Determinants Of Corporate Customer Loyalty Through Satisfaction And Switching Barriers (Research On PLN Icon Plus)

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Abstract
This research aims to determine the influence factors of Customer Satisfaction and Switching Barriers on Customer Loyalty in PLN Icon Plus corporate customers. This research involved 377 respondents who are active PLN Icon Plus customers from various industrial sectors. To analyze the relationships among the research variables, the study employed the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. The findings revealed that Customer Satisfaction positively and significantly influences Customer Loyalty, as satisfaction fosters loyalty through attitudes, behaviors, and rational beliefs. Additionally, Switching Barriers play a crucial role in retaining customers by introducing financial, emotional, and uncertainty-related obstacles, which lower the chances of customers switching to alternative providers. The research's conclusion is that switching obstacles and customer satisfaction together have a stronger effect on customer loyalty, demonstrating the value of putting in place an integrated strategy to boost customer satisfaction while morally fortifying switching barriers. By understanding customer needs, improving service quality, and offering attractive loyalty programs, companies can create sustainable customer loyalty. This research recommends further exploration of variables such as trust and brand image and conducting research in other industry sectors to better understand customer loyalty patterns. This research is limited to existing PLN Icon Plus customers and existing services rented by customers.
Keywords: *Customer Satisfaction, Switching Barriers, Customer Loyalty.*

1. INTRODUCTION

The Industrial Revolution 4.0 brings major changes with the integration of advanced technologies such as AI, IoT, blockchain, and robotics, accelerating digitalization in various sectors, including telecommunications and ICT services. These changes are pushing companies to transform from mere infrastructure providers to digital-based solution providers that are adaptive to customers' new needs.

This technology has also influenced customer behaviour patterns by creating expectations of real-time, personalized, secure, and all-digital services. Customers now prioritize speed of response, ease of service access, and connectedness between devices in their daily activities. These changes also require companies to strategically adopt a technology-based approach to maintain relevance in a competitive market.

The effective implementation of such technologies can increase customer loyalty, by providing a superior and personalized service experience. However, technology also brings risks if not managed properly, such as data privacy breaches, personalization mismatches, or service failures that can worsen customers' perception of the company. Therefore, companies must be careful in utilizing technology, not only for efficiency, but also to strengthen emotional connections with customers.

In this context, the Industrial Revolution 4.0 has an impact on PLN Icon Plus as a telecoms technology firm. Digital transformation brought about by the Fourth Industrial Revolution has altered how businesses conduct their operations and changed consumer behavior, making it more digital, dynamic, and experience-focused.

PLN Icon Plus as the Beyond kWh Sub holding of PT PLN (Persero) has a strategic role in providing reliable connectivity services and digital platforms. So that in the midst of intense competition in the telecommunications industry, retaining customers is a top priority. The purpose of this study was to investigate the connection between consumer loyalty to the PLN Icon Plus service, switching barriers, and customer satisfaction. This objective was motivated by the importance of understanding the extent to which customer satisfaction can affect their loyalty, as well as how barriers to switching services can strengthen or weaken the relationship.

Prateek Kalia et al.'s (2021) study, which focuses on Indian telecom service consumers, demonstrates that customer loyalty is significantly impacted by service quality. This is crucial to PLN Icon Plus since they are able to evaluate how corporate clients perceive the worth of the cost in proportion to the caliber of the services they obtain.

Furthermore, preserving client loyalty (CL) depends on customer value management and service quality (SQ) (Slack et al., 2020a; Slack and Singh, 2020). Businesses in the telecom sector ought to prioritize SQ, customer satisfaction, and customer loyalty (CL) (Belwal and Amireh, 2018). Repurchase intention is the primary determinant of CL and is gauged by how well a company's goods and services compare to those of its rivals (Ahmed et al., 2010; Saroha and Diwan, 2020). Low switching costs could keep happy customers loyal (Hadi et al., 2019). Loyal customers usually do not try new relationships, according to researchers (Jacob and Subramoniam, 2021).

Along with this, marketing strategies are also evolving from marketing 1.0 (focusing on products) to marketing 4.0 (focusing on digital-based customer experiences). A market-driven approach is essential, where companies must understand the market, prioritize consumer needs, innovate continuously, and build competitive advantage through added value and service differentiation.

For PLN Icon Plus' corporate customers - such as governments, telecommunications operators, the financial sector and manufacturers - these changes have altered their expectations. They now demand faster connectivity, reliable digital solutions, flexibility and platform-based services (SaaS/PaaS). They are no longer just buying "networks", they are buying service experience, quality assurance and digital value-add.

PLN Icon Plus responded to this change with:
a.   Expanding connectivity and managed services.
b.   Developing an app-based digital platform.
c.   Improving Customer Satisfaction Index (CSI) amidst fierce competition.
d.   Focus on strengthening customer loyalty, by identifying switching barriers.

With this strategy, PLN Icon Plus not only retains its corporate customers, but also creates opportunities to expand long-term relationships through service innovations that continue to be relevant to business needs in the era of digital disruption.

PLN Icon Plus as the Beyond kWh sub holding of PT PLN (Persero) has a strategic position in supporting digitalization in Indonesia through the provision of connectivity services and information technology solutions. Companies must comprehend the elements that affect client loyalty in light of the telecommunications sector's growing competition, especially those pertaining to service quality and obstacles to moving to a different provider.

Table 1. Achievements by Industry Segment

Customer Segment	Revenue	Percentage
Government	382.298.738	22,75
Data Comm Operator	301.445.314	17,94
Manufacture	213.027.535	12,68
Banking & Financial	226.421.275	13,47
Retail Distribution	115.859.551	6,89
Cell Operator Provider	90.855.295	5,39
Telecommunication	74.703.999	4,45
Education	69.265.708	4,12
Energy Utility Mining	68.285.676	4,06
Consultant, Contract	27.067.033	1,61
Healthcare	25.705.735	1,53
Transportation	24.765.947	1,47
Natural Resources	21.092.836	1,26
Hospitality	14.314.018	0,85

Customer Segment	Revenue	Percentage
Professional Association	12.439.444	0,74
Media & Entertainment	6.524.275	0,39
MSME & Retail	3.808.043	0,23
Property	2.812.503	0,17

*In IDR Million
*Source PLN Icon Plus Annual Report 2023

Tegambwage and Kasoga (2023) define customer loyalty as the extent to which consumers consistently choose a particular brand, product, or service over time, indicating their satisfaction with the service provided. Muflih (2021) categorizes loyalty into two types: behavioral and attitudinal. Behavioral loyalty refers to repeated purchases of a company's product over a set period, while attitudinal loyalty reflects the spectrum of customer commitment, ranging from strong loyalty to complete disloyalty. In the mobile communication sector, Kim et al. (2004) found that certain barriers—such as perceived losses, the cost of switching, and personal connections—discourage customers from changing their current service provider. Through research conducted on PLN Icon Plus corporate customers, it was found that satisfied customers tend to show loyalty in the form of positive attitudes towards the company, consistent actions such as repeat purchases, and rational belief that the services provided are the best. This reflects that customer satisfaction not only fulfils basic needs, but also builds a positive emotional relationship with the company. Then, despite competitors' desirability, customers are unwilling to move to other providers due to switching hurdles such financial charges, emotional attachment, and uncertainty about the quality of other services. Even in highly competitive markets, these obstacles give businesses extra security to keep clients.

