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The Influence of Product Upgrading and Quality on Customer Satisfaction and its Impact on Consumer Loyalty Standardized Herbal Medicine (Research on Tolak Angin Sido Muncul Product in DKI Jakarta)

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Abstract---This study aimed at determining the impact of product upgrading and product quality on consumer satisfaction and its impact on consumer loyalty standardized herbal medicine Tolak Angin Sido Muncul. This study used a survey method with all populations of Tolak Angin Sido Muncul in DKI Jakarta, while in taking the sample; the researcher used a sampling method. Research findings support that product upgrading has no significant impact on customer satisfaction and has a negative significant impact on customer loyalty. Product quality has a significant impact on customer satisfaction and customer loyalty. Customer satisfaction has a significant impact on customer loyalty. Elaborating the product quality and customer satisfaction support significantly affects customer loyalty. The findings have contributed new ideas to the theoretical framework of herbal medicines classifies. They are not confirming the importance of upgrading in the herbal medicine classifies in the relationship between customer satisfaction and customer loyalty.

Keywords---customer loyalty, customer satisfaction, quality product, standardized herbal medicine, upgrading product.

Introduction

Health is a human right and one of the elements of welfare that must be realized following the ideals of the Indonesian people as referred to in Pancasila and the 1945 Constitution of the Republic of Indonesia. Health is a perfect condition both physically, mentally, and socially and not only free from diseases and disabilities, and economically and socially productive (WHO, 1947). Important aspects of health include keeping healthy to stay healthy, healthy not only physical health but also mental health (Suhron et al., 2020; Yusuf et al., 2020; Suhron & Zainiyah, 2020; Suhron, 2017) and social health and if you are already sick it is necessary to make efforts to be healthy again (Pratama, 2014).

From these important aspects, then Traditional medicine has an important role in the health of the Indonesian people. Basic Health Research Data (Riskedas, 2013), a national scale health research conducted by the Agency of Health Research and Development of the Ministry of Health of the Republic of Indonesia, shows that 49.0% of households use ingredients (*ramuan*) (Riskedas, 2013). Meanwhile, Riskedas 2010 showed that 60.0% of

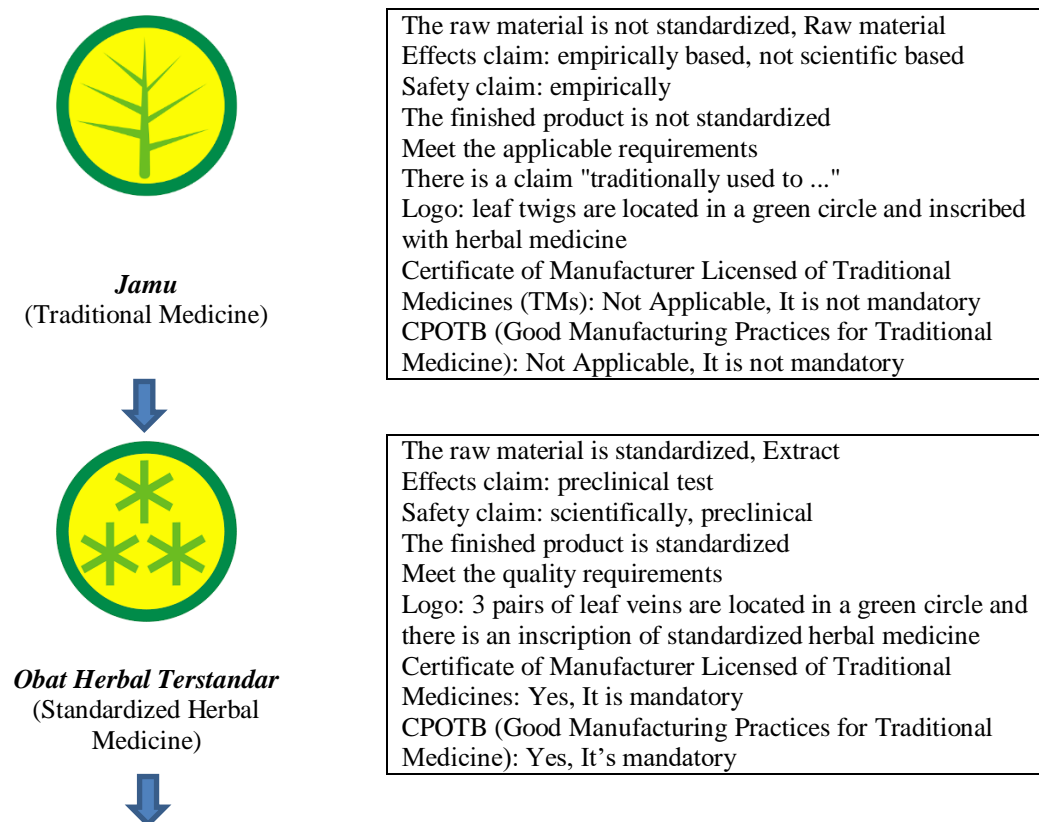
Indonesia's population over the age of 15 stated that they had ever drunk traditional medicine (*jamu*). Also, 90.0% of them stated that there are benefits to drinking traditional medicine. As many as 95.60% of Indonesia's population, according to data from Riskesdas 2010, who have ever consumed traditional medicine stated that consumption of traditional medicine is beneficial for the body (Riskesdas, 2010).

