

Perceived Quality, Customer Satisfaction, Switching Barrier and Customer Loyalty in Business to Business Context

Nisa Sofnia, Riawan B. Paramarta

Abstract— In high competitiveness of lubricant industry in Indonesia, supplier must consider various factors to maintain customer's loyalty. The purpose of this research is to analyze the relationship between perceived quality, customer satisfaction, and switching barrier as affecting factors of customer loyalty (recommend/patronage). It also examined the mediating effect of switching barrier between customer satisfaction and customer loyalty (recommend/patronage) and moderating effect of switching barrier between customer satisfaction and customer loyalty (recommend/patronage). Through literature review of each variables, indicators and hypothesis, this paper is using SEM-PLS to evaluate the measurement and relationships. This research analyze 36 responds generated by purposive sampling. The results are perceived quality has a positive and significant effects to customer satisfaction, customer satisfaction has a positive and significant effects to customer loyalty (recommend/patronage), switching barrier has a positive and significant effect to customer loyalty-patronage and customer satisfaction roled as a mediator in relationship between perceived quality and customer loyalty-recommend. Customer satisfaction's value is high as they are satisfy with their supplier, switching barrier's value is relatively moderate so the supplier need to increase the value in order to retain customer loyalty and loyalty's values are relatively high as the customer is in contract agreement (business to business).

Index Terms— Perceived Quality, Customer Satisfaction, Switching Barrier, Customer Loyalty, Business to Business.

1 INTRODUCTION

THE increasing percentage of gross domestic product in Indonesia coherent with the industry's development in it such as automotive, manufacture, mining, plantation and other industries. Industry sector in Indonesia has the largest contribution to its country's GDP which is 22% of total GDP and it was the fourth biggest in the world (Admin, 2018). Lubricant industry is one of the fastest growing industries in Indonesia (Admin, 2016) triggered by the rising number of vehicles and industries. In addition, the competition in lubricant industry is very competitive as the number of supplier and distributors keep growing so does the number of imported (Tempo, 2017).

Companies in lubricant industry utilize this growth and market competitiveness by increasing the amount of their factory and production capacity. Nonetheless, increasing production capacity needs to be aligned with market demand (in this case is business-to-business context). The amount of demand itself can be affected by industry relative attractiveness and customer of firm's satisfaction. If customer needs and satisfaction are fulfilled, then it leads to customer loyalty (Lam, Shankar, Erramilli, & Murthy, 2004).

Customer loyalty has a powerful impact on firms' performance and is considered by many companies as an important source of competitive advantage (James L. Heskett, Jones, Loveman, Sasser, & Schlesinger, 2008). The consequences of enhanced customer loyalty are increasing in revenue, reducing customer acquisition costs, lowering costs of serving repeat purchasers and leading to greater profitability (Reichheld, 1993). Loyalty is a condition when a customer is committed towards a supplier and has no intention seek an alternate (R Oliver, 1999). Customer's loyalty of its repeat purchase behaviors, depend on the value

received and satisfaction level by customer (Callarisa Fiol, Bigne Alcaniz, Moliner Tena, & Garcia, 2009). To conceptualize customer loyalty, potential antecedents include customer satisfaction, switching barrier, and perceived quality (Lam et al., 2004).

The propose is what suppliers in business-to-business markets can do to improve their customers' satisfaction and loyalty by improving the relationships with their customers (Čater & Čater, 2009). In Business to business, loyal customer tend to focus more on long-term benefit and cooperate with the supplier so the transaction is beneficial for both parties. This also will reduce transaction cost (Doney & Cannon, 1997). Focus on keeping existing customer to remain loyal than attract new customer can improve company's performance (Holmlund & Kock, 1996).

