

Research Article

The Effect of Pandawa Service Quality and Switching Cost on Loyalty of National Health Insurance Participants

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ORCIDSyarifatun Karuniaekawati: <https://orcid.org/0009-0007-2194-9951>**Abstract.**

Social Security Administrator (*Badan Penyelenggara Jaminan Sosial, BPJS*) for Health is a national health insurance. The variable “Loyalty” needs to be researched for the continuity of programs of the National Health Insurance (*Jaminan Kesehatan Nasional, JKN*) through participants’ satisfaction. With the occurrence of COVID-19, BPJS Kesehatan made innovation by opening a non-face-to-face channel service via WhatsApp known as Pandawa. The presence of COVID-19 has reduced the use of healthcare services in the JKN program, so there is a need for a study of the effect of switching costs on the loyalty of JKN participants. This research was conducted by distributing questionnaires via Google form to JKN participants who accessed Pandawa in October 2023, totaling 148 respondents. The novelty of this research is that innovation in membership administration services carried out by the Pandawa is still rarely studied. Smart PLS is used as a test tool with Pandawa service quality results which influence satisfaction and loyalty. It shows that good service quality will increase satisfaction and loyalty. Switching costs impact satisfaction but do not influence loyalty. JKN participants who switch to other healthcare service financing are not related to loyalty but to satisfaction.

Keywords: Service quality, Switching Cost, Loyalty, JKN, Pandawa, Satisfaction

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1. Introduction

BPJS Kesehatan is an institution that runs the National Health Insurance (JKN) program in Indonesia. JKN is the largest social health security program in the world as a single-payer (1). As a single-payer member of BPJS Kesehatan, it is motivated to increase service quality for the sustainability of the JKN program. In 2023, BPJS Kesehatan sets 5 main focuses of the institution. The first main focus is the enhancement of service quality by internal and JKN ecosystems through innovation as well as digitalization. Whereas the second main focus is an expansion of participants going to the universe scope (2). According to Parasuraman (3), there are five dimensions of service quality, namely reliability, responsiveness, assurance, empathy, and tangibles.

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During the COVID-19 pandemic, BPJS Kesehatan did innovation and digitalization through online administration service channels, namely the applications of Mobile JKN, Care Center 165, and Pandawa. The administrative service channel that is currently very popular with JKN participants and was developed after the COVID-19 pandemic passed is the service via WhatsApp, namely Pandawa.

Pandawa is an administration service via WhatsApp that participants can access according to service opening hours. The Pandawa channel began to open in September 2020 when cases of the spread of COVID-19 were increasing. Initially, Pandawa was served using the WhatsApp number of each BPJS Kesehatan Branch Office. As time goes by, in 2022 the Pandawa number will become single, namely 08118165165 with Pandawa officers or agents spread throughout Indonesia. In October 2023, 118 Pandawa agents will begin to be centralized in Yogyakarta with the hope of improving service quality and participant satisfaction in the administrative service dimension. Apart from that, Pandawa agents are also assisted by 50 branch offices throughout Indonesia (4).

Utilization of the Pandawa channel from January to September 2023 is 2,025,700 transactions with an average transaction per month of 225,078 or 10,231 transactions per day. The highest number of Pandawa utilization in July 2022 was 422,485 transactions or an average of 19,203 transactions per day. The number of transactions carried out by 200 users in 2023 and 350 users in 2022 spread across branch offices throughout Indonesia (4) .

With the spread of Pandawa users throughout all branch offices, there are several differences in understanding regarding policies, implementation, monitoring carried out by each branch, service delivery times, and network stability in accessing applications. Apart from that, currently, Front liner staff are still doing other work besides Pandawa so they are less focused because they have to divide their time with other jobs such as counters service, officer service, providing information and complaints, Mobile BPJS (BPJS *Keliling*) and services at the Public Service Mall (*Mal Pelayanan Publik*, MPP). This results in office productivity being less than optimal compared to the specified standard ratio, namely at least 1:80 (4) .

