IJEBAS
International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration

THE INFLUENCE OF SERVICE INNOVATION AND SELF SERVICE TECHNOLOGY ON E-LOYALTY IN USING CASH BNI MANAGEMENT THROUGH E-SATISFACTION ON PT BANK NEGARA INDONESIA (PERSERO) Tbk. MEDAN BRANCH OFFICE

Mufida Sari[1], Endang Sulistya Rini[2], Syafrizal Helmi Situmorang[3]
[1,2,3]Master of Management Science Program, Universitas Sumatera Utara
[*]Corresponding e-mail: mufidasari95@gmail.com

Abstract

PT Bank Negara Indonesia (Persero) Tbk presents Cash Management financial services with various flagship features such as account information, transfer management, mass management, liquidity management and various other features which are expected to be able to answer the needs and provide ease of transactions and increase customer loyalty to PT Bank Negara Indonesia (Persero) Tbk. This study aims to analyze directly and indirectly the effect of Service Innovation and Self-Service Technology on E-loyalty in using Cash Management through E-Satisfaction at PT Bank Negara Indonesia (Persero) Tbk Medan Branch Office. This type of research is associative research. The types of data used are primary data and secondary data obtained from interview questionnaires and documentation studies. The population in this study were all BNI cash management customers at PT Bank Negara Indonesia Medan Main Branch Office, totaling 144 corporations/customers. Sampling in this study uses probability sampling technique. The criterion used is census sampling. Census sampling is a sampling technique by taking the entire total population to be used as a sample. The number of samples was 144 respondents. The data analysis method used is SEM-PLS. The results showed that the service innovation variable and the self service technology variable directly affect e-satisfaction and the service innovation variable and the self service technology variable directly affect e-loyalty, then the e-satisfaction variable directly affects e-loyalty, the service innovation variable indirectly has a significant effect on e-loaty through e-satisfaction, and the self service technology variable indirectly has a significant effect on loyalty through e-satisfaction.

Keywords: ***Service Innovation, Self Service Technology, E-Loyalty, E-Satisfaction***

1. INTRODUCTION

The development of information technology has brought world society's life into a new era. The use of this technology has brought significant changes in various sectors in helping every company, organization and agency to develop various modern features with the aim of providing convenience and experience for users of these technological developments to use them effectively. All daily human activities are supported by this technology. This is no exception in running business in companies, including in the banking sector. In this case, the new technological findings must make it easier and provide comfort for customers in accessing banking services. Bankalways striving to gain absolute power and market share, knowing their competition and serving a market that has relatively few alternative options (Wewege & Thomsett, 2020). The development of digitalization in banking services has also increased the frequency and volume of transactions for customers, both individuals and companies. PT Bank Negara Indonesia (Persero) Tbk is one of the state-owned banks that assists the government in realizing the market ecosystem digitalization program, both in terms of financing and digital transaction facilities. In the era of technological disruption, BNI has become one of the banks that has advantages based on digital technology PT Bank Negara Indonesia (Persero)Tbk

presents the Cash Management financial service which is an online application aimed at institutions or companies to meet banking transaction needs with various reliable features such as account information, transfer management, mass management, liquidity management and various other features which are expected to be able to answer needs and provide ease of transactions and increase customer loyalty. E-loyalty is the attitude of customers who make repeat visits to websites and make frequent online purchases (Kaabachi et al., 2020). So in this case, to create loyalty for customers, Bank Negara Indonesia must be committed to providing an easy transaction process for customers in all sectors for individuals and companies.

There are 5 (five) complaints that customers often experience due to BNI's poor cash management. The most frequent complaint is that the transaction flow is complicated. Customers have difficulty with this. BNI's cash management will continue to be improved in terms of solutions, service quality, security, efficiency, governance, emergency situation handling systems, and after sales service which are the main factors in improving cash management services at BNI so that it continues to be the customer's first choice and always the one best in serving its customers with continuous improvements, for increasingly effective and efficient customer financial management. The ease of using BNI's cash management features is a perspective at the e-satisfaction level. This is because the easier the process of using the feature, the customer will have a good level of satisfaction with the application feature. Customers are not yet interested in the BNI cash management feature, this is due to difficulties when using it in transactions. E-satisfation is when products and services exceed consumer expectations, the level of buyer satisfaction after comparing the perceived experience and expectations with the post-purchase experience (Ahmad et al., 2020).Previous literature explained that the better the quality of electronic services provided, the more satisfied customers will be (Goutam & Gopalakrishna, 2018; Jeon & Jeong, 2017; MA Khan, Zubair, & Malik, 2019; Zeglat et al., 2016).

Customers are of the opinion that BNI's cash management network often experiences disruptions which hinder the process of banking transactions. Explained in research (Kassim & Abdullah, 2010; Rajaobelina et al., 2014; Yu et al., 2015) suggests that to encourage e-satisfaction, banks must develop an online system that is trustworthy, safe, responsive, tailored to users, feels safe/private, and has quality information. In this context, banks must provide online transaction procedures, information on how to handle problems, and instructions on how to use cash management services safely, so service innovation is needed to minimize complaints from customers. It is explained that service innovation is an important sustainable business strategy for many companies (Zhang et al., 2018). Service innovation refers to changes in the characteristics of the service itself (Yang et al., 2018). Service innovation is not just the development of new products or services, but also innovative activities that improve and improve the performance of products, services and delivery systems (Tsu, 2019). In this case, the features in BNI cash management are considered to still require improvements and new innovations so that customers can more easily use BNI cash management.

Service innovation can take many forms, such as the development of new digital platforms, the introduction of new service delivery channels, the creation of new service offerings, or the improvement of existing services. Service innovation is important for businesses because it allows them to differentiate themselves from their competitors, increase customer satisfaction and loyalty, and increase profits. It is explained that self-service technology is technology that allows customers to carry out transactions or obtain services without direct assistance from staff or service officers (Lupiyoadi, 2013). Common examples of self-service technology are ATM machines, self-checkouts in shops, ticket machines at train stations, and

customer service applications that can be accessed via mobile devices. Self-service technology allows customers to carry out transactions and obtain services more quickly and efficiently, and also provides flexibility and convenience in accessing services. There are several BNI cash management services, including BNI Direct (Internet Banking), Integrated Payment Solution, Virtual Account Debit and Credit, and Student Payment Center for Higher Education. Self-service technology will later meet customer needs in transactions with more sophisticated equipment and higher capabilities. Along with the recent development of the banking system, customers have more expectations of the banking network (Pooya, 2020). Based on the problem description described above, researchers want to see how e-satisfaction affects e-loyalty for using PT Bank Negara Indonesia (Persero) Tbk banking services in cash management applications. Satisfaction with current electronic banking services can be assessed from the convenience and innovation of digital banking. Based on the description of the problem above, the researcher will conduct research with the title "The Influence of Service Innovation and Self Service Technology on E-loyalty in using Cash Management through E-Satisfaction at PT Bank Negara Indonesia (Persero) Tbk Medan Branch Office".

