Purchase Behavior of Noodles: A Case Study of Effort Primary Food Diversification in Indonesia

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ABSTRACT

The high demand for rice in Indonesia recently calls the government to provide alternative food product for local market. The government food diversification program, among other things, includes the persuasion for consumers to consider noodles besides rice in their main menu. This research studies consumer’s behavior of purchase noodles. Four predictors are discussed, which include pricing, promotion, distribution channels and health risks. The research was conducted in Jakarta, in November - December 2013. This study adopts descriptive and verification methods and data are analyzed using Structural Equation Modelling (SEM). The study identifies that consumers are neglecting their health risk and ignoring price factor in consuming noodles.

Keywords: food diversification, noodles, price, health risk, purchase behavior

1. INTRODUCTION

Rice is the primary source of carbohydrate in Indonesia. Many prefer to consume rice because it is easy to get and modify, and the taste is considered good (Nilawaty, 2012). Rice as primary food seems not replaceable. Indonesian people are commonly saying “I have not eat yet because I have not eat rice”. It is not surprising that Indonesia is recorded as a country with the highest number of rice consumers in the world. In average, one individual consumes 130 kilograms of rice per year (PNRI, 2013). The increase in rice consumption in Indonesia is in line with the increase in the number of populations (P2BN, 2013). These patterns affect the government to find an alternative to rice while at the same time put its effort to fulfill the consumer’s demand of rice (Mewa, 2013).

The government of Indonesia has tried to lower the number of rice consumption through its diversification food program and development of food industry (P2BN, 2013). An example for the diversification policy can be seen from the “no rice for a day” program aiming at finding alternatives for rice as a primary food (Aditya, 2012). In the last nine years, noodles are seen as an alternative among several (ICL, 2009). The high rate of noodles consumption is understandable due to its comparable values. Noodles is a practical, affordable, and it is available all over Indonesia. Moreover, the taste is more than acceptable to many Indonesians (Suwismo, 2013). These factors suggest that a noodle is a potential alternative to rice.

This study was conducted to determine the effect of attractiveness price, promotion, and distribution channels and influence of health risk aversion on purchase behavior of noodles. The objective of the study is to identify the most influencing factors to the consumers, so they are willing to purchase noodles repeatedly. In a context of food diversification, understanding the Indonesian people purchasing behavior of noodles can deduct to the possibility of noodles in becoming one of the primary foods in Indonesia.

This study references the customer purchase decision theory of Schiffman, et. al (2010) (Figure 1) where the decision making process is seen as three distinct but related phases from one another are the input phase, the process phase, and output phase. Input phase is introducing the product to the consumer, where the information comes from marketing efforts. The information are the product itself, price, promotion, and accessibility to the product. The process phase focuses on how consumer’s decision is made. The consumer’s decision is influenced by psychological factors that is inherent in every individual, and one of the factors is perception. The next phase is the output. The output consists of two activities, purchase behavior and evaluation. The evaluation of the product determines the decision in purchasing the same product in the future. The consumer’s decision to purchase the same product again indicates that the products are well accepted by consumers (Schiffman et.al, 2010).

Price. Price is the amount of money charged for a product, or the amount of the values that consumers exchange for benefits because of having or using the product or services (Garry, 2011). In other word, the price is a cost incurred by the consumer to obtain a desired product or services. Thus, in the process of purchasing, the price is a factor that influences how consumers perceive as a certain price; the high, low, fair will
have an influence on purchasing behavior and consumer satisfaction. Consumer’s perception on the price is generated by three types of reference. First, is pricing types informed to consumers. The types are low and fair, high and fair, and high and unfair. For consumers, low and fair price is within acceptable range market. High and fair price is at the maximum. While high and unfair prices are above the maximum limits of acceptable range of market prices. Consequently, the reference price will not be accepted by consumers and can affect consumers’ assessment of the credibility as well as credibility of the company (Schiffman et.al, 2010).