Traditional medicine is an ingredient or ingredient in the form of plant material, animal material, mineral material, herbal preparations (galenic), or a mixture of these substances that have been used for treatment from generation to generation, and can be applied following the norms prevailing in the society. Indonesian traditional medicine or native Indonesian medicine which is better known as *jamu* is generally a mixture of herbal medicines, namely medicines derived from plants. The plant parts used can be roots, stems, leaves, roots, or perhaps the entire plant (Republik Indonesia, 2009)

Masuk angin (cold) is not recognized in the medical world both in Indonesia and abroad. But *masuk angin* is very popular in Indonesia and other countries such as China and the Philippines. The Chinese know *masuk angin* as *Cin Fong* while the Filipinos know *masuk angin* as *Kabuhi* which means cold. Some of the body conditions that are often complained of an as *masuk angin* include; low-grade fever followed by runny nose, flatulence, dizziness, nausea & vomiting.

To reduce or even eliminate *masuk angin* conditions, *masuk angin* sufferers commonly use *masuk angin* medicines such as Tolak Angin Sido Muncul. It is based on experience that to treat *masuk angin* does not need to go to a doctor. So that *masuk angin* medicine is the first and foremost choice to reduce *masuk angin* symptoms. The awareness of using traditional medicine in society is in line with the increasing understanding of returning to nature or back to nature.

The phenomenon of competition between existing companies has made every company realize a need to maximize company assets for the company's survival, one of which is by upgrading the grouping of traditional medicine from *jamu* to Standardized Herbal Medicine. Traditional medicine is grouped into three, namely *jamu*, *obat herbal terstandar* and fitofarmaka (Regulation of Head of National Agency of Drugs and Foods Control, Republik Indonesia, 2004). The grouping of traditional medicines is intended so that traditional medicines as pharmaceutical products can meet the criteria for quality, efficacy, and safety so that their use is expected to be based on scientific evidence.





Fitofarmaka
(Phytopharmaca)

The raw material is standardized, Extract
Effects claim: preclinical test → clinically
Safety claim: clinically
The finished product is standardized
Meet the quality requirements
Logo: the leaves vein that then shapes a star is located in a circle and there is an inscription of phytopharmaca
Certificate of Manufacturer Licensed of Traditional
Medicines: Yes, It is mandatory
CPOTB (Good Manufacturing Practices for Herbal
Medicine): Yes, It's mandatory

Figure 1. *Upgrading stages of traditional medicine*

Source: Regulation of Head of National Agency of Drugs and Foods Control, No. HK.00.05.4.2411 the Year 2004 concerning Basic Provisions for Classification and Labeling of Indonesian Natural Medicines

