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Factors Influencing Switching Intention of Medical Waste Bin with Push Pull Mooring Approach

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ABSTRACT

PT BINMED Ecomedika Industri (BINMED) is one of the companies engaged in the manufacture of medical devices in the form of special waste bins for sharps medical waste. Since starting to be marketed in 2019 until now, BINMED products have not reached the sales target. This is because conventional and/or non-standard safety boxes such as medical plastic bags, used bottles of mineral water in packaging, and jerry cans are still being used. In addition, BINMED products have just begun to be marketed in the Jabodetabek area using free trials and discounts. However, these two methods have not been able to attract the attention of potential buyers. Therefore, it is necessary to analyze the factors that influence prospective buyers to switch to using the BINMED safety box. The data collected were 72 samples using the purposive sampling technique to find the right respondents, namely prospective buyers working in the health sector. The variables used in this study include push effects (pricing, satisfaction, and trust), pull effects (attractive alternatives), and mooring effects (switching costs and subjective norms). Based on the results of data processing and analysis of research results, it was found that alternative interest had a significant effect on the intention to switch to the use of the safety box while the variables of pricing, satisfaction, trust, switching costs, subjective norms and the moderating effect of the mooring effects between push and pull effects and switching intentions did not affect switching intentions. The managerial implication that can be applied by the company is to promote on social media and cooperate with medical waste transport service providers who have collaborated with health facilities.

INTRODUCTION

In Indonesia, the amount of solid medical waste generated at health facilities such as hospitals is 376,089 tons/day with the composition of medical waste produced by these health facilities at 10-25% and domestic or non-medical waste produced at around 75-90% [1]. Although relatively small, the risks posed to the environment and health are potentially large if not managed properly [2]. Management of medical and non-medical waste in health facilities is urgently needed so that the termination of the spread of disease can be realized. Because the waste is hazardous and toxic and there is a possibility for the spread of disease, it is necessary to have an appropriate place or container to accommodate the waste [3].

PT BINMED Ecomedika Industri is a new company that was established in 2019 and is engaged in the manufacture of BINMED medical safety boxes. BINMED is a container used to accommodate medical sharps waste consisting of an outer can (outer packaging) and an inner box (inner packaging). As a container for storing medical sharp waste or medical waste bins, BINMED already has a distribution permit from the Ministry of Health of the Republic of Indonesia so that this product meets medical safety standards and can be used in all health facilities such as hospitals, health centers, clinics, doctor's practices and laboratories.

Currently, the focus of BINMED's product marketing area is the Jabodetabek area. This is because the Jabodetabek area has the highest number of health facilities in Indonesia, namely 2,309 out of 26,196 or about 8.82% of health facilities consisting of hospitals, health centers, clinics, doctor's practices, and pharmacies [4]. Sales currently have not reached the company's target, which BINMED sales target is 20,000 units/month. This shows that the use of conventional safety boxes is still used. Use conventional plastic-based safety boxes is still used today, such as the use of used jerry cans as safety boxes at health centers whose use can reach 300 jerry cans/month [5], the use of jerry cans in hospitals with an average amount of waste the medical product produced is 250 kg/week [2], and the use of aqua bottles as a safety box in dental practice [6]. In the regulation of the Ministry of Health of the Republic of Indonesia, it is stated that the sharps trash bin or safety box is a container for storing medical waste for sharp objects that is leak-proof and puncture-resistant with a lid that cannot be opened again. with a shape designed to be used with one hand. Based on these regulations, it can be concluded that the use of jerry cans and aqua bottles as safety boxes cannot be used because they do not meet the standards of the Indonesian Ministry of Health [7].

The marketing of the Jabodetabek area has not been maximized because there are still many who do not know about this product so these health facilities have a lack of trust in meeting the needs of BINMED safety boxes. It is said that it has not been maximized because BINMED marketing for the Jabodetabek area has been carried out in several ways, namely free trials and discounts. However, these two methods are still not able to attract the attention of potential buyers and there are still many who do not know this product so the health facility has doubts about meeting the safety box needs. Therefore, it is necessary to conduct a thorough search regarding the factors that cause buyers to be willing to switch the use of conventional medical waste bins to BINMED medical waste bins.

In this study, the variables used were switching intention, pricing, trust , satisfaction, alternative attractiveness, switching cost , and subjective norms. In solving these problems, in this study, the theory of Push Push Mooring (PPM) was used to find the factors that influence the intention to switch buyers from using conventional safety boxes to BINMED safety boxes and testing models and hypotheses used Structural Equation Model (SEM).

