The 8th International Conference on Sustainable Agriculture and Environment
IOP Conf. Series: Earth and Environmental Science 905 (2021) 012087
doi:10.1088/1755-1315/905/1/012087

Behaviour of brand switching of milk product for young children aged 1-3 years in consumers of middle to lower socioeconomic class in urban communities in malang

Sunardi1*, J H Mulyo2, Irham2 and Jamhari2
1 Doctoral student of Agribusiness Management, Faculty of Agriculture, Gadjah Mada University, Indonesia
2 Department of Agricultural Socio-Economics, Faculty of Agriculture, Gadjah Mada University, Indonesia

Corresponding author: sunardimlg06@gmail.com

Abstract. A total of 56.7% of Indonesia's population today is concentrated in urban areas. More than 80% of Indonesians belong to the middle and lower socioeconomic class and this segment is the biggest consumer of milk products for young children aged 1-3 years called growing-up milk (GUM). Understanding the brand and customer behaviour is significantly important. This study aimed to examine the behavior of GUM brand switching on middle to lower socioeconomic class consumers in urban communities. The research was conducted in Malang Municipality, East Java Province, using guided interviews with questionnaires. The research respondents were 102 consumers of GUM that were selected by proportional random method in all five sub-districts. The data were processed using Structural Equation Modeling-Partial Least Squares (SEM-PLS). The results showed that the prior experience in purchasing variables had a highly significantly negative effect and the consumer dissatisfaction had a significantly positive effect on the process of brand switching for consumers of GUM products. Empty product stock in the store is one of the real examples of bad prior experience as well as dissatisfaction of the consumers that trigger them to change the old brand to new brand. The GUM companies have to maintain product suppliability.

1. Introduction
Brand switching is a major problem in a business because it may interfere with sales revenue of the company. If the brand shift occurs massively, it can cause the loss of the entire business. Preventing brand switching to retain customers is a very important business as to win new customers will cost much more than retaining existing customers. Understanding the brand and customer behaviour is significantly important. Customer needs and insight could be used in the product innovation process [1]. According to Gallo [2], depending on the type of study and the type of industry, the cost required to recruit new customers is five times more expensive than retaining existing loyal customers. Thus, companies do not have to put too much effort into mobilizing resources to find and find new clients and focus on retaining existing customers.

Brand trust plays the most important role in building consumer trust in urban areas [3]. Urban consumers tend to choose the most popular brands over rural consumers [4]. Brand is the most important factor influencing consumer decisions followed by references, especially from friends and relatives.
Brand image is the most important factor that needs to be given special attention by marketers, first by designing the right communication strategy and reach, followed by product quality [5].

Growing-Up Milk (GUM) is milk that contains additional vitamins and minerals which is intended for children's growth, especially at the age of 1-3 years. This type of milk is very well known in urban and rural areas. Consumption of GUM reduces the risk of iron and vitamin D deficiency, two nutrients that are often lacking in the diets of young children who only consume unfortified cow's milk [7].

According to the Asian Development Bank (ADB) and data released by Nielsen, the number of residents with spending under 10 USD per day reaches 80%. ADB in its report entitled 'Key Indicators for Asia and The Pacific 2010', defines the middle class as a group of people who have a per capita expenditure of USD 2 - 20 per day. Thus, 80% of the population is within middle to lower class income.

The objectives of this research were to assess the rate of brand switching for GUM products in middle to lower socioeconomic class consumers in Malang and to examine the behavior of switching brands of GUM products among consumers of middle to lower socioeconomic class between urban communities in Malang.

2. Literature review, theoretical framework, and hypothesis

2.1. Literature review

Several factors cause brand switching behavior, including price, inconvenience, core service failure, service encounter failure, service failure response, competition between companies, and ethical problems [8]. The decision to switch from one brand to another is a complex phenomenon that is influenced by certain behavioral factors, competitive scenarios, and time [9]. The brand switching varies across cultures, depending on the drivers of previously unsatisfactory consumption experiences [11]. The research results of Jungwoo [12] shows the strong influence of prior experience as the main construction of the service experience model to consumers. Previous experience largely determines customer perception and provides the basis for price acceptance.

