.833	Valid		

*Source: Processed questionnaire data, 2025*

Based on table 2, it shows that all the correlation values above are greater than the product moment correlation value ( $r > 0.3$ ) and all variables have

Cronbach alpha is worth more than 0.6. Thus, all research instruments used are valid and reliable so that these instruments can be used for further statistical analysis.

### Classical Assumption Test

Before conducting regression analysis, it is important to ensure that the data meets some basic assumptions known as classical assumption tests. These tests include normality tests, multicollinearity tests, heteroscedasticity tests, and autocorrelation tests. can be seen in Figures 1 and 2.

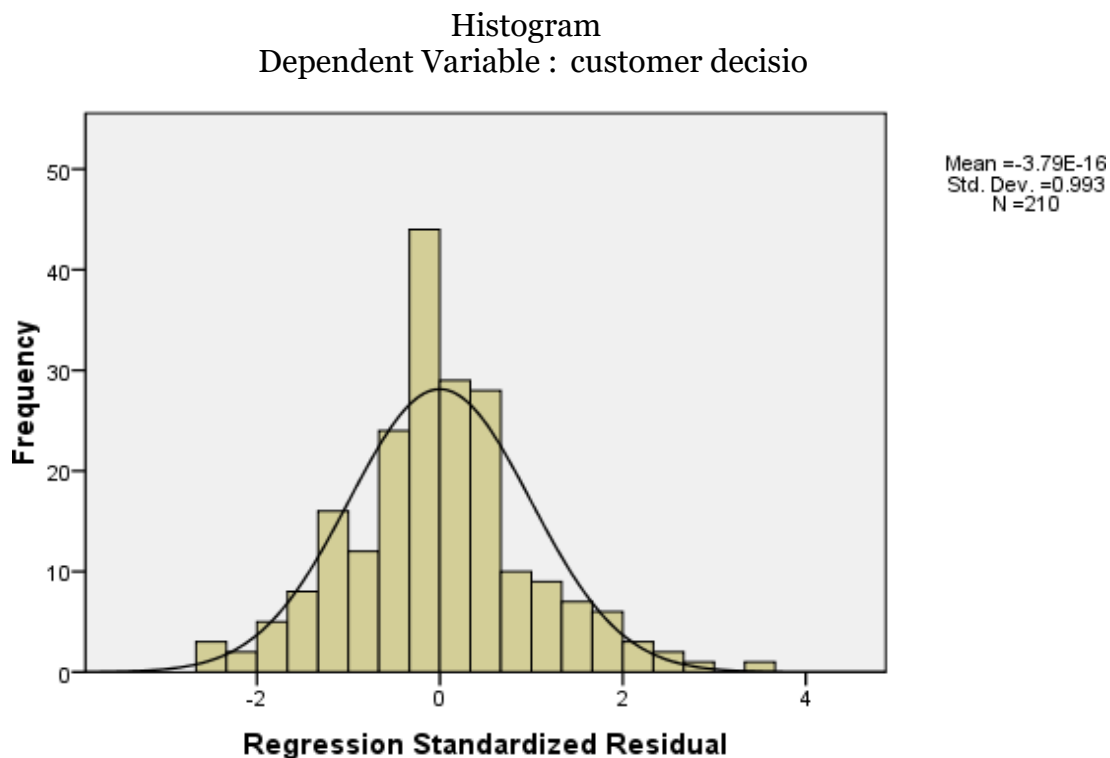


Figure 1

Based on the results of the standard residual histogram, the residual distribution in the regression model shows a pattern that is close to a bell-shaped curve, although there is a slight skewness to the right. The normal curve shown confirms that most of the residual values are concentrated around zero, with a symmetrically decreasing spread towards the left and right tails. Statistically, the mean value of the standard residual is around 0 (-3.79E-16), very close to zero, and its standard deviation is 0.993, close to the ideal number, namely

1. The number of samples used was 210, which is a large enough number to support visual validity of the normal distribution of residuals.

