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A Model on Creating Stability on the Price of Fish and Fisheries Product through Brand Image: a Case Study from Kei Islands, Indonesia

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Abstract:
Fisheries as also shows on agriculture commodities tend to have inelastic demand price, one of the reason is because the degree of substitution of fisheries product is high especially for consumption. In addition to another factor like the consistency of quality and supply of the product, price fisheries commodity especially in rural area is not stable. This research aims to form model to create as stability on the price of fisheries commodity. We conducted this research on Kei Islands, Indonesia with 224 respondents by survey and using Structural Equation Modelling (SEM) as the analysis method. The result showed that brand image had positive direct and indirect effect on customer price perception with product knowledge as the control variable. This result implied that through brand image, the price of fisheries commodity especially in rural type area can reduce the instability of demand price by put more attention on maintaining brand image attribute likes, cleanness, freshness, and quality and supply of the product while at the same time educate the customer the advantage of fisheries product compare to its substitution product.

Keywords: Price, Brand Image, Product Knowledge, SEM

1. Introductions

The elasticity of demand for food varies greatly among countries. For low-income countries, increases in income will follow by the proportional increases in its people expense on food, whereas for high-income countries, demand elasticity is much lower (Lem et al. 2014). Unlike electronics product, fisheries product tends to have a wide and complicated problem regarding price stability especially in a rural area in development country. Most of the fishermen and aquaculture farmer in Kei Islands Indonesia are micro-enterprises who run their business based family, which are the main supplier of fisheries product in this area and consider the volatile of demand price, the economic prosperity of fishermen and aquaculture farmers in the area still barely makes it at an average rate. There are many factors that influence the price of fisheries product likes customer tastes and preferences, customer income, a price of related items, customer expectations (Zugarramundi, et al 1995).

Brand image is the way to increase the familiarity and positive association of fisheries product in the eyes of the customer. Focus of branding research has been about customers' associations and their beliefs about the attributes of the brand (Keller, 1993) what it means for fisheries product in the rural area is to focus on consistency of their quality and quantity. Word of mouth can provide information om how customer preferences on quality indicators of fisheries product which so far are cleanness, freshness, and quality and supply of the product. Increase the knowledge of the product can also increase the brand image through the positive perception of the product (Tsai, 2007). Fisheries Product has an advantage compared to another type of meat especially related to the nutrient, where consumption of fish provides energy, protein and a range of essential nutrients. Eating fish is part of the cultural traditions of many, and in some populations, fish and fishery products are a major source of food and essential nutrients (FAO, 2013). These advantages can be a way of decreasing the rate of substitution to other product.

By increasing the brand image and educate the customer on the attributes of fish and fisheries product are ways that we believe can increase stability on the price of fisheries. On this paper, we were trying to form a model to decrease the high fluctuation of fish and fisheries product, consider the important of the competitive price to the welfare of fishermen and aquaculture farmers in this area, we hope the outcome of this research can contribute directly to the increase on profitable and can be sustain in long run.

2. Literature Review

2.1. The Relationship among Brand Image, Product Value, and Customer Price Perception
Price is one of the real indicators of how much the sacrifice of customers to get the desired product. The greater sacrifice given by the customer on a product means the higher quality own by the product (Grewal, et al. 1998). When a customer has good experience on

product and service that they have used in the past, it will tend to create a positive association and the existence perception of a customer to the quality of the product and service which can lead to customer satisfaction and customer loyalty. A positive brand image of product and service means that the particular products and services have good quality (Severi and Ling, 2003). Basic needs of the customer are also one of the factors that can increase the value of the product. Agricultural products including fish and fisheries product are more likely to have inelastic demand (Roberts and Schlenkera, 2013), although it may differ through the year, especially in rural area, depends on the seasoning. Therefore, the first hypothesis in this research can be seen as follow:

➢ H1a: Brand image will have positive and significant effect on value of the product
➢ H1b: Brand image will have a positive and significant effect on Favorable Price Perception by Customer of Fisheries Product.