Before the occurrence of COVID-19 in 2019 utilization of JKN health services was as many as 433.4 million utilizations. But in 2020 it declined in utilization to 362.6 million (5). Besides that with the promulgation of President Regulation Number 64 of 2020 concerning Health Security which was the Second Change of President Regulation Number 82 of 2018 occurred change dues for Non-Wage Recipient Workers (PBPU, *Pekerja Bukan Penerima Upah*) participants (6) . There is decline utilization and change dues PBPU participants gave rise to switching cost phenomenon.

Switching costs are generally considered anti competitive because companies can raise prices to “locked-in” consumers, at least until the costs switch to lower-priced alternatives. However, there is some evidence, both theoretical and empirical, that tends to suggest otherwise. Provider services anticipate competing aggressively for non-switching consumers. Additionally, fixed shopping costs and uncertain prices imply that there is a “real option” value embedded in consumer shopping behavior, which must be priced out and compensated for if consumers switch stores. The former researcher argued that retail prices were lower when retailers used programs designed to increase customer retention, or “stickiness.” (7) .

Mofokeng (8) states that switching of participants from existing medical schemes to the National Health Insurance (NHI) in South Africa has generated much debate. The study, based on the concept of enlightened marketing philosophy, measures the effects of perceived costs classified by type (procedural, financial, and relational) and direction (positive and negative) of this shift in terms of customer satisfaction. The results show a significant positive effect of personal relational loss costs and benefit loss costs on customer satisfaction, which in turn, negatively influences the current perceived marketing ethics of medical schemes. For customers paying high and medium medical scheme contributions, and those with previous switching experience, the results show that the cost of increasing benefit loss increases customer satisfaction. According to Ha VD (9) switching Cost is increasingly becoming a strong barrier to helping providers retain their customers.

This study tries to analyze things that can influence the loyalty of participants, among others through service quality and switching costs through variable mediation that is participant satisfaction. With the novelty of the research object, which is specialized to Participants of National Health Security ever use Pandawa application service. This specificity is with consideration of respondents’ characteristics that have sensitivity to technology progress.

Dimensions of customer satisfaction according to Supriyanto (10) consist of attitude, happiness, and customer satisfaction. Meanwhile, the dimensions of customer loyalty are developed based on cognitive, action, conative, and affective variables.

Based on study theory and research previous can made theoretical thinking framework as Figure 1

Based on the problems studied can withdraw some hypothesis are:

H1: Service quality has a positive effect on participant loyalty

H2: Switching cost has a positive effect on participant loyalty

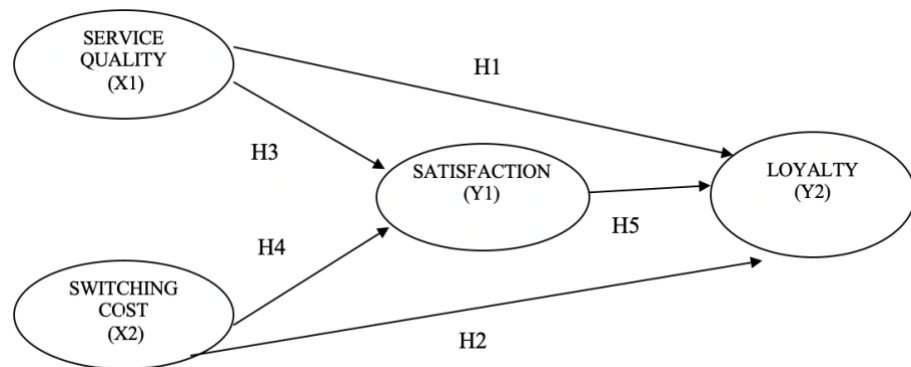


Figure 1: Theoretical Thinking Framework.