Product attributes have a major influence on consumer interest in a product. Suggest that the product is a set of attributes, both tangible and intangible, including packaging, color, price, quality, and brand, as well as service and reputation of the seller. Consumer Dissatisfaction is a consumer's response after purchase to a brand that is believed to be appropriate or a match between what consumers expect and the benefits of the product consumed [14]. The relationship between customer satisfaction and customer loyalty is not proportional [15]. In contrast to Hsu and Chang [16] that the relationship between satisfaction and loyalty is asymmetric, dissatisfaction guarantees consumers to switch brands while satisfaction does not guarantee loyalty. Consumer dissatisfaction is one of the factors causing brand switching because dissatisfied customers will seek information on other product choices and may stop buying the product or influence others not to buy [6].

If product performance is lower than consumer expectations, consumers will experience dissatisfaction [13]. Dissatisfaction experienced by consumers will lead to brand switching behavior. As stated by David [10] that the main determinant of brand acceptance is the re-satisfaction felt by consumers in previous purchases. This consumer dissatisfaction arises because consumer expectations are not the same or higher than the performance they receive in the market. This causes dissatisfaction which can affect attitudes to make purchases at the next consumption period.

The variety seeking will occur if the level of consumer involvement in a brand is low and consumers are aware of differences between brands [17]. The search for variation can occur in limited decision making. The need for variety seeking behavior occurs when the risk is small and there is little or no commitment to a brand [18]. The variety sought in a product category by consumers is an attitude of consumers who want to try other brands and satisfy their curiosity about other brands and is associated with a desire to change habits [19].
2.2. **Theoretical framework**

Based on the above literature review, this research provides a theoretical framework as follows: brand switching of GUM products in consumers of middle to lower socioeconomic class in urban communities in Malang could be influenced by some factors which are prior experience, product attribute, consumer dissatisfaction, and variety seeking as shown in figure 1.

![Theoretical framework](image)

**Figure 1.** Theoretical framework of research

Notes: = effect on

2.3. **Hypothesis**

In this study there are nine hypotheses to be tested further as follows:

2.3.1. **Prior Experience (PEX)**
- Allegedly Prior Experience (PEX) has a negative effect on Consumer Dissatisfaction (CDS)
- Allegedly Prior Experience (PEX) has a negative effect on Brand Switching (BSW)

2.3.2. **Product Attributes (PAT)**
- Allegedly Product Attribute (PAT) has a positive effect on Prior Experience (PEX)
- Allegedly Product Attribute (PAT) has a negative effect on Consumer Dissatisfaction (CDS)
- Allegedly Product Attribute (PAT) has a negative effect on Variety Seeking (VSE)
- 2.3.2.4. Allegedly Product Attribute (PAT) has a negative effect on Brand Switching (BSW)

2.3.3. **Variety Seeking (VSE)**
- Allegedly Variety Seeking (VSE) has a positive effect on Brand Switching (BSW)

2.3.4. **Consumer Dissatisfaction (CDS)**
- Allegedly Consumer Dissatisfaction (CDS) has a positive effect on Variety Seeking (VSE)
- Allegedly Consumer Dissatisfaction (CDS) has a positive effect on Brand Switching (BSW)

3. **Research methods**

3.1. **Subject, object and location**

The subjects in this study were households who switched brands of GUM products for children aged 1 – 3 years, while the object of the study was the behavior of switching brands of GUM products by consumers of middle to lower socioeconomic class in Malang. The location of this research was Malang Municipality, province of East Java. The definition of urban and rural refer to the Regulation of the Head of the Central Statistics Agency (Peraturan Kepala BPS) number 37 of 2010 concerning the Classification of Urban and Rural in Indonesia. Based on this Perka BPS, all sub-district in 5 districts (Blimbing, Sukun, Klojen, Lowokwaru, and Kedungkandang) in Malang Municipality are categorized as urban.
Malang Municipality is led by a mayor and it was included in the big municipality category as it has a population of more than 500,000 to 1,000,000. The categorization follows the Government Regulation (PP) No. 26 of 2008 concerning classification of cities based on population. The municipality also had a population profile aged 0–14 years (growing-up children) about 189,511 people which equals 21.7% national population in the age of 0–14 years. Nationally, the total population in the age of 0–14 years was 24.6% of the total population. Malang was chosen as a research location because it is the third largest municipality by economy in East Java, after Surabaya and Kediri, with an estimated gross domestic product (GDP) in 2016 at 30 trillion IDR. Municipality with bigger GDPs will generally have a higher standard of living. The samples are taken from all five sub-districts in Malang municipality with proportional random sampling to get a total minimum sample of about 100 samples.