Customer loyalty is therefore more affected by the mix of switching barriers and customer satisfaction. Positive relationships are built on the foundation of satisfied customers, while switching barriers strengthen the protective mechanisms that prevent customers from switching to other providers. Thus, this research confirms the importance of integrating strategies that prioritize increasing customer satisfaction as well as strengthening ethical switching barriers. This action is required to establish long-term client loyalty and give the business a competitive edge.

2. METHOD

This research used objects in the form of variables Perceived Value, Price Value, Speed of Delivery, Network Quality, Customer Support, Relationship Marketing, Switching Cost, and Attractiveness of Alternative. These variables were considered to have an influence on the assessment of Customer Loyalty. In addition, Customer Satisfaction, Perceived Trust, and Switching Barriers are also used as factors that influence Customer Loyalty. This research focused on the relationship between variables to understand the factors that influence customer loyalty at PLN Icon Plus.

The main instrument utilized for data collection in this study was a questionnaire. A 5-point Likert scale was applied to structure the questions, offering respondents a range of answers from "Strongly Disagree" to "Strongly Agree." This scale, as illustrated in the table below, presents options that reflect the extent of respondents' agreement with each statement:

Table 3. Likert Scale

Approval Rate	Score
Strongly Disagree (STS)	1
Disagree (TS)	2
Neutral (N)	3
Agree (S)	4
Strongly Agree (SS)	5

The population in this research includes all PLN Icon Plus corporate customers who come from various company segments and are spread throughout Indonesia. In this research, the population is assumed to be more than 20,000 PLN Icon Plus corporate customers. Based on a confidence level of 95% (d=0.05), the Slovin formula was used to determine the bare minimum of samples needed. The minimum sample size table (Table for Determining Minimum Returned Sample Size for a Given Population Size by Adam, 2020) is also cited in this study to support the computation. Based on the table, the minimum sample sizes for various confidence levels are as follows:

Table 4. Determination of Minimum Sample Size Based on Population Size

Table for Determining Minimum Returned Sample Size for a Given Population Size for Continuous and Categorical Data by Adam (2020) Population Size Sample Size

Population Size >20000	Sample Size
90% confidence level t =1.645	267
95% confidence level t =1.96	377
99% confidence Level t =2.58	645

Source: Adam, 2020

In this research, a 95% confidence level was chosen to ensure data reliability so that the minimum sample size required was 377 respondents.

The independent variables in this research include factors that are theoretically believed to have a direct influence on Customer Loyalty. These variables are aspects that can be measured quantitatively to understand the extent to which each factor contributes to shaping customer loyalty to PLN Icon Plus.

2.1   Data Analysis Method

This study employed two data analysis methods: descriptive statistical analysis and partial least squares structural equation modeling (PLS-SEM). Descriptive statistics were used to understand the characteristics of the collected data, whereas PLS-SEM was utilized to examine the structural relationships among complex latent variables.

2.2   Outer Model

The purpose of the outer model analysis is to ensure that the indicators used accurately and consistently measure the latent variables. To evaluate the validity and reliability of the outer model, several tests are conducted, including convergent validity, discriminant validity, and construct reliability. The table below presents the commonly used benchmark criteria for these evaluations:

Table 5. Rule of Thumb Outer Model

Criteria	Parameters	Threshold	Source
Convergent Validity	Loading Factor	> 0,70	Hamid & Anwar (2019)
		> 0,60	Hair et al., (2017)
		> 0.50 is still acceptable	Savitri et al., (2021)
	Average Variance Extracted (AVE)	> 0,50	Hamid & Anwar (2019) Savitri et al., (2021)
Discriminant Validity	Cross Loading	> 0,70	Savitri et al., (2021) Hamid & Anwar (2019)
		Correlation between indicators and their constructs > Correlation with other block constructs	Haryono (2016) Budhiasa (2016)
	Fornell-Larcker Criterion	Root AVE > correlation between constructs	Haryono (2016) Savitri et al., (2021) Budhiasa (2016)
	HTMT	< 0,85	Budhiasa (2016)
Reliability	Cronbach's Alpha	> 0,70	Hair et al., (2017)

Criteria	Parameters	Threshold	Source
		> 0,60	Budhiasa (2016) Haryono (2016)
	Composite Reliability	> 0,70	Haryono (2016) Hamid & Anwar (2019) Savitri et al., (2021)

The path coefficient, effect size (F^2), coefficient of determination (R^2), and collinearity are some of the primary factors assessed in this research. The table that is used as a guide is shown below.:

Table 6. Rule of Thumb Model

Criteria	Parameters	Threshold	Source
Collinearity	VIF	< 5	Hair et al., (2017)
Coefficient of Determination	R^2	≥ 0.25 (Weak) ≥ 0.50 (Medium) ≥ 0.75 (Strong)	Hair et al., (2017)
Effect Size	F^2	≥ 0.02 (Small) ≥ 0.15 (Medium) ≥ 0.35 (Large)	Henseler et al. (2015) Hair et al., (2017)
Path Coefficient	T-Statistic	> 1.645 (Significant) > 2.326 (Very Significant)	Henseler et al. (2015) Hair et al., (2017)
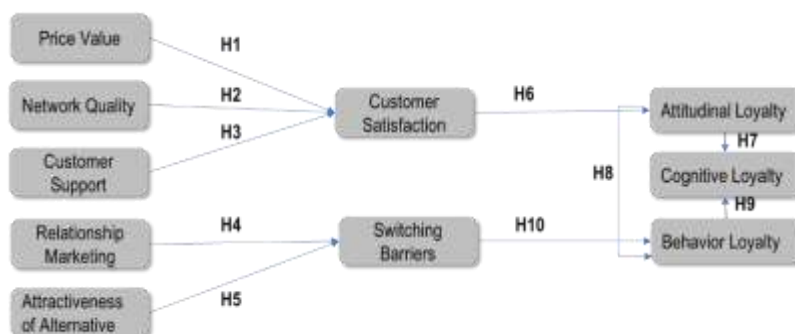
Figure 1. Framework of Thought

Based on the framework above, the hypotheses proposed in this research are as follows:

H1: Price Value has a positive effect on Customer Satisfaction.

H2: Network Quality has a positive effect on Customer Satisfaction.

H3: Customer Support has a positive effect on Customer Satisfaction.

H4: Relationship Marketing has a positive effect on Switching Barriers.

H5: Attractiveness of Alternative has a positive effect on Switching Barriers.

H6: Customer Satisfaction has a positive effect on Attitudinal Loyalty.

H7: Attitudinal Loyalty has a positive effect on Cognitive Loyalty.

H8: Attitudinal Loyalty has a positive effect on Behaviour Loyalty.

H9: Behaviour Loyalty has a positive effect on Cognitive Loyalty.

H10: Switching Barriers have a positive effect on Behaviour Loyalty.

3. RESULTS AND DISCUSSIONS

The manufacturing sector is the most dominant sector with 35.3 percent of the total sample. The services sector came in second with 16.4 percent, reflecting the need for network services to support activities such as transportation and consulting. In addition, the telecommunications sector and non-bank financial institutions also have significant proportions, at 6.1 percent and 7.4 percent respectively. This diverse range of sectors shows that PLN Icon Plus services are relevant across a wide range of industries. The distribution of company locations covers various regions in Indonesia, with the largest concentration

in major cities such as Jakarta, Surabaya, and Bandung, as well as Kalimantan and Sulawesi. These regions are centres of economic activity, so the demand for information technology services is very high.
Internet services are the top choice with a proportion of 43.8 percent of total respondents, followed by IPVPN services at 11.9 percent and Metronet at 6.6 percent. This data reflects that the main need of customers is reliable connectivity services to support internal communication and corporate data management. Based on the sample description above, PLN Icon Plus has successfully served various types of companies with diverse needs. This research sample includes companies from various sectors, ranging from manufacturing, services, to telecommunications, and reaches small to large companies throughout Indonesia. This shows the flexibility and relevance of PLN Icon Plus services in supporting customers' digital transformation and operational needs.