Normal P.P Plot of Regression Standarized Residual  
Dependent Variable : Customer decisions

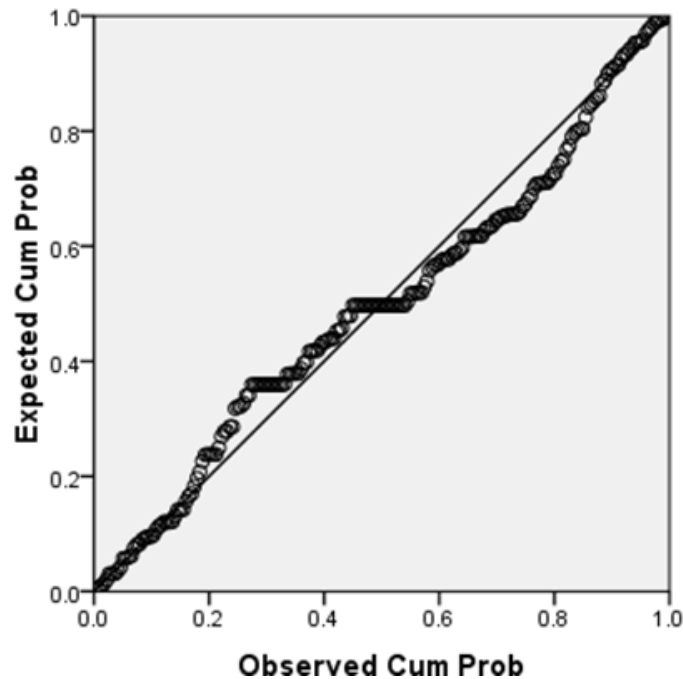


Figure 2

PP Plot is used to evaluate whether the residuals of the regression model follow a normal distribution, where if the residuals are normal, the points will follow the diagonal line from the bottom left to the top right. Based on the graph shown, most of the points are quite close to the diagonal line, although there are slight deviations in the middle and ends of the curve. This pattern still shows good alignment with the normal distribution. There are no extreme deviations or systematic patterns that indicate a violation of the normality assumption. Therefore, it can be concluded that the residuals of the regression model for the Customer Decision variable follow a normal distribution. This result is also supported by the residual histogram and the previous Kolmogorov-Smirnov test (p-value = 0.083 > 0.05), which confirm that the normality assumption has been met. Thus, the regression model can be considered valid in terms of normality, and the regression analysis can be continued to test other assumptions such as multicollinearity, heteroscedasticity, and autocorrelation.

These results indicate that visually, the assumption of normality is met. However, to avoid subjective bias from the interpretation of the graph, the Kolmogorov-Smirnov test was also carried out. The results of the KS test showed a significance value of 0.083, which is greater than the significance level

of 0.05. Thus, the null hypothesis ( $H_0$ ) stating that the residual data is normally distributed is not rejected. This means that there is not enough evidence to conclude that the residuals are not normal.

Table 3  
One-Sample Kolmogorov-Smirnov Test

	<i>Unstandardized Residual</i>
<i>N</i>	210
<i>Normal Parameters<sup>a</sup></i>	Mean .0000000
	Std. Deviation 1.50632069
<i>Most Extreme Differences</i>	Absolute .087
	Positive .081
	Negative -.087
<i>Kolmogorov-Smirnov Z</i>	1,261
<i>Asymp. Sig. (2-tailed)</i>	.083

Source: Processed questionnaire data, 2025

Overall, both from the visual test (histogram) and statistical test (Kolmogorov-Smirnov), it can be concluded that the regression residual data in this study is normally distributed. Therefore, the assumption of normality has been met and the linear regression model used to analyze the influence of Digital Marketing, service quality, and Brand Image on customer decisions at BNCTL, Timor Leste, is declared valid to proceed to the next stage of analysis.

Tabel 4  
Multicollinearity Test (Coefficientsa)

Model		Collinearity Statistics	
1	<i>Digital Marketing</i>	Tolerance	VIF
	Quality of Service	.621	1,610
	<i>Brand Image</i>	.474	2.112
		.419	2.384

Source: Processed questionnaire data, 2025

The multicollinearity test aims to evaluate whether there is a high linear relationship between independent variables in the regression model, which can disrupt the stability of the regression coefficient estimate. The two main indicators used in this test are the Tolerance value and the Variance Inflation Factor (VIF). In general, a low Tolerance value (less than 0.10) or a high VIF value (more than 10) indicates the potential for serious multicollinearity.