Based on the background explained above, the following problems can be identified:

1. Customers are still confused (not yet user friendly) about being able to access the application features without intense socialization from Bank Negara Indonesia.
2. Customers still feel dissatisfied with using BNI cash management based on customer convenience in transactions and unstable networks.
3. BNI cash management has not been able to provide optimal services in financial transactions, the features in BNI cash management are considered to still require improvements and new innovations so that customers can more easily use BNI cash management
4. BNI cash management has not been able to provide fast and efficient service in using the application due to the design display which confuses customers and the usage flow steps which are not detailed in the application.

Literature review

1. E-Loyalty

The customer loyalty circle is related to the psychology of the customer experience, but more importantly understanding customer psychology, smart marketers can understand the fact that it is necessary to change mindsets as it relates to the customer journey (Fleming, 2017). As explained further by Griffin (2016), loyalty refers more to the form of behavior of decision-making units to make continuous purchases of goods/services of a selected company. E-loyalty is a customer's intention to visit a website again with or without online transactions. E-loyalty is a consumer attitude that benefits online sellers, resulting in repeat purchases. Customer loyalty is needed by companies because without customer loyalty, companies will not be able to develop (Jeon, 2017). Customer loyalty will be the key to success for a company in the long term. This is because customer loyalty has strategic value for the company. It can be concluded that e-loyalty is an extension of conventional loyalty where e-loyalty is more directed towards the intention of returning to a website while conventional loyalty is more towards the continuous use of a company's goods/services. According to Oliver (2014), dividing e-loyalty into four dimensions, namely cognitive, affective, conative, and action, is explained as follows:

1. High desire to re-transact on the application, have a greater desire to reuse the application, this is due to the suitability of the application to customer needs in transactions.

2. Placing the application as the main choice, the application used is a core/important choice for customers as the process flow of using the application becomes more effective.
3. Recommend to people, provide important narratives for other people in using an application so as to create interest in the application so that it can be used by existing customers.
4. Don't move to another application, stick to one application that you feel is profitable in answering a solution to customer needs.

2. E-Satisfaction

In simple terms, satisfaction can be defined as an effort to make something adequate (Tjiptono, 2015). It is further explained that satisfaction is a response to consumer fulfillment in the form of an expression of feelings of happiness or displeasure obtained by someone by comparing the results of work, both products, that can be perceived and expected (Oliver, 2014). E-satisfaction is a consumer's assessment of the internet digitalization experience compared to their experience using the old (traditional) method (Amin, 2016). It can be explained that electronic satisfaction (e-satisfaction) is customer satisfaction regarding previous purchasing or usage experiences with the company's products and services. Ahmad et al., (2017) explained that e-satisfaction is when products and services exceed consumer expectations, the level of buyer satisfaction after comparing the perceived experience and expectations with the post-purchase experience. It can be concluded that e-satisfaction is a consumer behavioral attitude that assesses something in a positive direction in terms of the use of online-based things as a form of technological development in the field of marketing. Furthermore, Budiman et al., (2020), explained that there are dimensions of e-satisfaction including the following:

1. Convenience(Convenience), convenience is the level of comfort felt by customers from using a mobile banking application which includes ease of use and comfort in using the system as well as security in using the application. With mobile banking, customers do not need to go to the bank to carry out banking transactions.
2. Merchandising, merchandisingin this case are factors related to selling and offering products and services online.
3. Serviceability(Service Ability), feedback on application design, availability of banking service products, and customer service are factors that influence e-satisfaction.

3. Service Innovation

Successful development of new services is a challenge, because services are process and experience based and often involve human interaction during delivery (Gustafsson et al., 2018). With each new service, it is important to achieve a competitive advantage to generate profits. one way to differentiate services is to create an engaging service environment that enhances the customer experience (Kristensson et al., 2018). Service Innovation is an important sustainable business strategy for companies (Yu Sheng & Ibrahim, 2019). It was further explained that service innovation is not just the development of new products or services, but also innovative activities that improve and increase the performance of products, services and delivery systems (Tsu, 2019). Service Innovation is all about making improvements to products and services in line with changing demands at a time of innovation (Kanwal & Yousaf, 2019). It can be concluded that service innovation is a renewal activity carried out by a company to improve services and produce new services. Measuring service innovation will influence the success of

the company in carrying out innovation. As explained by Go & Yu (2023) states that measuring service innovation can be done through:

1. Service knowledge, the form of information provided to users is tailored to their needs.
2. Management collaboration, there is communication that exists between users and application designers in implementing an applicable system.
3. Brand value, the value that a brand has and is embedded in the minds of consumers.
4. Service systems, procedures or procedures for providing services to customers involve all the facilities owned.

4. Self Service Technology

Self-service technologyreplacing elements in retail operations that do not require interpersonal interaction and this shows that many frontliner functions are being replaced, both by machines installed in outlets and electronic services available outside the outlet (Fitzsimmon, 2013). Self-Service is ordering and service carried out independently. That could be said too. Self-service technology can be defined as a technology that allows customers to carry out their own transactions and services without relying on employees (Curran & Mueter, 2015). It was further explained by Chikazhe et al., (2023), explaining that self-service technology is that the service concept which started from the original face-to-face with services that had to be met in person evolved into a trend that services can be facilitated using technology. It can be concluded that self-service technology is an application-based technology that is run by consumers to provide maximum personal service as a step of ease and comfort in carrying out a transaction process for a particular need. As explained by Tsao & Hsieh (2015), the dimensions of self-service technology (SST) include:

1. Functionality,these dimensions represent the functional characteristics of self-service technology (SST),
2. Enjoymentis the perception of pleasure and interest that users encounter when using and after using the SST device.
3. Security/Privacy, refers to the freedom from risk or doubt that the user will feel. The facilities provided by the SST device build consumers' sense of security and comfort when operating it.
4. Designcovers the entire appearance of the SST, which creates a good aesthetic appearance. The beauty of the shape and arrangement of the SST device creates an appearance that attracts users.
5. Assurance(assurance) describes confidence due to the reputation and competence of the SST device which prioritizes trust due to the reputation and competence of the SST provider. Assurance can create a sense of security for consumers. This dimension is important in the service industry where consumers feel unsure of the industry's capabilities because it carries high risks.

