

Country of Origin as a Factor Influencing Decisions by Farmers in East Java-Indonesia to Purchase Veterinary Medicines

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ABSTRACT

The aim of this study was to explore the influence of some demographic and economic variables such as ethnic grouping, gender, education level, size of farm, and type of feeding system in assessing the impact of country of origin on farmers' decisions to purchase imported veterinary medicines. Snowball sampling was used to select 58 owners or managers of laying hen farms in East Java, Indonesia who have purchased veterinary medicines. The results demonstrate that irrespective of culture and demographic factors, there was no difference among the various groups of farmers in regard to their assessment of quality of veterinary medicines. Nevertheless, there were differences between the perceptions of Javanese farmers and Chinese farmers in regard to four other topics namely technology, design/packaging, preferences for imported veterinary medicines, and information and sales service.

Keywords: country of origin, culture, demographics, veterinary medicines.

1. INTRODUCTION

For many years, imported veterinary medicines have been a popular choice among Indonesian farmers with flocks of laying hens. The demand for imported veterinary medicines from the poultry industry has been growing in recent years, particularly as more farmers are now mixing their own feed (Directorate General of Livestock and Animal Health, 2013), rather than purchasing from feed mills for economic reasons, and incorporating imported pre-mix that contains minerals, vitamins, essential amino acids, and protein into local feed products.

The farmers' experience in purchasing imported veterinary medicines indicates that they are reluctant to change and buy local products. The situation is quite dynamic due to an increasing number of products available with several brand choices from both domestic and global manufacturers. There is added confusion when local manufacturers label locally-made products to look like imported articles (Sunardi, 2009).

Some of the empirical research suggests that farmers' purchase decisions for imported products are influenced by the product's country of origin (COO) (Godey, Pederzoli, Aiello, Donvito, Chan; Hyunjoo Oh, Singh, Skorobogatykh, Tsuchiya, and Weitz, 2011, Josiassen, 2010, Jime'nez and Martin, 2010). Previous studies of the Country of Origin effect have shown it to be an extrinsic factor that affects consumer preferences when choosing between otherwise identical products that come from different countries (Maher and Carter, 2011). If a consumer wants to make a purchase decision for a global product, he/she may consider the country of origin of the product, or the brand, as potential ways of evaluating it (Schiffman and Kanuk, 2007). However, more recent studies have shifted the focus to examine the factors that lead consumers to

prefer products from certain countries (Roth and Diamantopoulos, 2009). Consumers have attitudes, preferences, and particular perceptions about products or services that are produced in a particular country. This is known as the country of origin effect and country of origin affects the way consumers perceive the quality of the product they choose.

Most Indonesian consumers prefer foreign products to domestic products since they perceive that foreign products have better quality attributes than comparable Indonesian products (Infovet, 2007). Recently, Sunardi (2009) reported that customers were reluctant to stop purchasing imported products and change to domestic Indonesian products with a local brand. According to Hamim and Elliot (2006), the relationship between the Indonesian consumer's evaluation of product quality and their purchase intentions were affected by Country of Origin for service products and by Country of Assembly as well as Country of Design for physical products. It indicates that Indonesian consumer behavior tends to be world-minded and import-conscious (Yan, 2010). Mostly, Indonesian consumers are not ready to change to a local product which is perceived to have lower quality and could be more expensive than some imported-products. Based on this phenomenon, Yan concluded that there is little trust of Indonesia products among customers. The case in Indonesia is that the desire for the products / brands from abroad applies to consumers who prefer food products such as imported infant milk, and fashion goods, as they believe that foreign service products are also better than domestic services (Hamim and Elliot, 2006; Krisjanti, 2007; Sunardi, 2009). In addition, business customers in farming like the product/brand of foreign veterinary medicines.

This phenomenon was emphasized by the President of the Indonesian Poultry Veterinarian Association (IVPA) stating that "the animal drug industry is not as big as some other businesses but draws more public attention, however, it could be instrumental in supporting the development of the agribusiness sector in Indonesia". Veterinary medicines, especially vaccines from local veterinary medicine manufacturers could have an important role that could compete with imported veterinary medicines, but to do so would require more innovation, especially in regard to quality and competitive prices. The existing competition has led to many variations of different types of veterinary medicinal products by brand and country of origin that enter Indonesia

Veterinary medicine sales in Indonesia are still increasing, but the increase in sales has not been reflected by the production sector, but is derived from the sale of imported veterinary medicines and that includes the pre-mix used by those farmers mixing their own feed (Kusmanagandi, 2012). During this time in Indonesia, local veterinary medicines were competing with those from other regions, particularly medicines manufactured in Europe and America. The Indonesian farmers used to recognize the quality of veterinary medicines made in Europe and America, but now that China has entered the market, the perceptions of local farmers have been affected by a greater emphasis on price rather than quality, as veterinary medicine imported from Euro-American groups were relatively higher price than the Chinese imports or locally-produced veterinary medicines.