Jamu can be *upgraded* into Standardized Herbal Medicine if it has gone through preclinical trials and can be *upgraded* into Phytofarmaca when it has gone through the clinical trial stage. The upgrading stage to become Phytofarmaca is regulated in Permenkes RI No. 760 / Menkes / Per / IX / 1992 concerning Phytofarmaca (Kemenkes RI, 1992). Product upgrading is no longer just a differentiator from competitors but is a determining factor in competitive advantage and economic value. A differentiation strategy is a series of actions that are related and designed to produce goods and services that consumers perceive as different with characteristics that can be accepted as important to consumers. Tolak Angin Sido Muncul to be Standardized Herbal Medicine on September 2007 (Majalah SWA Daring, 2007). Product upgrading is a strategy that makes the product life cycle lengthen so that it reaches a wider market segment. In contrast to products made in factories, upgrading of traditional medicinal products is believed to be a motive to motivate consumers to choose products because upgrading of traditional medicinal products is not only what is printed on the product but includes what consumers have in mind and how consumers associate it (Warholm et al., 2003; Jung et al., 2014).

Based on the background description above, the researcher is interested in knowing more and examining more deeply, is there the effect of upgrading and product quality concerning satisfaction and its impact on consumer loyalty for Standardized Herbal Medicine, *obat masuk angin cair Tolak Angin Sido Muncul*. The research was conducted in DKI Jakarta. Based on the 2015 Population Census (SP), the population of DKI Jakarta is 9,586,705 people. Then in 2020, it is projected to increase to 10,645,000 or increase by 1,058,295 people. The population density of DKI Jakarta Province in 2015 was the highest compared to other provinces, namely (15,328 people / km²). The composition of the population of DKI Jakarta in 2018 is dominated by people aged 15-64 years of production by 72.52 percent (BPS, 2018).

2 Materials and Methods

Research is grouped into four types, namely exploratory research, descriptive research, analytical research, and predictive research (Limakrisna & Susilo, 2012). The study, entitled *The Influence of Product Upgrading and Quality on Satisfaction and Its Impact on Consumer Loyalty of Standardized Herbal Medicine Obat Masuk Angin Cair* (Research on Product Tolak Angin Sido Muncul in DKI Jakarta) is a quantitative descriptive-explanatory study. We prepared 4,00 questionnaires. The overall response rate was more than 80 percent (338 responses). After checking and selecting the data, we deleted 82 incomplete questionnaires. The final sample of 256 consumers came from five cities in DKI Jakarta. We used a four-point Likert scale (one= strongly disagree/strongly not satisfied to five= strongly agree/strongly satisfied) for all the items.

Table 1
Descriptive statistics

	Frequency	Percent	Valid (Percent)	Cumulative (Percent)
Male	79	30,9	30,9	30,9
Female	177	69,1	69,1	100,0

Total	256	100,0	100,0	
Higher School	167	65,2	65,2	65,2
Diploma	38	14,8	14,8	80,0
Bachelor	38	14,8	14,8	94,8
Magister/Doctor	11	4,3	4,3	99,1
Others	2	0,8	0,8	100,0
Total	256	100,0	100,0	

Descriptive research is research that describes a certain characteristic of a phenomenon. Descriptive research was conducted to identify and describe the characteristics of several variables in a situation. Meanwhile, quantitative research is an objective research approach, which includes the collection and analysis of quantitative data and uses statistical testing methods (MacLennan et al., 2002; Thomas et al., 2001).