Research conducted by Ali (2011) in Pakistan informs that consumer’s purchasing behavior to eco-friendly products with competitive price and quality is higher than to the traditional products. It shows ‘price’ is always become consumers’ main considerations in purchasing, aside the quality of the product. Similarly to the research conducted by Hartono (2011) in Yogyakarta – Indonesia. The research focuses on meatballs consumers, and identifies that price perception is greatly influencing their purchasing decisions. The price perception relates to customers’ social class and income level, and Hartono claims that consumers who have more income will be easier to make a purchase meatballs.

The price perception is also applied to private label products, as stated by Jafaar (2012), through his research in Johor Bahru - Malaysia on consumers’ considerations in purchasing the private label products. Most of the consumers are very sensitive to the price, so in the buying process, consumers are ensuring to get the best value of their money. The ensuring effort begins prior to the purchase, that is indicated by comparing the price of similar product(s) consumers are willing to make a purchase if the products offered, were worth the money being paid.

Promotion. Shimp (2010), defines promotion as an integrated marketing communication as it is a process of marketing that requires planning, creation, integration, and implementation various forms of marketing communications (advertising, promotion, sales, publicity releases, events, etc.) to deliver information about the product to customers and prospective customers from time to time. The final purpose of integrated marketing communication is to influence the audience which has direct impact to the purchase behavior. Similarly to Shimp, Kotler (2006) definespromotion as total concept of advertising activities, personnel selling, events and experience, sales promotion, public relations, and direct selling used by the company to achieve the goals of advertising and marketing. These activities also called as marketing communication mix. At the same time, promotional activities will raise the image of the company, and companies with good image will have more advantage. In which their new products will be easily accepted by consumers rather than company with unfavorable or neutral image. Consumers usually have good perception towards the pioneer brands, even after other brandsare arising with the similar products. Hence, the positive perception of consumers toward pioneer brands will raise positive intention in purchasing (Schiffman et.al, 2010).

Research related to the promotion conducted by Sumarwan (2012) to primary school students in Bogor - Indonesia, informs significant influence between advertisement to children's intentions in purchasing snack products. The better impressions of the advertisement in presenting snacks on television the higher intention of the children in purchasing snack products.

Distribution Channels. Distribution channels are organizations that are dependence in delivering product and services to be used or consumed by the consumer or business user. The function of distribution channels is moving goods and services from producer to consumer. The transfer should address the gap of time, place, and ownership of goods or services between producers and consumers. In between producers and consumers there are intermediaries namely retailers who have direct contact to consumers (Garry, 2011). Retail stores have their own image that is influencing consumers’s perception on the consumers’ perception on quality of the products and services. In the end, this will help consumers in shopping decisions. Store image is derived from five aspects, first is the products and brands they sell; second the price offered; the capability of shop assistants; fourth is facilities and atmosphere; and lastly is the impression of consumers who visit the store (Schiffman et.al, 2010).

In regards to the consumer behavior Rusma’s study (2011) conducted in Bogor – Indonesia identifies that distribution strategy of the organic rice products is influencing consumers behavior. This One of the important aspects in distribution strategies that can influence consumer behaviour is outlets. Outlets should fulfill three elements and those are should be able to attract the consumers attention; comfortable and clean atmosphere as this will add more value to the consumers; and lastly is good layout to provide consumer convenience in choosing products that will be purchased. Additionally, retail stores need to be ready for delivery services, and to maintain the continuity of products’ availability. This will provide easy access to the consumers when they need the products In the end, this can increase consumers’ loyalty to the organic rice products and keep on purchasing.

Risk. The risk perception is defined as the uncertainties that are perceived by consumers, where consumers cannot foresee the consequence of the purchase decisions. Two things to highlight in the definition of the risk perception are uncertainty and consequences. One of the types of risks perceived by the consumers when deciding the purchase of a product is a physicality risk (Schiffman et.al, 2010). Physical risk is risks to self and others which could be caused by a product. Perceived risk in physical aspect by consuming noodles which was released by the media is the health risk (Wahyuningsih, 2013).