Because of the variety of brands of veterinary medicine available to farmers in Indonesia, making the appropriate selection of products that were really beneficial to the production of laying hens was not an easy problem. Some aspects that may affect the choice of veterinary medicines to purchase were price, quality, personal relationships

between the farmer/farm manager with the sales person, and the orientation of the farmer/farm manager in regard to production and profitability objectives (Infovet, 2007).

Based on previous observations, there were several ethnic groups of farmers in East Java. As expected, they were mostly Javanese with a significant number from a long-term Chinese ethnic group, as well as several other ethnic minorities such as Madurese and Arabian people. Farmers in these various ethnic groups coexist in running their farm businesses, including sharing information and knowledge with each other about the farm business. There has been a trend in the industry for several large farms owned by ethnic Chinese to form a group that can have a major influence on the pattern of development in chicken raising, and production and marketing of eggs. In addition, this group also influences the purchasing patterns in regard to veterinary medicine and facilities or infrastructure for poultry husbandry that supports their farm business.

Product purchasing behavior was not only influenced by ethnicity, but demographic influences such as age, gender, and education level of consumers will also affect their behavior (Peter and Olson, 2010). Demographics play an important role in determining the effect of COO image on product evaluations in at least three ways (Josiassen, Lukas, and Whitwell, 2008). These include gender, income, education, previous experience of living in another country, and sympathy with the origin country of the product. Thus, there will be differences in purchasing behavior among male and female farmers. Different factors among the cultural groups will affect their perceptions while they are evaluating these products and their subsequent purchasing behavior. Harmonization of the lives of farmers of the two ethnic groups would strengthen the province of East Java as the egg production center that can supply the demand for eggs in Indonesia. These facts provide an overview of the behavior of farmers in respect to selection of imported veterinary medicines by both Javanese and Chinese farmers. They were different in regard to their behavior in the selection of some common products.

The purpose of this research is to revisit and highlight areas of contradiction in the existing literature on country of origin affects. Our aim is to clarify whether the arguments made by these studies have really been supported by the literature. Second, we provide new empirical evidence about whether there is any difference between the demographic and economic variables such as ethnic grouping, gender, education level, size of farm, and type of feeding system in assessing country of origin effects. To this end, the research adopts a contingency approach and examines conceptually and empirically, the alternative possibilities by which these consumer variables may have different influences when buyers evaluate the product. This study begins by reviewing the literature on country of origin effects and demographic variables, and then develops an hypotheses. Next this paper explains the research methodology, presents the results, and discusses the implications of our findings.

2. LITERATURE REVIEW

2.1 *Country of Origin Effect*

COO effect is the impact which the generalization of perceptions and beliefs about a country has in someone's evaluation of a particular product or brand attributes (Nebenzahl, Jaffe, and Lampert, 1997). Previous reviews argued that the country image

effect would be the different among people. Country image also suffered due to the dynamic consumer experiences of the product labeled "Made in" a particular country. In two empirical studies conducted by Jaffe and Nebenzahl (2001) and Samiee (1994), the taxonomy of the country image was divided into two main sections, namely consumers' perceptions of a country based on the identification of the product/brand, and country of manufacture where the product was assembled. Based on this approach, Jaffe and Nebenzahl (2001) suggested that: (1) country of manufacture is consistent the criteria for "made in" a particular country, (2) country of design is quite obvious, and (3) the country of assembly indicates where the main part of the product was made. In a slightly different setting, Cedrola and Battaglia (2012) said that COO effect in the business market can be separated into three elements: COM (country of manufacture), COD (country of design) and COB (country where the brand originated). Each of these definitions can have different meanings in regard to type of customer, product, and culture (Schiffman dan Kanuk, 2007; Godey *et al.*, 2011).