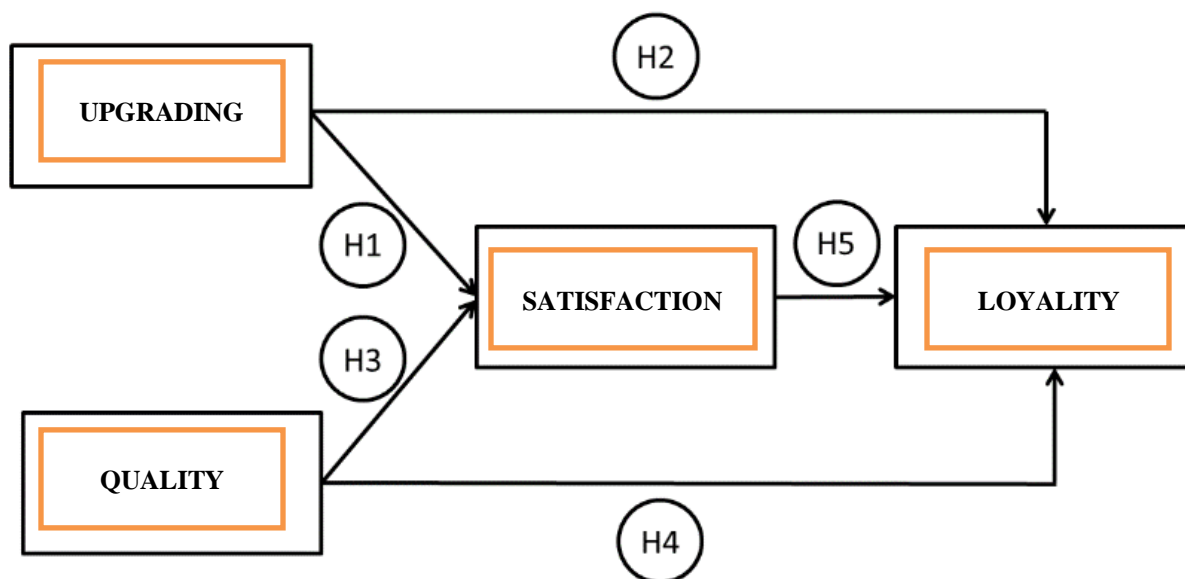


Figure 2. Proposed research model

This research uses primary and secondary data with sampling using nonprobability sampling and purposive sampling (Notoatmodjo, 2010), and the data is processed using the SEM (Structural Equation Modeling) statistical method for hypothesis testing with the help of the LISREL 8.70 software program. Testing the SEM model with Lisrel 8.70 software was carried out by analyzing the approach, namely the initial analysis of the estimation results, evaluating the overall degree of fit or Goodness of Fit (GOF) measurement model, and structural model. SEM begins by specifying the research model or so-called path diagram to be estimated. In SEM, the main thing that must be considered in the specification of the research model, which will present the problems being studied.

The initial stage of using LISREL 8.70 is making a research model or so-called path diagram, then connecting between variables. Furthermore, the data used from the results of the questionnaire collection is inputted either directly or imported into the LISREL file, then stored in the .psf or .csv or .txt or .dat format after the data is converted to .pv2 format then the data is processed