2.2. The Relationship between Product Value and Customer Price Perception
In the marketing study, a difference on the quality of service and product that is provided by the seller compare to the customer expectation will contribute to high possibility customer uncertainty. This uncertainty will have a negative effect on the level of expectation from customers on the performance of the seller and it will be reflected from the price paid by customers on the service and product (Mattila and O'Neill, 2003; Han and Ryu, 2009). The price is also a measure of the performance of the service and product offered the sellers to customers (Varki and Colgate, 2001). Zeithaml (1988) proposed that the price is what is given up or sacrificed to obtain a product, moreover, Han and Ryu (2009) share price into two parts are the objective price is the actual price of a product and the second is the perceived price felt by customers on the product. On the fisheries products and food products in general customers do not remember the actual price of the product but customers more likely to remember the price felt whether worth or not so that in this research perception price used compared with the actual price.
Based on the concept of value pricing system, the value of a product will increase when the price lower (Dodds et al. 1991). However, when customers associate price with the quality product and brand equity will inversely with the price (Yoo et al. 2000). In fishery products embraced the concept of pricing system value where the value of the product is high when prices are low. Thus, the second hypothesis in this research is as follows:

➢ H2: Value of the product will have positive and significant effect on Favorable Price Perception by Customer of Fisheries Product

2.3. Role of Product Knowledge on Customer Price Perception
Product knowledge is the result of the accumulation of customer experience manifested in customer perception of the product (Tsai, 2007). In relation to the fisheries products, product knowledge related to familiarity, experience, and understanding on fisheries products purchased by customers. The level of customer responsively on the increase of the strength of a brand or product can be influenced by the knowledge customers (Lacey, et al. 2010). To have comprehensive knowledge on the product, customers first understand usability and attributes of the product (Gursoy, 2003), for fisheries products, knowledge gives a positive image to the fisheries products so that will be a positive effect on the customer the willingness to pay.
Product knowledge can be divided into three parts are subjective knowledge namely customer perception on how many customers know about the product, objective knowledge that customers who actually knows and experience-based knowledge is the rate of experience in using the product in the past (Brucks, 1995). Knowledge of customers on a product will make it easier for them to decide their behavior towards the purchase because customers use the information to facilitate the decision-making process (Rao and Sieben 1992). The results of research were done by Rao and Monroe (1988) showed that customers with the high and low knowledge use price as a quality indicator of a product and vice versa for customers who have average knowledge. Therefore, customers who have adequate knowledge have inelastic demand in the sense that the knowledge of the product has a positive impact on the price offer by the seller and it means brand image and the value of the product will increase, therefore the third hypothesis in this research can be seen as follow:

➢ H3a: Product Knowledge will control the influence of brand image and product value on Favorable Price Perception by Customer of Fisheries Product
➢ H3b: Product Knowledge will have positive and significant effect on Favorable Price Perception by Customer of Fisheries Product
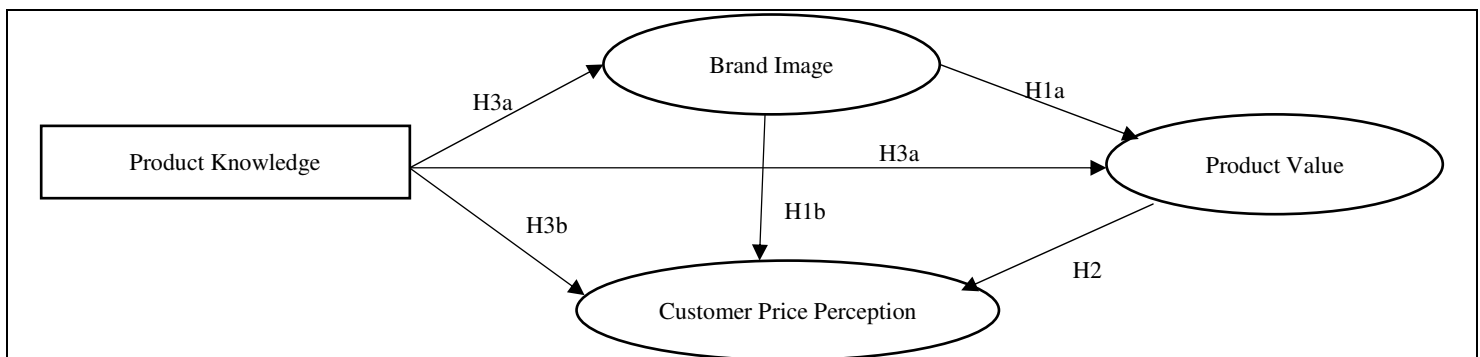