It has been argued that Country of Origin effect influences how consumers assess the quality and brand that will be selected for purchase (Ahmed and d'Astous, 1995; Schiffman and Kanuk, 2007; Cedrola and Battaglia, 2012). Furthermore attitudes or consumer preference towards particular products that are "made in" in a particular country can be a positive, negative, or neutral depending on the perceptions or experience of the consumer. Consumers have stereotyped ideas about particular countries and specific product categories which are rated as the best products, such as fashion or perfume from France, Chinese Silk, Japanese electronics, and so forth. It is very important to realize that the COO effect can influence the product or brand image significantly. Hence, the name alone may not be enough to convince the consumer of the brand's image, but related consumer associations about a particular country and the quality of its products, may have a significant influence on their purchase decisions.

There are three ways to interpret COO effect, namely cognitive, affective, and normative (Papadopoulos *et al.*, 1988,1990, 2000; Bloemer, Brijs, and Kasper, 2009) but only cognitive approaches are considered in this study. Cognitive approaches are divided into two categories based on intrinsic and extrinsic cues (Bilkey and Nes, 1982; Verlegh and Steenkamp, 1999; Cedrola and Battaglia, 2012). An intrinsic cue represents an indicator of the product quality (Chao, 1998; Jime'nez and Martin, 2010) such as design, components, performance, reliability and durability of the product. The country of origin represents an extrinsic cue used by the consumers when they do not have actual experience of the product. In the case of purchases that require high involvement, the acquirer will attribute less importance to COO inasmuch as other factors such as price, brand, design, store image, "made-in" label, and technology which are all extrinsic factors, come into play in assessing the offer (Ahmed dan d'Astous, 2007; Fetscherin dan Toncar, 2010). Following this approaches, this research uses a contingent measure of country of origin effect that consists of five indicators: quality, manufacturing technology, design/packaging, preferences for imported product, and sales information and service to understand purchase decisions about imported veterinary medicines.

2.2 Consumer Demographics

Based on appropriate theoretical concepts, consumer behavior is the process involved when individuals or groups select, purchase, use, and dispose of goods, services, ideas, or experiences to satisfy their needs and desires (Solomon, 2011).

Furthur Peter and Olson (2010) stated that the consumer environment refers to anything external to consumers that influences what they feel, think, and do. It includes social stimuli such as the actions of others related to culture, sub-culture, ethnicity, social class, family, and reference group. The empirical evidence for several fundamental consumer demographic variables has been mixed: age, gender, and level of income, educational qualifications, and profession have not been consistent indicators regarding country of origin effect (Josiassen and Assaf, 2010; Josiassen, Assaf, and Karpen, 2011; Cedrola and Battaglia, 2012; Bashar, Ahmad, and Wasi, 2012). Further Laforet and Chen, 2012 suggested that COO does not influence brand choice much. In other findings, perceptions about COO effects are influenced by demographic factors and type of product.

Ethnic Grouping

Ethnicity is the classification of a person based on where his ancestors originated. Since colonial times, Indonesia cities were characterized as tripartite towns because they included three parties, namely the native population, Chinese immigrants, and elements of their colonial past (Basundoro, 2009). Now the indigenous ethnic Javanese and Chinese coexist and complement each other because they have a similar view of the nature of life and take the view that humans and nature must have an harmonious relationship. The real differences between Javanese and the Chinese were described by (Koentjaraningrat, 1979; Revida, 2006; Sartini, 2009) in their research into work ethics. Where Javanese have almost no strong motivation to work, they work just to make a living and prefer to live for the hereafter. Whereas the Chinese are more oriented to the future, which makes them more business oriented. Thus, the research proposes an hypothesis:

H1: There are differences between Javanese farmers and Chinese farmers in assessing COO effects.

Gender

Consumer behavior can be affected by the fact that males and females can have differences in traits, attitudes, and activities. Men and women exhibit a number of differences in their consumption behavior (Hoyer and McInnis, 2008). Women are more likely to engage in a detailed, thorough examination of a message and to make extended decisions based on product attributes, whereas men are selective information processors, driven more by overall themes and simplifying heuristics. Men tend to be more sensitive to personally relevant information and women pay attention to both personally relevant information and information relevant to others. For example, masculinity is typically associated with assertiveness, independence, and rationality, while femininity is associated with relational and interdependent aspects such as consideration for others, sensitivity, responsibility and caring (Kolyesnikova, Dodd, and Wilcox, 2009). Additionally, Stokburger-Sauer and Teichmann (2011) argued that in a majority of markets and product categories, the price for branded products purchased by females is significantly higher compared to those bought by their male counterparts. These differences might result from a higher perceived symbolic and social value of such brands that have traditionally been more important for women than for men. In Western culture, it has been shown that, overall, women have a more positive attitude towards, and a higher purchase intention, of branded versus non-branded products than men.