Results and Discussions

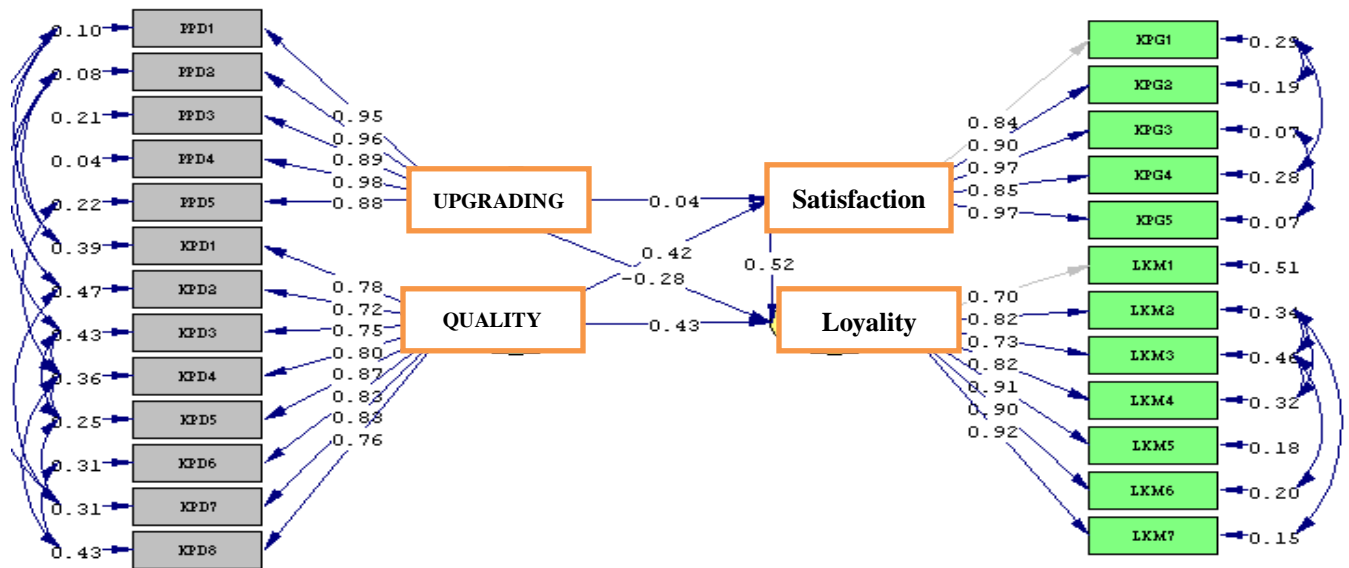
As shown in Table 1, Cronbach's alpha (Sekaran & Bougie, 2013), each of which ranged from 0.91 to 0.92 was also calculated. For validity, both the convergent and discriminant in the CFA were tested. Table 1 shows that all the factor loadings exceeded 0.5 and they were statistically significant at the p-value of 0.05 (Hair et al., 2014). The average loading factor was between 0,49375 and 0.898 (see Table 1), meaning that the convergent validity of all the scales was acceptable. We checked our measurement model with some goodness-of-fit measures, including chi-square, the Goodness of Fit Index (GFI), the Incremental Fit Index (IFI), the Comparative Fit Index (CFI), and the

Root Mean Square-Error of Approximation (RMSEA). All the indexes were high (ex., chi-square = 418.35 (p = 0.000); GFI = 0.81; IFI = 0.97; CFI = 0.97; RMSEA = 0.076) (see Table 3).

Table 2
Factor analysis and average loading factor

Code	Items	Factor			
		PPDs	KPDs	KPGs	LKMs
PPD5	Tolak Angin Sido Muncul has gone through pharmacodynamic tests (pharmacodynamic effects & working mechanisms) so that it is useful	0.7868			
PPD4	Tolak Angin Sido Muncul has gone through a toxicity test so it is safe to use	0.71			
PPD2	Tolak Angin Sido Muncul produced industry-certified CPOTB	0.70			
PPD1	Tolak Angin Sido Muncul use raw materials standardized	0.70			
PPD3	Tolak Angin Sido Muncul already through preclinical trials on experimental animals so it is safe to use	0.69			
KPD7	Tolak Angin Sido Muncul easy to carry around		0.85		
KPD5	The liquid form of the Tolak Angin Sido Muncul product is very popular with consumers		0.84		
KPD6	Tolak Angin Sido Muncul has long durability and is very clearly stated in the <i>expiry date</i>		0.83		
KPD4	Tolak Angin Sido Muncul is a herbal product derived from plants so it is safe to consume		0.79		
KP D1	Tolak Angin Sido Muncul to overcome <i>masuk angin</i> symptoms		0.78		
KPD2	Tolak Angin Sido Muncul has a choice of flavors, namely original + honey (<i>honey</i>)		0.77		
KPD3	Tolak Angin Sido Muncul has pharmaceutical standard quality (CPOTB) so it is safe to consume		0.77		
KPD8	Tolak Angin Sido Muncul has an attractive packaging		0.75		
KPG3	Safety Tolak Angin Sido Muncul is guaranteed because it has a CPOTB certificate			1.0	
KPG5	Tolak Angin Sido Muncul satisfies me			1.0	
KPG2	The preclinical test is carried out on Tolak Angin Sido Muncul so that the product is useful			0.87	
KPG1	Preclinical tests were carried out on Tolak Angin Sido Muncul so that the product is safe			0.81	
KPG4	The benefits of Tolak Angin Sido Muncul are guaranteed because I already have a CPOTB certificate			0.81	
LKM5	I always buy Tolak Angin Sido Muncul products for the future				0.91
LKM7	I will recommend & encourage people Another way to consume Tolak Angin Sido Muncul				0.90
LKM6	Tolak Angin Sido Muncul is my first choice in choosing <i>obat masuk angin cair</i>				0.87
LKM4	If a brand Tolak Angin Sido Muncul is not available when I need it, so I buy it elsewhere				0.85
LKM2	I will not buy <i>obat masuk angin cair</i> other than Tolak Angin Sido Muncul				0.83
LKM3	If the Tolak Angin Sido Muncul brand is not available when I need it, then I will buy it at another				0.77