3.1 Descriptive Statistical Analysis

A summary of the research data is presented, covering aspects such as distribution patterns, measures of central tendency, and the spread of data across the variables used in the study, is provided by descriptive statistical analysis.

Table 7. Descriptive Analysis Results

Name	Mean	Median	Scale min	Scale max	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness
PV1	3.963	4.000	1.000	5.000	1.000	5.000	0.943	0.970	-0.954
PV2	3.775	4.000	1.000	5.000	1.000	5.000	0.969	0.018	-0.660
PV3	3.660	4.000	1.000	5.000	1.000	5.000	0.959	0.095	-0.545
PV4	3.737	4.000	1.000	5.000	1.000	5.000	0.970	0.124	-0.660
PV5	3.865	4.000	1.000	5.000	1.000	5.000	0.910	0.827	-0.854
NW1	3.883	4.000	1.000	5.000	1.000	5.000	0.844	1.557	-0.996
NW2	3.745	4.000	1.000	5.000	1.000	5.000	0.971	0.198	-0.588
NW3	3.597	4.000	1.000	5.000	1.000	5.000	0.905	0.303	-0.582
NW4	3.653	4.000	1.000	5.000	1.000	5.000	0.955	0.077	-0.487
NW5	3.642	4.000	1.000	5.000	1.000	5.000	0.914	-0.151	-0.278
NW6	3.761	4.000	1.000	5.000	1.000	5.000	0.872	0.466	-0.602
NW7	3.830	4.000	1.000	5.000	1.000	5.000	0.823	2.281	-1.111
CS1	3.881	4.000	1.000	5.000	1.000	5.000	0.855	2.513	-1.251
CS2	3.703	4.000	1.000	5.000	1.000	5.000	0.939	0.290	-0.667
CS3	3.515	4.000	1.000	5.000	1.000	5.000	0.999	0.011	-0.545
CS4	3.578	4.000	1.000	5.000	1.000	5.000	0.993	0.645	-0.788

Name	Mean	Median	Scale min	Scale max	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness
CS5	3.857	4.000	1.000	5.000	1.000	5.000	0.910	1.281	-1.027
RM1	4.064	4.000	1.000	5.000	1.000	5.000	0.680	3.631	-1.145
RM2	3.764	4.000	1.000	5.000	1.000	5.000	0.927	-0.359	-0.196
RM3	3.862	4.000	1.000	5.000	1.000	5.000	0.762	0.922	-0.593
RM4	3.753	4.000	1.000	5.000	1.000	5.000	0.827	0.014	-0.190
RM5	3.639	4.000	1.000	5.000	1.000	5.000	0.914	-0.040	-0.312
RM6	3.934	4.000	1.000	5.000	1.000	5.000	0.727	1.058	-0.604
RM7	3.650	4.000	1.000	5.000	1.000	5.000	0.801	-0.387	0.219
RM8	4.045	4.000	1.000	5.000	1.000	5.000	0.750	1.608	-0.831
RM9	3.902	4.000	1.000	5.000	1.000	5.000	0.777	0.774	-0.578
RM10	4.048	4.000	1.000	5.000	1.000	5.000	0.741	2.487	-1.018
RM11	4.095	4.000	1.000	5.000	1.000	5.000	0.726	2.883	-1.067
RM12	3.936	4.000	1.000	5.000	1.000	5.000	0.818	1.451	-0.786
RM13	3.902	4.000	1.000	5.000	1.000	5.000	0.780	0.723	-0.567
RM14	4.066	4.000	1.000	5.000	1.000	5.000	0.839	2.697	-1.262
RM15	4.103	4.000	1.000	5.000	1.000	5.000	0.712	1.659	-0.862
RM16	3.812	4.000	1.000	5.000	1.000	5.000	0.774	0.290	-0.282
RM17	4.029	4.000	1.000	5.000	1.000	5.000	0.758	1.186	-0.709
AA1	4.151	4.000	1.000	5.000	1.000	5.000	0.950	2.310	-1.517
AA2	3.947	4.000	1.000	5.000	1.000	5.000	0.923	-0.891	-0.281
AA3	3.538	4.000	1.000	5.000	1.000	5.000	0.836	-0.380	-0.327
AA4	3.809	4.000	1.000	5.000	1.000	5.000	0.862	0.588	-0.618
AA5	3.573	3.000	1.000	5.000	1.000	5.000	0.883	-0.650	0.067
AA6	3.607	4.000	1.000	5.000	1.000	5.000	0.849	0.222	-0.248

Name	Mean	Median	Scale min	Scale max	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness
CSI1	3.764	4.000	1.000	5.000	1.000	5.000	0.904	0.843	-0.858
CSI2	3.751	4.000	1.000	5.000	1.000	5.000	0.999	-0.157	-0.540
CSI3	3.520	3.000	1.000	5.000	1.000	5.000	0.958	-0.241	-0.148
CSI4	3.682	4.000	1.000	5.000	1.000	5.000	0.921	0.174	-0.513
SB1	3.873	4.000	1.000	5.000	1.000	5.000	0.767	0.672	-0.486
SB2	3.995	4.000	1.000	5.000	1.000	5.000	0.840	0.469	-0.637
SB3	3.700	4.000	1.000	5.000	1.000	5.000	0.873	0.331	-0.291
SB4	3.753	4.000	1.000	5.000	1.000	5.000	0.801	1.152	-0.581
SB5	3.875	4.000	1.000	5.000	1.000	5.000	0.762	0.965	-0.615
AL1	3.997	4.000	1.000	5.000	1.000	5.000	0.723	1.387	-0.631
AL2	4.024	4.000	2.000	5.000	2.000	5.000	0.835	-0.804	-0.347
AL3	3.727	4.000	1.000	5.000	1.000	5.000	0.866	0.244	-0.276
AL4	3.912	4.000	2.000	5.000	2.000	5.000	0.791	-0.373	-0.326
AL5	3.870	4.000	1.000	5.000	1.000	5.000	0.854	0.024	-0.390
CL1	3.973	4.000	1.000	5.000	1.000	5.000	0.728	3.629	-1.327
CL2	3.759	4.000	1.000	5.000	1.000	5.000	0.897	-0.865	0.051
CL3	3.724	4.000	1.000	5.000	1.000	5.000	0.836	1.043	-0.676
CL4	3.820	4.000	1.000	5.000	1.000	5.000	0.836	0.472	-0.578
CL5	3.952	4.000	1.000	5.000	1.000	5.000	0.816	1.991	-1.146
CL6	3.716	4.000	1.000	5.000	1.000	5.000	0.796	0.107	-0.207
BL1	4.005	4.000	1.000	5.000	1.000	5.000	0.743	3.191	-1.139
BL2	3.862	4.000	1.000	5.000	1.000	5.000	0.838	-0.003	-0.386
BL3	3.814	4.000	1.000	5.000	1.000	5.000	0.835	0.176	-0.380
BL4	3.576	3.000	1.000	5.000	1.000	5.000	0.785	-0.147	0.145

Name	Mean	Median	Scale min	Scale max	Observed min	Observed max	Standard deviation	Excess kurtosis	Skewness
BL5	3.743	4.000	1.000	5.000	1.000	5.000	0.853	0.245	-0.408
BL6	3.602	3.000	1.000	5.000	1.000	5.000	0.834	-0.414	0.169

Based on the table above, the descriptive analysis results show that the majority of indicators have an average value (mean) between 3.5 to 4.1. This illustrates that respondents generally have a positive perception of PLN Icon Plus services. This positive perception reflects the company's success in meeting customer expectations, especially in aspects of network quality, prices that are considered commensurate with the value obtained, and the ability of customer service to provide solutions.