5. Conceptual Framework

The theoretical framework is explained as a conceptual basis for answering research problems, the preparation of the framework cannot be separated from efforts to review the literature on the results of previous research (Situmorang, 2017).

a. The Relationship between Service Innovation and E-Loyalty

According to Owano et al., (2014) it is a change made by a company to become better and able to meet market needs. Service innovation is not just the development of new products or services, but also innovative activities that improve and improve the performance of products,

services and delivery systems (Tsu, 2019). Innovation refers to a combination of various processes that influence each other. Innovation is not the concept of a new idea, new discovery or the development of a new market, but innovation as a description of all these processes (Kotler & Keller, 2016). This is in line with research conducted by Bin Go & Kaidong Yu (2023) explaining the relationship between service innovation as design thinking to shape consumer knowledge.

b. The Relationship between Self-service technology and E-Loyalty

Self-service technology(SST) is a technological intermediary that allows consumers to produce their own services without depending on employees, for example ATMs and company services via the internet (Lupiyoadi, 2013). Self-Service is ordering and service carried out independently. It could also be said that self-service technology can be interpreted as a technology that allows customers to carry out their own transactions and services without relying on employees (Curran & Mueter, 2015). Self-service technologyreplacing elements in retail operations that do not require interpersonal interaction and this shows that many frontliner functions are being replaced, both by machines installed in outlets and electronic services available outside the outlet (Fitzsimmon, 2013).

c. The Relationship between E-Satisfaction and E-Loyalty

Oliver (2014) explains that satisfaction is a response to consumer fulfillment in the form of expressing feelings of happiness or displeasure that a person obtains by comparing the results of their work, both the products they perceive and their expectations. Whether consumers feel satisfied or not really depends on the perceived performance compared to consumer expectations. Performance that is lower than expectations will make consumers feel dissatisfied, conversely, if performance is the same as expectations, then consumers will be satisfied. E-satisfaction is a consumer's assessment of the internet digitalization experience compared to their experience using the old (traditional) method (Amin, 2016). When customers are satisfied with a website, they are more willing to interact with that website in the future, thus becoming loyal customers. There are several reasons for satisfied customers: turning into loyal customers. For example, switching to another website may involve some switching costs.

d. The Relationship between Service Innovation and E-Loyalty Through E-Satisfaction

Described by Blommerde & Lynch (2014) service innovation as the ability “to anticipate changes in customer behavior, needs and expectations, and consequently, the competence to design services better and create new service concepts. Innovation services are seen as a persuasive way for organizations to create value and competitive advantage (Randhawa & Scerri, 2015). This is in line with research conducted by Yiwei Gong & Marjin Janseen (2015) explaining the benefits and risks of innovation services in banking cases. Owano et al., (2014) stated that service innovation focuses on making changes to the service process, this activity is carried out to attract more attention from consumers.

e. The Relationship of Self-Service Technology to E-Loyalty Through E-Satisfaction

Chikazhe et al., (2023) explained that self-service technology is that the service concept which started from the original face-to-face with services that had to be met in person evolved into a trend that services can be facilitated using technology. Self-service technology is a

IJEBAS
International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration

technology that allows customers to make transactions or carry out services independently, just like services carried out by employees directly (Aree et al., 2023).

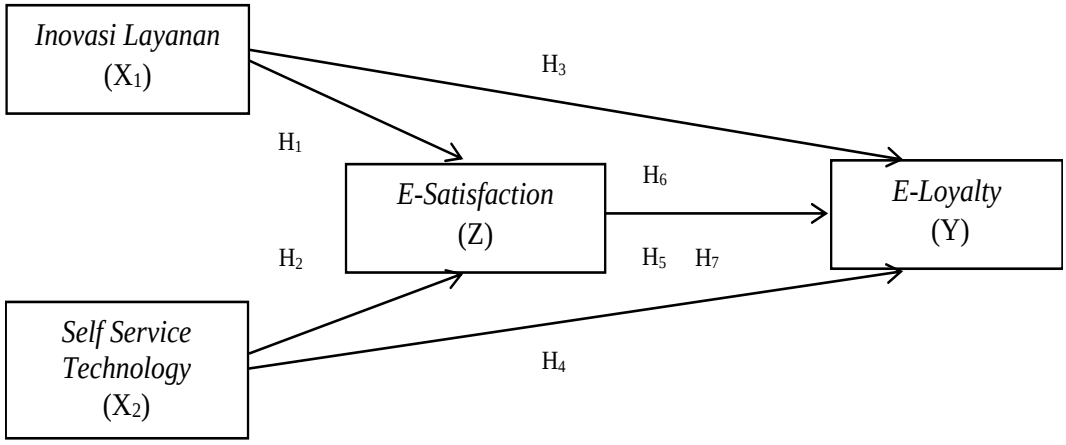


Figure 1. Conceptual Framework
Source: by researcher (2024)

Research Hypothesis

A hypothesis is a temporary conclusion obtained from preparing a framework of thought in the form of a deductive proposition. Formulating a hypothesis means forming a proposition in accordance with its possibilities and level of truth (Situmorang, 2017). The hypotheses in the research include the following:

a. Service innovation directly has a significant effect on e-satisfaction in using BNI Cash Management at PT Bank Negara Indonesia (Persero) Tbk Medan Branch Office?
b. Self-service technologydirectly has a significant effect on e-satisfaction in using BNI Cash Management at PT Bank Negara Indonesia (Persero) Tbk Medan Branch Office?
c. E-satisfaction directly has a significant effect on e-loyalty in using BNI Cash Management at PT Bank Negara Indonesia (Persero) Tbk Medan Branch Office?
d. Service innovation directly has a significant effect on e-loyalty in using BNI Cash Management at PT Bank Negara Indonesia (Persero) Tbk Medan Branch Office?
e. Self-service technologydirectly has a significant effect on e-loyalty in using BNI Cash Management at PT Bank Negara Indonesia (Persero) Tbk Medan Branch Office?
f. Service innovation indirectly has a significant effect on e-loyalty in using BNI Cash Management through e-Satisfaction at PT Bank Negara Indonesia (Persero) Tbk Medan Branch Office?
g. Self-service technologyDoes it indirectly have a significant effect on e-loyalty in using BNI Cash Management via e-Satisfaction at PT Bank Negara Indonesia (Persero) Tbk Medan Branch Office?

2. RESEARCH METHODS

Types and Research Methods

This type of research uses associative research. Associative research is research that aims to determine the relationship between two or more variables (Sugiyono, 2017). With this research the author wants to see how service innovation, self-service technology, and e-satisfaction affect e-loyalty in using BNI Cash Management at PT. Bank Negara Indonesia

(Persero) Medan Branch Office. This research was carried out in structured research stages through certain research stages. The initial stage starts from population identification, variable identification, operational definitions, sources and data collection techniques and then determining the analytical model used as a tool in testing the hypotheses proposed in the research to draw research conclusions. In accordance with the research objectives, this type of research can be used to empirically prove the influence of service innovation and self-service technology on e-loyalty in using BNI cash management through e-satisfaction at PT. Bank Negara Indonesia (Persero) Medan Branch Office.