The use of PPM theory in the completion of this research is based on the buyer's decision to switch from using the old product or service to a new product or service influenced by the buyer's perception of the current product or service that encourages buyers to switch (push effects), the buyer's perception of the product or service that can attract buyers to switch (pull effects) and perceptions of the people around that cause buyers to switch or stay (barrier) (mooring effects) [8]. In measuring SEM, the method used is PLS-SEM which is based on the advantages of the method, namely the number of samples used can be in small quantities less than 100, the data can be not normally distributed, can be used in complex structural models where the variables and indicators used can be many, and has the characteristics of a flexible model (can be formative, can be reflective) [15].

LITERATURE REVIEW

Factor Analysis

Factor analysis is a multivariate analysis that is used to reduce the number of factors to reduce the complexity of tests and measurements to be simple so that the data processing process becomes easy and tests the variables used but does not reduce the information contained therein. There are two main objectives of factor analysis, namely data summarizing and data reduction. Data summarizing is the identification stage to determine the relationship between variables by conducting a correlation test, while data reduction is the stage of creating a new variable called a factor after a correlation test is carried out [17].

Push Pull Mooring

The beginning of the Push Pull Mooring (PPM) theory was proposed as a migration theory that causes humans to move from one place to another. PPM which is derived from migration theory can be used as a conceptual model that aims to analyze switching intentions because migration does not only occur in moving between places but extends to daily activities [9].

As a comprehensive framework, PPM studies various aspects of switching or migration intentions which are divided into push effects (namely the negative effects of factors that encourage buyers to

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leave the products or services that are currently used), pull effects (namely positive effect of factors that attract buyers to switch to a new product or service) and mooring effects (namely factors that prevent buyers from switching from products or services that are currently used) [8].

Structural Equation Modelling

Structural Equation Model (SEM) is a multivariate analysis technique that involves the application of statistical methods in analyzing more than one variable [15] with the advantage of being able to use three analyzes at once, namely confirmatory factor analysis, path analysis and regression analysis [18].

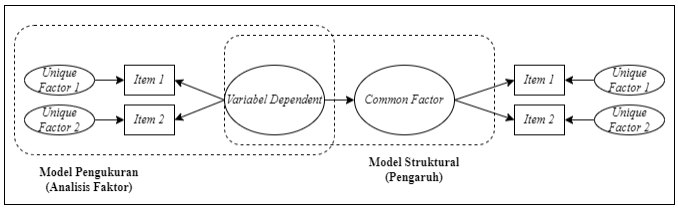

Fig. 1 Statistical Concept in Structural Equation Modelling

Based on Figure 1, there are two models of statistical concepts, namely the measurement model and the structural model. In the measurement model there are two components, namely the measuring attribute (the component that describes the measured attribute) and error attribute (other attributes that are not measured) while the structural model displays the relationship between variables that are correlation (two-way) and influence (one-way) [18].

In the SEM concept, there are two models for resolving the relationship between the variables used, namely PLS-SEM (Partial Least Square) and CB-SEM (Covariance Based) [15] whose differences can be seen in **Table 1**

Table 1. Difference Between PLS-SEM and CB-SEM

Criteria	PLS-SEM	CB-SEM
Assumption	Can be non-normally distributed and Nonparametric	Normal distribution and parametric
Purpose	Exploration research	Confirmatory research
Number of Samples	Minimal 10 samples per construct	Minimal 100 - 150
Complexity	Large	Low to medium
Measurement Model Specification	Can be reflective, can be formative	Just reflective
Measurement Model Structural	Influence (one way)	Correlation (two-way)

METHODOLOGY

This study uses the push-pull mooring theory, push effect (pricing, satisfaction, and trust), pull effect (alternative of attractiveness) and mooring effect (switching cost and subjective norms).

Sampling Technique

The minimum number of samples refers to [19], which is 10 times the number of research variables used. So that in this study, a minimum of 70 samples is needed. The sampling technique was carried out using purpose sampling with the criteria of respondents being people who work in the health sector, such as doctors, nurses, midwives, laboratory assistants, and health facility management. Collected as many as 72 respondents from various regions in Indonesia. Data collection was carried out through an online questionnaire distributed via google forms and direct visits to health facilities.

Research Hypothesis Design

The hypothesis is a provisional research result obtained from testing variables and conceptual models that have been formed. The following is an explanation of each hypothesis formed.

A. Push Effects

The push Effects are the negative effects of factors that encourage buyers to switch to new products or can be called the positive effects of the current products [8]. In this study, the variables of pricing, satisfaction, and trust are included in the push effects because of the experience of buyers who judge the product offered directly so that it can attract buyers to stay or switch to other products.

Price is the amount of money that is exchanged to get a product or service where the lower the price offered will increase the purchase intention of the buyer [20]. Pricing is a pricing activity that is following the value or benefits of the products offered [11]. Every company sets a price that must be right, where it is not low which causes the company to lose and not high which can cause buyers not to buy the products or services offered [21]. By setting a price that is following the benefits of the product offered and according to the ability of the buyer, the product offered will attract buyers to buy the product. Thus, the researcher proposes the following hypothesis.