The low standard deviation values indicate that respondents gave consistent responses to the various indicators measured. This indicates a uniformity of customer experience across industry segments and geographies. The benefit of this consistency is the company's ability to design focused improvement strategies, without having to face significant challenges related to differences in customer needs.

However, there are some indicators that have a lower average value than others, such as those related to the perceived benefits of alternative services or the attractiveness of competitors. This can be a concern to improve competitiveness through service innovation, product development, or offering more attractive loyalty programs.

3.2 PLS-SEM Model, Outer Model

The Outer Model analysis phase involves an evaluation to ensure that the constructs used in the PLS-SEM model are both reliable and valid.
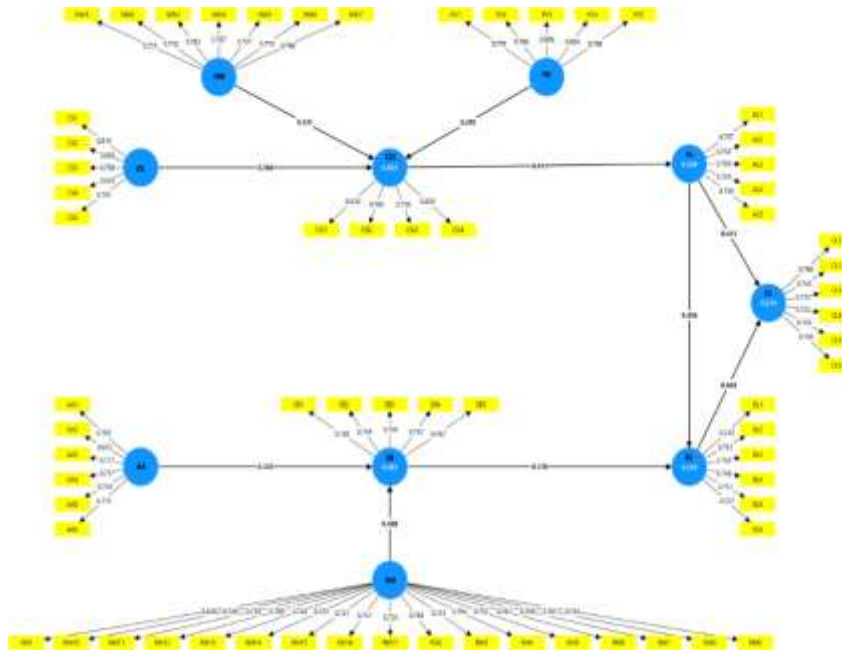
Figure 2. PLS-SEM Model Algorithm

The structure of the link between independent, mediating, and dependent variables as determined by PLS-SEM analysis is depicted in the above image. The relationships between the observable indicators and the latent constructs are displayed. The path coefficient value illustrates the relationship between latent constructs and will be examined in more detail in the Inner Model section.

3.3 Convergent Validity

Two metrics, the loading factor and Average Variance Extracted (AVE), were employed in this study to assess convergent validity. Loading factor measurements are shown in Table 8 below.:

Table 8. Loading Factor

	AA	AL	BL	CL	CS	CSI	NW	PV	RM	SB
AA1	0.765									
AA2	0.813									
AA3	0.777									
AA4	0.717									
AA5	0.720									
AA6	0.715									
AL1		0.757								
AL2		0.704								
AL3		0.709								
AL4		0.729								
AL5		0.730								
BL1			0.743							
BL2			0.735							
BL3			0.758							
BL4			0.748							
BL5			0.732							
BL6			0.727							
CL1				0.766						
CL2				0.743						
CL3				0.773						
CL4				0.732						
CL5				0.763						
CL6				0.756						
CS1					0.819					
CS2					0.808					
CS3					0.798					
CS4					0.828					
CS5					0.791					
CSI1						0.810				
CSI2						0.783				
CSI3						0.758				
CSI4						0.809				
NW1							0.751			
NW2							0.718			
NW3							0.783			
NW4							0.767			
NW5							0.737			
NW6							0.779			
NW7							0.768			
PV1								0.770		
PV2								0.798		
PV3								0.809		
PV4								0.804		
PV5								0.798		
RM1									0.829	
RM10									0.740	
RM11									0.739	
RM12									0.709	

	AA	AL	BL	CL	CS	CSI	NW	PV	RM	SB
RM13									0.748	
RM14									0.725	
RM15									0.721	
RM16									0.741	
RM17									0.720	
RM2									0.748	
RM3									0.751	
RM4									0.764	
RM5									0.752	
RM6									0.761	
RM7									0.769	
RM8									0.761	
RM9									0.743	
SB1										0.788
SB2										0.754
SB3										0.709
SB4										0.792
SB5										0.742

Based on this table, all indicators used in this research meet the convergent validity criteria because they have a loading factor value above the specified threshold, namely 0.70. This shows that each indicator on the variables Attractiveness of Alternative (AA), Attitudinal Loyalty (AL), Behavioural Loyalty (BL), Cognitive Loyalty (CL), Customer Support (CS), Customer Satisfaction (CSI), Network Quality (NW), Price Value (PV), Relationship Marketing (RM), and Switching Barriers (SB) are able to represent their respective latent constructs well so that they can be trusted in describing the measured concepts.

Convergent validity is evaluated not only through factor loadings but also by examining the Average Variance Extracted (AVE) value. The loading factor measurements are shown in Table 9 below:

Table 9. Average Variance Extracted (AVE)

	Average variance extracted (AVE)
Attractiveness of Alternative (AA)	0.566
Attitudinal Loyalty (AL)	0.528
Behavioural Loyalty (BL)	0.548
Cognitive Loyalty (CL)	0.571
Customer Support (CS)	0.654
Customer Satisfaction (CSI)	0.625
Network Quality (NW)	0.574
Price Value (PV)	0.634
Relationship Marketing (RM)	0.560
Switching Barriers (SB)	0.574

Table 9 shows that every construct in this study had an Average Variance Extracted (AVE) value greater than the 0.50 cutoff. This demonstrates that each concept can account for over half of the variation in its indicators. Thus, convergent validity is met on all constructs, including Attractiveness of Alternative (AA), Attitudinal Loyalty (AL), Behavioural Loyalty (BL), Cognitive Loyalty (CL), Customer Support (CS), Customer Satisfaction (CSI), Network Quality (NW), Price Value (PV), Relationship Marketing (RM), and Switching Barriers (SB).