Location and Time of Research

This research was carried out at PT Bank Negara Indonesia (Persero) Medan Branch Office, Jl. Youth No.12, AUR, Medan Maimun, Medan City, North Sumatra 20212, Indonesia. The research will be carried out in stages starting in August 2022 - March 2024.

Population and Sample

Population is a group that can be identified from elements of interest to researchers and related to information problems (Hair et al., 2017). According to Malhotra et al., (2017) population is a combination of all elements that have a similar set of characteristics that cover the whole for purposes of marketing research problems. Determination of the target population is carried out in accordance with the object elements to be identified for research. The population in this study were all cash management customers of BNI Medan Branch Office (Jl. Pemuda No.12, AUR, Medan Maimun, Medan City) totaling 144 corporations/respondents. According to Malhotra et al., (2017), explains that a sample is a subgroup of population elements selected to participate in a study. If the population is large and it is impossible for the researcher to study everything in the population, for example due to limited data, energy and time, then the researcher can use a sample from the population, the conclusions learned from the sample will be applicable to the population. The sampling technique in this research is to use a non-probability sampling technique using a census sampling technique. Census sampling is a sampling technique by taking the entire population to be used as a sample (Sugiyono, 2017: 78). The criteria for respondents are corporate users for at least 6 months. The number of research samples taken in this study was 144 corporations/respondents. By distributing questionnaires it focuses on corporate customers who use BNI Cash Management.

Data Collection Techniques

The completeness of the data will affect the quality of what is analyzed, therefore the data will have an impact on the accuracy of the decisions taken (Situmorang, 2017). Data collection is carried out by: Questionnaire, a questionnaire is a questionnaire that is prepared in a structured manner to obtain accurate data in the form of direct responses from respondents.

Short interviews via verbal questions and answers with company leaders to obtain general information and as a source of additional information.

Documentation, namely the method used by recording videos, taking photos and recording sound as accurate evidence of recording specific sources of information from essays/writings, books, laws, and so on.

Data Analysis Techniques

Validity and Reliability Test

Hasil Uji Validitas Inovasi Layanan (X_1)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	**Corrected Item-Total Correlation**	Cronbach's Alpha if Item Deleted
P1.1	30.13	20.602	**.813**	.929
P1.2	30.13	20.809	**.722**	.935
P1.3	30.53	19.292	**.849**	.926
P1.4	30.30	20.217	**.795**	.930
P1.5	30.33	20.575	**.805**	.930
P1.6	30.20	20.993	**.821**	.929
P1.7	30.10	21.679	**.759**	.934
P1.8	30.47	19.706	**.752**	.935

Sumber: Data diolah SPSS Versi. 25 (2023)

Hasil Uji Validitas *Self Service Technology* (X_2)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	**Corrected Item-Total Correlation**	Cronbach's Alpha if Item Deleted
P2.1	38.67	32.920	**.796**	.925
P2.2	38.47	34.395	**.760**	.928
P2.3	38.63	32.654	**.820**	.924
P2.4	38.53	33.637	**.670**	.931
P2.5	38.47	34.464	**.672**	.931
P2.6	38.73	31.030	**.843**	.922
P2.7	38.80	30.855	**.802**	.924
P2.8	38.63	34.309	**.557**	.936
P2.9	38.83	30.764	**.787**	.925
P2.10	38.93	29.926	**.781**	.927

Sumber: Data diolah SPSS Versi. 25 (2023)

Hasil Uji Validitas *E-Satisfaction* (Z)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	**Corrected Item-Total Correlation**	Cronbach's Alpha if Item Deleted
Z.1	34.90	23.886	**.646**	.938
Z.2	34.90	23.748	**.736**	.934
Z.3	35.03	23.206	**.714**	.935
Z.4	35.00	22.483	**.895**	.925
Z.5	34.97	22.723	**.846**	.928
Z.6	35.10	22.093	**.920**	.923
Z.7	35.07	22.547	**.770**	.932
Z.8	35.07	22.478	**.728**	.934
Z.9	35.17	22.213	**.706**	.937

Sumber: Data diolah SPSS Versi. 25 (2023)

Hasil Uji Validitas *E-Loyalty* (Y)

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	**Corrected Item-Total Correlation**	Cronbach's Alpha if Item Deleted
Y.1	30.93	13.513	**.744**	.887
Y.2	30.87	13.568	**.803**	.883
Y.3	30.77	14.254	**.650**	.896
Y.4	31.10	12.369	**.796**	.883
Y.5	31.00	14.069	**.632**	.897
Y.6	30.87	15.016	**.612**	.899
Y.7	30.90	13.955	**.798**	.885
Y.8	31.13	13.085	**.623**	.903

Sumber: Data diolah SPSS Versi. 25 (2023)

Based on the table above, the results of statistical validity tests on the variables are known service innovation, self-service technology, e-satisfaction and e-loyalty that the corrected item total correlation value for all statement items has a value of > 0.361, so it can be concluded that the results of the research data on each available statement item are valid/legitimate.

Hasil Uji Reliabilitas Variabel Inovasi Layanan (X_1), *Self Service Technology* (X_2), *E-Satisfaction* (Z) dan *E-Loyalty* (Y)

Variabel	Nilai *Cronbach Alpha*
X_1	0,939
X_2	0,934
Z	0,939
Y	0,904

Sumber: Data diolah SPSS Versi. 25 (2023)

Based on the table above, it is known that the Cronbach's alpha value for all research variables is > 0.60, so it can be said that the results of the reliability test for all variables are reliable.

Descriptive Statistical Analysis

According to Malhotra et al., (2017) descriptive analysis is carried out to find out and explain the characteristics of the variables you want to study. The characteristics of the variables that want to be studied come from each answer given by the respondent which comes from the questionnaire that has been created by the researcher. These characteristics include average (mean), standard deviation, maximum, minimum and others.

Inferential Statistical Analysis

This research uses the PLS-SEM analysis method. Hair et al., (2017), argue that SEM is a 2nd generation multivariate data analysis method. In the PLS (Partial Least Square) method, the analysis technique used is as follows Hair et al., (2017):

1. Outer Model Analysis

Outer model analysis is carried out to ensure that the measurements used are suitable for use as measurements (valid and reliable). In this model analysis, it specifies

the relationship between latent variables and their indicators. Outer model analysis can be seen from several indicators:

a. Convergent Validity is an indicator that is assessed based on the correlation between the item score/component score and the construct score, which can be seen from the standardized loading factor which describes the magnitude of the correlation between each measurement item (indicator) and its construct. An individual reflexive measure is said to be high if it correlates > 0.7 with the construct to be measured but an outer loading value between 0.5 – 0.6 is considered sufficient.
b. Discriminant Validity(Discriminant validity) is a measurement model with reflexive indicators assessed based on cross-loading of measurements with constructs. If the correlation of the construct with the measurement item is greater than the size of the other construct, it shows that their block size is better than the other blocks. Meanwhile, another method for assessing discriminant validity is by comparing the squareroot of average variance extracted (AVE) value.
c. Composite reliability(Composite reliability) is an indicator for measuring a construct that can be seen in the latent variable coefficients view. To evaluate composite reliability, there are two measuring tools, namely internal consistency and Cronbach's alpha. In this measurement, if the value achieved is > 0.70, it can be said that the construct has high reliability. Cronbach's Alpha is a reliability test carried out to strengthen the results of composite reliability. A variable can be declared reliable if it has a Cronbach's alpha value > 0.7.