H3: Service quality has a positive effect on participant satisfaction

H4: Switching cost has a positive effect on participant satisfaction

H5: Participant satisfaction has a positive effect on participant loyalty

2. Method

The study carried out at BPJS Kesehatan Kudus Branch includes work regions: Kudus Regency, Jepara Regency, and Grobogan Regency. Collecting data was carried out in November 2023 for the service month of October 2023. The population in this study is participants accessing Pandawa on October 2023 and domiciled in the work region of Kudus Branch with 2500 participants.

Respondent set with us the Hair formula, with consideration of limitations of time, energy, and costs. The amount of sample was calculated from 5-10 times the number of indicators so the sample used in this study was as many as 5x26 indicators for a minimum of 130 respondents(11). In the research, 148 respondents were obtained.

This research used a questionnaire. An online questionnaire was done via Google form through WhatsApp blast to JKN participants and a group of PIC (Person in Charge) of BPJS Kesehatan area Kudus branch of October 2023. This research was carried out using a convenience sampling technique, which involves selecting participants based on the accessibility and proximity of the respondents to the researcher.

The data used in this study are primary data and secondary data. Primary data was obtained through a questionnaire. Meanwhile, secondary data is collected by taking participant data along with device numbers accessing Pandawa in October 2023.

The rating scale chosen for this study was a 5-point Likert scale, with responses ranging from “strongly disagree” (score 1), “disagree”(score 2), “enough agree”(score 3), “agree”(score 4) and “strongly agree” (5 points). Scale for Service Quality(KL) was

measured with 8 (eight) items, Switching Cost (SC) was measured with 5 (five) items, Participant Satisfaction (KP) was measured with 7 (seven) items, and Participant Loyalty (LP) was measured with 6 (six) items.

The data analysis techniques in this research use SEM analysis using the approach SmartPLS done through two stages, i.e. assessing the outer model or measurement model and assessing the inner model or structural model. Outer model analysis was carried out to ensure that the measurement used is worthy for measurement (valid and reliable). Whereas inner model analysis aims to know the accuracy of the structural model built.

Analysis of direct influence is used to test how exogenous variables influence endogenous variables. Analysis of direct influence in SEM PLS testing used the total effect output in the original sample column.

Analysis of non-direct influence is used to test how exogenous variables influence endogenous variables through intervening variables. Analysis of non-direct influence in SEM PLS testing used the total indirect effects output in the original sample column.

Partial Least Square (PLS) is SEM-based type component with formative construct characteristics. PLS is a data analysis technique that can be applied to all data scales and does not need many assumptions, and many sample measurements.

3. Results and Discussion

3.1. Results

Willing respondents filled in the questionnaire completely and validly processed a total of 148 respondents with respondents' profiles seen in the following tables 1 to 7. Respondents' profile to this research was divided into 7 types that are based on type gender, age, occupation, address, education, duration as a JKN participant, and treatment class rights.

In this research, women respondents were involved in research more than men respondents. Women respondents were as many as 51.38% and men were 48.64%. It can be seen in table 1.

The age of respondents who filled in the questionnaire on this research was in the range of 17 to 60 years old. Most respondents filled in the 31-40 years old range amounting to 41.9% which is shown in Table 2 which means respondents who filled the questionnaire were in the range of productive age.

TABLE 1: Sex Types.

Description	Amount	%
Man	72	48.64
Woman	76	51.36
	148	100

Source: processed primary data, 2023

TABLE 2: Age.

Range Age	Amount	%
17-20 years old	2	1.35
21-30 years old	36	24.32
31-40 years old	62	41.9
41-50 years old	35	23.65
51-60 years old	13	8.78
	148	100

Source: processed primary data, 2023

Respondents' occupations were very varied. This means the JKN program protects all Indonesian citizens who either have a job yet or already have a job. Mostly, respondents who filled out the questionnaire were civil servants amounting to 22.97%, village headman and village officials amounting to 21.62%, and private employees amounting to 20.94%. It means that most respondents who fill the questionnaire were in the Wage Earning Workers (PPU, *Pekerja Penerima Upah*) segment. It can be seen in Table 3.