3.4 Discriminant Validity

This study assesses discriminant validity using three approaches: cross-loadings, the Fornell-Larcker criterion, and the Heterotrait-Monotrait ratio. Table 10 below displays measurements with cross loading:

Table 10. Cross Loading

	AA	AL	BL	CL	CS	CSI	NW	PV	RM	SB
AA1	0.765	0.416	0.361	0.432	0.380	0.337	0.315	0.341	0.359	0.405
AA2	0.813	0.556	0.466	0.552	0.338	0.283	0.305	0.313	0.535	0.562
AA3	0.777	0.373	0.359	0.432	0.256	0.211	0.206	0.249	0.289	0.428
AA4	0.717	0.283	0.269	0.351	0.207	0.145	0.168	0.224	0.175	0.293
AA5	0.720	0.181	0.238	0.271	0.117	0.078	0.115	0.189	0.099	0.268
AA6	0.715	0.221	0.269	0.307	0.157	0.097	0.123	0.155	0.150	0.298
AL1	0.334	0.757	0.493	0.533	0.408	0.343	0.414	0.314	0.535	0.553
AL2	0.496	0.704	0.486	0.525	0.327	0.242	0.246	0.240	0.407	0.478
AL3	0.274	0.709	0.509	0.492	0.366	0.346	0.376	0.377	0.479	0.446
AL4	0.346	0.729	0.469	0.477	0.313	0.278	0.282	0.278	0.413	0.463
AL5	0.327	0.730	0.436	0.467	0.348	0.276	0.311	0.333	0.406	0.447
BL1	0.392	0.507	0.743	0.536	0.318	0.303	0.324	0.329	0.365	0.480
BL2	0.360	0.425	0.735	0.494	0.302	0.235	0.303	0.278	0.336	0.496
BL3	0.393	0.427	0.758	0.509	0.286	0.182	0.284	0.232	0.279	0.472
BL4	0.249	0.531	0.748	0.482	0.259	0.259	0.282	0.255	0.360	0.502
BL5	0.307	0.479	0.732	0.555	0.275	0.268	0.308	0.271	0.370	0.451
BL6	0.332	0.559	0.727	0.495	0.237	0.216	0.241	0.227	0.362	0.465
CL1	0.353	0.554	0.580	0.766	0.469	0.338	0.409	0.414	0.466	0.575
CL2	0.511	0.528	0.511	0.743	0.306	0.205	0.282	0.264	0.381	0.533
CL3	0.455	0.542	0.519	0.773	0.341	0.241	0.336	0.307	0.396	0.494
CL4	0.395	0.415	0.457	0.732	0.295	0.226	0.288	0.297	0.238	0.438
CL5	0.355	0.496	0.507	0.763	0.410	0.351	0.421	0.399	0.375	0.489
CL6	0.409	0.564	0.547	0.756	0.325	0.225	0.265	0.222	0.473	0.511
CS1	0.395	0.460	0.337	0.452	0.819	0.566	0.581	0.598	0.550	0.520
CS2	0.256	0.376	0.278	0.357	0.808	0.547	0.484	0.454	0.422	0.432
CS3	0.179	0.400	0.305	0.371	0.798	0.553	0.487	0.481	0.426	0.418
CS4	0.203	0.321	0.267	0.321	0.828	0.588	0.511	0.499	0.435	0.383
CS5	0.369	0.416	0.343	0.430	0.791	0.537	0.527	0.531	0.411	0.452
CSI1	0.278	0.327	0.294	0.334	0.594	0.810	0.565	0.567	0.341	0.338
CSI2	0.217	0.311	0.232	0.272	0.527	0.783	0.588	0.568	0.341	0.338
CSI3	0.145	0.311	0.272	0.212	0.508	0.758	0.519	0.536	0.369	0.311
CSI4	0.234	0.351	0.247	0.286	0.551	0.809	0.565	0.522	0.387	0.294
NW1	0.243	0.322	0.275	0.343	0.521	0.454	0.751	0.489	0.346	0.364
NW2	0.249	0.264	0.210	0.257	0.413	0.462	0.718	0.468	0.252	0.303
NW3	0.119	0.309	0.242	0.279	0.446	0.547	0.783	0.511	0.266	0.285
NW4	0.284	0.418	0.326	0.373	0.498	0.590	0.767	0.551	0.386	0.402
NW5	0.246	0.355	0.301	0.381	0.443	0.497	0.737	0.480	0.343	0.333
NW6	0.171	0.298	0.291	0.285	0.488	0.562	0.779	0.524	0.350	0.308
NW7	0.254	0.407	0.407	0.416	0.575	0.608	0.768	0.535	0.491	0.451
PV1	0.275	0.344	0.289	0.310	0.511	0.541	0.588	0.770	0.344	0.388
PV2	0.291	0.317	0.288	0.337	0.463	0.534	0.557	0.798	0.302	0.367
PV3	0.212	0.320	0.289	0.334	0.499	0.579	0.524	0.809	0.344	0.342
PV4	0.270	0.323	0.266	0.317	0.524	0.550	0.481	0.804	0.278	0.340
PV5	0.307	0.388	0.297	0.372	0.525	0.556	0.532	0.798	0.390	0.410
RM1	0.373	0.554	0.388	0.487	0.510	0.413	0.448	0.445	0.829	0.555
RM2	0.439	0.476	0.384	0.452	0.424	0.295	0.350	0.270	0.748	0.498
RM3	0.197	0.388	0.248	0.310	0.408	0.315	0.361	0.293	0.751	0.404
RM4	0.351	0.541	0.372	0.492	0.415	0.325	0.369	0.277	0.764	0.491

	AA	AL	BL	CL	CS	CSI	NW	PV	RM	SB
RM5	0.353	0.505	0.402	0.491	0.396	0.285	0.346	0.306	0.752	0.499
RM6	0.170	0.484	0.330	0.391	0.418	0.314	0.363	0.288	0.761	0.452
RM7	0.273	0.484	0.386	0.424	0.375	0.283	0.285	0.263	0.769	0.458
RM8	0.383	0.525	0.467	0.444	0.437	0.383	0.393	0.363	0.761	0.540
RM9	0.213	0.431	0.349	0.338	0.450	0.374	0.404	0.270	0.743	0.436
RM10	0.388	0.444	0.279	0.361	0.419	0.353	0.323	0.347	0.740	0.435
RM11	0.420	0.494	0.355	0.397	0.420	0.361	0.305	0.322	0.739	0.491
RM12	0.280	0.395	0.296	0.277	0.378	0.305	0.314	0.270	0.709	0.405
RM13	0.159	0.440	0.335	0.321	0.376	0.324	0.304	0.223	0.748	0.442
RM14	0.434	0.409	0.355	0.369	0.382	0.351	0.339	0.322	0.725	0.497
RM15	0.309	0.411	0.322	0.340	0.409	0.344	0.315	0.314	0.721	0.414
RM16	0.064	0.440	0.304	0.320	0.458	0.425	0.374	0.377	0.741	0.418
RM17	0.221	0.417	0.316	0.344	0.385	0.325	0.295	0.328	0.720	0.429
SB1	0.455	0.501	0.465	0.547	0.427	0.316	0.380	0.322	0.511	0.788
SB2	0.517	0.502	0.508	0.555	0.395	0.268	0.305	0.325	0.459	0.754
SB3	0.381	0.517	0.489	0.478	0.396	0.322	0.376	0.390	0.447	0.709
SB4	0.355	0.539	0.501	0.495	0.456	0.380	0.377	0.410	0.478	0.792
SB5	0.280	0.434	0.477	0.470	0.387	0.249	0.320	0.310	0.462	0.742