3.2. Instrument
Indicators are variables which are observed and called manifest variables. The researchers used four or more variables to avoid issues if the variables are less than 3. In this case, if only one measurement is used, then error will occur in the model. Model that only uses two indicators per latent variable is difficult to identify (unidentified) and the error estimation will not be reliable [20]. Latent variable is variable which is indirectly observed in the research and so called constructs that were measured using indicators. Latent variables include independent, intermediaries and dependent variables. Meanwhile, construct is a kind of specific concept in a higher level of abstraction and created for the purpose of certain theory. A concept is consciously produced by scientists for scientific purposes. Exogenous variable is an independent variable with no previous cause. Endogenous variable is variable that can be functioned as an intermediate to the effect of other exogenous variables and is the cause of other intermediate and dependent variables [20].

In this study, there were four exogenous variables that would be analyzed prior experience, product attribute, variety seeking, and customer dissatisfaction and one endogenous variable namely brand switching. Each variable was developed into some questions and accompanied by five alternative answers that would be measured using Likert scale with the weight value of 1 for the answer of "Strongly disagree" to 5 for the answer of "Strongly agree". Likert scale five points categorized as interval scale [21]. The Likert Scale model can produce data that meets the nature of the interval scale [20]. Some references that can be used the measurement will produce an interval scale (interval scale), if the differences between the successive categories are equal (difference between successive categories are the same) explicitly states that the Likert can generate interval data.

3.3. Sample and data collection method
The types of data in this study were primary data and secondary data. In this study, secondary data were collected through literature studies and previous research, while primary data were collected using interviews guided by a questionnaire that was given directly to respondents according to the characteristics of the sample that has been determined. "Questionnaire is a way of collecting data by providing written questions that will be answered by respondents, so that researchers obtain field or empirical data to solve research problems and test established hypotheses".

To determine the data, purposive sampling technique (non-probability sampling) was used in this study. It was carried out based on certain considerations for adjustment to several researcher criteria in order to increase the accuracy of the sample [22]. Purposive sampling was also known as intentional sampling, objective sampling, conditional sampling, choice sampling or selective sampling.

The criteria for respondents who will be selected as samples in this study were buyers and users of milk for children 1-3 years who have made a brand change. Questionnaires were distributed in a number of Posyandu randomly in the areas of Malang Municipality which had lower socioeconomic class criteria. The population in this study were households in Malang Municipality who had children aged 1-3 years and for those who had changed the brand of GUM. The number of samples taken for research was 100 people to meet a minimum sample size of five times the number of indicators (the indicators in this study are 18). The determination of the number of samples was based on the rules of thumb
contained in the data analysis using the multivariate statistical method Structural Equation Modeling (SEM) with the WarpPLS approach, which is ten times the number of variables [20]. PLS can stably produce significant path coefficients and $p$-value with samples smaller than 100 [23].

3.4. Evaluation of PLS model

PLS as a predictive model does not assume a certain distribution to estimate parameters and predict causality. PLS model evaluation was done by evaluating the outer model and inner model. The outer model is a measurement model to assess the validity and reliability of the model. Through the algorithm iteration process, the measurement model parameters (convergent validity, discriminant validity, composite reliability and Cronbach's alpha) were obtained, including the value of $R^2$ as a parameter of the accuracy of the prediction model [22]. Inner model is a structural model to predict causality between latent variables. Through the bootstrapping process, $p$-value parameters were obtained to predict the existence of a causal relationship.