The BPJS Kesehatan working area is: Kudus, Jepara and Grobogan Regencies. Therefore this study was shared with JKN participants who accessed Pandawa in 3 regencies with the most respondents who filled the questionnaire in Kudus Regency amounting to 47.97% which can be seen in Table 4.

The most respondents who filled the study was S1 (Bachelor Degree) 50% which can be seen in Table 5. It means that respondents have a sufficient understanding of the questions in the questionnaire because of sufficient educational background.

The duration of the respondents becoming JKN participants can influence satisfaction and loyalty as JKN participants. The respondent who has participated for more than 8 years should know JKN program services well. In this research, the respondents who have become participants for more than 8 years amount to 51.35% as seen in Table 6.

In this research, most respondents were in treatment class rights 2 amounting to 52.03%. This was in line with the work of most respondents as Wage Earning Workers

TABLE 3: Jobs.

Type Work	Amount	%
Not yet working	8	5.41
JKN cadre	3	2.03
Village Head and Village Apparatus	32	21.62
BUMN/BUMD employees	1	0.68
Non-Civil Servant Government Employees/PPPK and their families	13	8.78
Private Employees/Business Entities	31	20.94
Independent worker/ freelancer (does not have a work contract)	6	4.05
Farmers/Traders/Casual Daily Laborers	8	5.41
Civil servants and their families	34	22.97
	3	2.03
Self-employed micro business (does not employ workers)	9	6.08
	148	100

Source: processed primary data, 2023

TABLE 4: Respondent Addresses.

Regency	Amount	%
Grobogan	38	25.68
Jepara	39	26.35
Kudus	71	47.97
	148	100

Source: processed primary data, 2023

TABLE 5: Education.

Educational level	Amount	%
Middle school/equivalent	1	0.68
High school/equivalent	54	36.49
Diploma/D3	14	9.45
Bachelor degree(S1)	74	50
Postgraduate (S2/S3)	5	3.38
	148	100

Source: processed primary data, 2023

(PPU) and it was also shown that the respondents had reported income to BPJS Kesehatan as big as between UMR (Regional Minimum Wage) to maximum IDR 4,000,000

TABLE 6: Length of Participation.

Length of Participation	Amount	%
Less than 2 months	2	1.35
2-6 months	5	3.38
6-12 months	3	2.03
1-2 years	15	10.14
3-4 years	16	10.81
5-6 years	14	9.45
7-8 years	17	11.49
More from 8 years	76	51.35
	148	100

Source: processed primary data, 2023

and the respondent filled in ASN group, namely groups I and II. It can be seen in Table 7. However, some respondents did not know the treatment class right was 1.35%.

TABLE 7: Treatment Class.

Participant Class Rights	Amount	%
Class 1	47	31.76
Class 2	77	52.03
Class 3	22	14.86
Do not know	2	1.35
	148	100

Source: processed primary data, 2023

Convergent Validity is a measurement of how big the correlation between the construct and variable latent. Convergent Validity Evaluation of individual item reliability checks, can be seen from the mark standardized loading factor. Measurement (indicators) of constructs Loading factor values above 0.60 are acceptable and are said to be ideal, this means that indicators are said to be valid as indicators that measure construct. Although, the value of a standardized loading factor above 0.5 is accepted, meanwhile below 0.5 is excluded from the model. The results of bootstrapping and outer model testing can be seen in Figure 2 and Table 8.

Based on testing loading factor values above 0.60 are acceptable and are said to be ideal, meaning indicators are said to be valid as indicators that measure construct. In conclusion, testing loading value, known as all overloading values > 0.60, means can be accepted or fulfilled.