2. Inner Model Analysis

Inner model analysis is usually also called inner relations or structural model and substantive theory which describes the relationship between latent variables based on substantive theory. The inner model analysis can be evaluated by using R-square for the dependent construct, Stone-Geisser Q-square test for predictive relevance and t test and the significance of the structural path parameter coefficients. Changes in the value of R-square can be used to assess the influence of certain independent latent variables on the dependent latent variable whether they have a substantive influence (Hair et al., 2017).

3. Hypothesis test

Hypothesis testing can be seen from the t-statistic value and probability value. To test the hypothesis, namely by using statistical values, the alpha is 5%. So the criteria for accepting or rejecting a hypothesis is that Ha is accepted and H0 is rejected when the t-statistic > t table. To reject or accept a hypothesis using probability, Ha is accepted if the p value <0.05.

3. RESULTS AND DISCUSSION

Results of Respondent Characteristics

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Man	56	38.9	38.9	38.9
	Woman	88	61.1	61.1	100.0
	Total	144	100.0	100.0	
Age					

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-30 Years	87	60.4	60.4	60.4
	31-41 Years	50	34.7	34.7	95.1
	42-52 Years	7	4.9	4.9	100.0
	Total	144	100.0	100.0	

Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Treasurer	49	34.0	34.0	34.0
	financial manager	13	9.0	9.0	43.1
	financial staff	82	56.9	56.9	100.0
	Total	144	100.0	100.0	

Last education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	17	11.8	11.8	11.8
	Masters	9	6.3	6.3	18.1
	Bachelor	117	81.3	81.3	99.3
	SENIOR HIGH SCHOOL	1	.7	.7	100.0
	Total	144	100.0	100.0	

Long Time Using BNI Cash Management

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	> 6 Years	4	2.8	2.8	2.8
	1-2 Years	114	79.2	79.2	81.9
	3-4 Years	23	16.0	16.0	97.9
	5-6 Years	3	2.1	2.1	100.0
	Total	144	100.0	100.0	

Evaluation of Measurements (Outer Model)

a. Convergent Validity

Variable	Statement	*Outer Loading*	Information
Service Innovation	IL1	0.552	Valid
	IL2	0.710	Valid
	IL3	0.753	Valid
	IL4	0.710	Valid
	IL5	0.657	Valid
	IL6	0.677	Valid
	IL7	0.656	Valid
	IL8	0.808	Valid

Self Service Technology	SST1	-0.054	Invalid
	SST2	-0.086	Invalid
	SST3	0.125	Invalid
	SST4	0.129	Invalid
	SST5	0.685	Valid
	SST6	0.795	Valid
	SST7	0.720	Valid
	SST8	0.708	Valid
	SST9	0.819	Valid
	SST10	0.574	Valid
E-Satisfaction	ES1	0.336	Invalid
	ES2	0.665	Valid
	ES3	0.626	Valid
	ES4	0.815	Valid
	ES5	0.805	Valid
	ES6	0.763	Valid
	ES7	0.628	Valid
	ES8	0.823	Valid
	ES9	0.785	Valid
E-Loyalty	EL1	0.644	Valid
	EL2	0.729	Valid
	EL3	0.758	Valid
	EL4	0.744	Valid
	EL5	0.719	Valid
	EL6	0.623	Valid
	EL7	0.739	Valid
	EL8	0.754	Valid

Source: Data processed by Smart-PLS (2023)

Based on the table above, it is known that there are 5 statement constructs that have an outer loading value of <0.5, so these four statement items are eliminated and tested again.

Factor Loading Table II

Variable	**Statement**	***Outer Loading***	**Information**
Service Innovation	IL1	0.550	Valid
	IL2	0.710	Valid
	IL3	0.753	Valid
	IL4	0.710	Valid
	IL5	0.656	Valid
	IL6	0.677	Valid
	IL7	0.657	Valid
	IL8	0.809	Valid
Self Service Technology	SST5	0.809	Valid
	SST6	0.740	Valid
	SST7	0.643	Valid
	SST8	0.863	Valid
	SST9	0.604	Valid

	SST10	0.809	Valid
E-Satisfaction	ES2	0.670	Valid
	ES3	0.629	Valid
	ES4	0.816	Valid
	ES5	0.804	Valid
	ES6	0.766	Valid
	ES7	0.634	Valid
	ES8	0.821	Valid
	ES9	0.786	Valid
E-Loyalty	EL1	0.641	Valid
	EL2	0.731	Valid
	EL3	0.759	Valid
	EL5	0.743	Valid
	EL6	0.718	Valid
	EL7	0.625	Valid
	EL8	0.740	Valid

Source: Data processed by Smart-PLS (2023)

Based on the table above, it is known that all statement constructs have an outer loading value of <0.5.

b. Discriminant Validity

Discriminant validityis the extent to which a construct is truly different from other constructs (the construct is unique). The table below shows the results of AVE (Avarage Variant Extracted).

Table of Average Variance Extracted (AVE) Test Results

Variable	***Average Variance Extracted*(AVE)**
E-Loyalty	0.512
E-Satisfaction	0.554
Service Innovation	0.582
Self Service Technology	0.545

Source: Data processed by Smart-PLS (2023)

Based on the table above, it is known that the AVE (Avarage Variant Extracted) value for each variable is greater than 0.5. So it can be concluded that the variables or constructs used are valid.

c. Composite Reliability and Cronbach's Alpha

Reliability testing in PLS can use two methods, namely Cronbach's alpha and composite reliability. Cronbach's alpha measures the lower limit of the reliability value of a construct, while composite reliability measures the true value of the reliability of a construct. The rule of thumb used for the composite reliability value is > 0.7 and Cronbach's alpha value > 0.7. The reliability test results of the two methods can be seen in the following table:

Table of Cronbach's Alpha & Composite Reliability Test Results

Variable	*Cronbach's Alpha*	*Composite Reliability*
E-Loyalty	0.863	0.893
E-Satisfaction	0.883	0.908
Service Innovation	0.844	0.880
Self Service Technology	0.784	0.855

Source: Data processed by Smart-PLS (2023)

Based on the table above, it is known that each research variable has a Cronbach's alpha and composite reliability value of > 0.70. Based on the results obtained, it can be stated that the variables used in the research are declared reliable.