Figure 1: Conceptual Framework

3. Research Methodology

In figure 1 can be seen the conceptual framework of this research, we want to build a model of bargaining power on the price of fisheries products with analyzing the role of product knowledge and brand image in strengthening the selling price of fishery products which known to have a volatile price bargaining power. Product knowledge is a variable control for brand image and product value and also measured the direct effect on the customer price perception. A confirmatory factor analysis (CFA) was used to assess the measurement model and to test data quality, including reliability and construct validity checks. Structural equation modeling (SEM) was conducted to assess overall fit of the proposed model and test hypotheses.

3.1. Sample and Procedure

Data collected by a survey conducted in two locations that Tual City and Southeast Maluku Regency, Indonesia. Where respondents' choice based on those who are familiar with fisheries commodity and have done purchased on fisheries product for minimum 3 to 5 times in order to get comprehensive assessment related to the matter on this paper. A total of 224 valid questionnaires collected and the profile of the samples. Where over 34.4 percent are 20-30 years old and 63.6 percent are over 30 years old while over 71 percent of respondents are female and 29 percent are male with over 81 per cent have, monthly revenue is between IDR 1 million to IDR 4 million. Data from dependent and independent variables war collected from the same respondents.

3.2. Measurement

We use scales to employ on measured the constructed included in the model. Five Likert scales were used (1 = strongly disagree and 5 strongly agree). All items from this paper was using previous researchers with some adjustment where brand image was measured by four items adapted by study from Wu et al. (2011) and for product value measured by four items adapted from study by Zeithaml (1998) while customer price perception measured by three items adapted from study by Han and Ryu (2009), for product knowledge we used to study from Lacey et al. (2010) as the main preference.

4. Results

4.1. Reliability and validity test

On Table 1 below can be seen confirmatory factor analyses (CFA) which performed by use AMOS 21, CFAs of the multi-item scales produced an acceptable fit where CFI 0.959; GFI 0.933; AGFI 0.897; RMSEA 0.059; PCLOSE 0.207. All factor loadings were above 0.5 and were statistically significant. In addition, the average variance extracted (AVE) and composite reliability (CR) values were greater than 0.5 and 0.7 respectively and CR also was above the threshold.

4.2. Structural model and Hypothesized Paths

Structural model used as the based for Hypotheses tested. The fit of the model measurements was well above the threshold indicated that the conceptual model fits well (CFI 0.972; GFI 0.48; AGFI 0.918; RMSEA 0.051 and PCLOSE 0.452), so it provides a good basis for testing the hypothesized paths. The parameter estimates were assessed using the maximum likelihood estimation. Figure 2 presents standardized path coefficients and t values for the proposed conceptual model. Results showed that All hypotheses on this paper were accepted (See table 2).

Variables	Factor Loadings	AVE	CR
Brand Image		0.507	0.804
BI1	0.645		
BI2	0.724		
BI3	0.758		
BI4	0.714		
Product Value		0.544	0.826
PV1	0.720		
PV2	0.760		
PV3	0.750		
PV4	0.718		
Customer Price Perception		0.758	0.511
Prc1	0.690		
Prc2	0.727		
Prc3	0.726		
Product Knowledge		0.556	0.712
Know1	0.819		
Know2	0.664		
All factors loading p < 0.05			