Code	Items	Factor PPDs	KPDs	KPGs	LKM
LKM1	I bought Tolak Angin Sido Muncul because the company offers the best product				0.67
<i>Cronbach's Alpha</i>		0.912879	0.92873	0.917615	0.912997
<i>Average Loading Factor</i>		0.71736	0.49375	0.898	0.575714



Chi-Square=418.35, df=231, P-value=0.00000, RMSEA=0.076

Figure 3. SEM results

T-values of the estimated factor load ≥ 1.96 . If there is a value of the estimated factor load ≥ 1.96 , it means that the estimated factor load is not significant and the associated unobserved variables can be eliminated from the model. For more details, we will discuss the hypothesis testing and structural model analysis. Research models that have met the specification and model identification stages can then be estimated models. The estimation stage is carried out to obtain the value of the indicators in the model. For this reason, the researcher tries to obtain the value of the indicators in such a way that the derived covariance matrix is as close as possible to or equal to the population covariance matrix of the observed variables.

Every estimate made is reviewed based on the goodness of fit (GOF). To see if a distracting estimate might exist, it is necessary to check the results of the estimates, i.e. values that do not make sense or are anomalies. That is the t value < 1.96 or the standard solution value > 1.00 . In Structural Equation Modeling, the coefficient of determination (R²) in Lisrel's results has no clear interpretation. To interpret R², the researcher must take it from the reduced form equation (Joreskog, 1971 in Wijayanto, 2008), which is as follows:

Table 2
Overall fit test results of Tolak Angin Sido Muncul product model

No.	Structural Equation	Description
1.	SATISFACTION = 0.042*UPGRADING + 0.42*QUALITY, Errorvar.= 0.80	R ² = 0.20
2.	LOYALTY = 0.52*SATISFACTION - 0.28* UPGRADING + 0.43*	R ² = 0.53

QUALITY, Errorvar.= 0.47

Source: Result if Data LISREL 8.70, 2019

From the structural form equation above (Table 2) can be seen the value of R^2 for each structural equation. The value of R^2 serves to show how much each of the exogenous variables can explain the variable endogen, the following is a form of structural analysis of the above equation:

- 1) Consumer satisfaction has an R^2 of 0.20 Tolak Angin Sido Muncul products, these figures show that the upgrading and product quality can explain 80% of the variants of customer satisfaction of the Tolak Angin Sido Muncul product, while the remaining 20% is Tolak Angin Sido Muncul product.
- 2) Consumer Loyalty has R^2 of 0.53 products Tolak Angin Sido Muncul, this figure shows that customer satisfaction can explain 47% of the variants of consumer loyalty products Tolak Angin Sido Muncul, while the remaining 53% Tolak Angin Sido Muncul.