Additionally, for female consumers, branded products provide more uniqueness, status, and hedonic value than unbranded ones. For these reasons, the current study uses gender (male and female farmers) from an eastern culture (Indonesia) to find whether there are differences in how they evaluate COO effects. There for we propose another hypothesis:

H2: There is a difference in assessing COO effects between men and women.

Education Level

Education influences what one can purchase by partially determining one's occupation and income. It also influences how one thinks, makes decisions, and relates to others. Not surprisingly, education has a strong influence on one's tastes and preferences (Hawkins and Mothersbaugh, 2010). Furthermore, level of income and education has a direct relationship with purchasing decisions, orienting the preferences of those with education and higher incomes towards foreign rather than local goods (Cedrola and Battaglia, 2012). According to studies by Hsieh (2004), knowledge of a product's country of origin is less influential in more developed countries than in less developed countries. This is explained by the fact that efforts to differentiate products are greater in countries with a high level of economic development. COO is only one of several types of information available to consumers, thus there is the possibility that farmers' education level may affect the evaluation of the attributes of the products used. An hypothesis to test this notion follows:

H3: There is a difference between the average education level of farmers who are school and college graduates and their assessment of the quality of foreign products.

Size of farm and type of feeding system for the hens

Cedrola and Battaglia (2012) argued that the assessment of the product's COO effect is influenced by specific cultural elements of the countries involved in the relationship, starting with the simplest case of single partners acting as individuals, through to more complex arrangements where agents of the producing firms interact with the farm purchasers as parties of a two- country system.

Previous research was contradictory, and suggested that the COO effect is more relevant for consumer goods than for industrial goods (Verlegh and Steenkamp, 1999; Krisjanti, 2007; Laforet and Chen, 2012), although many researchers over time have argued the opposite, asserting that industrial customers, who operate in a more informed way, are less likely to be influenced by information on the COO of the good (Ahmed and D'Astous, 1995). It could be hypothesized that farmers with different size of farms and types of feeding system for the hens would take different approaches to assess COO effects.

H4: There is a difference between small and medium sized farms in assessing COO effects.

H5: There is a difference between farmers who use the feed mill and those who use thie own mixed feed in assessing COO effects.

3. METHODS

3.1 Research setting

Based on data from the Directorate General of Livestock (2013), East Java has the largest population of laying hen in Indonesia that is 41.2 million chickens and producing almost three hundred tonnes of hen eggs per year. So the sampling area was done through several stages based on criteria. Firstly, area sampling is determined by area that has most population of laying hens and laying eggs production by province in Indonesia. Therefore, East Java was chosen as the province for this research. Secondly, East Java province is divided into 29 districts and 9 municipalities (jatim.bps.go.id, 2013). There are three districts with a high population of laying hens in East Java: they are Blitar, Malang, and Kediri (Directorate General of Livestock and Animal Health data, 2013) where the research was carried out. In 2012, population of laying hens in Blitar is 14.2, Kediri is 7.3, and Malang is 2.7 million chickens (The East Java Livestock Services, 2013)

3.2 Participants

In this research, owners or managers of laying hen farms who have an interest in the purchase decisions about veterinary medicines used on these farms were interviewed. Snowball sampling was used to identify respondents in each district. Snowball sampling aims to construct an appropriate sample of voluntary respondents (Ferdinand, 2011) who are reasonably representative of the industry concerned. It is a form of non probabilistic sampling because individuals included in the sample are selected on the basis of personal judgment or convenience (Zikmund and Babin, 2007). Desired sample characteristic was difficult and cost prohibitive to locate farmer because of the far-flung location farm. Therefore rely on referrals from these to locate further farmer participants.

Most respondents were in the age group 36-45 years old (48.2%) and their farm was established almost ten years ago (53%) but there were others in the industry for more than ten years. The data presented in table 1.