3. Evaluation of the Structural Model (Inner Model)

Table of R-Square Test Results (R2)

Variable	R Square (R2)
E-Satisfaction	0.926
E-Loyalty	0.802

Source: Data processed by Smart-PLS (2023)

Based on the table in the bag, the R Square value for the e-satisfaction variable is 0.926, this means that the percentage influence of service innovation and self-service technology on e-satisfaction is 92.6%, while the remaining 7.4% is explained by other variables. not examined in this study. Furthermore, the R Square value for the e-loyalty variable is 0.802, this means that the percentage influence of service innovation, self-service technology and e-satisfaction on e-loyalty is 80.2%, while the remaining 19.8% can be explained by other variables not examined in this study.

4. Direct Effects Test

Table of Direct Effect Test Results (Direct Effect)

	Original Sample (O)	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**T Statistics (|O/STDEV|)**	***P Values***
Service innovation -> E Satisfaction	0.541	0.551	0.070	**7,778**	**0,000**
Self Service Technology -> E Satisfaction	0.416	0.408	0.070	**5,916**	**0,000**
E Satisfaction -> E Loyalty	0.370	0.374	0.068	**5,459**	**0,000**
Service innovation -> E Loyalty	0.391	0.391	0.066	**5,969**	**0,000**
Self Service Technology -> E Loyalty	0.267	0.262	0.051	**5,212**	**0,000**

Source: Data processed by Smart-PLS (2023)

Based on the table above, the test results can be used to answer the hypothesis in this research. Hypothesis testing in this research is by looking at the path coefficient (original sample), t-statistic value or p-value. With a significance of 5%, the hypothesis can be accepted if the t-statistic > t-table 1.65 (nk= 144-4= 140 at 0.5/5%) or the p-value < 0.05. The path

coefficients in table 4.15 show that all path coefficient values are positive (seen in TStatistic (|O/STDEV|), including:

a. X1 against Z: T-3-Statistics value (| O/Stdev |) = 7,778 and P-Values = 0,000 <0.05, meaning, service innovation directly has a positive and significant effect on e-systemfaction.
b. X2 against Z: T-3-Statistics value (| O/Stdev |) = 5,916 and P-values = 0,000 <0.05, meaning, self-service technology directly has a positive and significant effect on e-systemfaction.
c. Z to Y: T-Statistic value (|O/STDEV|) = 5.459 and P-Values = 0.000 < 0.05, meaning that e-satisfaction directly has a positive and significant effect on e-loyalty.
d. X1 to Y: T-3-3 Value (| O/STDEV |) = 5.969 and P-Values = 0.000 <0.05 means that service innovation directly has a positive and significant effect on E-Loyalty.
e. X2 to Y: T-3-3 Value (| O/Stdev |) = 5,212 and P-Values = 0,000 <0.05, meaning, self-service technology directly has a positive and significant effect on e-Loyalty.

5. Indirect Effects Test

Table of Indirect Effect Test Results (Indirect Effect)

	***Original Sample*(O)**	***Sample Mean* (M)**	***Standard Deviation*(STDEV)**	***T Statistics* (|O/STDEV|)**	***P Values***
Service Innovation -> E-Satisfaction -> E-Loyalty	0.200	0.207	0.050	**4,000**	**0,000**
Self Service Technology -> E-Satisfaction -> E-Loyalty	0.154	0.152	0.036	**4,253**	**0,000**

Source: Data processed by Smart-PLS (2023)

Based on the table above, it is known that service innovation indirectly has a significant effect on e-loyalty through e-satisfaction with a p-value of 0.000 < 0.05. Furthermore, it is known that self-service technology indirectly has a significant effect on e-loyalty through e-satisfaction with a p-value of 0.000 < 0.05.

6. Test the Total Effects

Table of Total Effect Test Results (Total Effect)

	Original Sample (O)	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**T Statistics (| O/STDEV |)**	***P Values***
Service innovation -> E Satisfaction	0.541	0.551	0.070	7,778	0,000
Self Service Technology -> E Satisfaction	0.416	0.408	0.070	5,916	0,000

IJEBAS
International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration

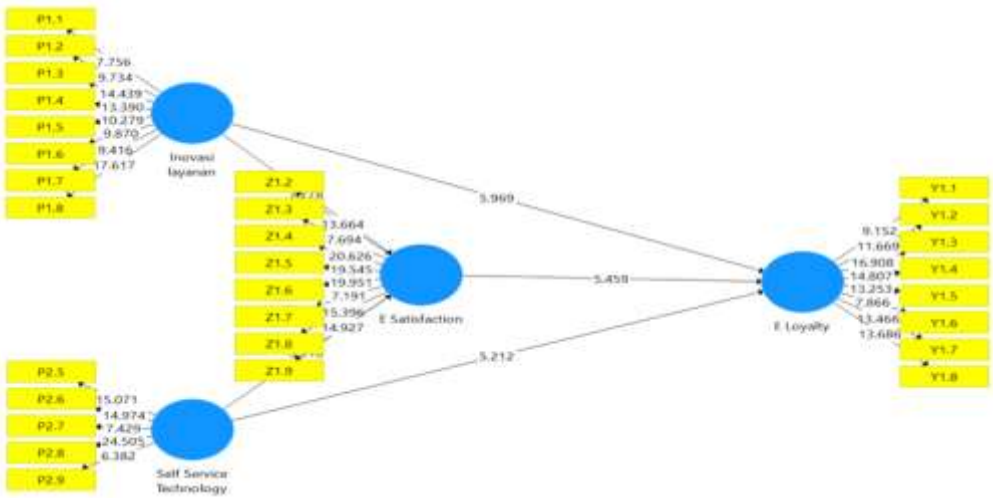
E Satisfaction -> E Loyalty	0.370	0.374	0.068	5,459	0,000
Service innovation -> E Loyalty	0.591	0.599	0.055	**10,742**	**0,000**
Self Service Technology -> E Loyalty	0.421	0.414	0.058	**7,267**	**0,000**

Source: Data processed by Smart-PLS (2023)

Based on the table above, it can be synthesized that the total influence value in the table above is as follows:

a. The total relationship effect, service innovation directly and indirectly has a significant effect on e-loyalty through e-satisfaction with a T-statistics value (O/STDEV|) of 10.742 with p-values 0.000 < 0.05.
b. The total relationship effect, self-service technology directly and indirectly has a significant effect on e-loyalty through e-satisfaction with a T-statistics value (O/STDEV|) of 7.267 with p-values 0.000 < 0.05.