The structural model in PLS is evaluated using $R^2$ for the dependent construct, the path coefficient values or $p$-value of each path for the significance test between constructs in the structural model. $R^2$ value used to measure the level of variation of changes in the independent variable to the dependent variable. The higher the $R^2$ value means the better the prediction model of the proposed research model. For example, if the value of $R^2$ of 0.7 means that the variation of changes in the dependent variable that can be explained by the independent variable is 70 percent, while the rest is explained by other variables outside the proposed model. However, $R^2$ is not an absolute parameter in measuring the accuracy of the prediction model because the basis of the theoretical relationship is the most important parameter to explain the causality relationship [22].

4. Analysis, results and discussion

4.1. Statistical description

Descriptive analysis provides empirical data collected from the respondent's profile in the questionnaire. This data will be grouped and tabulated then given an explanation.

Based on Table 1, respondents were dominated by females where most of them are housewives. The amount of monthly household expenditure was about 2.1 Mio IDR, within the range of middle to lower socioeconomic class. Table 2 showed that the average age of GUM consumers was about 26.1 months within growth age. They had good behaviour in consuming GUM with the average number of milk consumption was more than 3 glasses/day where that fulfilled the serving suggestions at least 2 glasses/day. The educational level of respondents was mostly senior high school (SMA) and below (70.6%) while the rest (29.4%) graduated from diploma (D1) and above. Average age of respondents is 33 years old, the youngest and oldest are 19 and 48 years old respectively.

| Table 1. Respondent profile. |
|-------------------------------|
| Gender | Job            | Monthly household expenditure (Mio IDR) |
| Female | Male           | housewife | Private | bureaucrat | minimum | maximum | average |
| 97.1%  | 2.9%           | 70.6%     | 25.5%   | 3.9%      | 0.5     | 6.0    | 2.1     |

| Table 2. Growing-Up Milk (GUM) consumer profile. |
|-----------------------------------------------|
| Age (month) | Milk consumption (glass/day) |
| Minimum | Maximum | average | minimum | maximum | average |
| 12     | 38      | 26.1    | 1       | 6       | 4.2     |

The brand of GUM consumed were mostly affordable types (82.4%) that included SGM (PT Sarihusada -Danone), Dancow and Batita (PT Nestlé Indonesia), Bendera (PT Frisian Flag Indonesia), and Vidoran Xmart (PT Scan Tempo). The interesting part was that more than 10% of middle to lower socioeconomic class consumed GUM of premium brand, for example Nutrilon and Bebelac (PT Nutricia.
Danone, Enfagrow (PT Mead Johnson Nutrition), Pediasure (PT Abbott), and Chil Kid (PT Kalbe - Morinaga).

To assess the rate of brand switching for GUM products, study was carried out in some integrated health service posts (Posyandu) within 5 districts in Malang Municipality. Data collected by coordinators of Posyandu who were appointed by the public health office (Dinas Kesehatan). The location of Posyandu has been chosen to refer to some considerations, for example, adequacy number of young age 1 – 3 years old, active level member of Posyandu, and cooperativeness of the member to be interviewed during the study.

**Table 3. Rate of switching brand for GUM product in Malang Municipality.**

| Type               | Total | Active | Consume GUM | Switching brand |
|--------------------|-------|--------|-------------|-----------------|
| Absolut number     | 407   | 336    | 236         | 118             |
| Percentage         | 100%  | 83%    | 58%         | 50%             |

Based on above data in table 3, the rate of switching brands was relatively high up to 50%. It means that 1 of 2 GUM consumers change brands for some reason. Some of the reasons are bad experiences in purchasing of the products, minor or lower product attribute perception including product brand image, tendency to look for a new brand, want to seek a new product variety, and product dissatisfaction.

4.2. **Convergent and discriminant validity**

Inferential statistical data analysis in this study was conducted using structural equation modeling - partial least square (SEM-PLS) version of WarpPLS 6.0. There were two levels of model evaluation in SEM-PLS: measurement model (outer model) and structure model (inner model). Outer model is used to evaluate the validity of the questionnaire. It consists of convergent validity, discriminant validity, and reliability test. While the inner model takes place for evaluation whether the model is good or fit for the research. Inner model was evaluated using Goodness of Fit (GoF) and quality indices [20].