Table 1. Farmer Characteristic

Respondent Characteristic	Frequency (persons)	Percent (%)
Age		
≤ 35 years	11	19
36 – 45 years	28	48.2
46 – 55 years	12	20.7
≥ 56 year	7	12.1
Establishment of Farm		
< 10 years	31	53.4
10 – 20 years	25	43.2
>20 years	2	3.4

It is generally believed that the farmers prefer European veterinary medicines such as those coming from Holland, followed by products from France, Germany, and Spain although some farmers preferred products from USA (Kusmanagandi, 2012, and verified by the importer/distributor of veterinary medicine in East Java).

3.3 Questionnaire design and Assessment Measures

Questionnaires were distributed to one hundred laying hen farms in three districts in East Java, Indonesia. Fifty eight completed questionnaires were returned and used in the analysis, resulting in a survey response rate of 58%. Each respondent answered a questionnaire that included questions on culture and background demographics such as ethnic grouping, gender, education level, size of farm, and type of feeding system for the hens. To convert respondent's characteristics, completed using nominal data, into a categorical scale, the example of Hair *et al.* (2010) was followed. The sample comprised a higher proportion of Javanese (77.5%) than Chinese farmers (22.5%), and male farmers were more dominant (86.2%) than females. Respondents included a low proportion of farmers who had graduated from College (24.1%), mostly they had completed high school, but some had only graduated from junior high school.

There were 56.8% of respondents with small farms and a flock of laying hens less than five thousand and 43.2% of medium sized farms with a chicken population between five thousand and up to one hundred and twenty thousand. Based on sample data, a slightly lower proportion of farms used feed from a feed mill (44.9%) than farms that used self-mixing (55.1%). This situation is consistent with changes occurring on farms in this area. In 2011, farmers in Blitar and surrounding districts switched from buying to self-mixing (Trobo, 2013) because it reduced the cost of production per kilogram of eggs produced.

The purpose of this paper was to determine whether there are differences between two groups of farmer. Question in two parts, (1) personal information (including ethnic grouping, gender, education level, size of farm, and type of feeding system for the hens), and (2) attitudes in regard to country of origin for veterinary medicines (including questions about quality, manufacturing technology, design/packaging, preferences for imported product, and sales information and service).

Answers to these attitudinal questions were made on the basis of a five point Likert scale (1 being strongly disagree; 5 being strongly agree) in the questionnaire that was distributed to respondent. Respondents in this survey were asked to confirm the reasons why they selected imported veterinary medicines they most preferred, as well as those they least preferred, by scoring statements provided to them in the questionnaire, on a 5-point Likert scale. According to several authors, the appropriate indicators to measure country of origin effects in relation to veterinary medicines are quality, manufacturing technology, attractive design and packaging, positive outlook (preferences), and sales information and service (Jafe and Nebenzahl, 2001; Mas'ud, 2004; Jossiasen, 2010). The validity of these indicators was confirmed by Cronbach's Alpha reliability test (Sekaran, 2011) and the result displayed high level of reliability ($\alpha = 0.857$). The coefficient $\alpha > 0.7$, the threshold that is generally proposed in the literature (Hair *et al.*, 2006), for the two examined constructs. Therefore, the reliability of the constructs in this study are acceptable.

3.4 Procedure

In order to recruit the respondents who were located far from each other and far from other farms, 3 enumerators were recruited. There was one district for each enumerator. A few days before the formal questionnaire was distributed, the enumerators gathered as a small group with the research team for a discussion to give them an explanation about every single statement in the questionnaire and to explain the snowball method of identifying respondents. In snowball sampling, an initial respondent

is selected (Malhotra and Birks, 2007). After this initial respondent is interviewed, he/she is asked to identify and recommend other farmers who might also take part in the survey. Subsequently, respondents were therefore selected after referral from another farmer.

The questionnaire was made as attractive as possible to avoid the frustration of respondents in filling it. Each respondent took between 15 and 25 minutes to complete it and they all filled in answer using a pen.

3.5 Analytical Technique

Enumerators collected the data during different times and on different days. Of the received 58 questionnaires, tabulated into spreadsheet, checked, and made coding. All data completed valid and the data from these 58 were analyzed using SPSS. *t*-test used to know the differences in the two groups of farmers based on ethnic grouping (Javanese/Chinese), gender (male/female), education level (college/school), size of farm (small/medium), and type of feeding system (feed mill/self-mixing) in assessing country of origin contingencies.