Research conducted by Hornibrook (2004) in Ireland confirms that issues of food safety and health are still a major concern in purchasing particular beef. However, the perception of risk can be reduced through consumer loyalty towards supermarket, where policy strategy of distribution channel strategy can reduce consumer perceptions of food safety risk.

Perception. Perception is a process conducted by an individual to select, organize, and interpret stimuli into a
picture that has meaning and make sense of what is seen in the vicinity. Two individuals, when receiving the same stimuli in the same conditions will produce different interpretations of what they saw, because the interpretation of stimuli is a very individualized process based on the needs, values and expectations of each individual. The impacts of a company’s marketing efforts are largely determined by consumer perceptions. So it is necessary to study whether the marketing messages from company to consumers are able to influence purchasing behavior or not (Schiffman et al., 2010).

**Purchase Behavior.** Purchase decision making perspective is to form objective through individual habit from time to time. It begins with collecting and analysing data carefully, that includes the consideration of risk (Salomon, 2011). In determining the purchase decision, consumers choices are based on perception of value attached to the product (Garry, 2011). The next step is the consumer’s purchase decision-making, that is represented by three types of purchase activities namely trial purchase, re-purchase and long term commitment purchase. Trial purchase is a phase of assessment behavior without commitment. At this phase, consumers are trying to evaluate products through direct consumption. If the purchasing experiment felt more satisfying or better than other brands costumers can repeat the purchase. Re-purchase behavior is closely related to the concept of brand loyalty. Re-purchase usually indicates that consumers are willing to consume the product again, committed to the products, and willing to use it again, in large quantities (Schiffman et al., 2010).

**Framework Analysis.** The framework analysis of this study is form of marketing mix factors (price, promotion, and distribution channels) and risks that interact with consumers perception thus forming a purchase behavior (Figure 1).

![Figure 1: A Simple Model of Consumer Decision Making](source: Schiffman, et al (2010))

**Note:** This research on purchase behavior towards noodles focuses on customers perception on promotion, price, distribution channels, and risk in relation with
Based on theoretical and objective, this study reveals several hypothesis, and those are (1) Consumer perceptions on price attributes affect to purchase behavior of noodles, (2) Consumer perceptions on promotion attributes affect to purchase behavior of noodles, (3) Consumer perceptions on distribution channels attributes affect to purchase behavior of noodles, (4) Consumer perception on health risk attributes affect the purchase behavior of noodles, (5) Consumer perceptions on the attributes of price, promotion, distribution channels, and health risks simultaneously affect the purchase behavior of noodles (Figure 2).

II. METHODS

Respondents

The study was conducted in November - December 2013 to 196 respondents who are consumers of noodles. Some of respondents are dwelled in geographical area of Jakarta, and some of them work or study in Jakarta and dwell in the surrounding area of Jakarta, namely Bogor, Depok, Tangerang, and Bekasi. The samples in this study are based on non-probability sampling. The selection of respondents was conducted using convenience sampling, in which respondents were selected because of their presence at the time and place where the research is being conducted.

Materials and Procedure

This research is explanatory research that is using descriptive and verification methods. In conducting descriptive research, the research is using cross-sectional design.

Data collected and analysed in this study is primary data. Pretest and research are two stages taken in the primary data collection. In pretest stage, the researcher collect data from 30 respondents who are consumer of noodles in Jakarta. The pretest is aimed to assess the validity and reliability of research instruments. Data collection techniques in this study are using survey and collection of primary data by questionnaires.

The research data were processed and analyzed using structural equation modeling (SEM). Parameter model estimation of strategy was two-step approach to conduct confirmatory factor analysis (CFA) and then translate the model in the flowchart (hybrid models).

