The role of product attributes in forming consumers perception of local packed drinking water brand in Langsa City

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Abstract. The study aims to analyze the role of product attributes of local packed drinking water (AMDK) brand in forming consumers perception of the product. Local AMDK commonly circulating in Langsa City today is the brand of Tari. Product attributes in this study include product quality, brand image, and packaging design. Respondents are consumers who have consumed local brand AMDK, amounting to 153 people selected using accidental sampling. Multiple linear regression technique was used to analyse data. The results showed that product quality, brand image and packaging design had positive and significant influence, either partially or simultaneously, to consumers perception on local brand AMDK. Furthermore, product quality is the dominant variable affecting consumers perception. Thus, local AMDK companies are recommended to continue to improve the quality of the products offered to the market. In addition, efforts to improve a positive brand image and attractive and memorable packaging design into the minds of consumers also need to be done in order to compete with national competitors.

1. Introduction
The market for packed drinking water (AMDK) products is currently considered very promising, where clean water as a source of life begins to become an economic good and raises profitable potential. In Indonesia, based on data from ASPADIN (Asosiasi Pengusaha Air Minum Dalam Kemasan), there are currently around 900 AMDK producers with more than 2,000 brands, both national and local, both foreign and domestic players, competing in national market [1].

"Tari" as local AMDK product in Langsa City consist of two packed types, that is the glass and plastic bottles. Based on the interview results with business manager, several efforts have been made related to marketing strategies to support the superiority of product attributes. First, "Tari" claims that it is suitable for consumption and safe for human health because it is produced using a reverse osmosis system for water purification and had passed the Indonesian National Standard (SNI) coded 01-3553-2006 regarding the quality standards of AMDK issued by BPOM-RI. Secondly, "Tari" has also passed a special beverage packaging test carried out by BPOM-RI and certified on No. 265201002012. Thirdly, "Tari" have obtained halal certification by LPPOM MPU Aceh with certificate number of 14120000811015. These acknowledgments are expected to strengthen the product attributes on “Tari”
in shaping positive perceptions of its customers, and are able to compete not only with national-scale, but also with local scale producers of AMDK in the Aceh Province and Langsa City regions.

This study aims to analyze how product attributes possessed by "Tari" as a local brand of AMDK in Langsa City influence consumer perception of the product. In this study, product attributes reviewed include product quality, brand image, and packaging design. The results obtained in this study are useful for the local AMDK producers in designing the right product attribute strategies in order to form positive perceptions in the minds of consumers so that they become the loyal customers of their products.

Product attribute is defined as everything that is attached to the product and gives an identity to the product, in which the elements are considered important by consumers and used as a basis for decision making [2,3]. Product attributes communicate the benefits that the product has for consumers, and these benefits can be the identity that distinguishes the product from similar products belonging to its competitors [4,5]. Some elements of product attributes considered important in influencing consumers' perceptions are product quality, brand image, and packaging design [6,7]. Some results of the study found that, in unite, product attributes and their elements are important to generate positive perception in consumers to choose and use a product [8,9]. Therefore,

H1: Simultaneously, the elements of product attribute have a significant influence in forming the consumers perception on local packed drinking water brand in Langsa City.

The first element of product attributes is product quality, namely a combination of all the characteristics of goods and/or services that support the ability of a product to carry out its functions so as to meet or exceed the expectations of its users [10,11]. Quality that is considered good will build a positive perception in consumers to trust the product, thereby strengthening the buying decision on the product [3,12]. Previous studies found product quality significantly creates a positive perception that enhances trust in consumers and influences the purchasing decisions made on the product [13-16]. Therefore,

H2: Partially, product quality has a positive and significant influence in forming the consumers perception on local packed drinking water brand in Langsa City.

Brand image, as the second element, is a sign, symbol, symbol, term, specific design, or combination thereof, which is intended to provide an identity for a product and differentiate it from the competitors’ products [17,18]. Brand image can direct consumers' perceptions of a product, and subsequently stimulate actual buying behavior by consumers [19,20]. Previous studies state brand image plays a positive, direct and significant role to build awareness in customer’s mind, and then significantly enhances consumer trust and loyalty for the product concerned [13,21,22]. However, Setiawan and Suryani found that brand image does not significantly affect purchase intention, which is assessed because brand image of the product analyzed is unable to create a strong perception in the minds of consumers who are considered more influenced by the consumption habits of their family [23]. In this study, the idea raised is,

H3: Partially, brand image has a positive and significant influence in forming the consumers perception on local packed drinking water brand in Langsa City.

The last element analyzed is packaging design. Packaging design relates to the strategy of designing and manufacturing containers or wrapper for a product [24]. Packaging can also be interpreted as an effort to ensure the safety of products to get to consumers in good condition at minimal cost [25]. Furthermore, packaging that is designed in an interesting, informative and easily recognizable manner will be useful as a product identity support [7,26]. Especially for food or beverage products, packaging design has an important role in ensuring high hygiene aspects of a product [27,28]. The results of previous studies found a significant influence from packaging design toward the consumers’ perception to have confidence in buying a product [29-32]. Therefore,

H4: Partially, packaging design has a positive and significant influence in forming the consumers perception on local packed drinking water brand in Langsa City.
2. Research method
The object of this exploratory research is “Tari”, one of the local brand of packed drinking water (AMDK); with a research site in Langsa City. The object is choosing due to the brand is an AMDK pioneer in site, has several certifications related to the supervision of beverage products (i.e., SNI, BPOM-RI special tests, and halal recognition from LPPOM Aceh) as its advantages, and currently based on observations is identified having a larger market share in the research site compared to other local brands in Langsa City.