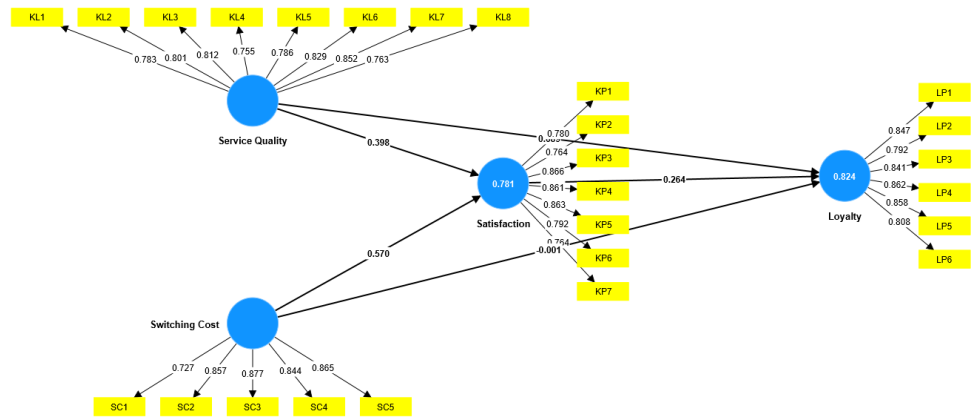


Figure 2: Bootstrapping results.

TABLE 8: Outer Loading.

No	Indicator	Outer Loading	Code	Dimensions	Variable
1	Service hours Pandawa comfortable for participant	0.783	KL1	Empathy	Service quality
2	Pandawa gives attention personally to participant	0.801	KL2		
3	Pandawa understandsthe participants'need in a specific way	0.812	KL3		
4	Pandawa gives appropriate information with need of changes in participant data	0.755	KL4	Reliability	
5	Pandawa strives free error service transaction	0.786	KL5		
6	Initial response of Pandawa during service hours 08.00 – 17.00 maximum 30 minutes since message First submitted by participants	0.829	KL6	Responsiveness	
7	Data processing is carried out maximum 1x24 hours	0.852	KL7		
8	When I do not understand on information provided,Pandawa'sagent respond quicklyand help to explain	0.763	KL8		
9	There are many mandatory procedures done by participant want to switch health service to other financing	0.727	SC1	PSC (Procedural Switching Cost)	Switching Costs
10	Switch service toother financing requires a complicated process	0.857	SC2		
11	Switching health service from BPJS Kesehatan To other financing can cause hidden cost and not can predicted	0.877	SC3	FSC (Financial Switching Cost)	
12	Switchinghealth serviceto independent financing or other health insurance possibly will cause a number of difficulty that is not expected	0.844	SC4		
13	I appreciate image of BPJS Kesehatanat this moment	0.865	SC5	RSC (Relational Switching Cost)	
14	Socialization of the JKN program by BPJS Kesehatanalready adequate	0.781	KP1	Happiness	Satisfaction
15	The JKN program is managed by BPJS Kesehatan very useful for me	0.764	KP2		
16	My relation with BPJS Kesehatan generally profitable	0.866	KP3	Satisfaction	
17	The JKN program is managed by BPJS Kesehatan will taking place for long period	0.861	KP4		

TABLE 8: Continued.

No	Indicator	Outer Loading	Code	Dimensions	Variable
18	BPJS Kesehatan Services (start from administration until health service) applies national	0.863	KP5		
19	My Impression towards the JKN program organized by BPJS Kesehatan is very good	0.792	KP6	Attitude	
20	I welcome positively for the JKN program organized by BPJS Kesehatan	0.764	KP7		
21	I often convey positive matter about the JKN program organized by BPJS Kesehatan to other people	0.847	LP1	Conative	Loyalty
22	I will push friends and relatives to use JKN program services organized by BPJS Kesehatan	0.792	LP2		
23	I will recommend JKN program services provided by BPJS Kesehatan when sickif anyone asks question to me	0.841	LP3		
24	I will still become JKN participants organized by BPJS Kesehatan although there is other health insurance	0.862	LP4	Affective	
25	I am proud to be a JKN participant organized by BPJS Kesehatan	0.858	LP5		
26	I feel like I have the JKN program organized by BPJS Kesehatan	0.808	LP6		

Source: processed primary data, 2023

The results of instrument testing show that all instruments in this study are valid and reliable as in Table 9. This fact is visible in the composite value reliability above 0.7 and average value variance extracted (AVE) more than 0.5. So it can be stated that all instruments in this research are valid. In the reliability test, the Crobach value was obtained as alpha more than 0.7. This indicates that all instruments in this research are reliable.