Statistical analysis that is used to answer the research objectives are the t-test and F test. t-test was used to analyze the affect of price, promotion, distribution channels, and health risks on purchase behavior of noodles. Meanwhile, the F-test is conducted to analyze the most dominant factors in forming purchase behavior of noodles.

III. RESULTS

The affect of consumer perception of price attributes to purchase behavior of noodles

The t-test result of the price factor (t-test = 1.23<1.96) (Table 2) indicates no positive and significant relationship between consumer perceptions of the price attributes to purchase behavior of noodles (Figure 3). The t-test results of the price factor (t-test = 1.23<1.96) (Table 2) indicates a negative and significant relationship between consumer perceptions of the price attributes to purchase behavior of noodles (Figure 3). The study finds that price factor is a less attractive and not taken into consideration of the consumers in consuming noodles. The results show the biggest weighting coefficients factor in forming price is contributed by the indicator.
'affordable price' with weighting coefficient factor of 0.69. It shows that these indicators were the dominant indicator in measuring the price variable (Table 1). Then followed by indicator 'competitive - based price' with weighting coefficient factor of 0.52, indicator 'value - based priced ' with weighting coefficient factor of 0.55, and indicator 'the retail price of equal' to the weighting coefficient factor of 0.40 (Table 1).

The affect of consumer perception of promotion attributes to purchase behavior of noodles

The t-test results of the promotion factor ($t$-test = 3.61>1.96) (Table 2) indicates a positive and significant relationship between promotion to the purchase behavior of noodles (Figure 3). This study informs (Table 1) that the biggest weighting coefficient factors in forming promotion indicator is donated by ‘lotteries’ of 0.59. This indicates that ‘lotteries’ become the dominant indicator in measuring variable promotion. Then followed by indicator 'entertainment event' with weighting coefficient factor of 0.50, indicator 'media advertising’ with weighting coefficient factor of 0.45, indicator 'sports event’ with weighting coefficient factor of 0.52, and indicators 'billboard' with weighting coefficient factor of 0.47. This study finds that promotion becomes an attractive factor to consumer in purchasing and consuming noodles. Hence, by increasing promotion programs, particularly ‘lotteries’, will attract consumers to consume noodles.

The affect of consumer perception of distribution channels attributes to purchase behavior of noodles

The $t$-test results of the distribution channel factor ($t$-test = 2.93>1.96) (Table 2), this indicates a positive and significant relationship between distribution channels to purchasing behavior of noodles (Figure 3). Result of the study finds that the distribution channel is an attractive factor for consumer to consume noodles. The biggest weighting coefficient factor in forming the distribution channel is donated by ‘institutional’ of 0.71. This indicates that the ‘institutional’ is dominant in measuring the distribution channels variable. Then followed by indicator 'convenience’ with weighting coefficient factor of 0.65, indicator 'strategic location' with weighting coefficient factor of 0.63, the indicator 'clientele’ with weighting coefficient factor of 0.59, the indicator 'price discount' with weighing coefficient factor of 0.59 and indicators 'department store’ with weighting coefficient factor of 0.42 (Table 1). Therefore, expanding the distribution network, particularly that has a good institutional, will develop the consumer’s interest in consuming noodles.

The affect of consumer perception of health risk to purchase behavior of noodles

The result of $t$-test ($t$-test = 2.50>1.96) (Table 2) informs that consumers ignore health risk factors in deciding the purchase of noodles. It means there is a significant and negative relationship between perceptions of health risk to purchase behavior of noodles (Figure 3). The biggest weighting coefficient factor in forming indicator of health risk is donated by ‘hypertension, heart, and kidneys’ by weighting coefficient factor of 0.96. This indicates that these indicators are the dominant indicators in measuring health risk. Then followed indicator ‘pain and headache’ with weighting coefficient factor of 0.93, indicator ‘weakens the immune system’ with weighting coefficient factor of 0.86, and indicators 'metabolic disorder' with weighting coefficient factor of 0.78 (Table 1). This study shows that consumers neglect and ignore the health risk to consume noodles.