Based on Table 10, the results of the cross-loading analysis show that each indicator has a higher correlation with its main construct than with other constructs. This confirms that the indicators used in this research are able to accurately represent latent constructs in accordance with their definitions. Moreover, the Fornell-Larcker criterion evaluates discriminant validity by comparing the correlations between constructs with the square root of each construct's Average Variance Extracted (AVE). Fornell-Larcker measurements are shown in Table 11 below:

Table 11. Fornell-Larcker

	AA	AL	BL	CL	CS	CSI	NW	PV	RM	SB
AA	0.752									
AL	0.488	0.726								
BL	0.457	0.661	0.741							
CL	0.546	0.689	0.692	0.756						
CS	0.345	0.487	0.377	0.476	0.809					
CSI	0.279	0.411	0.331	0.351	0.690	0.790				
NW	0.294	0.452	0.392	0.442	0.641	0.708	0.758			
PV	0.340	0.425	0.359	0.420	0.634	0.694	0.673	0.796		
RM	0.403	0.620	0.467	0.522	0.556	0.454	0.464	0.417	0.749	
SB	0.530	0.659	0.645	0.674	0.545	0.406	0.464	0.464	0.623	0.757

The analysis of Table 11 using the Fornell-Larcker criterion indicates that the correlation values between constructs (off-diagonal) are lower than the square root of the Average Variance Extracted (AVE) shown on the diagonal. Table 12 below presents the results of the Heterotrait-Monotrait Ratio (HTMT) evaluation:

Table 12. Heterotrait-Monotrait Ratio (HTMT)

	AA	AL	BL	CL	CS	CSI	NW	PV	RM	SB
AA										
AL	0.551									
BL	0.513	0.816								
CL	0.608	0.840	0.816							
CS	0.382	0.593	0.444	0.552						
CSI	0.305	0.519	0.403	0.422	0.828					

	AA	AL	BL	CL	CS	CSI	NW	PV	RM	SB
NW	0.317	0.539	0.452	0.508	0.731	0.837				
PV	0.381	0.521	0.424	0.492	0.735	0.839	0.775			
RM	0.400	0.713	0.518	0.564	0.610	0.521	0.500	0.460		
SB	0.591	0.826	0.782	0.804	0.649	0.503	0.546	0.557	0.703	

Based on Table 12, the Heterotrait-Monotrait Ratio analysis shows that all pairs of variables have values below the 0.85 threshold, which is the general standard for good discriminant validity. This result confirms that each variable in the model has an adequate level of discrimination, meaning that the variables are more correlated with their own indicators than with indicators from other variables.

3.5 Reliability

Reliability refers to the internal consistency of indicators in representing latent constructs. In this study, reliability was assessed using two measurement approaches: Cronbach's Alpha and Composite Reliability (CR). Table 13 below displays reliability measurements using Cronbach's Alpha:

Table 13. Cronbach's Alpha

	Cronbach's alpha
Attractiveness of Alternative (AA)	0.851
Attitudinal Loyalty (AL)	0.776
Behavioural Loyalty (BL)	0.835
Cognitive Loyalty (CL)	0.850
Customer Support (CS)	0.868
Customer Satisfaction (CSI)	0.799
Network Quality (NW)	0.877
Price Value (PV)	0.855
Relationship Marketing (RM)	0.951
Switching Barriers (SB)	0.814

Table 13 indicates that every variable in this study has a Cronbach's Alpha value greater than 0.70, indicating sufficient internal consistency in the measurement of latent components. This reliability ensures that the indicators on each variable work stably and produce accurate data. Furthermore, the measurement of reliability with Composite Reliability is presented in Table 14 below:

Table 14. Composite Reliability

	Composite reliability (rho_a)	Composite reliability (rho_c)
Attractiveness of Alternative (AA)	0.884	0.886
Attitudinal Loyalty (AL)	0.777	0.848
Behavioral Loyalty (BL)	0.835	0.879
Cognitive Loyalty (CL)	0.852	0.889
Customer Support (CS)	0.869	0.904
Customer Satisfaction (CSI)	0.801	0.869
Network Quality (NW)	0.881	0.904
Price Value (PV)	0.856	0.896
Relationship Marketing (RM)	0.953	0.956
Switching Barriers (SB)	0.815	0.870

Based on Table 14, all variables have Composite Reliability (CR) values above 0.70 in both rho_a and rho_c forms, indicating that each latent construct has adequate reliability. Rho_a provides a more conservative assessment of the internal consistency of indicators by ensuring that the relationship between indicators within a construct is strong enough. Meanwhile, rho_c offers a more flexible approach by considering the weight of each indicator, making it more suitable for use in complex structural models.

3.6 Inner Model

The structural link between the latent constructs in the PLS-SEM model is evaluated at the Inner Model analysis stage. The model's ability to adequately explain the phenomenon being studied is guaranteed by its structural validity.
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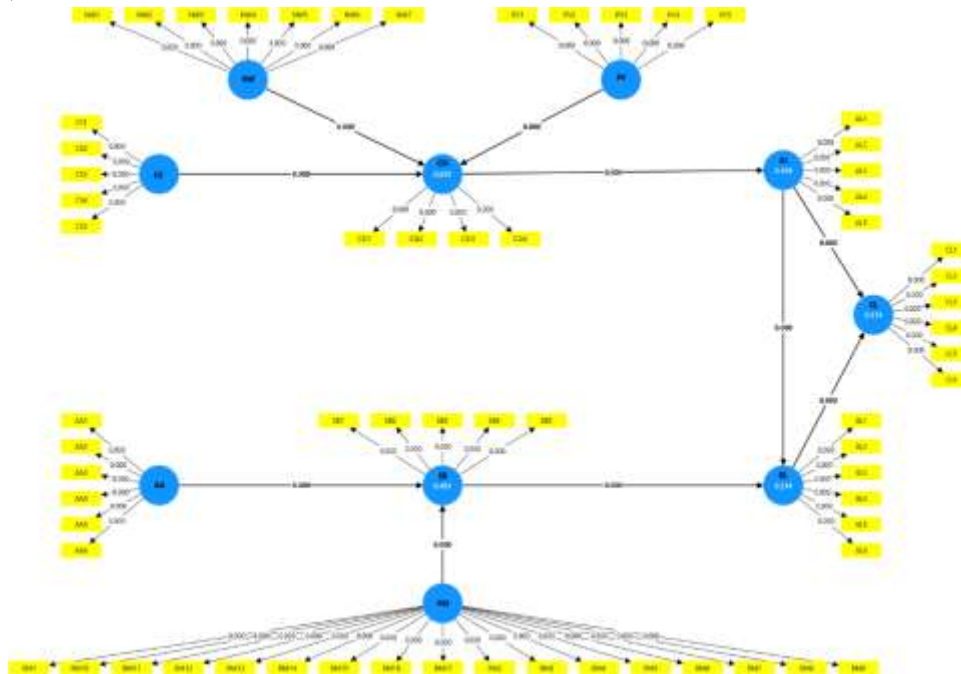
Figure 3. Bootstrapping Model

The outcomes of the Inner Model's bootstrapping test are displayed in Figure 3. The path coefficient, which is determined by the statistical significance value, visualizes the relationship path between latent components. The degree and direction of the association between the variables in the research model are revealed by these findings.