TABLE 9: Instrument Test.

	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)
Service Quality	0.918	0.920	0.637
Switching Costs	0.910	0.912	0.690
Satisfaction	0.915	0.919	0.663
Loyalty	0.913	0.915	0.698

Source: processed primary data, 2023

This study uses approach inner model analysis, hypothesis testing, and role mediation. The inner model analysis is intended to know the accuracy of the structural model built. The best model analysis includes the coefficient of determination and Goodness of Fit (GoF) as in Table 10 where the SRMR value is approximately 0.08, indicating that this model is fit.

TABLE 10: Goodness of Fit.

	Saturated models	Estimated model
SRMR	0.086	0.086
d_ULS	2,764	2,764
d_G	1,624	1,624
Chi-square	1147,334	1147,334
NFI	0.713	0.713

Source: processed primary data, 2023

Analysis of direct influence is used to test how big the influence of exogenous variables on endogenous variables. The results of the direct influence in the SEM PLS test are shown in Table 11 which shows that satisfaction has a significant positive effect on loyalty. Consider a higher t value of 1,645 and value significance not enough from 0.05. Likewise, variables of service quality had a positive and significant influence on satisfaction and participant’s loyalty to national health security. However, in this study switching costs are not influential to loyalty although switching costs have influenced the positive and significant satisfaction of JKN participants.

TABLE 11: Direct influence.

	Original sample	T statistics	P values
Satisfaction -> Loyalty	0.271	3,246	0.001
Service Quality -> Satisfaction	0.396	6,381	0,000
Service Quality -> Loyalty	0.689	13,118	0,000
Switching Cost -> Satisfaction	0.580	10,259	0,000
Switching Cost -> Loyalty	-0.010	0.131	0.896

Source: processed primary data, 2023

In this study, satisfaction can play a role in mediation. This is proven with a calculated t value that exceeds 1.645 and a value significant not enough from 0.05. So, it can be stated that participant satisfaction role as an internal mediator influences service quality to the loyalty of participants. Switching costs matter to loyalty with help intervening variables, i.e. participant satisfaction.

TABLE 12: Non-direct influence.

	Original sample	T statistics	P values
Service Quality -> Satisfaction -> Loyalty	0.107	3,006	0.003
Switching Cost -> Satisfaction -> Loyalty	0.157	2,901	0.004

Source: processed primary data, 2023

3.2. Discussion

3.2.1. Service QualityPandawa to Participant's Loyalty

In this research, service quality and customer loyalty have a positive and significant effect. It shows that the better the service quality of Pandawa, the greater the loyalty of the participants.

Numerous studies have confirmed this relationship across a variety of industries, both service and manufacturing. Overall, the evidence shows that service quality plays an important role in fostering customer loyalty. By providing the best service experience, organizations can increase customer satisfaction and ultimately build long-term loyalty (12) .

Dimensions indicated on the service quality of Pandawa namely empathy, reliability, and responsiveness create JKN participants who are more and more loyal to the JKN program. The occurrence of the Pandawa service channel also enables JKN participants to inform channel to others and recommend Pandawa to other people. Participants are also proud to become JKN participants by accessing service through the non-face-to-face channel of Pandawa.

3.2.2. Switching Cost towards Participant's Loyalty

Switching costs refer to the costs, both tangible and intangible, that would be incurred if they switched from one product or service provider to another. These costs may include financial costs, the time and effort required to research and learn about alternative options, the inconvenience of transitioning to a new provider, and the potential loss of benefits or familiarity associated with the current provider. Switching costs act as a deterrent: customers are less likely to switch to a competitor if the perceived costs of switching are greater than the potential benefits. By increasing switching costs, businesses can effectively retain customers and grow loyalty, as customers are more

likely to continue their customer relationship with their current provider rather than incur costs associated with switching.