Based on the results of the regression analysis in this study, the Tolerance value was obtained as much as 0.621 for the Digital Marketing variable, 0.474 for Service Quality, and 0.419 for Brand Image. Meanwhile, the VIF value of each variable is 1.610; 2.112; and 2.384. All Tolerance values are far above the minimum threshold of 0.10, and the VIF value is also far below the maximum limit of 10 which is conventionally considered an indicator of high multicollinearity.

Thus, it can be concluded that there are no significant symptoms of multicollinearity among the independent variables in this model. This condition indicates that each independent variable provides a unique and non-redundant contribution to the regression model. Therefore, the regression model built is considered to meet the assumption of being free from multicollinearity and is worthy of being continued to the next stage of inferential analysis.

Scatterplot  
Dependent Variable : Customer decisions

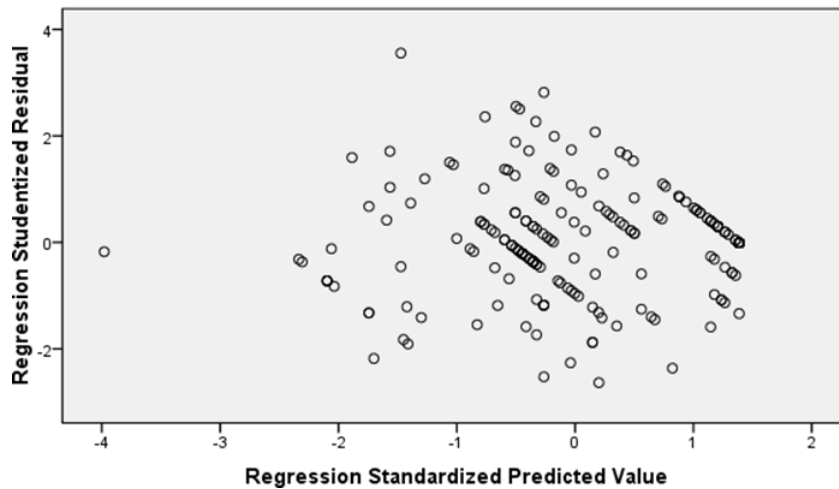


Figure 3. Heteroscedasticity Test

In the scatterplot image of the residuals against the predicted values, the residual points are randomly distributed and evenly spread around the zero line without forming a clear or systematic pattern. This condition indicates that the residual variance is constant throughout the range of independent variable values. Thus, the assumption of homoscedasticity is met and there is no problem of heteroscedasticity in the regression model. Therefore, the results of the regression coefficient estimation in this study are valid and reliable.

Tabel 5. Glejser Test

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2,934	.528		5,561	.000
Digital Marketing	.006	.025	.021	.245	.807
Quality of Service	-.032	.033	-.094	-.954	.341
Brand Image	-.077	.044	-.185	-1,775	.077

*Source: Processed questionnaire data, 2025*

The Glejser Test is used to test whether the independent variables have a significant effect on the absolute value of the residual (Abresid), which if significant ( $p\text{-value} < 0.05$ ) indicates heteroscedasticity. The test results show that the Digital Marketing variable ( $p = 0.807$ ), Service Quality ( $p = 0.341$ ), and Brand Image ( $p = 0.077$ ) do not have a significant effect on the absolute value of the residual. Therefore, there is no indication of heteroscedasticity in this regression model, so that the residual variance is considered constant at all levels of the independent variables. Thus, the assumption of homoscedasticity is met and the regression results are reliable and efficient.



## Hypothesis Testing

Hypothesis testing in this study aims to determine the effect of Digital Marketing, Service Quality, and Brand Image on BNCTL Customer Decisions using multiple linear regression analysis through SPSS. The analysis was carried out both simultaneously (F-test) and partially (t-test), with significant criteria if the Sig. value  $< 0.05$  and  $t\text{-count} > 1.96$ . The results of this test help evaluate how effective the three variables are in influencing customer decisions, seen from the contribution, direction, and strength of influence of each variable through the  $R^2$ , Beta, and significance values. Table 5.26 is used to answer the research hypothesis

Table 6.  
Research Model Results

Model	R	R Square	Adjusted Square	Std. Error of the Estimate
1	0.862	0.743	<b>0.740</b>	1,517