3.7 Collinearity

The results of the collinearity research are presented in Table 15 below:

Table 15. Variance Inflation Factor (VIF)

	VIF		VIF		VIF		VIF		VIF		VIF
AA1	1.705	BL1	1.596	CL6	1.670	NW2	1.819	RM1	2.907	RM4	2.436
AA2	1.738	BL2	1.827	CS1	1.993	NW3	1.929	RM10	2.364	RM5	2.387
AA3	1.720	BL3	1.892	CS2	1.925	NW4	1.786	RM11	2.603	RM6	2.372
AA4	1.791	BL4	1.664	CS3	1.869	NW5	1.730	RM12	2.162	RM7	2.570
AA5	1.794	BL5	1.600	CS4	2.040	NW6	1.985	RM13	2.408	RM8	2.266
AA6	1.792	BL6	1.571	CS5	1.847	NW7	1.862	RM14	2.172	RM9	2.311
AL1	1.511	CL1	1.699	CSI1	1.696	PV1	1.712	RM15	2.197	SB1	1.705
AL2	1.404	CL2	1.680	CSI2	1.565	PV2	1.868	RM16	2.463	SB2	1.525
AL3	1.392	CL3	1.801	CSI3	1.501	PV3	1.903	RM17	1.989	SB3	1.420

| AL4 | 1.470 | CL4 | 1.722 | CSI4 | 1.702 | PV4 | 1.937 | RM2 | 2.314 | SB4 | 1.762 |
| AL5 | 1.485 | CL5 | 1.841 | NW1 | 1.963 | PV5 | 1.867 | RM3 | 2.209 | SB5 | 1.568 |

There is no substantial collinearity issue between the independent variables in the model, as indicated by the collinearity analysis based on Table 15, which reveals that all Variance Inflation Factor (VIF) values are below the cutoff of 5. Each independent variable has a sufficiently distinct relationship with the others without unduly influencing one another, according to a low VIF score. This guarantees that multicollinearity won't affect the model's parameter estimations, resulting in more accurate interpretation of the link between latent variables and dependable analytical results.

3.8   Coefficient of Determination (R²)

The results of the coefficient of determination analysis are presented in Table 16 below:

Table 16. Coefficient of determination (R²)

	R-square	Adjusted R-square
AL	0.169	0.167
BL	0.514	0.511
CL	0.574	0.571
CSI	0.635	0.632
SB	0.481	0.478

Based on Table 16, the Customer Satisfaction (CSI) variable has the highest R-square value of 0.635, which means that 63.5% of the CSI variance can be explained by the independent variables. The Cognitive Loyalty (CL) variable has an R-square value of 0.574, or 57.4% of the CL variance is explained by the model. The Behavioural Loyalty (BL) variable has an R-square value of 0.514, and Switching Barriers (SB) of 0.481, which shows that the model is quite good at explaining the variance of these two variables. Meanwhile, Attitudinal Loyalty (AL) has an R-squared value of 0.169 indicates that the independent variables explain only 16.9% of the variance in the dependent variable. Although the adjusted R-squared is slightly lower—reflecting the number of variables included in the model—the results still suggest that the model performs adequately..

3.9   Effect Size (F²)

The research's findings are shown in Table 17 below:

Table 17. Effect Size (F²)

	AA	AL	BL	CL	CS	CSI	NW	PV	RM	SB
AA										0.179
AL			0.202	0.223						
BL				0.233						
CL										
CS						0.131				
CSI		0.203								
NW						0.133				
PV						0.106				
RM										0.385
SB			0.160							

According to Table 17, the variables under investigation exhibit influences of differing intensities as determined by the F-square value, where a value greater than 0.02 denotes a weak effect, 0.15 a moderate influence, and 0.35 a strong influence. Attractiveness of Alternative (AA) has a moderate influence on Switching Barriers (SB) with an F-square value of 0.179. Attitudinal Loyalty (AL) also shows a moderate influence on Behavioural Loyalty (BL) with an F-square value of 0.202, and on Cognitive Loyalty (CL) with an F-square value of 0.223. Furthermore, Behavioural Loyalty (BL) has a moderate influence on Cognitive Loyalty (CL) with an F-square value of 0.233. Customer Satisfaction (CS) has a moderate effect

on Customer Satisfaction Index (CSI) with an F-square value of 0.131, and Customer Satisfaction Index (CSI) has a moderate effect on Attitudinal Loyalty (AL) with an F-square value of 0.203. Network Quality (NW) also has a moderate effect on Customer Satisfaction Index (CSI) with an F-square value of 0.133. Meanwhile, Price Value (PV) shows a weak influence on the Customer Satisfaction Index (CSI) with an F-square of 0.106. Most notably, Relationship Marketing (RM) has a strong influence on Switching Barriers (SB) with an F-square value of 0.385. Finally, Switching Barriers (SB) has a moderate influence on Behavioural Loyalty (BL) with an F-square value of 0.160.

3.10   Path Coefficient

The research's findings are displayed in Table 18 below:

Table 18. Path coefficient

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
AA -> SB	0.333	0.333	0.046	7.244	0.000
AL -> BL	0.416	0.421	0.054	7.706	0.000
AL -> CL	0.411	0.413	0.050	8.213	0.000
BL -> CL	0.420	0.417	0.048	8.844	0.000
CS -> CSI	0.304	0.300	0.053	5.759	0.000
CSI -> AL	0.411	0.409	0.058	7.056	0.000
NW -> CSI	0.321	0.325	0.060	5.397	0.000
PV -> CSI	0.285	0.286	0.048	5.984	0.000
RM -> SB	0.488	0.488	0.052	9.374	0.000
SB -> BL	0.370	0.363	0.055	6.781	0.000

As shown in Table 18, the results of the path coefficient analysis reveal that all relationships among the latent variables are statistically significant, with p-values below 0.05. This supports the proposed hypotheses, indicating that each independent variable significantly influences the dependent variable. The hypothesis testing results are presented as follows, namely:

H1: Price Value has a positive effect on Customer Satisfaction

The test results indicate that Price Value (PV) has a positive and significant influence on Customer Satisfaction (CSI), with a T-statistic of 5.984 and a P-value of 0.000. This suggests that the more favorable a customer's perception of the offered price, the greater their level of satisfaction. Therefore, hypothesis H1 is supported. These findings are consistent with the study by Hong et al. (2023), titled The Impact of Customer Perceived Value on Customer Satisfaction and Loyalty Toward the Food Delivery Robot Service, which also confirmed a significant relationship between price value (PV) and customer satisfaction (CS).

H2: Network Quality has a positive effect on Customer Satisfaction

The relationship between Network Quality (NW) and Customer Satisfaction (CSI) was also found to be positive and significant, with a T-statistic of 5.397 and a P-value of 0.000. This indicates that high network quality has a direct positive effect on customer satisfaction. These findings align with the study by Elrahman (2023) in the journal Telecommunications Service Quality, Customer Satisfaction, and Customer Loyalty in Pandemic Times, which demonstrated that network quality, as a component of service quality, significantly impacts customer satisfaction. The regression model in that study showed an overall significant relationship between service quality (SQ) and customer satisfaction (CS), with an F-value of 236.513 ($p < 0.05$), explaining 81.4% of the variance in customer satisfaction ($R^2 = 0.814$). The multiple correlation coefficient (R) of 0.902 reflects a very strong connection between the independent variables and customer satisfaction. Based on these results, hypothesis H2 is supported.