In this study, switching costs are not influential to customers' loyalty, showing that higher switching costs cannot be related to a higher level of customers' loyalty. When customers perceive higher costs and find obstacles to switching, they tend to still be loyal to the service provider at this moment. Findings in this study show that when customers perceive higher switching costs, like penalty finances, time and effort, and loss-related benefits related to a recent provider, the customers are likely to continue using the current provider and show loyalty. In research, because characteristics of participation National Health Security is mandatory, participants do not question whether there is a switching cost. When a participant uses other financing when she/he is sick, it does not affect loyalty to JKN program participation. The reason for switching health services to other financing needed more studies done.

3.2.3. Service Quality to Participant's Satisfaction

Several studies have found a positive correlation between service quality and customer satisfaction, indicating that higher levels of service quality lead to higher levels of customer satisfaction (13). This research shows that when businesses provide high-service quality that meets or exceeds customer expectations, it increases customer satisfaction. Customers found the service to be reliable, responsive, and empathetic, leading to a positive evaluation of their overall experience. Overall, the relationship between service quality and customer satisfaction highlights the importance of providing the best service to meet customer needs and expectations.

This study is in line with Nguyen et al. (13) Where dimensions of reliability, responsiveness, and empathy for the service quality of Pandawa influence the satisfaction of JKN program participants. The occurrence of the non-face-to-face channel of Pandawa turns out to increase the connection between BPJS Kesehatan with participants becoming tighter and will make this program more sustainable. Pandawa is also considered reliable; and has a quick and empathetic response to the needs of participants.

3.2.4. Switching Cost to Participant Satisfaction

Pandawa is also considered reliable; and has a quick and empathetic response to need of participants. For customers paying high and medium medical scheme contributions, and those with previous switching experience, the results show that the cost of increasing the loss of benefits included in PSC increases customer's satisfaction.

This study is in line with research conducted by Mofokeng (8) Where switching costs have a positive influence on participants' satisfaction. Respondents in this research registered with treatment class right 1 as much as 31.76% which means chose scheme dues height and registered respondents with treatment class right 2 52.03%, which means they chose intermediate dues scheme as Table 7. The existence of high switching costs influences higher JKN participants' satisfaction, which means participants are reluctant to switch to other health financing.

3.2.5. Satisfaction to Participant's Loyalty

The researchers have identified various dimensions of electronics service quality, including variation product or diverse features, reliability, power responsiveness, competence, politeness, credibility, access, communication, understanding customers, collaboration, improvement sustainability, content, accuracy, convenience usage, accuracy time, aesthetics, and security. These dimensions play an important role in form satisfaction and customers' loyalty in the e-banking industry. Overall, service quality is an important factor for businesses to attract and retain customers. By giving high service quality or surpassing customers' expectations, organizations can increase customers' satisfaction, loyalty, and ultimately, company reputation (13) .

Research by Eklof et al. (14) confirms that customer satisfaction and loyalty have a significant positive influence on profitability and can be considered predictors for future profitability. These results are important for internal decision-makers of the organization.

In this study, customer's satisfaction and customer's loyalty impact positively and significantly. Overall, the evidence shows that customer satisfaction plays an important role in increasing customer loyalty. By ensuring that customers are satisfied with their experience, organizations can increase customer's loyalty and retention (12) .

4. Conclusion

Pandawa as an electronic application service to Participants of National Health Security provides convenient access for improving participant's satisfaction. This study proves that service quality can affect participant's satisfaction and loyalty. Likewise, the switching costs that arise can be influential on participants' satisfaction although does not impact the loyalty of health security national participants. This study also believes that the role of participants' satisfaction as a reliable, proven intervening variable can play a role as the best mediator of the influence of service quality and switching costs towards the loyalty of National Health Security (JKN) participants. Although this study contributes to science, this research still has limitations including, the results of this study show switching costs is not directly influential to participant's loyalty.

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