The following is an image of the path coefficient model of direct, indirect and total influence in this research as follows:



Picture.Path Coefficient Between Research Variables

4. CONCLUSION

Based on the analysis and discussion regarding the Influence of Service Innovation and Self-Service Technology on E-Loyalty in using BNI cash management through E-Satisfaction at PT. Bank Negara Indonesia (Persero) Tbk. Medan Branch Office, several conclusions and suggestions can be drawn as follows:

a. Service innovation directly has a significant effect on e-satisfaction in using BNI Cash Management at PT. Bank Negara Indonesia (Persero) Tbk Medan Branch Office.
b. Self-service technologydirectly has a significant effect on e-satisfaction in using BNI Cash Management at PT. Bank Negara Indonesia (Persero) Tbk Medan Branch Office.
c. E-satisfactiondirectly has a significant effect on e-loyalty in using BNI Cash Management at PT. Bank Negara Indonesia (Persero) Tbk Medan Branch Office.

d. Service innovation directly has a significant effect on e-loyalty in using BNI Cash Management at PT. Bank Negara Indonesia (Persero) Tbk Medan Branch Office.
e. Self-service technologydirectly has a significant effect on e-loyalty in using BNI Cash Management at PT. Bank Negara Indonesia (Persero) Tbk Medan Branch Office.
f. Service innovation indirectly has a significant effect on e-loyalty in using BNI Cash Management through e-satisfaction at PT. Bank Negara Indonesia (Persero) Tbk Medan Branch Office.
g. Self-service technologyindirectly has a significant effect on e-loyalty in using BNI Cash Management through e-satisfaction at PT. Bank Negara Indonesia (Persero) Tbk Medan Branch Office.

SUGGESTION

a. For Companies,

In order to increase customer loyalty at PT Bank Negara Indonesia (Persero) Tbk, several suggestions that can be used as follow-up are as follows:

1. Service Innovation (X1) Based on the results of statistical tests on statements on the service innovation variable (X1) with the lowest mean variable found in the management cooperation dimension (3.69), then based on the 2 statement items contained in this dimension the researcher suggests the following :
   a) BNI management can form a special team that focuses on development and services for cash management users. This team may consist of technical experts, customer service managers, and representatives from various relevant departments.
   b) Hold regular meetings or seminars involving BNI management and cash management users. These events can serve as a forum to share information, hear feedback, and provide the latest updates regarding services.
2. Self-Service Technology(X2) Based on the results of statistical tests on statements on the self-service technology variable (X2) with the lowest mean variable found in the assurance/guarantee dimension (3.73), then based on the 2 statement items contained in this dimension the researcher suggests as follows: following:
   a) Carry out a comprehensive evaluation of Bank BNI's network infrastructure. Update or upgrade hardware and software as necessary to ensure optimal performance.
   b) Implement an active network monitoring system to quickly detect and respond to problems. Automating network management processes can help reduce recovery time.
3. E-SatisfactionBased on the results of statistical tests on statements on variables e-satisfaction (Z) with the lowest mean variable found in the merchandising/product introduction dimension (3.68), then based on the 3 statement items contained in this dimension the researcher suggests the following:
   a) Provide guides in various multimedia formats such as images, infographics, or animations to help users understand features in more varied ways.
   b) Carry out an in-depth analysis of customer needs, and ensure that BNI Cash Management features and functionality specifically meet and overcome customer challenges or needs.

c) Improve real-time notifications to notify customers of any important developments or changes regarding their transactions. Clear and fast notifications can help customers manage transactions in real-time.

4. E-LoyaltyBased on the results of statistical tests on statements on the e-loyalty variable (Y) with the lowest mean variable found in the merchandising/product introduction dimension (3.73), then based on the 2 statement items contained in this dimension the researcher suggests the following:
   a) Offer incentive or reward programs to customers who recommend BNI Cash Management to their family and colleagues. These could be discounts, reward points, or additional benefits that encourage participation.
   b) Invite satisfied customers to provide positive reviews or testimonials about their experiences with BNI Cash Management. Positive reviews can build trust in potential customers.

b. For Further Researchers

Due to the limitations of this research, it is hoped that future researchers will be able to perfect this research by adding other factors that were not examined in this research such as customer trust, perception and marketing communications or researching other objects as comparisons to this research so that they can increase theoretical insight and intellectual understanding in research related to e-satisfaction and e-loyalty.

REFERENCES

Alma, B. (2018). Manajemen Pemasaran & Pemasaran Jasa. Bandung: ALFABETA

Amoako, G. K. (2022). Customer Satisfaction: Role of Customer Service, Innovation, and Price in the Laundry Industry in Ghana. Journal of African Business, 23(1), 146-164.

Aree, A. J., Kamhangwong, D., Wicha, S., & Yamsa-Ard, S. (2023, January). Determinants of Customer Satisfaction with Self-Service Technology (SST): A Case Study of Mae Fah Luang University's Library. In 2023 International Conference on Cyber Management and Engineering (CyMaEn) (pp. 128-131). IEEE.

Arianty, J & Khodri. (2019). Manajemen Pemasaran Konsep dan Praktek. Medan: Perdana Publishing.

Arianty. (2016). Manajemen Pemasaran Edisi Revisi. Medan: Perdana Publishing.

Ayodeji, Y., Rjoub, H., & Özgit, H. (2023). Achieving sustainable customer loyalty in airports: The role of waiting time satisfaction and self-service technologies. Technology in Society, 72, 102106.

Basu, S, & Irawan. (2012). Manajemen Pemasaran Modern Edisi ke-2. Yogyakarta: Liberty Offset.

Biswas, A., Jaiswal, D., & Kant, R. (2022). Investigating service innovation, bank reputation and customer trust: evidence from Indian retail banking. International Journal of Quality and Service Sciences, 14(1), 1-17.

Chikazhe, L., Bhebhe, T., Nyagadza, B., Munyanyi, E., & Singizi, T. (2023). The role of self-service technology and graduates' perceived job performance in assessing university service quality. Quality Assurance in Education, 31(2), 263-280.

Curran, J. M., & Meuter, M. L. (2015). Self-service technology adoption: comparing three technologies. Journal of services marketing.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. MIS Quarterly, 13 (3), 319–340.

De Leon, M. V., Atienza, R. P., & Susilo, D. (2020). Influence of self-service technology (SST) service quality dimensions as a second-order factor on perceived value and customer satisfaction in a mobile banking application. Cogent Business & Management, 7(1), 1794241.

Duryadi (2021). Metode Penelitian Ilmiah (Model Path Analysis Dan Analisis Menggunakan SmartPLS). Semarang: Yayasan Prima Agus Teknik.

Ezenwafor, C. C., Okeke, T. C., & Aghara, V. N. O. (2020). Self-service technology and customer loyalty in the banking industry: A study of retail bank customers in anambra state. International Journal in Management and Social Science, Vo. 8, Issue 2.

Fitzsimmons. (2013). Service Management: Operations, Strategy, Information Technology 7th edition, The McGraw-Hill. International Edition.