H1: Pricing (PH) has a significant effect on Switching Intention (IB)

Satisfaction is the experience felt by consumers from using old products [8] where the lower the satisfaction with old products, the greater the intention to switch consumers to new products [12]. Satisfaction can also be interpreted as the emotional status that buyers get after using a product or service, where when the buyer feels disappointed, the buyer will look for alternative products or other services [9]. Dissatisfaction with the products used today is the main factor to encourage customers to switch to new products [8]. Thus, the researcher proposes the following hypothesis.

H2: Satisfaction (K) has a significant effect on Switching Intention (IB)

Trust is defined as the buyer's feeling that the fulfillment of promise of the product provider is fulfilled which is interpreted as a commitment. This commitment will make buyers switch from product providers or not [8]. Trust includes the skills and abilities of a company in meeting the needs of the products or services offered [9]. High trust from buyers in companies that offer products or services will build good relationships to encourage buyers to use the products or services they offer. Thus, the researcher proposes the following hypothesis.

H3: Trust (KN) has a significant effect on Switching Intention (IB)

B. Pull Effects

The pull effect is the positive effect of attractive factors that make buyers switch to a new product or can be called the positive effects of the new products [8]. In this study, the variable of alternative attractiveness is included in the pull effect because it can encourage buyers to switch from one product to another. After all, some products have the same or even better quality.

Alternative attractiveness is one aspect that can encourage buyers to switch from one product to another because there are products that have the same or even better quality [22] which refers to the reputation, alternative description and quality of competitors [23]. The alternative of attractiveness is also synonymous with the advantages and uniqueness of the product or service that makes buyers continue to remember the existence of the product or service [24]. If the company offers a better product or service or the buyer feels that the company offers a new product or service that is better or more reliable, this causes the buyer to switch to a new product or service even though the buyer knows that the company with the new product or service has a lower price. higher [9], [14].

H4: Alternative of Attractiveness (KA) has a significant effect on Switching Intention (IB)

C. Mooring Effects

The mooring effects are factors that prevent buyers from switching to new products [8]. In this study, the variables of switching cost and subjective norms are included in mooring effects because switching costs and environmental influences may discourage buyers from switching to other products.

Switching costs are the sacrifices made by buyers when they want to switch products or services including costs, time and effort [9]. Switching costs are also costs that prevent buyers from switching from the product that is currently used to another product and also as a factor that makes buyers choose to stay or switch to other products [23]. In other words, high switching costs can prevent

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buyers from making the switch from the product or service that is currently used to a new product or service or even discourage buyers from switching [9].

H5: Switching Costs (SC) have a significant effect on Switching Intention (IB)

Subjective norms are perceptions that are influenced by the surrounding environment for individuals or groups to switch to new products or services [10]. Subjective norms are social factors that cause buyers to want to switch to new products or services [8]. When a buyer gets advice from the environment, there is a high probability that the buyer will switch to the product or service that is suggested. Thus, the researcher proposes the following hypothesis.

H6: Subjective Norms (SN) have a significant effect on Switching Intention (IB)

D. Moderating Role of Mooring Effects

In the study of switching or migration intentions, variables on mooring factors (switching cost and subjective norms) moderated the relationship between push factors (pricing, satisfaction, and trust) with switching intentions and pull factors (alternative of attractiveness) with switching intentions [8]. This is supported by [25] which states that mooring factors moderate the relationship between push factors and switching intentions, even though there is a strong urge to switch buyers do not want to because of high switching costs. In pull factors as well, mooring factors moderate the intention to switch due to barriers to switching to new products or service providers [26].

H7: Mooring effects (Switching Cost (SC) and Subjective Norms (SN)) provide a moderating effect on the relationship between push factors (Pricing (PH), Satisfaction (K), and Trust (KN)) to Switch Intentions (IB)

H8: Mooring effects (Switching Cost (SC) and Subjective Norms (SN)) provide a moderating effect on the relationship between pull effects (Alternative of Attractiveness (KA)) to Switch Intentions (IB)

Based on the development of these hypotheses, a conceptual model is obtained as shown in Figure 2.