Independent sample *t*-test in the SPSS is analysis tool that used to find out whether there are differences in the characteristics of farmer to the country of origin effects. The independent samples *t*-test is used to test the null hypothesis that the mean of two populations are the same, when a sample of observations from each population is available (Landau and Everitt, 2004). The observations made on the sample members must all be independent of each other. This research did not use discriminant analysis or logistic regression because those techniques produce prediction equations. Although, both of these analysis methods have similar characteristics, that their dependent variable is dichotomous, but they have differences (Meyers, Gamst, and Guarino, 2013). The difference is that discriminant analysis is applicable in situations in which the total sample can divided into groups based on a non-parametric dependent variable characterizing several known classes to predict the likelihood that an entity will belong to a particular class or group based on (a matrix) several independent variables (Hair *et al.*, 2010). According to Hair (2010), logistic regression models are distinguished from discriminant analysis primarily in that they accommodate all of types of independent variables (metric and nonmetric) and do not require the assumption of multivariate normality. Since the aim of this research is to know whether there is difference or not between respondent characteristic and their perceptions about country of origin in respect of veterinary medicines, the independent samples *t*-test was chosen.

4. RESULTS

The output of the independent sample *t* test is displayed in Table 2. Based on these results, there is no difference among ethnic groups, gender, education level, farm size, or feeding system on the farms surveyed in the owner's assessment of the quality of veterinary medicine. They did not believe that imported medicines were any better than those of local origin. Nevertheless there were differences in the perceptions of Javanese farmers and Chinese farmers on four other variables namely technology (p -value $0.000 < 0.01$), design/packaging (p -value $0.003 < 0.01$), preferences for imported veterinary medicines (p -value $0.010 < 0.01$), and information and sales service (p -value $0.001 < 0.01$). The statistical *t*-test of these four variables was positive which means that the ethnic Javanese farmers have a better perception of the technology,

design/packaging, preferences, and sales service of imported veterinary medicine than Chinese farmers.

In regard to gender of the farmer, male and female farmers are no different in assessing the technology and design/packaging of veterinary medicines. Male and female farmers both had a positive attitude towards preference for imported veterinary medicines (p-value $0.013 < 0.05$) with t-statistic value -2.554, and sales service (p-value $0.062 < 0.1$) with t-statistic value -1.902. It means female farmers had a higher difference in assessing product based on their preferences and perceived information and sales service. Farmer's level of education did not affect their attitude towards the foreign-made product. So that it can be said they (farmers of both genders) have the same perceptions in regard to assessing the overall attributes of a product.

Table 2: Independent-sample t-Test

Variable	1		2		3		4		5		Country of Origin	
	quality		manufacturing technology		design/packaging		preferences for imported product		sales information and service		t	sig.
	t	sig.	t	sig.	t	sig.	t	sig.	t	sig.		
Ethnic group	0.770	0.445	6.537	0.000***	3.132	0.003***	2.677	0.010***	3.641	0.001***	4.160	0.000***
Gender	-1.300	0.199	-1.155	0.253	0.022	0.982	-2.554	0.013**	-1.902	0.062*	-0.802	0.426
Education Level	0.749	0.457	1.377	0.174	1.212	0.231	-0.065	0.948	-0.473	0.638	0.683	0.498
Farm size	0.013	0.199	1.381	0.173	-3.167	0.002**	1.705	0.094*	0.590	0.557	-0.188	0.852
Feeding system	0.547	0.87	2.003	0.05**	1.424	0.160	-1.743	0.087*	-0.028	0.977	0.853	0.39

Notes: ***Statistically significant at the 0.01 level; **statistically significant at the 0.05 level; *statistically significant at the 0.1 level

Based on farm size category there is no difference between small and medium farmers in assessing quality, technology, and sales service. Small and medium farmers difference it seen in the design/packaging products (p-value $0.002 < 0.05$) with t-statistic value -3.160. It means medium farmer preferred design/packaging of foreign-made veterinary medicine than small farmer. But small farmers have differences due to preferences factor (p-value $0.094 < 0.1$) with t-statistic value 1.705. No differences farmers who use feed mill or self-mixing feed in assessing over all of indicator except in technology and preferences. Farmers who use feed mill have differences with the farmers who use self-mixing feed due to technology manufacturer of feed (p-value $0.05 \leq 0.05$) with t-statistic value 2.003. On the other hand, efficiency is one of important reason why they prefer self-mixing feed than use feed mill.