Table 1: Reliability and validity test
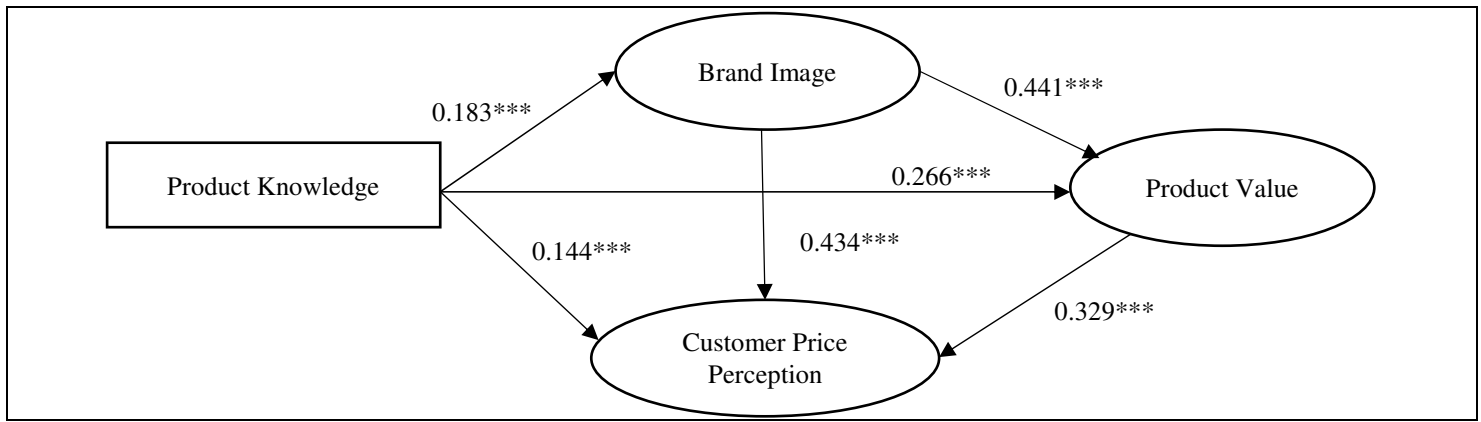
Figure 2: The Path analysis
***Significant on 5%

Structural Path	Coefficients	P value	Decision
Brand Image → Product Value	0.441	0.000	H1 Supported
Brand Image→ Customer Price Perception	0.434	0.000	H2 Supported
Product Value → Customer Price Perception	0.329	0.000	H3 Supported
Product Knowledge → Brand Image	0.183	0.001	H4a Supported
Product Knowledge → Product Value	0.266	0.036	H4b Supported
Product Knowledge → Customer Price Perception	0.144	0.016	

Table 2: Hypothesis test

5. Discussions

The role of brand image in strengthening the customer willingness to pay has been backed by the research done by Brucks (1995), according to Hogan (2005) brand image is an association of all the information available about the products and services of the company from the particular brand, when customers have information related to quality attributes of the product it will increase the level of customer readiness to pay. The amount of money paid by customers on a product will be dependent on the positive or negative association of customer on the product, in addition, brand image from fishery products, in general, depends on many factors including the season, location and sales attributes.

The more positive association of customers on the image of a product will increase the value of the product, where Cretu and Brodie (2007) proposed that brand image will increase the value of a product and it will increase their wiliness to pay more. The results of this research showed that the brand image improve customer price production directly also with the mediation of product value, this result showed fishery products have the ability to reduce the level of volatility by improving the brand image of the product.

The product value gives positive encouragement to customers in order to want to pay more. However, fisheries products for domestic consumption, in particular, face an obstacle because the level of product substitution for its product is widely available such as meat from a cow, sheep, and chicken. In order to address this issue based on the result of this research, product knowledge can be the key to reducing the tendencies to switch from customer to other products. The results of this research showed that product knowledge significantly controls the influence of brand image (Lacey, et al. 2010) on customer price perception. Product knowledge also directly affect the customer price perception in a positive and significant, which means that the higher customer knowledge on fisheries products in the sense that knowledge of customers on nutrition and its benefits for health by the fisheries products and will improve customer perception on the selling price of fisheries product and the selling price of fishery products can be expected to be stable.

6. Conclusions and Recommendation

Product knowledge has a role in a direct and significant in increasing the chance of the stability of the price of fisheries product. The role of product knowledge also controls the role of brand image to the customer price perception, however, some factors outside of the research also contribute to the stability of the price of fish products such as the consistency of quality and supply of fishery products which is not included in this research so further research considers this factor. The results of this research also recommend to the seller of fishery products especially the fishermen and aquaculture farmers to put more attention on how to educate the customer and at the same time increase the brand image of the product by focus the quality, cleanness and the freshness of the product to increase the price stability of the fisheries products.

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