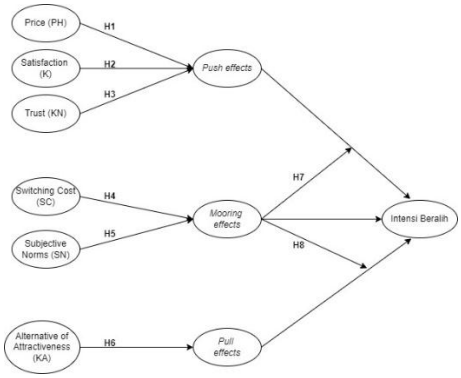

Fig. 2. Conseptual Model

Questionnaire Design and Pre-test Questionnaire

Questionnaires are made based on measurement indicators for each decision variable presented in the form of questions. The measurement scale of the questionnaire uses a Likert scale of 1-5 [17]. There are 31 indicators in total. A pre-test of the questionnaire was conducted on 50 respondents [27] to measure how valid and reliable the research instrument or questionnaire that had been previously used was. The pre-test was carried out by testing the bivariate Pearson, KMO value, Bartlett's test, component matrix, and Cronbach's alpha. After the questionnaire of 50 respondents is valid and reliable, it can be continued with the distribution of the questionnaire again.

Data Analysis Technique

After the respondents were collected, data processing was carried out using SmartPLS 3.0 software. Two stages of analysis were carried out. First, the analysis of the measurement model (outer model) by evaluating the outer loading, construct validity and reliability, Fornell-Larcker, cross-loading and HTMT. Second, analysis of the structural model (inner model) by evaluating the inner VIF, the path coefficient, and the signification test using T statistics and P value, R Square, f Square, Q Square and Model Fit.

RESULTS AND DISCUSSION

Demographics of Respondents

Respondents in this study are people who work in the health sector, such as doctors, nurses, midwives, laboratory assistants, and health facility management. Based on the results of distributing questionnaires online via google forms and direct visits to health facilities, the72 respondents met the criteria as shown in **Table 2**.

Table 2. Characteristics of Respondent

Variable	Frequency (N = 72)	Percentage (%)
Gender		
Man	13	18,06%
Woman	59	81,94%
Age		
< 21 Years	1	1,39%
21 - 30 Years	67	93,06%
31 - 40 Years	2	2,78%
41 - 50 Years	1	1,39%
> 50 Years	1	1,39%
Work		
Pharmacist	7	9,72%
Pharmacist Assistant	1	1,39%
Midwife	6	8,33%
Doctor	6	8,33%
BPJS Frontliner Officer Staff	1	1,39%
Hospital Environmental Health Staff	1	1,39%
Laboratory	6	8,33%
Health Facility Management	12	16,67%
Nurse	31	43,06%
Medical Records Staff	1	1,39%
Types of Health Facilities		
Pharmacy	14	19,44%
Clinic	13	18,06%
Laboratory	5	6,94%
Independent Doctor Practice	1	1,39%
Public health center	11	15,28%
Hospital	28	38,89%

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Variable	Frequency (N = 72)	Percentage (%)
Brand Safety Box		
BioHazard	18	25%
One Med	16	22,22%
Other Brands	11	15,28%
No-Brand	27	37,50%
Safety Box Material		
Paper/Cardboard	35	48,61%
Plastic	37	51,39%

Initial Questionnaire Test

There are 31 indicators in total. A pre-test of the questionnaire was conducted on 50 respondents [27] to measure how valid and reliable the research instrument or questionnaire that had been previously used was. The pre-test was carried out by testing the bivariate Pearson, KMO value, Bartlett's test, component matrix, and Cronbach's alpha.

From the initial questionnaire test with a sample of 50 as shown in **Table 3**, it can be said to be valid and reliable so that the questionnaire can be redistributed for use at a later stage.

Table 3. Initial Questionnaire Test

Variable	Indicator	r_{Crit}	r_{table}	Component Matrix	KMO	CA	Status
Pricing (PH)	PH1	0,650	0,2787	0,769	0,762	0,952	Valid and Reliable
	PH2	0,614	0,2787				
	PH3	0,725	0,2787				
	PH4	0,647	0,2787				
Satisfaction (K)	K1	0,754	0,2787	0,821			
	K2	0,748	0,2787				
	K3	0,647	0,2787				
	K4	0,690	0,2787				
Trust (KN)	KN1	0,712	0,2787	0,775			
	KN2	0,683	0,2787				
	KN3	0,729	0,2787				
	KN4	0,639	0,2787				
Alternative of Attractiveness (KA)	KA1	0,745	0,2787	0,784			
	KA2	0,749	0,2787				
	KA3	0,784	0,2787				
	KA4	0,763	0,2787				
	KA5	0,771	0,2787				
	KA6	0,650	0,2787				
	KA7	0,681	0,2787				
***Switching Cost* (SC)**	SC1	0,598	0,2787	0,737			
	SC2	0,633	0,2787				
	SC3	0,507	0,2787				
	SC4	0,558	0,2787				
	SC5	0,556	0,2787				
***Subjective Norms* (SN)**	SN1	0,835	0,2787	0,808			
	SN2	0,624	0,2787				
	SN3	0,684	0,2787				
Switching Intention (IB)	IB1	0,549	0,2787	0,608			
	IB2	0,558	0,2787				
	IB3	0,528	0,2787				
	IB4	0,553	0,2787				