Fleming, Noah (2017). The Customer Loyalty Loop. The Career Press Inc.

Fornell, C. (1992). A National Customer Satisfaction Barometer: The Swedish Experience. Journal of Marketing, 56 (1), 6–21.

Giovanis, A., Assimakopoulos, C., & Sarmaniotis, C. (2019). Adoption of mobile self-service retail banking technologies: The role of technology, social, channel and personal factors. International Journal of Retail & Distribution Management, 47 (9), 894-914.

Griffin, J., (2016), Customer Loyalty, Menumbuhkan dan Mempertahankan Kesetiaan Pelanggan. Alih Bahasa Dwi Kartini Yahya. Jakarta: Erlangga.

Gustaffson, A., Kristensson, P., And Witell, L. (2018). Customer Co-Creation in service innovation a matter of communication?. Journal of Services Management, 23 (3), 311-327.

Hair, et al, (2017). Multivariate Data Analysis, New International Edition. New Jersey: Pearson.

Hajar, M. A., Alkahtani, A. A., Ibrahim, D. N., Al-Sharafi, M. A., Alkawsi, G., Iahad, N. A. & Tiong, S. K. (2022). The Effect of Value Innovation in the Superior Performance and Sustainable Growth of Telecommunications Sector: Mediation Effect of Customer Satisfaction and Loyalty. Sustainability, 14(10), 6342.

Harmon, R. R. (2012). Redefining Market Opportunities through Technology-Oriented Service Innovation. Portland State University.

Hasan, A. (2014). Marketing dan Kasus-Kasus Pilihan. Yogyakarta: Caps Penerbit.

Hassan, H., & Farmanesh, P. (2022). Customer adoption of self-service technologies in Jordan: Factors influencing the use of Internet banking, mobile banking, and telebanking. Management Science Letters, 12 (3), 193-206.

Hawkins & Mothersbaugh. (2013). Consumer Behavior: Building Marketing Strategy. New York: The McGraw-Hill Companies, Inc.

Kotler, P. & Keller, Kevin L. (2016). Marketing Management, 15th Edition. New Jersey: Pearson Pretice Hall, Inc

Kristensson, P. Magnusson, P. And Wittel, L (2018). Service Innovation for Sustainable Business: Stimulating Realizing and Capturing The Value From Service Innovation. Karlstad Universitas, Sweden: World Scientific

Lovelock, C. & Wirtz, L. (2017). Service Marketing 8thed. PEARSON INDIA. New Jersey.

Lupiyoadi, R. (2013). Manajemen Pemasaran Jasa Berbasis Kompetensi (Edisi 3). Jakarta: Salemba Empat

Ma, H., Kwon, J., & Ahn, J. (2023). The impact of regulations and motivations on behavioural intentions of customers with self-service technology difficulties. Current Issues in Tourism, 1-12.

Maune, A. (2022). Self-Service Technology Service Quality and Brand Loyalty in Zimbabwe's Banking Sector: A SEM Approach. Acta Universitatis Danubius. Œconomica, (2), 175-201.

Nayanajith, G., Damunupola, K. A., & Ventayen, R. J. (2019). User Intentions and Actions Towards Adoption of Technology Based Self-Service Banking Services: A MANOVA Analysis. Southeast Asian Journal of Science and Technology, 4 (1), 81-88.

Ngo, N. D. K., Tansuchat, R., Cu, P. V., Mau, T. N., Kohda, Y., & Huynh, V. N. (2023). A Customer-driven Evaluation Method for Service Innovation in Banking. IEEE Access.

Noor, J. (2016). Metodologi Penelitian. Jakarta: Kencana Prenada Media. Group. Panjika 2000. Alfabeta.

Nwachukwu, D., Azuonwu, B. E., Nwador, C. A., Dike, L. B., & Origbo, H. (2023). Self-service technology adoption and post-purchase intentions of deposit money banks customers in Port Harcourt. International Journal of Management Sciences, 10 (1), 175-211.

Oliver, R. L. (2014). Satisfaction: A Behavioral Perspective on the Consumer, Second Edition, Routledge, New York.

Park, S., Kwun, D. J., Park, J. Y., & Bufquin, D. (2022). Service quality dimensions in hotel service delivery options: Comparison between human interaction service and self-service technology. International Journal of Hospitality & Tourism Administration, 23(5), 931-958.

Prabowo, A., Lubis, A. N., & Sembiring, B. K. F. (2021). The Effect of Promotion and Servicescape on Impulsive Buying Behavior with Shopping Emotion as Intervening Variables for Consumers Store of Fashion H&M in Sun Plaza Medan, North Sumatera, Indonesia. International Journal of Research and Review, 8(2), 235-252.

Prabowo, A., Wahyuni, E. S., Bakti, S., Sari, P. B., & Rossanty, Y. (2022). Does Raising Environmental Awareness and Creating Pro-Environmental Attitudes Drive the Intention to Revisit Among Visitors?. Budapest International Research and Critics Institute-Journal (BIRCI-Journal), 5(3).

Prabowo, A. (2023). Determinan Peningkatan Kepuasan Pelanggan Pada PT. Mondelez Internasional Medan. Jurnal Ekonomi Bisnis Manajemen Prima, 4(2), 83-97.

Shahid Iqbal, M., Ul Hassan, M., & Habibah, U. (2018). Impact of self-service technology (SST) service quality on customer loyalty and behavioral intention: The mediating role of customer satisfaction. Cogent Business & Management, 5 (1), 1.

Shin, H., & Dai, B. (2022). The efficacy of customer's voluntary use of self-service technology (SST): a dual-study approach. Journal of Strategic Marketing, 30(8), 723-745.

Situmorang & Mulyono (2019). Service Marketing. Medan: Yayasan Al-Hayat.

Situmorang, S. H. (2017). Riset Pemasaran. Medan: USU Press.

Situmorang, S. H. (2019). Analisis Data Untuk Riset Manajemen Dan Bisnis Edisi Keempat. Medan: USU Press.

Sugiyono. (2017). Metode Penelitian Bisnis Pendekatan Kuantitatif, Kualitatif, Kombinasi dan R&D. Bandung: ALFABETA.

Sumarwan, U. (2018). Perilaku Konsumen Edisi Kedua. Bogor: Khalia

Tsao, W. C., & Hsieh, M. T. (2015). eWOM persuasiveness: do eWOM platforms and product type matter? Electronic Commerce Research, 15(4), 509–541.

Weijters, B., Rangarajan, D., Falk, T., & Schillewaert, N. (2014). Determinants and outcomes of customers' use of self-service technology in a retail setting. Journal of Service Research, 10(1), 3-21.

YuSheng, K., & Ibrahim, M. (2019). Service innovation, service delivery and customer satisfaction and loyalty in the banking sector of Ghana. International journal of bank marketing, 37 (5), 1215-1233.