Source: Processed questionnaire data, 2025

Table 7.  
ANOVA Results (F Test)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1373,893	3	457,964	198.97	<b>0,000</b>
Residual	474,221	206	2,302		
Total	1848,114	209			

Source: Processed questionnaire data, 2025

Table 8.  
Multiple Linear Regression Results

Independent Variables	Unstandardize d Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	2,689	0.800		3,360	<b>0.001</b>
Digital Marketing (X1)	0.078	0.038	0.092	2,044	<b>0.042</b>
Service Quality (X2)	0.153	0.050	0.156	3,047	<b>0.003</b>
Brand Image (X3)	0.828	0.066	0.684	12,548	<b>0,000</b>

Source: Processed questionnaire data, 2025

### Hypothesis 1. 1. Digital Marketing (X1) has a positive and significant influence on customer decisions at BNCTL (Y)

Based on table 4.6, it is known that Digital Marketing has a positive and significant effect on Customer Decisions. The test results show that the influence value of Digital Marketing is 0.078 with a t-statistic of 2.044 and a significance of 0.042. Because the t-statistic value is  $> 1.96$  and the p-value  $< 0.05$ , the influence of Digital Marketing on Customer Decisions is declared significant so that the first hypothesis is accepted. This means that the better the implementation of Digital Marketing, the more it will increase customer decisions in choosing products or services at the Banco Nacional de Comercio de Timor Leste.

**Hypothesis 2. Service Quality (X2) has a positive and significant influence on customer decisions at BNCTL (Y)**

Based on table 4.6, it is known that service quality has a positive and significant effect on Customer Decisions. The test results show the influence value of Service Quality of 0.153 with a t-statistic of 3.047 and a significance of 0.003. A t-statistic value greater than 1.96 and a p-value below 0.05 indicates that the influence of Service Quality on Customer Decisions is significant so that the second hypothesis is accepted. Thus, the better the quality of service provided by the bank, the more customers' decisions will increase to use the bank's products or services.

**Hypothesis 3. Brand Image (X3) has a positive and significant influence on customer decisions at BNCTL (Y)**

Based on table 5.26, it is known that Brand Image also has a positive and very significant effect on Customer Decisions. The coefficient value of Brand Image influence is 0.828 with a t-statistic of 12.548 and a significance of 0.000. With a t-statistic value much greater than 1.96 and a p-value of less than 0.05, so the third hypothesis is accepted. This shows that a strong Brand Image greatly determines customer decisions in choosing products and services at Banco Nacional de Comercio de Timor Leste.

**3. CONCLUSION AND SUGGESTIONS**

Based on the results of the analysis of the problem formulation, research objectives, theoretical studies, and hypothesis testing results, it can be concluded that digital marketing, service quality, and brand image have a positive and significant influence on customer decisions at Banco Nacional de Comércio de Timor-Leste (BNCTL). Effective digital marketing has been proven to be able to attract the attention of potential customers through various informative and responsive online channels. Professional and friendly service quality improves customer experience

and encourages fast and confident purchasing decisions. Meanwhile, BNCTL's strong brand image, based on national reputation and public trust, creates a positive perception that shapes customer loyalty.

These three variables not only have an individual influence, but also simultaneously provide a significant contribution to customer decisions. This is reflected in the coefficient of determination (R Square) of 0.743, which indicates that 74.3% of the variation in customer decisions can be explained by digital marketing variables, service quality, and brand image. The remaining 25.7% is influenced by other factors outside this research model. This finding reinforces the importance of an integrated and adaptive strategy to address customer needs and expectations in the context of an increasingly digitalized and competitive banking industry.

To strengthen its position amidst changing consumer behavior and the challenges of the digital era, BNCTL is advised to develop a comprehensive strategic approach. In the realm of digital marketing, banks need to optimize their digital platforms through interactive content, personalized communications, and more active customer engagement, including through collaboration with fintech. In terms of service, quality improvement can be achieved with regular staff training, utilization of service technology, and continuous management of customer input. On the brand image side, BNCTL needs to maintain a professional and trustworthy image through strong communication campaigns, real social engagement, service transparency, and regular image monitoring. By implementing these steps consistently, BNCTL can increase customer loyalty and satisfaction, expand market share, and strengthen its role as a superior and trusted national financial institution in Timor-Leste.

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