4.2.1. **Convergent validity for every indicator.** Convergent validity can be seen from the value of the correlation coefficient between the reflective indicator scores and the latent variable scores. In factor analysis, this can be seen in the value of the loading factor. Some scientists say that if the factor load value is greater than 0.5 to 0.6, it is considered sufficient as a criterion for meeting convergent validity, this applies if the number of indicators for each variable ranges from 3 to 7 [20].

**Table 4. Combined loadings and cross-loadings.**

| Type | PEX   | PAT   | CDS   | VSE   | BSW   | SE | p-value |
|------|-------|-------|-------|-------|-------|----|---------|
| PEX1 | 0.831 | 0.052 | 0.258 | 0.143 | -0.279 | Reflect | 0.079 | <0.001 |
| PEX2 | 0.748 | 0.050 | -0.262 | 0.083 | 0.014 | Reflect | 0.081 | <0.001 |
| PEX3 | 0.650 | -0.124 | -0.028 | -0.278 | 0.341 | Reflect | 0.083 | <0.001 |
| PAT1 | -0.035 | 0.545 | 0.158 | -0.480 | -0.114 | Reflect | 0.086 | <0.001 |
| PAT2 | 0.087 | -0.228 | -0.315 | 0.258 | -0.056 | Reflect | 0.093 | 0.008 |
| PAT3 | 0.365 | 0.471 | -0.349 | 0.215 | 0.367 | Reflect | 0.087 | <0.001 |
| PAT4 | 0.088 | 0.741 | 0.051 | 0.101 | 0.074 | Reflect | 0.081 | <0.001 |
| PAT5 | -0.288 | 0.692 | -0.044 | 0.207 | -0.258 | Reflect | 0.084 | <0.001 |
| CDS1 | -0.198 | 0.029 | 0.520 | -0.029 | -0.048 | Reflect | 0.086 | <0.001 |
| CDS2 | 0.055 | -0.024 | 0.824 | -0.044 | -0.024 | Reflect | 0.079 | <0.001 |
| CDS3 | 0.066 | 0.005 | 0.868 | 0.059 | 0.052 | Reflect | 0.078 | <0.001 |
| VSE1 | 0.170 | -0.267 | 0.032 | 0.690 | -0.010 | Reflect | 0.082 | <0.001 |
| VSE2 | 0.010 | 0.059 | -0.158 | 0.725 | 0.153 | Reflect | 0.081 | <0.001 |
| VSE3 | -0.226 | 0.257 | 0.168 | 0.550 | -0.189 | Reflect | 0.085 | <0.001 |
| BSW1 | -0.104 | 0.096 | 0.032 | -0.207 | 0.670 | Reflect | 0.083 | <0.001 |
| BSW2 | -0.016 | -0.142 | 0.035 | -0.027 | 0.730 | Reflect | 0.081 | <0.001 |
| BSW3 | 0.066 | 0.107 | 0.052 | 0.063 | 0.713 | Reflect | 0.082 | <0.001 |
| BSW4 | 0.047 | -0.052 | -0.117 | 0.158 | 0.720 | Reflect | 0.082 | <0.001 |

Notes: Loadings are unrotated and cross-loadings are oblique-rotated. SEs and p-values are for loadings. p-values < 0.05 are desirable for reflective indicators.
From table 4, we found that all indicators have loading factor value > 0.5 and p value < 0.05 which can be considered fit with convergent validity except indicator PAT2. Thus, it has been decided to remove PAT2 from the model and re-run SEM-PLS to obtain better results of the model as shown in table 6.

4.2.2. Discriminant validity for every indicator. Discriminant validity can be seen from the value of loading and cross loading. If the loading value of each indicator on the relevant variable is greater than the cross loading on the other latent variables, it is said to meet discriminant validity. Refer to table 4, every indicator has loading factor > cross loading and comply to discriminant validity except PAT2 where value of loading -0.041 < cross loading 0.367, -0.282, and 0.179.