Dominant factor in forming purchasing behavior of noodles

The result of the structural equation (purchase behavior = 0.094 price + 0.36 promotion + 0.26 distribution channels + 0.19 risk + 0.63) and the $F$-test is resulting ($F$-table = 7.53>2.41). Thus, the study informs that consumers purchase behavior of is affected by price, promotion, distribution channels and neglecting risk simultaneously, with 37%, while the remaining 63% affect of other factors are not addressed in this research model. From the estimation of structural equation, it is known that promotion is the most dominant factoring in driving purchase behavior of noodles. In other word, promotion is the most attractive factor for consumer to consume noodles. The most dominant coefficient of promotion program in endorsing consumers to consume noodles is lotteries. Therefore the more effective lotteries program is being implemented will increase repeat purchase of noodles in Indonesia.
Table 1: Confirmatory Factor Analysis

<table>
<thead>
<tr>
<th>Construct</th>
<th>Indicator</th>
<th>Coefficient weighting factor</th>
<th>Measurement error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>Value – based pricing</td>
<td>0.55</td>
<td>0.44</td>
</tr>
<tr>
<td></td>
<td>The retail price of equal</td>
<td>0.40</td>
<td>0.70</td>
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<tr>
<td></td>
<td>Affordable price</td>
<td>0.69</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>Competitive – based pricing</td>
<td>0.52</td>
<td>0.23</td>
</tr>
<tr>
<td>Promotion</td>
<td>Billboards</td>
<td>0.47</td>
<td>0.69</td>
</tr>
<tr>
<td></td>
<td>Media advertising</td>
<td>0.45</td>
<td>0.42</td>
</tr>
<tr>
<td></td>
<td>Lotteries</td>
<td>0.59</td>
<td>0.61</td>
</tr>
<tr>
<td></td>
<td>Sport events</td>
<td>0.52</td>
<td>0.64</td>
</tr>
<tr>
<td></td>
<td>Entertainment events</td>
<td>0.50</td>
<td>0.46</td>
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<tr>
<td>Distribution channel</td>
<td>Clientele</td>
<td>0.59</td>
<td>0.51</td>
</tr>
<tr>
<td></td>
<td>Convenience</td>
<td>0.65</td>
<td>0.43</td>
</tr>
<tr>
<td></td>
<td>Institutional</td>
<td>0.71</td>
<td>0.31</td>
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<tr>
<td></td>
<td>Discount price</td>
<td>0.59</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td>Strategic location</td>
<td>0.63</td>
<td>0.56</td>
</tr>
<tr>
<td></td>
<td>Department store</td>
<td>0.42</td>
<td>0.62</td>
</tr>
<tr>
<td>Risk</td>
<td>Metabolic disorders</td>
<td>0.78</td>
<td>0.51</td>
</tr>
<tr>
<td></td>
<td>Weaken the immune system</td>
<td>0.86</td>
<td>0.26</td>
</tr>
<tr>
<td></td>
<td>Pain and headache</td>
<td>0.93</td>
<td>0.92</td>
</tr>
<tr>
<td></td>
<td>Hypertension, heart attack, and kidneys</td>
<td>0.96</td>
<td>0.14</td>
</tr>
<tr>
<td>Purchase behavior</td>
<td>Taste</td>
<td>0.54</td>
<td>0.62</td>
</tr>
<tr>
<td></td>
<td>Size</td>
<td>0.54</td>
<td>0.51</td>
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<tr>
<td></td>
<td>Practice</td>
<td>0.56</td>
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<td></td>
<td>Price fairness</td>
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<tr>
<td></td>
<td>Availability</td>
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<td>0.29</td>
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<tr>
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<td>Brand equity</td>
<td>0.47</td>
<td>0.63</td>
</tr>
<tr>
<td></td>
<td>Company image</td>
<td>0.50</td>
<td>0.53</td>
</tr>
</tbody>
</table>