5. DISCUSSION AND CONCLUSIONS

This research has investigated whether culture and demographic characteristics of the farmers affect their attitude to "Country of Origin" for veterinary medicines. The aim of this study was to compare attitudes in regard to country of origin for veterinary medicines of two groups of farmers, based on personal information. Generally, ethnic groups differ in assessing product attributes, and ethnic Javanese farmers have a better perception of the technology, design/packaging, preferences, and sales service of imported veterinary medicine than ethnic Chinese farmers. There were differences in assessing COO effect between Javanese farmers and Chinese farmers (see Table 2), so Hypothesis 1 was accepted. This finding may be explained by the theoretical and

empirical results from country of origin investigations (Nebenzahl, and Lampert, (1997). Verlegh and Steenkamp (1999), Chao 1998; and Jime'nez and Martin, 2010 all who stated that anyone evaluating a foreign product or brand attributes based on perceptions of the technology, preferences, design, components, performance, reliability and durability of the product. So these variables should influence of decision by farmers to purchase imported veterinary medicines .

The result confirmed previous research (Hamim and Elliot,2006; Sunardi,2009) which stated that consumers in developing countries such as Indonesia are still influenced by country of origin effect in choosing products/brands because of local culture and ethnicity. Javanese and Chinese farmers in Indonesia considered that foreign products used good technology, attractive packaging, and provided better service than the local product. Therefore participants preferred to buy imported products/brands . Although Javanese and Chinese farmers have similar attitudes to evaluating imported products, the Javanese farmers have higher perceptions than the Chinese farmers in assessing COO effect. This might be influenced by the Javanese culture appears to appreciate the culture of others more than their own (Koentjaraningrat, 1979; Revida, 2006; Sartini, 2009). The Javanese tend to be more respectful of other people, even when they are assessing products that are produced by other countries. They are more accepting of foreign products, believing they are better and more reliable products. In the the mind of the Javanese farmers, they would become better farmer if they buy imported veterinary medicines. Chinese farmers in Indonesia are more open-minded and not as speculative in assessing products based on knowledge and experience (Tanudjaja, 2012). As the thinking of Javanese farmers has shifted (Habib, 2004), they have started to become more open-minded and they have worked hard to improve their economic position in life by, for example, developing poultry farm businesses. This effort was helped by their decision to use trusted veterinary medicines to reduce risk of loss. The changes in the mindset of the Javanese farmers were the result of acculturation by the ethnic Chinese farmers.

The results are not consistent with Chao (1998) and Jime'nez and Martin (2010) who stated that the country of origin approach, based on an intrinsic cues, represented an indicator of product quality. From this research, ethnic group, and other demographic characteristics such as gender, education level, farm size, and the system of feeding, were not factors that could explain differences in the assessment of the quality of imported veterinary medicine. The farmers assess the quality of imported veterinary medicines based on the effectiveness of curing diseases when administered in accurate doses It was a similar case with farmers who used premix in their feed for economic reasons. Although the price of imported premix was more expensive, it was sold in highly concentrated form.

Farmer responses in assessing quality of imported products was consistent with the 'central route theory' proposed by Cacioppo, Kao, Petty, and Rodriguez (1986) known as the Elaboration Likelihood Model (ELM). This theory explained that consumers process the information relate to the core functionality of the product, was based on their reference and knowledge in a purchase decision (Bloemer, Brijs, and Kasper, 2009).

Referring to Table 2, there was no difference in assessing overall COO effect between men and women, so Hypothesis 2 was not supported. However when tested independently, women did express different preferences for imported products, and information and sales service from the male farmers. Previous studies also suggested

that women accepted a higher price if the brand was famous or originated from a foreign country (Stokburger-Sauer and Teichmann, 2011; Sunardi, 2009), because that reflected higher perceived symbolic and social value. Kolyesnikova, Dodd, and Wilcox (2009) also stated that femininity was associated with relational and interdependent aspects so a good personal relationship between women farmers and the sales person will also affect purchase decisions.

Overall, farmers' education level, between under graduate and senior high school graduate, did not affect attitudes to country of origin, so Hypothesis 3 also was not supported. This is different from the conclusion by Cedrola and Battaglia (2012) which stated level of education and income have a direct relationship with purchasing decisions. Mostly, consumer who had higher education and better income preferred foreign rather than local goods. Laying hens farmers, although mostly at the lower end of the educational scale, also thought that foreign products/brands were the better ones. Thus we have a situation where people with various levels of education have similar perceptions in assessing country of origin attributes.