4.2.3. Discriminant validity for questionnaire (overall indicators). The discriminant validity of all indicators (questionnaire) can be seen by comparing the square root of average variance extracted (AVE) value of each latent variable with the correlation between the latent variable concerned with other latent variables. If the square root of average variance extracted (AVE) value is bigger than the correlation between the latent variable concerned, it is said to have good discriminant validity.

Table 5. Correlations among latent variables with square roots of AVEs.

|     | PEX  | PAT  | CDS  | VSE  | BSW  |
|-----|------|------|------|------|------|
| PEX | 0.851| 0.122| -0.347| -0.051| -0.419|
| PAT | 0.122| 1.000| -0.073| -0.371| -0.090|
| CDS | -0.347| -0.073| 0.753| 0.161| 0.557|
| VSE | -0.051| -0.371| 0.161| 1.000| 0.189|
| BSW | -0.419| -0.090| 0.557| 0.189| 0.709|

Note: Square roots of average variances extracted (AVEs) shown on diagonal.

Table 5 shows that the value of all square roots of average variances extracted (AVEs) shown on diagonal is bigger than the correlation between the latent variable concerned. Therefore, the questionnaire is valid due to it having good discriminant validity.

4.3. Reliability
To evaluate whether the questionnaire for overall variable used is reliable or not a reliability test was conducted. There are two parameters of the reliability test: Composite reliability coefficients and Cronbach’s alpha coefficients. Table 6 shows that the value of Composite reliability coefficients is greater than 0.7 so that the questionnaire for all variables meets Composite reliability [20]. The value of Cronbach’s alpha coefficients is also greater than 0.6 so that the questionnaire for all variables meets internal consistency reliability. Said that questionnaire for overall variable is reliable in this study.

Table 6. Reliability test.

| No | Variable | Composite reliability coefficients | Cronbach’s alpha coefficients |
|----|----------|-----------------------------------|-------------------------------|
| 1  | PEX      | 0.840                             | 0.619                         |
| 2  | PAT      | 1.000                             | 1.000                         |
| 3  | CDS      | 0.790                             | 0.600                         |
| 4  | VSE      | 1.000                             | 1.000                         |
| 5  | BSW      | 0.801                             | 0.669                         |

4.4. Model fit and quality indices
Before interpretation is conducted to test the hypothesis, the model of the research has to comply with the Goodness of Fit (GoF) requirement. GoF is an index and measure of the goodness of the relationship between latent variables (inner model) which is also related to its assumptions. The criterion and result
of GoF are shown in table 7. It was shown that the model of the research is good and fits with all requirements and quality indices of WarpPLS.

Table 7. Model fit and quality indices.

| Parameter                                      | Result       | Remarks          |
|------------------------------------------------|--------------|------------------|
| Average path coefficient (APC)                 | 0.214; p=0.006 | p < 0.05 fit     |
| Average R-squared (ARS)                        | 0.191; p=0.011 | p < 0.05 fit     |
| Average adjusted R-squared (AARS)              | 0.174; p=0.017 | p < 0.05 fit     |
| Average block VIF (AVIF)                       | 1.116         | accept if <= 5; ideally <= 3.3 acceptable |
| Average full collinearity VIF (AFVIF)          | 1.348         | accept if <= 5; ideally <= 3.3 acceptable |
| Tenenhaus GoF (GoF)                            | 0.380         | small >= 0.1, medium >= 0.25, large >= 0.36 large |
| Sympon's paradox ratio (SPR)                   | 0.889         | accept if >= 0.7; ideally = 1 acceptable |
| R-squared contribution ratio (RSCR)            | 0.999         | accept if >= 0.9; ideally = 1 acceptable |
| Statistical suppression ratio (SSR)            | 1.000         | accept if >= 0.7 acceptable |
| Nonlinear bivariate causality direction ratio (NLBCDR) | 0.889     | accept if >= 0.7 acceptable |

4.5. Hypothesis testing result

The decision rules for hypothesis testing is using the resampling method, and carried out by t-test. The decision rules for hypothesis testing are carried out as follows, if the p-value is < 0.10 (alpha 10%) then it is said to be weakly significant, if p-value 0.05 (alpha 5%) then it is said to be significant and if p-value = 0.01 (alpha 1%) then it is said to be highly significant.