Table 2: Structural Parameter Estimates of Purchase Behavior Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficient of regression</th>
<th>Statistically significant</th>
<th>Measurement error</th>
<th>Coefficient of determination (R²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price → purchase behavior</td>
<td>0.094</td>
<td>1.23 &lt; 1.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promotion → purchase behavior</td>
<td>0.36</td>
<td>3.61 &gt; 1.96</td>
<td>0.63</td>
<td>0.37</td>
</tr>
<tr>
<td></td>
<td>0.26</td>
<td>2.93 &gt; 1.96</td>
<td></td>
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</tr>
</tbody>
</table>
IV. DISCUSSION

The study finds that price does not affect the perception of consumer to consume noodles ($t$-test $= 1.2 < 1.96$), whereas according to Schiffman et al. (2010) purchasing decisions and customer satisfaction is influenced by how consumers view a certain price; high, low, and fair. This is possible because when viewed in the general prices of noodles are relatively very cheap compared to the price of other carbohydrate food, additionally the competition among producers of noodles are relatively subtle. With that being said, consumers feel comfortable with the current price policy of noodles, and price is far less exciting factor to be taken into consideration for consumer to consume noodles. However, consumer perceptions of price will affect the purchase behavior of noodles when interact with consumer perceptions of promotion, distribution channels and neglectation of health risk (Figure 2). Therefore, producers of noodles should continue its program price policy as practiced currently that consumer interested in to consume noodles.

This study informs that consumer perceptions of the promotion is the dominant factor or have major attraction that drives consumer to consume noodles ($t$-test $= 3.61 > 1.96$). The more effective and focussed the promotion, through lotteries, will increase the repetitive purchase behavior of noodles. In doing promotion, producer could use the marketing communication mix to increase the effectiveness of promotion program (Kotler, 2006). The marketing communication mix should synergize various attributes of other promotion media such as entertainment event, media advertising, sports event, and billboard.

The study also indicates that perception of distribution channel is able to drive consumer to consume noodles, because distribution is increasing the availability of products so that consumers can be easily purchase the goods as needed (Hawkins, 2010). Following to that increasing an extensive and effective network and distribution channels, particularly in the food distribution network as good institution will increase the attractiveness of noodles so that consumers will purchase it repeatedly.

The study also indicates that consumers neglect or do not care about the issue of health risks due to consuming noodles. This finding is different with Schiffman, et al. (2010) theory that states consumers perception of risk and their tolerance of risk decision making are influencing the purchase strategy. Consumers neglectation to the risk factors that could be dangerous to their health after consuming noodles, indicates that consumers have a very strong values towards noodles. This is confirmed by consumers perception of noodles flavor that is suit to consumer tastes, right size, practical processing, reasonable prices, availability anywhere, has brand equity, and produced by company with good image. The practical implications of these findings is the producers of noodles do not need to worry about the health risks that is become a circulating issues in media, because the issue is not influencing consumers in continuing the consumption of noodles.

Although the issue of health risks is being neglected by consumers but phenomenon that is rising is global food security. To this issue, consumers is considering health and environment as important and priority aspect in their lifestyle. Thus, producer of noodles should be aware of food security issues, and in anticipation this situation the producers should build infrastructure that is integrating food security system.

Even consumers unaware on their health risk, it is the government mandate to protect their citizen from situations that are threatening their health. Therefore the government should actively control the ingredients and production process of noodles.

Finally, this study demonstrates that promotion is the most attractive factor for consumer of noodles in driving purchase behavior repeatedly. Noodles are highly potential to be used as an alternative diversification of primary food in Indonesia if producers were able to influence consumers to change the consumption of rice to noodles through marketing communication mix program. Furthermore, this finding also endorses producer of noodles to create simultaneously programs between price, promotion, distribution channel, and neglecting health risk.

REFERENCES