Some research has conceptualized any variables related to customer loyalty, particularly in business to business (B2B) concept. They are perceived quality (Biedenbach, et al., 2015) customer satisfaction (Lam et al., 2004) and switching barrier (García-Acebrón, Vázquez-Casielles, & Iglesias, 2010). Previous research of perceived quality has been applied in service industry (Biedenbach et al., 2015) and will be applied in this research in lubricant industry. This research is also using perceived quality which is part of brand equity as customer overall judgment of a supplier (Olshavsky & Miller, 1972). Meanwhile switching barrier variable is a modification between switching cost dimensions (Lam et al., 2004) and relative attractiveness (García-Acebrón et al., 2010) of supplier compared to other competitors.

2 LITERATURE REVIEW

2.1 Perceived Quality

Perceived quality is overall evaluation of supplier (Olshavsky & Miller, 1972) or an overall relative opinion towards the supplier (Gallarza, Gil-Saura, & Holbrook, 2011). Positive component of perceived value called perceived quality in which the negative component need to compared the cost and sacrifice (Sheth, Newman, & Gross, 1991). Other research said that perceived quality is a benefit concept of customer value (Klaus, 1985). Perceived quality is divided to two concepts which is product and service (Fornell, Johnson, Anderson, Cha, & Bryant, 1996). As a conclusion, perceived quality is an overall assessment of customers towards supplier's product and service quality in line with customer's objective and compared to alternate supplier (Parasuraman et al., 1988). Furthermore, the concept of perceived quality used in this research is considering positive component in perceive value. Perceived quality dimensions adopted and adapted from previous research (Biedenbach et al., 2015) adjusted with the industry condition. They are direct product cost, product quality, delivery performance, service support, and personal interaction (Čater & Čater, 2009).

2.2 Customer Satisfaction

Customer satisfaction in B2B context is a positive impact of a relationship between firms (Geyskens, Steenkamp, & Kumar, 1999). Customer satisfaction exist when needs and expectations of customers are fulfilled and can be used as a constraint to evaluate firm's performance (Dwyer, 2009). Customer satisfaction consist of monetary and non-monetary constituent (Čater & Čater, 2009). Monetary satisfaction is a positive respond of what received by customer from their relationship with supplier that is accountable such as sales volume and margin. Non-monetary satisfaction is a positive respond of what received by customer from their relationship with supplier that is unaccountable such as the fulfillment of customer expectation and satisfaction (Geyskens et al., 1999).

2.3 Switching Barrier

Switching barrier represent any factors as a reason why customers find it hard to change suppliers to another (Jones, Mothersbaugh, & Beatty, 2000). It contain of two factors, they are switching cost and perceived attractiveness of the supplier compared to other supplier (García-Acebrón et al., 2010). Switching cost is cost issued in changing supplier (Heide & Weiss, 1995). Cost issued include monetary and non-

monetary such as time, energy and other uncertain matter (Lam et al., 2004). Relative attractiveness is the perception of a customer toward their supplier based on the offer their supplier gives compared to another supplier such as opportunity cost of switching (García-Acebrón et al., 2010).

2.4 Customer Loyalty

Customer loyalty is a pledge and commitment among customers to their supplier of products, services, brands or organizations (Oliver, 1993). It occurred when the relationship is valuable and beneficial for customers (Dwyer, 2009). It may decrease the risk level and increase the effectiveness of customers in choosing a supplier as there is no special consideration of other supplier since the main supplier is already felt satisfying. A supplier can increase customer loyalty by understanding the needs and wants of their customer based on historical data of purchase. Customer loyalty tend to influence customer behavior to recommend suppliers to other (recommend) and perform further purchases (patronage) (Dwyer, Schurr, & Oh, 1987).

3 HYPOTHESIS DEVELOPMENT

3.1 Perceived Quality on Customer Satisfaction

Customer satisfaction is an impact in form of responses influenced and related to customer expectations. Customer satisfaction measure whether customer met their needs and expectations (Biedenbach et al., 2015). Customer value consist of product-based values that focus on product transactions and perceived quality that focus on the process of transactions (Lindgreen & Wynstra 2005). Dimensions of perceived quality for this research area direct product cost, product quality, delivery performance, service support and personal interaction (Čater & Čater, 2009). Perceived quality is the ability of a supplier to be accepted by customer and meet their satisfaction better than relative attractiveness. So as a conclusion, perceived quality can affect customer satisfaction (Lam et al., 2004) if the need and expectations of customer is fulfilled. Thus, the hypothesizes are :

H1 : Perceived quality (PQU) has a positive and significant effect on customer satisfaction (SAT).