Measurement Model Analysis

The analysis of the reflective measurement model was carried out with several assessments of outer loading, construct reliability and validity, Fornell-Larcker, cross-loading, and HTMT. The items/indicators threshold value is declared valid if the outer loading value is > 0,708 [15], the AVE is > 0,50 [15], Cronbach's Alpha (CA) is > 0,6 [15], and rho.A is > 0,7 [28], Composite reliability (CR) is > 0,7 [28], Fornell-Larcker is the value of the correlation on the variable/construct itself must be higher than the Fornell-Larcker correlation value on other variables [15], cross-loading is valid if the indicator value of the variable has a greater value than other variables [28] and HTMT is smaller than 0,9 (< 0,9) and there is no value 1 in the combination matrix between variables [15].

It can be seen in **Table 4** for the initial model that almost all indicators already have an outer loading > 0.70, it's just that four items, namely KN4, SC1, SC2, and IB1 still have a value of < 0,70, so if according to [15] these items can be deleted if can increase the value of AVE and Composite reliability. It can be seen in **Table 5** that all variables have to construct reliability and validity values that meet the requirements which indicate that the model created has met the validity and reliability tests with very good and accurate status and is following real conditions.

In **Table 6** it can be seen that Fornell-Larcker has the diagonal value of the correlation between variables has a greater value than the other variables, which indicates that the Fornell-Larcker test can be said to be valid, which means the indicator can explain the variables used properly and accurately. It can be seen in **Table 7** that the value of the Cross Loading test, each indicator and variable have a greater value than other variables, so it can be said that the indicator can explain its variable. **Table 8** shows that the HTMT value of each variable smaller value form 0,9 (< 0,9) which indicates that all constructs in this study are valid.

Table 4. Outer Loading Value

Variable	Indicator	*Outer Loading*	Status
Pricing (PH)	PH1	0,710	Valid
	PH2	0,756	Valid
	PH3	0,851	Valid
	PH4	0,869	Valid
Satisfaction (K)	K1	0,900	Valid
	K2	0,919	Valid
	K3	0,866	Valid
	K4	0,945	Valid
Trust (KN)	KN1	0,756	Valid
	KN2	0,892	Valid
	KN3	0,948	Valid
	KN4	**0,663**	**No Valid**
Alternative of Attractiveness (KA)	KA1	0,756	Valid
	KA2	0,872	Valid
	KA3	0,910	Valid
	KA4	0,880	Valid
	KA5	0,917	Valid
	KA6	0,848	Valid
	KA7	0,785	Valid
Switching Cost (SC)	**SC1**	**0,505**	**No Valid**
	SC2	**0,522**	**No Valid**
	SC3	0,883	Valid
	SC4	0,903	Valid
	SC5	0,812	Valid
Subjective Norms (SN)	SN1	0,875	Valid
	SN2	0,850	Valid
	SN3	0,934	Valid
Switching	**IB1**	**0,649**	**No Valid**

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Intention (IB)	IB2	0,856	Valid
	IB3	0,860	Valid
	IB4	0,876	Valid

Table 5. Construct Reliability and Validity

Variable	CA	rho_A	CR	AVE	Status
Switching Intention [IB]	0,826	0,836	0,887	0,665	Valid dan Reliable
Trust [KN]	0,832	0,863	0,892	0,677	Valid dan Reliable
Satisfaction [K]	0,93	0,976	0,949	0,824	Valid dan Reliable
Alternative of Attractiveness [KA]	0,938	0,943	0,95	0,73	Valid dan Reliable
Pricing [PH]	0,809	0,83	0,875	0,639	Valid dan Reliable
Subjective Norms [SN]	0,865	0,876	0,917	0,786	Valid dan Reliable
Switching Cost [SC]	0,814	0,907	0,856	0,556	Valid dan Reliable

Table 6. Fornel-Larcker Value

	IB	KN	K	KA	PH	SN	SC
IB	**0,808**						
KN	0,402	**0,805**					
K	0,274	0,708	**0,907**				
KA	0,612	0,42	0,334	**0,850**			
PH	0,398	0,414	0,318	0,403	**0,831**		
SN	0,546	0,422	0,371	0,717	0,363	**0,885**	
SC	0,431	0,407	0,496	0,483	0,317	0,687	**0,769**