Table 3
Overall test results of the Tolak Angin Sido Muncul product

GOF Value	Target	Fit Marginal Fit	Result of	Level Match Level
Chi-square	Small	$0.000 < p \leq 0.05$	$p = 0.000$	<i>Good Fit</i>
p-valuevalue	$0.05 < p \leq 1$		Chi-square = 418.35	
RMSEA	$0.05 < RMSEA \leq 0.08$	$0.045 \leq RMSEA \leq 0.10$	0.076	<i>Good Fit</i>
NFI	$0.90 \leq NFI \leq 1$	$0.80 \leq NFI < 0.9$	0.95	<i>Good Fit</i>
NNFI	$0.90 \leq NNFI \leq 1.00$	$0.80 \leq NNFI < 0.9$	0.96	<i>Good Fit</i>
IFI	$0.90 \leq IFI \leq 1$	$0.80 \leq IFI < 0.9$	0.97	<i>Good Fit</i>
CFI	$0.90 \leq CFI \leq 1$	$0.80 \leq CFI < 0.9$	0.97	<i>Good Fit</i>
RFI	$0.90 \leq RFI \leq 1$	$0.80 \leq RFI < 0.9$	0.93	<i>Good Fit</i>
GFI	$0.90 \leq GFI \leq 1$	$0.60 \leq GFI < 0.9$	0.81	<i>Poor Fit</i>
AGFI	$0.90 \leq AGFI \leq 1.00$	$0.50 \leq AGFI < 0.9$	0.73	<i>Poor Fit</i>

Source: LISREL 8.70, 2019 data processing results

As shown in table 2, it can be seen as follows:

- a) Chi-square value is 418.35 $p\text{-value} = 0.075 \geq 0.05$, which means that the model fit is accepted or Good Fit.
- b) The RMSEA value is 0.076, which means that the model fit is acceptable or Good Fit. The value of a good fit for the RMSEA parameter is $0.05 < RMSEA \leq 0.08$.
- c) Furthermore, $NFI = 0.95$; The model fit value in the NFI is categorized as acceptable or Good Fit.
- d) The NNFI value in this study is 0.96; The model fit value in NNFI is categorized as Accepted or Good Fit.
- e) The IFI value is 0.97 which means that the model fit is accepted or Good Fit. The value of a good fit model or a good fit for IFI parameters is $0.90 \leq IFI \leq 1$ The
- f) value of CFI in this study is 0.97; then the fit of all models is a good fit.
- g) The RFI value in this study is 0.93; then the fit of all models is a good fit.
- h) The GFI value is 0.9 so that the fit of the model is at good fit. The good fit model value for the GFI parameter is $0.90 \leq GFI \leq 1.00$
- i) The AGFI value is 0.73 so that the model fit is at good fit. A good model fit value for the parameter AGFI is $0.60 \leq AGFI \leq 1.00$.

Table 4
Hypotheses testing

Hypotheses	Variable	T-Value	T-Table	Information
1	<p>$H_01 =$ there is no effect of upgrading on customer satisfaction</p> <p>$H_a1 =$ there is an effect of upgrading on satisfaction consumer</p>	0.44	1.96	H_01 Not Rejected / H_a1 Not Accepted

2	H ₀ 2 = there is no effect upgrading on consumer loyalty Ha2 = there is an effect of upgrading on consumer loyalty	-3.42	- 1.96	Ho2 Rejected /Ha2 Not accepted (Negative Impact)
3	H ₀ 3 = none the effect of quality on consumer satisfaction Ha3 = there is an effect of quality on customer satisfaction	4.08	1.96	Ho3 Rejected / Ha3 Accepted
4	H ₀ 4 = there is no effect of product quality on customer loyalty Ha4 = there is an effect of product quality on customer loyalty	4.54	1.96	Ho4 Rejected / Ha4 Accepted
5	H ₀ 5 = no effect of satisfaction on loyalty consumers Ha5 = there is an effect of satisfaction on loyalty	5.97	1.96	Ho5 Rejected / Ha5 Accepted

Source: Results of data processing LISREL 8.70, 2019

Analysis of research hypotheses

Table 3 shows:

1) Hypothesis 1

In the structural model analysis between upgrading variables and customer satisfaction, it can be seen that the first hypothesis, that is there a positive relationship between upgrading and customer satisfaction. Not accepted because the *t-value* was 0.44 for the Tolak Angin Sido Muncul product. This value is said to be insignificant because the *t-value* is < 1.96 and the estimate is quite high because of the positive relationship between the Upgrading variable and customer satisfaction. In this case, upgrading measurable through 5 indicators. Selection of upgrading in marketing products has been commonly done by companies to attract market interest. Upgrading in this study does not affect consumers in terms of product purchases. To meet consumer satisfaction, popularity, attractiveness, and power possessed by Upgrading must be considered by every company that wants to use its services.