Secondary data was obtained through questionnaires, and supported by interview results. Before being distributed, the questionnaire was tested for the degree of validity and reliability in 20 people who were not the main respondents of this study. Validity test results show the significance value of Pearson correlation for each indicator of all variables is smaller than α (0.05); while the reliability test results show the Cronbach alpha value for each variable is greater than 0.6. Based on these results, the research questionnaire was stated to meet the criteria of valid and reliable, and could be used as a primary data collection instrument [33,34].

The population was consumers who had consumed "Tari" at least twice, both packed types of glass or plastic bottles. Because the number of population members is uncertainty, then the number of samples is determined as a minimum of 150 people. Respondents were selected using accidental sampling technique, so as to provide equal opportunities for all members of population to be sampled [35].

In its implementation, the number of questionnaires distributed was 160 copies. The deployment process was carried out at five medium-scale retail stores in Langsa City. Questionnaires were given to respondents who were willing to be filled in and returned immediately to the researcher, so that a response rate of 100 percent was reached. After being evaluated, however, there were seven copies that were inadequately filled so that they were ignored, and there were 153 final respondents. The results of the questionnaire were then tabulated, and used for the data analysis process.

Multiple linear regression that used as data analysis method, aims to examine the relationship between three independent variables and one dependent variable in this study [35]. Independent variables include product quality (X1) as measured by four indicators; brand image (X2) with four indicators; and, packaging design (X3) with four indicators. The dependent variable is consumer perception (Y), which is measured by four indicators. Partial hypotheses were examined using t-test, while simultaneous hypothesis was examined using F-test [33]. Data analysis process assisted by SPSS software ver. 20 for Windows.

3. Results and discussion
3.1. Classic assumption tests
Normality test aims to test whether both the independent and dependent variables in the research model have a normal distribution or not [36]. Figure 1 shows the test results that the data of all variables are normally distributed because it spreads around and follows the direction of the diagonal line, so the research regression model is stated to fulfill the assumption of normality [33,36].

Heteroscedasticity test aims to examine whether there is a difference in residual variation between one observation and another observation [36]. Figure 2 shows the test results that there are no clear patterns and the points spread above and below the null (0) on the Y axis, so the regression model is declared not to experience heteroscedasticity [33,36].

Multicollinearity test aims to test whether there is a correlation among independent variables [36]. Table 1 shows that each independent variable has a value of Tolerance close to 1 (or > 0.5) and VIF around the number 1, so the model is declared not to experience multicollinearity [33,36].

Autocorrelation test aims to examine the possibility of a correlation between errors in period t with a period error of t-1. Table 2 shows the value of Durbin-Watson of 1.865 or between -2 to +2, so that the regression model of this study was declared to have no autocorrelation problem [33,36].
Figure 1. Result of normality test.

Figure 2. Result of heteroskedasticity test.

Table 1. Coefficients of multiple regression analysis

| Model | Coefficientsa | Coefficientsb | Model Summaryb |
|-------|--------------|--------------|----------------|
|       | Unstandardized Coefficients | Standardized Coefficients | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|       | B | Std. Error | Beta | t | Sig. | Tolerance | VIF | |
| 1 (Constant) | -0.531 | 0.334 | -1.590 | .113 | |
| X1 | 0.892 | 0.077 | .766 | 10.193 | .000 | .610 | 1.639 |
| X2 | 0.255 | 0.062 | .186 | 4.095 | .000 | .894 | 1.118 |
| X3 | 0.782 | 0.081 | .548 | 9.618 | .000 | .567 | 1.763 |

a. Dependent Variable: Y

Table 2. Model Summary of multiple regression analysis

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|---|----------|-------------------|---------------------------|---------------|
| 1 | 0.674a | .455 | .449 | .39876 | 1.865 |

a. Predictors: (Constant), X3, X2, X1
b. Dependent Variable: Y
3.2. Regression analysis
Table 3 shows the constant value of -0.531 which states that if the company does not respond through changes in strategy related to product quality, brand image and packaging design, then the consumer has a negative perception on the local brands of AMDK product in Langsa City. Furthermore, Table 3 shows that the independent variables (X1 = 0.892; X2 = 0.255; X3 = 0.782) in the research model have a positive influence [33,34]. This means that if the company upgrades the strategy of one of product quality, the brand image and packaging design, it will enhance the positive perception of consumer on the product. On the contrary, if the company lowers the strategy standard related to these independent variables, it creates a negative perception from consumer on the product. Furthermore, product quality is a variable predominantly influences consumers' perceptions on the local brands of AMDK in Langsa City.