Table 7. Cross Loading Value

	IB	KN	K	KA	PH	SN	SC
IB1	**0,649**	0,307	0,335	0,445	0,136	0,567	0,374
IB2	**0,856**	0,378	0,077	0,583	0,232	0,388	0,203
IB3	**0,860**	0,378	0,098	0,468	0,379	0,355	0,266
IB4	**0,876**	0,397	0,223	0,507	0,216	0,516	0,274
K1	0,164	0,524	**0,90**	0,234	0,253	0,278	0,408
K2	0,219	0,727	**0,919**	0,205	0,276	0,246	0,364
K3	0,128	0,545	**0,866**	0,142	0,263	0,228	0,267
K4	0,242	0,645	**0,945**	0,195	0,22	0,209	0,292
KA1	0,448	0,329	0,014	**0,756**	0,191	0,533	0,243
KA2	0,501	0,429	0,261	**0,872**	0,242	0,642	0,287
KA3	0,551	0,359	0,21	**0,91**	0,253	0,694	0,266
KA4	0,509	0,357	0,168	**0,88**	0,272	0,645	0,25
KA5	0,617	0,442	0,302	**0,917**	0,163	0,629	0,392
KA6	0,511	0,407	0,216	**0,848**	0,149	0,625	0,352
KA7	0,535	0,312	0,082	**0,785**	0,119	0,529	0,274
KN1	0,319	**0,756**	0,717	0,212	0,254	0,289	0,403
KN2	0,385	**0,892**	0,498	0,353	0,341	0,343	0,357
KN3	0,441	**0,948**	0,605	0,386	0,414	0,335	0,333
KN4	0,317	**0,663**	0,45	0,511	0,249	0,452	0,317
PH1	0,213	0,236	0,35	0,089	**0,71**	0,186	0,103
PH2	0,209	0,202	0,062	0,308	**0,756**	0,141	0,021
PH3	0,228	0,334	0,211	0,235	**0,851**	0,161	0,182
PH4	0,288	0,437	0,336	0,128	**0,869**	0,184	0,128
SC1	0,082	0,356	0,502	0,165	0,202	0,341	**0,505**
SC2	0,072	0,254	0,327	0,248	0,195	0,332	**0,522**
SC3	0,238	0,29	0,329	0,273	0,13	0,544	**0,883**
SC4	0,329	0,333	0,32	0,266	0,018	0,513	**0,903**
SC5	0,336	0,408	0,195	0,342	0,154	0,47	**0,812**
SN1	0,558	0,379	0,315	0,681	0,233	**0,875**	0,458

SN2	0,44	0,341	0,096	0,635	0,117	**0,85**	0,559
SN3	0,461	0,407	0,259	0,586	0,198	**0,934**	0,57

Status:
Valid

Table 8. HTMT Value

	IB	KN	K	KA	PH	SN	SC
IB							
KN	**0,542**						
K	**0,259**	**0,776**					
KA	**0,699**	**0,507**	**0,234**				
PH	**0,367**	**0,456**	**0,346**	**0,277**			
SN	**0,658**	**0,511**	**0,283**	**0,794**	**0,245**		
SC	**0,374**	**0,543**	**0,511**	**0,388**	**0,251**	**0,695**	

Thus, in this study, all indicators can be said to be valid and reliable because overall, each indicator used is able to explain the variables used properly and accurately.

Structural Model Analysis

In testing the structural measurement model, it is done by calculating the inner VIF, path coefficient, significance test, coefficient of determination (R2), effect size (f2) redundancy (Q2), and measurement of model fit. The results of the test of the structural measurement model (inner model) are the strength and conformity with real conditions.

In the calculation of the outer model, several indicators do not meet the recommended value (> 0.708), namely the KN4, SC1, SC2, and IB1 indicators (the indicators are recommended to be deleted). Based on [15], this value can be removed if it can increase the AVE and CR values. Therefore, several iterations were carried out as shown in **Table 9** with the results of comparing the CR and AVE values of the initial model (all indicators were used) and the final model (removing indicators IB1, SC1, SC2, KN4, K3, PH1, KA1, KA2, KA3, and KA4) are shown in **Table 10.**

Table 9. Iteration of Loading Factors

Comparison Object	Initial Model (All indicators are used)	Iteration 1 (Removal SC1, SC2, KN4, and IB1)	Iteration 2 (Additional removal K3, KA1, dan PH1)	Iteration 3 (Additional removal KA2, KA3, dan KA4)
R2	0,547	0,528	0,533	0,564
SRMR	0,107	0,089	0,087	0,087
NFI	0,554	0,611	0,629	0,664
Q2	0,28	0,33	0,331	0,36