2) Hypothesis 2

Upgrading not one of the important factors seen by consumers in seeing or assessing a traditional medicinal product, consumers will fulfill their needs by buying good quality products. This is following the results of research conducted by researchers, 65.2% of respondents had a high school / vocational high school education who did not receive information about the massive upgrading of traditional medicines. The packaging of the product is also used as an advertising medium to Tolak Angin Sido Muncul (Sampurno, 2017). On the packaging, it is explained that the product is a standardized herbal medicine, it is stated that it has gone through toxicity tests and efficacy/efficacy tests. Perhaps for the lower middle class, this information is of little significance. But once again, the consumers of Tolak Angin Sido Muncul are also middle to upper-class people who are more educated, so this information can increase consumer loyalty and trust (Sampurno, 2017).

3) Hypothesis 3

Product quality greatly affects consumer satisfaction. When the quality of the product is high, consumer satisfaction is also high. Everyone will be very satisfied if they get a quality product and the product meets consumer needs.

4) Hypothesis 4

Product quality is very influential on consumer loyalty. If the product quality is high, consumer loyalty is also high. Everyone will be very loyal if they get a quality product and the product meets consumer needs.

5) Hypothesis 5

Customer satisfaction greatly affects consumer loyalty. When customer satisfaction is high, loyal consumers also high. Everyone satisfied with a product, especially satisfied with the upgrading, price, and quality offered, will be loyal to the product and will be willing to make repeated purchases, even if the price goes up, consumers will still buy the product.

4 Conclusion

The contribution of this study is to examine how the differences in product constructs (upgrading and product quality) and consumer satisfaction and loyalty of Standardized Herbal Medicine. The exploration of the relationship between *product upgrading* on consumer satisfaction reveals an insignificant and even negative impact on consumer loyalty. This implies that the higher the *product upgrading* is carried out, the higher the customer satisfaction and loyalty will be. Furthermore, this study found that product quality creates a positive effect on consumer satisfaction and loyalty. Thus, it appears that product quality has a very significant role in the competition for *obat masuk angin cair*. In other words, the dimensions of product quality such as performance, product features, reliability, conformity to specifications, durability, beauty, and perceived quality must meet consumer desires.

Moreover, direct customer satisfaction has a significant impact. Manufacturers of standard herbal medicines must make deliberate efforts to promote the need to meet WHO defined quality requirements such as quality or efficacy, benefit or efficacy, and safety (Bodet, 2008; Rauyruen & Miller, 2007). Another finding is that the influence between product upgrading variables on consumer loyalty, both directly and indirectly (through customer satisfaction) has a negative T-Value. This is mainly because people tend not to receive proper and correct information about the grouping of traditional medicines. In short, the implication of product upgrading is to prove evidence-based medicine specifically for *obat masuk angin cair* is not important. The opportunity to upgrade into Phytofarmaca will not be done.

This study also has certain limitations. Therefore, further research must be carried out by expanding the area of research capability. Moreover, related to the level of education that is not evenly distributed in Indonesia. More specifically, researchers suggest that further research can add independent variables to determine the consumer loyalty model that is getting closer to reality (Sari & Pradhana, 2018). It is also necessary to make research on other Standardized Herbal Medicine which is used to treat chronic non-communicable diseases.

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This thesis I dedicate to Mother, my wife, and my two children as well as my entire extended family as an expression of gratitude for all prayers and efforts that continue tirelessly.

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