H3: Customer Support has a positive effect on Customer Satisfaction

The analysis reveals that Customer Support (CS) significantly and positively influences Customer Satisfaction (CSI), with a T-statistic of 5.759 and a P-value of 0.000. This indicates that responsive and effective customer service contributes to higher customer satisfaction. This finding is supported by the study of Archana Sharma and Mahim Sagar (2018) in the journal New Product Selling Challenges (Key

Insights in the ICT Sector), which demonstrated a significant link between customer support and customer satisfaction. Accordingly, hypothesis H3 is accepted.

H4: Relationship Marketing has a positive effect on Switching Barriers

The analysis shows that the relationship between Relationship Marketing (RM) and Switching Barriers (SB) is both positive and significant, with a T-statistic of 9.374 and a P-value of 0.000. This implies that strong relationships between companies and their customers increase the obstacles that prevent customers from switching to other providers. Thus, hypothesis H4 is supported. This result is further reinforced by a study conducted by Gli et al. (2023) titled The Effect of Corporate Reputation on Customer Loyalty in the Ghanaian Banking Industry: The Role of Country-of-Origin, which found that relational marketing significantly enhances customer loyalty, with a beta value of β = 0.23 (p < 0.001). The study concluded that relational marketing not only improves customer satisfaction but also establishes emotional and psychological barriers that reduce customers' willingness to switch, forming a crucial part of switching barriers.

H5: Attractiveness of Alternative has a positive effect on Switching Barriers

The influence of Attractiveness of Alternative (AA) on Switching Barriers (SB) is found to be significant, with a T-statistic of 7.244 and a P-value of 0.000. This indicates that the more appealing the available alternatives, the stronger the barriers preventing customers from switching. Therefore, hypothesis H5 is supported. Similar findings are reported by Chuah et al. (2017) in the article Why Do Satisfied Customers Defect? A Closer Look at the Simultaneous Effects of Switching Barriers and Inducements on Customer Loyalty, which highlights that switching barriers affect the relationship between the attractiveness of alternatives and customer behavior. The study concludes that such barriers can diminish the influence of alternative attractiveness on customers' intention to switch, playing a vital role in maintaining customer loyalty.

H6: Customer Satisfaction has a positive effect on Attitudinal Loyalty.

The findings indicate that Customer Satisfaction (CSI) has a significant positive impact on Attitudinal Loyalty (AL), with a T-statistic of 7.056 and a P-value of 0.000. This suggests that customers who are satisfied are more likely to exhibit attitudinal loyalty toward the company. As a result, hypothesis H6 is supported. This is consistent with the research by Izogo (2016), published in the journal Antecedents of Loyalty Attitudes in a Telecom Service Sector: The Nigerian Case, which found a significant relationship between customer satisfaction and attitudinal loyalty within the telecommunications industry. The study's first hypothesis (H1) confirmed that customer satisfaction is positively associated with attitudinal loyalty.

H7: Attitudinal Loyalty has a positive effect on Cognitive Loyalty.

The analysis demonstrates a significant positive relationship between Attitudinal Loyalty (AL) and Cognitive Loyalty (CL), with a T-statistic of 8.213 and a P-value of 0.000, indicating that attitudinal loyalty shapes customers' rational commitment to remain loyal. Hence, hypothesis H7 is supported. This is reinforced by Mamoun N. Akroush and Bushra K. Mahadin's (2019) study in the journal An Intervariable Approach to Customer Satisfaction and Loyalty in the Internet Service Market, which found that attitudinal loyalty significantly influences cognitive loyalty, with a beta value of 0.34 and a t-value of 5.47. The results highlight that attitude-based loyalty strengthens customers' rational belief in the brand or service.

H8: Attitudinal Loyalty has a positive effect on Behavioural Loyalty.

The results indicate that Attitudinal Loyalty (AL) significantly affects Behavioural Loyalty (BL), with a T-statistic of 7.706 and a P-value of 0.000. This implies that customers who possess attitudinal loyalty are likely to exhibit loyal behaviors, such as repeat purchases. Therefore, hypothesis H8 is supported. This finding is consistent with the study by Soch (2018), published in the journal Satisfaction, Trust and Loyalty: Investigating the Mediating Effects of Commitment, Switching Costs and Corporate Image, which confirmed a strong positive relationship between attitudinal and behavioural loyalty. The study revealed that customers with emotional attachment and favorable attitudes toward a brand or service are more inclined to engage in loyal actions, such as repurchasing and recommending the service to others.

H9: Behavioural Loyalty has a positive effect on Cognitive Loyalty.

The analysis results demonstrate that Behavioural Loyalty (BL) significantly influences Cognitive Loyalty (CL), with a T-statistic of 8.844 and a P-value of 0.000. This indicates that loyal customer behavior

reinforces their cognitive commitment to remain with the company. Accordingly, hypothesis H9 is accepted. Supporting this, Mahadin (2019), in the journal An Intervariable Approach to Customer Satisfaction and Loyalty in the Internet Service Market, found that behavioural loyalty significantly contributes to cognitive loyalty, with a beta coefficient of 0.32 and a t-value of 5.33. This suggests that customers' consistent purchasing behavior enhances their rational belief that the service provider is the best available option.

H10: Switching Barriers have a positive effect on Behavioural Loyalty

The relationship between Switching Barriers (SB) and Behavioural Loyalty (BL) was found to be positive and significant, with T-statistics of 6.781 and P-values of 0.000. This means that high switching barriers can encourage customers to remain loyal in their behaviour. Therefore, hypothesis H10 is accepted. In the journal Factors Affecting Customer Loyalty for Mobile Telecommunication Industry by Tabaa (2016), it is explained that switching barriers play an important role in shaping behavioural loyalty. This research reveals that barriers to switching encourage customers to stick with the same service, not solely because of personal satisfaction or desire, but because of the difficulties or costs that arise if they move to another service provider.

All of the independent variables in this study have been shown to significantly affect the mediating and dependent variables, according to the findings of the hypothesis testing. Price Value (PV), Network Quality (NW), and Customer Support (CS) contribute positively to increasing Customer Satisfaction (CSI), which in turn drives Attitudinal Loyalty (AL). Relationship Marketing (RM) and Attractiveness of Alternative (AA) also show a positive relationship with Switching Barriers (SB), which in turn affects Behavioural Loyalty (BL). Furthermore, Attitudinal Loyalty (AL) was found to have an important role in building Behavioural Loyalty (BL) and Cognitive Loyalty (CL), which also interact with each other to strengthen customer loyalty. These results confirm that value enhancement strategies, network quality, customer support, and good relationship marketing can effectively increase customer satisfaction, loyalty, and reduce the risk of customer switching.

4. CONCLUSION

The analysis's findings demonstrate that loyalty is significantly impacted by customer happiness, as happy consumers are more likely to be positive, make repeat purchases, and have faith in the caliber of the services they receive. In addition to fulfilling basic needs, satisfaction also builds an emotional connection with the company. On the other hand, switching barriers such as switching costs, emotional attachment, and uncertainty towards alternative services also strengthen loyalty by reducing customers' desire to switch to other providers. The combination of the two creates stronger loyalty: satisfaction as the foundation of a positive relationship and switching barriers as a hedge against competition. Therefore, PLN Icon Plus is advised to continue improving customer satisfaction through quality service, competitive pricing, responsive support, and personalized and ongoing service development, including value-added loyalty programs. In addition, ethically strengthening switching barriers is also important, for example through active communication, digital marketing, exclusive incentives, and rewards for loyal customers. Future research is recommended to examine additional variables such as trust and brand image, and highlight green solution services to broaden the understanding of customer loyalty patterns in various contexts.

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