Table 10. Hasil Perbandingan Nilai AVE dan CR

Variable	Initial Model		Final Model		Status
	CR	AVE	CR	AVE	
Switching Intention [IB]	0,887	0,665	0,92	0,794	Valid and Reliable
Trust [KN]	0,892	0,677	0,924	0,802	Valid and Reliable
Satisfaction [K]	0,949	0,824	0,943	0,848	Valid and Reliable
Alternative of Attractiveness [KA]	0,950	0,730	0,936	0,831	Valid and Reliable
Pricing [PH]	0,875	0,639	0,889	0,729	Valid and Reliable
Subjective Norms [SN]	0,917	0,786	0,918	0,788	Valid and Reliable
Switching Cost [SC]	0,856	0,556	0,902	0,754	Valid and Reliable

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The iteration results that have been made show that the deletion of indicators IB1, SC1, SC2, KN4, K3, PH1, KA1, KA2, KA3, and KA4 can increase the value of composite reliability and AVE for each variable whose comparison results can be seen in Table X. So that the decision to delete these indicators can be made. Based on this, the structural measurement model in this study can be seen in **Fig 3**.

In the measurement of the inner VIF value is less than 5 (< 5), if it has a value greater than or equal to 5 (> 5) then there is a collinearity problem [15]. The calculation of the inner VIF in the structure of this study can be seen in **Table 11**.

The measurement of the path coefficient has the aim of knowing the direction of the relationship on the variables used with values between -1 to +1, (-) means negative and (+) means positive [15]. The calculation results are shown in **Table 12**. The calculation of the significance test has the aim of knowing whether the variables in this study are significant or not by looking at the T statistic > 1.96 and p value 5% [15]. As seen in **Table 13**, it was found that only the Alternative Attractiveness variable had a significant effect on Switching Intention.

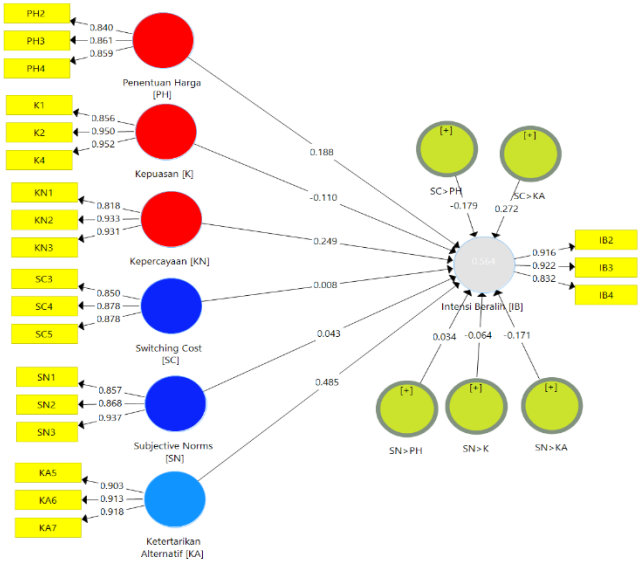

Fig.3. Result in Inner Model Test

Table 11. Inner VIF Value

	Switching Intention [IB]
Switching Intention [IB]	
Trust [KN]	2,628
Satisfaction [K]	2,141
Alternative of Attractiveness [KA]	1,892
Pricing [PH]	1,428
SC -> KA	2,173
SC -> PH	2,069
SN -> K	1,721
SN -> KA	2,511
SN -> PH	2,038
Subjective Norms [SN]	2,462
Switching Cost [SC]	1,765

Table 12. Path Coefficient Value

Hypothesis	**Original Sample (O)**	**Status**
Pricing [PH] -> Switching Intention [IB]	0,188	Positive
Satisfaction [K] -> Switching Intention [IB]	-0,11	Negative
Trust [KN] -> Switching Intention [IB]	0,249	Positive

Hypothesis	Original Sample (O)	Status
Alternative of Attractiveness [KA] -> Switching Intention [IB]	0,485	Positive
Switching Cost [SC] -> Switching Intention [IB]	0,008	Positive
Subjective Norms [SN] -> Switching Intention [IB]	0,043	Positive
Switching Cost [SC] > Alternative of Attractiveness [KA] -> Switching Intention [IB]	0,272	Positive
Switching Cost [SC] > Pricing [PH] -> Switching Intention [IB]	-0,179	Negative
Subjective Norms [SN] > Satisfaction [K] -> Switching Intention [IB]	-0,064	Negative
Subjective Norms [SN] > Alternative of Attractiveness [KA] -> Switching Intention [IB]	-0,171	Negative
Subjective Norms [SN] > Pricing [PH] -> Switching Intention [IB]	0,034	Positive