3.2 Customer Satisfaction on Customer Loyalty

In B2B context, customer satisfaction is a positive affective result of a firm from an appraisal of all aspects in working with another firm. Long-term relationship in B2B context is driven by customer satisfaction between suppliers and buyers (Geyskens et al., 1999). Satisfaction is an antecedent of loyalty (Szymanski & Henard, 2001) and leads to positive word-of-mouth and repeat buying behavior (Yi, 1990). Customer's satisfaction motivates the customer to patronize (re-purchase) and recommend (recommend to other customers) (Lam et al., 2004). It applied both in service (Lam et al., 2004) and industrial (Fornell, 1992) business. Thus, the hypothesiz-

• Nisa Sofnia currently pursuing masters degree program in Management in University of Indonesia, Indonesia, PH+6287881331428. E-mail: nisasofnia@gmail.com

• Riawan B. Paramarta is a lecture of masters degree program in management University of Indonesia, Indonesia.

es are :

H2a : Customer satisfaction (SAT) has a positive and significant effect on customer loyalty (recommend) (REC).

H2b : Customer satisfaction (SAT) has a positive and significant effect on customer loyalty (patronage) (PAT).

3.3 Switching Barrier on Customer Loyalty

Any factor resulting difficulty and costly in changing supplier is called switching barriers and it constructed by two dimensions which are switching cost and supplier perceived attractiveness when its compared to other offering (Jones et al., 2000). Switching cost is customer perception of time, money and effort that customer incur when changing supplier (Jackson, 1985). Relative attractiveness is a customer perception of value offered by one supplier and it exceeds other alternatives (García-Acebrón et al., 2010).

Loyalty benefits received by customer may have reduced as they changing supplier. Those customers who gets the benefits may lead them to recommend and repurchase (patronage). Yet, customer who dissatisfied of one supplier and have higher switching barrier would unwillingly to recommend to others. So then, the higher switching barrier of one customer, the higher customer loyalty to repurchase (patronage) but not with recommend to others (Lam et al., 2004). Based on switching cost construct (Lam et al., 2004) and relative attractiveness (García-Acebrón et al., 2010), the hypothesized are :

H3a : Switching barrier (BAR) has a positive effect on customer loyalty (recommend) (REC).

H3b : Switching barrier (BAR) has a positive effect on customer loyalty (patronage) (PAT).

3.4 Customer Satisfaction as a Mediator between Perceived Quality and Customer Loyalty

Based on previous hypothesis, it was concluded that perceived quality affect customer satisfaction and customer satisfaction affect customer loyalty (recommend/patronage). Perceived quality has a positive relationship with customer loyalty (Bolton, 1998). Customer loyalty is influenced directly or indirectly by variable customer satisfaction and perceived quality (Vildova et al., 2015). Previous research said that customer satisfaction mediates the relationship between perceived quality and customer loyalty (Srivastava & Rai, 2013). Thus, the hypothesized are :

H4a : Customer satisfaction (SAT) mediates the relationship between perceived quality (PQU) and customer loyalty (recommend) (REC).

H4b : Customer satisfaction (SAT) mediates the relationship between perceived quality (PQU) and customer loyalty (patronage) (PAT).

3.5 Switching Barrier as a Moderator between Customer Satisfaction and Customer Loyalty

There is interaction between customer satisfaction and

switching cost toward customer loyalty. Customer's satisfaction level affect how big willingness customers to recommend a supplier to other. But, this kind of action is also affected by switching barrier. The higher switching barrier, the harder customer will be in changing supplier even the satisfaction is not high enough. In this case, customer tend to not recommend their supplier to others (Lam et al., 2004).

H5a : Customer satisfaction (SAT) has a bigger positive effect on customer loyalty (recommend) (REC) when switching cost is high.