Table 8. Hypothesis testing result.

| No | Variables correlation (independent variable ✡ dependent variable) | Path coefficients | p-value | Remarks |
|----|-----------------------------------------------------------------|-------------------|---------|---------|
| 1  | PEX ✡ CDS                                                        | -0.397            | <0.001* | highly significant |
| 2  | PEX ✡ BSW                                                        | -0.279            | 0.001*  | significant   |
| 3  | PAT ✡ PEX                                                        | 0.122             | 0.103   | not significant |
| 4  | PAT ✡ CDS                                                        | -0.042            | 0.336   | not significant |
| 5  | PAT ✡ VSE                                                        | -0.363            | <0.001* | highly significant |
| 6  | PAT ✡ BSW                                                        | 0.009             | 0.464   | not significant |
| 7  | CDS ✡ VSE                                                        | 0.141             | 0.071   | not significant |
| 8  | CDS ✡ BSW                                                        | 0.456             | <0.001* | highly significant |
| 9  | VSE ✡ BSW                                                        | 0.120             | 0.107   | not significant |

* Significant at 0.05 alpha

Based on hypothesis testing results as shown in table 8, it was concluded that prior experience (PEX) effects on consumer dissatisfaction (CDS) negatively which is highly significant. The better prior experiences of consumers during purchasing of GUM products tend to drive them not to change the old brand. Some bad experiences in purchasing of GUM products, for example, empty stock in the store, drive consumers to change the old brand to new brand. Details of this SEM analysis result shown in the figure 2.
Consumer dissatisfaction (CDS) has a positive effect with highly significant to brand switching (BSW) where \( p \) value < 0.001. Health effects, for example, diarrhea and constipation of children consuming GUM push consumers to change the old brand to the new brand which is safer.

Table 9. Indirect effects for paths value with 2 segments.

|     | PEX  | PAT  | CDS  | VSE  | BSW  |
|-----|------|------|------|------|------|
| CDS | -0.048 |     |      |      |      |
| VSE | -0.056 | -0.006 |      |      |      |
| BSW | -0.181 | -0.097 | 0.017 |      |      |

Table 10. \( p \)-value of indirect effects for paths with 2 segments.

|     | PEX  | PAT  | CDS  | VSE  | BSW  |
|-----|------|------|------|------|------|
| CDS |      |      |      |      |      |
| VSE | 0.209 |      | 0.467 |      |      |
| BSW | 0.004* | 0.160 |      | 0.404 |      |

* Significant at 0.05 alpha

Based on mediator variable analysis that was used in this study which was a checking method, it was found that CDS is not a mediator variable for PEX and BSW. The value of \( p1 \) (\( p \)-value of direct effect of independent variable (PEX) to dependent variable (BSW without mediator variable)) is < 0.001 smaller than value of \( p2 \) (\( p \)-value of direct effect of independent variable (PEX with mediator variable) to dependent variable (BSW)) is 0.001. The value \( p2 > p1 \), so CDS (customer dissatisfaction) is not a mediator variable for PEX (prior experience) and BSW (brand switching) [20]. Details of indirect effects for paths value and \( p \)-value with 2 segments could be seen in the table 9 and table 10.