There was a difference between small and medium-sized farms in assessing country of origin effect only for design/packaging. Medium-sized farmers showed greater preference for design/packaging of foreign-made veterinary medicine than small farmers. However, small farmers still decided to buy imported products because of emotional considerations. So in this case, the farmers bought imported product because of minor, peripheral attributes, consistent with ELM Theory. It means the buying decision was influenced by complementary attributes, rather than an assessment of core functionality. Generally, demographic characteristics based on farm size made no difference in assessing the impact of country of origin on purchase decisions so Hypothesis 4 was not supported.

Farmers who used feed from the feed mill had a different attitude to imported veterinary medicines to those farmers who mix their own feed. They assess the feed manufacturers' product, made with better technology than home-made feed. In addition, farmers who use self-mixed feed more pleased with the purchase of imported premix because they believe in its quality. They can be more efficient by making their own feed as opposed to buying milled feed from the factory. Thus Hypothesis 5 was not supported.

In general, differences in the demographic characteristics of farmers in the survey including ethnic grouping, gender, size of farm, and type of feeding system for the hens, influenced the choice of imported products because of the positive preferences some of the sample revealed. It is relevant that Dainton and Zelle (2012) stated that when a person is seriously persuasive, information received is processed, not by focusing solely on the content of the information received, but by attaching more attention to the person whose conveys the information. Some farmers considered product packaging, product warranty, personal relationships with the sales person, or the other peripheral attributes more important than the product's functional value.

Thus the use of a pathway to deliver peripheral messages is a common marketing strategy that focusses on people, places, or an object. In this study, emphasis was focused on the country of origin where the products are made as a factor influencing decisions to purchase.

5.1 Managerial implication

Our findings have several important managerial implications. First, the results provide information about farmers' demographic characteristics and define those who have the same perceptions in assessing the quality of the product. The centre piece of the ELM theory underlying attitude of farmers in the product evaluation process, has been confirmed. Farmers with diverse backgrounds have an understanding of how to assess the main function of the product based on the processing of knowledge and experience. The results contributed to the understanding by local manufacturers of veterinary medicines by revealing the pattern of behaviour of farmers in regard to purchasing imported veterinary medicines so that local animal medicine manufacturers can benefit from this information and focus on improving product quality. Various innovations have to be introduced to develop a process of continuous improvement in product quality (Infovet, 2007). In that way, the manufacturers can foster trust by the farmer in using local products (Yan, 2010). By knowing the factors that can influence the purchase decisions in regard to imported veterinary medicines, it should be a priority for the local animal drug manufacturers to make products that have equivalent quality with imported veterinary medicine, and promote them to Indonesian farmers.

A second implication relates to the discovery in this research regarding which ethnic groups show the strongest country of origin effect and willingness to buy imported products without quality assesment. Both Javanese and Chinese farmers were shown to assess country of origin effect based on extrinsic cues such as brand, design/packaging, "made-in" labels and perceived technology (Valdani and Bertoli 2003; Ahmed and d'Astous, 2007; Fetscherin and Toncar, 2010). Their overall use of imported products, based on peripheral values, was consistent with the ELM theory. While consumers are more inclined to decide on products to purchase through peripheral information processing with emphasis on the emotional response, local companies might be able to use emotional stimuli to promote purchases by co-branding products with foreign terms or deliberately trying to decieve buyers that locally-made products are really foreign brands but this is not an ethical course to take. An important point of concern for local companies is how to create high quality products that are effective for their purpose and avoid the trap that many purchase decisions are based on peripheral information, rather than functional efficiency. That seems more likely to achieve the long-term company goals.

5.2 Limitations and Future Research

The results of this study are subject to certain limitations. One limitation is that the present study was conducted in East Java and set in that context. It would be useful to extend the results to other provinces in Indonesia by carrying out further research. The sample size was small and this may affected the statical outcomes. Although a few of the results were statistically non-significant, some of findings were encouraging and indicated that a larger sample size might lead to significant results. This study uses a t-test to determine differences in demographic characteristics related to country of origin effect. Other tests may give different results and some other factors like trust that are related to the country of origin effect and which influence their product evaluations and purchase intentions should be included in the analysis.

This Study has provided pilot data for future work, as the small sample size renders this study less powerful than it could be. Therefore future research should use a larger sample, include other variables related to the country of origin, and possibly use

more sophisticated statistical analysis tools such as PLS, SEM, GeSCA or other techniques.

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