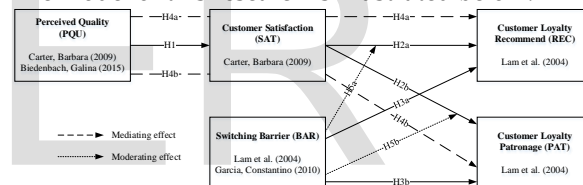
Customer loyalty with lower switching cost is easily be affected by the changing of satisfaction level. Therefore, if the customer is not satisfied when the switching cost is lower, they will easily change supplier (Lam et al., 2004).

H5b : Customer satisfaction (SAT) has a bigger positive effect on customer loyalty (patronage) (PAT) when switching cost is low.

Hypothesis test on this research is using 95% of confidence level which has 5% or 0.05 of inaccuracies (α) and t table of 1.645. Therefore :

1. If t table is higher than t stat ($1.645 > t$) then hypothesis is not accepted
2. If t table is lower than t stat ($1.645 < t$) then hypothesis is accepted.

The model of this research is illustrated below.



4 METHODOLOGY

This research began with an observation to the business and marketing process of a lubricant company to get more information about supplier relationship to their customers. It was found that customer loyalty of the company tend to more fluctuate and it caused by the competitiveness of the lubricant industry. Relate to customer loyalty theory, there are numerous variables that may affect the loyalty of customer. They are perceived quality, customer satisfaction and switching barrier.

This associative research started with gathering primary data of questionnaire from customer of the company which consist of various industry segment and the questionnaire was made based on literatures (Table 1). After the questionnaire had been gathered, the analysis was using Structural Equation Modelling (SEM) with Partial Least Square (PLS) approach through SmartPLS 3.0 software. The steps to analyzing a data using PLS are validity test, reliability test, hypothesis test of the model and conclusion.

Likert scale from 1-5 (totally not agree - totally agree) is

used for this research. This research also used quantitative method to collect primary and secondary data from observation, interview, questionnaire and analysis of documents as cross-sectional. Primary data gathered by using non-probability sampling from B2B customers of a firm using purposive sampling with convenience sampling method. The population is a various segment of industry of customer of a supplier from a lubricant company. The collected sample is 36 with 39.56% respond rate of total distributed questionnaire.

Operational Variables of this research explained on Exhibit 1.

5 RESULT AND DISCUSSION

The first step is to analyze the descriptive analysis of respondent and variables based on collected questionnaires. From the questionnaire, the respondent mostly came from manufacture industry with 44% of total sample, a medium size company which revenue range between 2.5-50 billion a year with 56% of total sample, located in West Jakarta, had been being a customer for more than 5 years, and came from buyer position based on buying center theory.

From the calculation, we can conclude that responds in every indicators of perceived quality variable is categorized to be high (value mostly bigger than 3.68) and can be assumed that value received by customer towards the supplier based on every indicators in perceived quality variable is high. Responds in every indicators of customer satisfaction is categorized to be high (value bigger than 3.68) and can be assumed that customer is satisfied with towards the supplier. Responds in every indicators of switching barrier is categorized to be medium (value in range of 2.34-3.67) and can be assumed that switching barrier felt by customer is relatively moderate and not really significant. Responds in every indicators of customer loyalty is categorized to be high (value mostly bigger than 3.68) and can be assumed that loyalty of customer towards the supplier is relatively high.

Analyzing data using PLS consist of two steps. They are outer model and inner model. The outer model is analyzed based on validity and reliability test. There are two types of validity test. They are convergent validity and discriminant validity. Outer loading is used to test the convergent validity of the data and it is valid if the value of outer loading is higher than 0.7. Cross loading is used to test the discriminant validity of the data and it is valid if the value of cross loading between variable and its indicators are higher than the value between variable to another indicators. Discriminant validity is also based on the value of Average Variance Extracted (AVE) and it is valid if the value is higher than 0.5.