Table 11. R-squared coefficients.

|                  | Adjusted R-squared coefficients |
|------------------|--------------------------------|
| PEX  | PAT | CDS  | VSE  | BSW  |
| 0.005 | -   | 0.145 | 0.140 | 0.405 |

In this study, as shown in table 11, found that R-squared coefficients for BSW (brand switching) is 0.405. It means that contribution effect of variable PEX (prior experience), PAT (product attribute), CDS (customer dissatisfaction), and VSE (variety seeking) to variable BSW (brand switching) is 40.5% and the rest 59.5% influenced by other factors or variables out of this study, for example, personal factors include the interests and opinions of a person as a consumer. In particular, this factor is also influenced by demographic factors such as age, gender, culture, profession, and background. In addition, there are also psychological factors including individual perceptions and attitudes about needs as consumers. Somehow middle to lower socioeconomic class is not price sensitive, consumers’ price sensitivity is in fact attenuated by social consumption situations [24].
5. Conclusion

The results of the study showed that the prior experience in purchasing variables had a significantly negative effect on the process of brand switching while the consumer dissatisfaction had a significantly positive effect on the process of brand switching for consumers of GUM products in urban communities in Malang. When customers have good experiences in past purchasing they would pretend not to change the brand. Empty stock of the product in the store is one of the bad experiences of customers and encourages some of them to change the brand. Most of the consumer dissatisfaction on health impact, for example, diarrhea or constipation and tend to push customers to change the brand even to the more expensive price brand. GUM companies have to innovate the product to enable them to remove or minimize risk on health effects. Improvement on the product suppliability is also critical to prevent the consumer changing the brand.

References

[1] Barry L B 2008 *Handbook of technology and innovation management* (Nort Caroline: John Wiley and Sons Ltd. Publication) p 115
[2] Gallo A 2014 *The Value of Keeping the Right Consumers* (Massachusetts: Harvard Business Review) pp 1–3
[3] Fukuda S Hai M N, Liu R and Moritaka M 2019 *J. Food Control* 108 106856
[4] Bhattacharjee D and Kashyap M P 2015 *Int. Conf. on Frontiers in Math.* 928118
[5] Sanjeev S 2011 *J. of Management and Research* 3 70–77
[6] Kotler P and Armstrong G 2008 *Prinsip – prinsip Pemasaran* (Jakarta: Erlangga)
[7] Walton J and Flynn A 2013 *J. Food & Nutr. Research* 57 21836
[8] Keaveney S M 2003 *J. Of Mark.* 59 72–82
[9] Srinivasan S 2003 *J. of Acc. Research* 43 291–334
[10] David A 2006 *Manajemen Ekuitas Merek* (Jakarta: Mitra Utama)
[11] Rao A R, Sharon Ng and Kim H 2014 *J. of Cons. Psyc.* 25 89–100
[12] Jungwoo L, Hyunae L and Chung N 2020 *Int. J. of Hosp. Man.* 91 102669
[13] Kotler P 2002 *Manajemen Pemasaran Jilid 1 dan 2* (alih bahasa) (Jakarta: Penerbit PT. Prehallindo)
[14] Stanton W J, Michael J E and Bruce J W 1991 *Fundamentals of Marketing. Ninth Edition* (New York: McGraw-Hill)
[15] Kotler P and Keller K L 2006 *Manajemen pemasaran (12th ed)* (Jakarta: PT. Indeks)
[16] Hsu J L and Chang W H 2003 *J. of American Aca. of Business* 2 322–328
[17] Assael H 2002 *Consumer Behavior and Marketing Action* 6th ed (Cincinnati OH: South Western College Publishing)
[18] Dharmmesta 2005 *J. Eko. dan Bsn. Indonesia* 17 91–104
[19] Tjiptono F and Chandra G 2007 *Service, Quality, and Satisfaction* (Yogyakarta: Andi)
[20] Solimun, Adjia A R S and Nurjannah 2020 *Metode Statistika Multivariat Pemodelan Persamaan Struktural (SEM) Pendekatan WarpPLS* (Malang: UB Press) p 115
[21] Solichin M and Ratmono D 2013 *Analisis SEM-PLS dengan WarpPLS 3.0 untuk Hubungan Nonlinier dalam Penelitian Sosial dan Bisnis* (Yogyakarta: Penerbit Andi)
[22] Cooper D R and Pamela S S 2001 *Business Research Methods, 7th Edition* (Homewood: Mc. Graw–Hill)
[23] Kock N 2012 *WarpPLS 3.0 User Manual* (Texas: ScriptWarp Systems)
[24] Wakefield K L and Inman J J 2003 *J. of Retailing* 79 199–212