Table 13. Significance Test Results

Hypothesis	T Statistic	P Values	Status
Pricing [PH] -> Switching Intention [IB]	1,49	0,137	Rejected
Satisfaction [K] -> Switching Intention [IB]	0,785	0,433	Rejected
Trust [KN] -> Switching Intention [IB]	1,502	0,134	Rejected
Alternative of Attractiveness [KA] -> Switching Intention [IB]	**3,25**	**0,001**	**Accepted**
Switching Cost [SC] -> Switching Intention [IB]	0,057	0,955	Rejected
Subjective Norms [SN] -> Switching Intention [IB]	0,321	0,749	Rejected
Switching Cost [SC] > Alternative of Attractiveness [KA] -> Switching Intention [IB]	1,826	0,068	Rejected
Switching Cost [SC] > Pricing [PH] -> Switching Intention [IB]	1,416	0,157	Rejected
Subjective Norms [SN] > Satisfaction [K] -> Switching Intention [IB]	0,654	0,513	Rejected
Subjective Norms [SN] > Alternative of Attractiveness [KA] -> Switching Intention [IB]	1,132	0,258	Rejected
Subjective Norms [SN] > Pricing [PH] -> Switching Intention [IB]	0,283	0,777	Rejected

In the calculation of the coefficient of determination (R2), it is carried out to see the relationship between variables with a value of 0 – 1, with a power of R2 0,75 (substantial), R2 0,50 (medium), and R2 0,25 (weak) [15]. As seen in **Table 14**, the structure of the model in this study has a coefficient of determination (R2) of 56,4%, which means that in general the structure of this study can predict well.

Table 14. Coefficient Determination (R2)

Variable	R Square	R Square Adjusted
Switching Intention [IB]	0,564	0,484

The measurement of the fit model is used to see that the structure of the model used meets the requirements which can be seen from the value of the Standardized Root Mean Square Residual (SRMR) with a value less than or equal to 0,1 (≤ 0,1) and the Normed Fit Index (NFI) with a value of greater than 0,9 (> 0,9) [28].

Table 15. Model Fit

Model Fit	Saturated Model	Estimated Model
SRMR	0,087	0,087
NFI	0,660	0,664

In **Table 15** it can be seen that the SRMR value in this study is 0,087 (0,087 ≤ 0,1) which indicates that the structure of the model used can explain the real conditions well. The NFI value in

this study is 0,664 or 66,4%, which means that 66,4% of the structure of this model can explain real conditions.

DISCUSSION

The price variable has no significant effect on switching intentions in this study, this is because the use of BINMED is still lacking. From these results, it was found that the price paid if switching to BINMED was not considered more by potential consumers and also that BINMED products could not compete only through price because the price was not enough to attract potential consumers to switch.

The relationship between satisfaction variables and switching intentions has no significant effect, this is due to the lack of use of BINMED products. This indicates that prospective buyers are satisfied with the safety boxes used today, which causes consumers to tend to continue using conventional safety boxes and have no desire to switch to BINMED safety boxes.

The relationship between the trust variable and switching intentions has no significant effect, this is due to the lack of use of BINMED products. This indicates that the safety boxes used today can provide better product quality, are reliable when needed, and are trusted which makes consumers tend to continue to use conventional safety boxes and there is no desire to switch to BINMED safety boxes.

The relationship between the alternative attractiveness variable and switching intention has a significant effect. This result is following research conducted which states that services with attractiveness are more able to influence a person's decision to switch [9]. This study explains that the stronger the interest in alternative BINMED products, the higher the intention to switch prospective buyers. This indicates that the BINMED product with its current advantage of being reusable can attract the attention of potential buyers.

The relationship between switching costs and switching intentions has no significant effect, this is due to the lack of use of BINMED products. This causes potential buyers to think that switching to BINMED will require more time and effort to get used to the new form of safety box.

The relationship between subjective norms and switching intentions has no significant effect, this is due to the lack of use of BINMED products. This finding is different from the research found by which states that subjective norms are a factor that causes a person to easily switch to another service if there is an invitation from friends, family and other people. close related person. This indicates that when prospective buyers want to buy BINMED products, invitations from friends, family and closest people do not affect their intention to switch from using the current safety box.

From the data processing that has been carried out, it is found that the mooring factor (switching cost and subjective norms) does not moderate the relationship between push effects (pricing and satisfaction) and switching intentions. From the data processing that has been done, it is found that the mooring factor (switching cost and subjective norms) does not moderate the relationship between the pull effect (alternative of attractiveness) and switching intention.

Conclusion

Based on the results of data processing and analysis of research results, it was found that alternative of attractiveness had a significant effect on the intention to switch to the use of the safety box while the variables of pricing, satisfaction, trust, switching costs, subjective norms and the moderating effect of the mooring effects between push and pull effects and switching intentions did not affect switching intentions. Suggestions for future research are to increase the number of respondents and develop model based on other theories such as the Theory of Planned Behaviour with different variables are involve.

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