After testing the validity of the data, the next step is to test the reliability. Reliability in PLS is based on cronbach's alpha and composite reliability value. The data was reliable

as the value is higher than 0.7.

After the data is already valid and reliable (outer model), next is to analyze the inner model. Inner model analysis is used to examine the significant level of relationship between variables (hypothesis). The value on original sample indicate if it is positive or a negative relationship and how one variable affected another variables. T statistic is to analyze the hypothesis (hypothesis is accepted when the value of t statistic is higher than 1.645) whether it is significant or not (Table 1, 2 and 3).

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))
PQU - SAT	0.791	0.806	0.059	13.448
SAT - REC	0.734	0.713	0.100	7.314
SAT - PAT	0.506	0.532	0.119	4.258
BAR - REC	0.044	0.054	0.120	0.363
BAR - PAT	0.366	0.303	0.178	2.053

Table 1 Total Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))
PQU - SAT - REC	0.822	0.873	0.404	2.033
PQU - SAT - PAT	0.547	0.605	1.812	0.302

Table 2 Specific Indirect Effects

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))
SAT - BAR - REC	0.229	0.265	0.319	0.719
SAT - BAR - PAT	0.058	-0.012	4.046	0.014

Table 3 Moderator Path Coefficient

6 CONCLUSION

Based on the research and analysis of variable perceived quality, customer satisfaction, switching barrier and customer loyalty (recommend/patronage) in business to business context (B2B), the conclusions are :

1. Perceived quality is overall assessment by customer towards supplier product or service quality in line with customer's objective and compared to relative attractiveness (Parasuraman et al., 1988) has a positive and significant effects towards customer satisfaction (t statistic 13.448 – higher than 1.645). Customer satisfaction in B2B context is a positive impact of any aspect regarding the relationship between customer and supplier (Geyskens et al., 1999). The higher perceived quality received by customers of their supplier, the higher satisfaction level of customers (firms).
2. Customer satisfaction has a positive and significant effect towards customer loyalty (recommend/patronage) (t statistic 7.314 and 4.258 – higher than 1.645). Customer loyalty is a pledge and commitment among customers to their supplier of products, services, brands or organizations (RL Oliver, 1993). Customer loyalty tend to influence customer behavior to recommend suppliers to other (recommend) and perform further purchases (patronage) (Dwyer et al., 1987).

Therefore, the higher satisfaction level felt by customer, the higher intention of customer (loyalty) to recommend a supplier to another customer (recommend) and to repeat buying (patronage).

3. Switching barrier has no positive and significant effect towards customer loyalty – recommend (t statistic 0.363 – lower than 1.645) and has positive and significant effect towards customer loyalty – patronage (t statistic 2.053 – higher than 1.645). Switching barrier represent any factors as a reason why customers find it hard to change suppliers to another (Jones et al., 2000). Therefore, switching barrier felt by customer, tend to affect customer loyalty to repeat purchase (patronage) and has no effect of customer loyalty to recommend a supplier to another customer (recommend).
4. Customer satisfaction role as a mediator between perceived quality and customer loyalty – recommend (t statistic 2.033 – higher than 1.645) and not role as a mediator between perceived quality and customer loyalty – patronage (t statistic 0.302 – lower than 1.645). Therefore, satisfaction of customer based on perceived quality tend to increase customer behaviour to recommend the supplier than to repeat buying.
5. Customer satisfaction has no bigger effect towards customer loyalty – recommend when switching barrier is high (t statistic 0.719 – lower than 1.645) and towards customer loyalty – patronage when switching barrier is lower (t statistic 0.014 – lower than 1.645). Therefore, in lubricant industry, customer satisfaction has no bigger effect towards customer loyalty (recommend/patronage) when in particular switching barrier level.