3.3. Coefficient of determination
Table 2 shows the value of Adjusted R Square of 0.449, which means that the independent variables in this research model have a contribution of 44.9 percent in explaining variations or changes that occur in the consumer perception on the local brands of AMDK product in Langsa City; while the remaining 55.1 percent is explained by other variables not included in this research model [34,36].

3.4. Hypotheses testing
Table 3 shows the results of F-test where the value of Sig. F (= 0.000) is smaller than α (0.05). This means that the independent variables in this research model have a significant simultaneous effect on the dependent variable [33,35]. Thus, the first hypothesis (H1) can be verified.

| Table 3. ANOVA of multiple regression analysis. |
|------------------------------------------------|
| Model         | Sum of Squares | df | Mean Square | F     | Sig. |
|----------------|----------------|----|-------------|-------|------|
| 1 Regression | 39.283         | 3  | 13.094      | 82.350| .000 |
| Residual      | 47.066         | 149| .159        |       |      |
| Total         | 86.349         | 152|             |       |      |

a. Predictors: (Constant), X3, X2, X1
b. Dependent Variable: Y

Lastly, the results of t-test in Table 1 shows that all the independent variables in this research model have the value of Sig. t (X1 = 0.000; X2 = 0.000; X3 = 0.000) which smaller than α (0.05). This means that each independent variable, namely product quality, brand image and packaging design, has a significant partial effect on the dependent variable [33,35]. Thus, the second to fourth hypotheses (H2, H3 and H4) can be verified.

3.5. Discussions
The results of regression analysis in Table 1 show that product quality has a positive influence (X1 = 0.892) and significant (Sig. T = 0.000) in building a positive consumer perception on the product. The results of this study support the previous findings which state that there is a positive and significant relationship between product quality and consumer perception [13-16]. Furthermore, Table 1 also identifies that product quality has the most influence on consumer perception compared to brand image and packaging design as elements of product attributes. These results remind local AMDK producers to always prioritize quality aspects in the products they offer to the market. If the consumer judges that the quality of a product meets or even exceeds expectations, he can become loyal and continue to consume the product. Quality aspects also become increasingly important when the product offered is a type of food or drink, because it is closely related to the health of human life [27,28]. The success of producers...
to maintain the quality of their products on an ongoing basis is one of the main competitiveness when fighting in the market, but it is a formidable challenge and requires very hard effort to achieve.

Based on Table 1, brand image showed has a positive ($X_2 = 0.255$) and significant (Sig. t = 0.0000) effect related to efforts to build a consumer perception on the product. The results of this study reinforce the results of previous studies which argue that brand image has a positive, direct and significant influence toward the consumers perception [13,21,22]. However, the results are different from the findings of Setiawan and Suryani who found that brand image does not have a significant influence on consumer perception [23]. Based on the results of this study, AMDK producers, especially those who are local, must be able to create a brand that is able to provide a strong identity for the product and be able to differentiate it from competitor products [17,18]. Brand image also has an influence in shaping or changing the behavior of consumers [4,7,19]. Local-scale AMDK producers have greater limitations to compete than those on a national or international scale, so that local producers must be able to reach certain market niches that are considered to be able to maintain business sustainability in the medium or long term. Some efforts related to brand image that can be done by local producers such as emphasizing regionalism in product brand design, embedding certain lifestyle images, or involving regional celebrities to become product icons.

The results of the analysis in Table 1 state that packaging design ($X_3 = 0.782$) is the second priority that consumers consider in building their perception on products. The test results confirm that the influence of packaging design on the consumer perception is significant ($0.000 < \alpha = 0.05$). The results of this study broaden the findings of Harminingtyas, Rebollar, Becker and Nuryanti and Rahman which stated that packaging design has a positive and significant influence on consumer perceptions [29-32]. These results provide a reference for local brand AMDK producers that the packaging design strategy must be done carefully and take into account the possibility of market response. Packaging can provide an identity for the product so that it is easily recognizable and attractive to consumers [7,26]. Especially if the local products offered include food or beverages, the packaging design is the main protector that guarantees the hygiene of the product [27,28]. AMDK is a type of beverage product that has high hygiene standards and must meet quality standards for proper and healthy human consumption.

In addition, local governments can also support local AMDK products through the provision of facilities related to product quality assurance and in collaboration with BPOM or LLPOM MPU. This form of support can also be in the form of promoting these products through government-owned technology networks or by including them in exhibition events both locally and nationally-scale. Subsequent researchers interested in similar topics can carry out developments such as incorporating other variables (price or product display/layout), deepening as categorizing brand images into sub-variables, or conducting similar tests on different research locations different or on other local products. Thus, a broader and more comprehensive understanding will be obtained regarding the creation of competitiveness of local products in the future.

4. Conclusion
Based on the results of study, it is concluding that product attributes (i.e: product quality, brand image, and packaging design) are positively and significantly influence the consumers perception on “Tari” as the local brand of packed drinking water (AMDK) in Kota Langsa, both partially and simultaneously. Moreover, product quality is a variable that plays a dominant role in forming a positive perception from consumers on the product. However, the coefficient of determination shows that the variables analyzed in the study have relatively low contributions in explaining variations that occur in the perception of consumers.

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