7 IMPLICATION/LIMITATION AND SUGGESTION

These are several things that managers can apply based on this research regarding the variables of perceived quality, customer satisfaction, switching barrier and customer loyalty :

1. Improve and maintain positive assessment result of supplier by customer as dimensions in perceived quality variable such as competitive price compared to competitors, better product quality, time delivery management, and product support services. Supplier needs to focus on core-benefit offered to customers and considering add-on benefits and sacrifice/cost offered to customer compared to competitor.
2. Increasing switching barrier of customer leads the loyalty of customer to keep purchase (patronage) by giving more augmentation services of product purchased more than competitor to keep making customer recommend to others. This action can be applied by having a contract with stated period of buying, promotion for loyal customer and for customer with big purchase, and by giving an extra attention/care to customers.
3. Maintain customer loyalty. Focusing to maintain customer to stay loyal towards a supplier is increasing supplier performance easily than to focus to generate new customer

(Holmlund & Kock, 1996). Several advantages of keeping customer to stay loyal are higher revenue, higher profit, reducing cost of generating new customer and reducing cost of offering (Reichheld, 1993). In customer's perception, stay loyal to a supplier may reduce risk of having a new supplier and increase customer's firm effectivity.

4. Deeper understanding to customer's need. Supplier need to understand how the product purchased by customer will used by customer and how it can increase the effectivity, efficiency and profitability of customer's firm. These actions are needed to create long-term relationships between supplier and customer.
5. Receive any critics and suggestion (feedback) from customer and any stakeholder to improve the supplier's performance. Critics and feedbacks from customer can be used to measure supplier performance towards their customers.

This research has some barrier and limitation during the process. These are research limitation and researcher expectation of future research :

1. Time limitation. This research conducted in short period of time and affected the amount of primary data to analyze (small size primary data).
2. Research scope generated from customer of one only lubricant company and one person of each customer.
3. Small amount of primary data caused by several issues such as no response and company regulation of filling the questionnaire (customer's company rule).

Based on these limitations, future research expected to gather a primary data in a longer period of time so the amount will bigger. The bigger data, the stronger analysis will be conducted to reflect a population. Future research also need to determine a managerial implication based on market segment differences of customers to get more personalized in order to increase customer loyalty (recommend/patronage).

The managerial implications mentioned before can be applied in any industry depend on the perceived quality, satisfaction, barrier and loyalty felt by customer of the supplier. For the model implications and hypothesis, there still need some modifications to adjust with the industry condition, country, business process, and type of business.

Analyzing the responsible respondent is also the key to get more significant results. Distributing the questionnaire can get through the highest level of company such as director so she/he will be the one who decide who is responsible to answer the questionnaires.

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Exhibit 1 Operational Variables

Variables	Dimensions	Indicators	References
Perceived Quality (PQU)	Direct Product Cost	Cost of buying products	(Čater & Čater, 2009)
		Product Quality	
	Meet the company's quality standard		
	Product is reliable		
	Product quality is consistent		
	Delivery Performance	On time on delivery	
		Delivery is more accurate	
	Service Support	Available when customer need more information	
		Given information relate to customer's need	
	Personal Interaction	Easier to work with	
Have a better relationship			
Have a better relationship between staffs			
Customer Satisfaction (SAT)	Cooperation	Satisfy of the cooperation	Čater, B., & Čater, T. (2009).
	Relation	Good company to have a relation with	
	Treatment	Treat my company better	
Switching Barriers (BAR)	Switching Costs	Cost of monetary will be larger	Lam, S. Y., Shankar, V., Erramilli, M. K., & Murthy, B. (2004).
		Cost of effort will be bigger	
		Cost of time will be longer	
		New technological problem	
		Feeling uncertain	
	Relative Attractiveness	Supplier knows the need and want of my company	García-Acebrón, C., Vázquez-Casielles, R., & Iglesias, V. (2010).
		Fulfilled satisfaction level	
Customer Loyalty - Recommend (REC)	Word of Mouth	Positive word of mouth	Lam, S. Y., Shankar, V., Erramilli, M. K., & Murthy, B. (2004).
	Suggest	Suggest to another customer	
	Recommend	Recommend to another customer	
Customer Loyalty - Patronage (PAT)	First Choice	Consider as a first choice in choosing supplier	
	Further Purchase	My company will purchase again in the future	