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Assessing Country of Assembly Effect on Perceptions of Product Quality: A Comparison between Malaysia and Japan

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Abstarct: In the 1960's Malaysian government encouraged and promoted the concept of automobile assembly plants in Malaysia. The primary intention was to reduce the imports of Completely Built-Units (CBU). The growing industry had essentially drawn the new car manufacturers to set up their manufacturing bases in Malaysia. This study investigates effect of Country of Assembly (COA) on car brands and the impact of COA on the perception of quality. Three main brands which are Toyota, Honda and Nissan were chosen and comparison was made between Malaysia and Japan as COA. Questionnaire survey data was collected from 130 respondents and both t-test and regression analysis were used to test the hypotheses. Although, the brand is similar, results indicate consumers hold different perceptions on COA between Malaysia and Japan where Japan as COA was rated higher. Results also indicate that the COA carries a significant weight to influence customer's perception on the quality of cars made in Malaysia as well as Japan. This research validated and proved the importance of Country of Assembly on Malaysian consumer's perceptions when evaluating and assessing automobiles

Key words: Country of assembly, product quality, automobile, Malaysia, Japan

INTRODUCTION

Automobile industry in Malaysia is one of the most important among all industries as it has a significant contribution towards the industrialized nation. In the 1960s, Malaysian government encouraged and promoted the concept of automobile assembly plants in Malaysia. The primary intention or purpose is to shrink down the imports of Completely Built-Units (CBU). Economically the importing nation needs to pay and so its currency has kept flowing out from it. Hence, to alleviate the balance of payment, automobile assembly plants was greatly supported and fostered. As of 2012, a total of 35 licensed motor vehicle assembly plants and manufacturers in operation.

Based on MAA report in 2012, there were >700 component parts manufactures producing >5,000 parts. Besides, many previous researchers applied the extension rule to component parts manufactures producing >5,000 parts. The growing industry had essentially drawn the new car manufacturers to set up their manufacturing bases in Malaysia. Today, well-known and notorious car brands such as Toyota, BMW, Volkswagen, Mitsubishi, Mazda, Honda, Peugeot, Nissan and Subaru are being assembled locally in Malaysia. Apart from providing the base for the transfer of technology which is the core element critically needed by the automobile industry, the setting up of automobile assembly plants indirectly helps to initiate more employment within Malaysia. In the new veiled National Automotive Policy (NAP) 2014, there have been adjustments of provision of import tax and excise duty exemption.

As the echoes of the adjustments on the excise and provision of import tax, there are some consequences faced by the automotive makers. This paper investigates the effect of Country of Assembly (COA) on car brands and the impact of COA on the perception of quality.

Literature review: Previously, the term of Country of Assembly (COA) is not yet independently established as it falls under the category of Country of Origin (COO). The COO of a product is a prompt cue that has grown increasingly prominent and significant as movement towards globalization of production and marketing has intensified, especially considering number of products are produced and sold in various countries (Fetscherin and

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Toncar, 2009). While the world business and production means are changing rapidly, most of the automobile productions are currently offshore to others labor intensive and capital intensive countries such as Malaysia, Thailand and India.

In order to explore the effect of COA instead of COO, many studies have been conducted to further understand this issue. For instance, Chao (1993) deconstructed COO into COA and COD (Country of Design). He discovered that the consumer's perception of the television set quality was impacted by the COA of it. Meanwhile, (Kochunny *et al*., 1993) constructed a study to test the effects of COO on product evaluations and found that the results are consistent with the other earlier findings. Insch and McBride (1998) testified and stated that COA was an important factor in the consumer evaluation. In their research in 1998, they tested for the athletic shoes and discovered that assembly quality was assessed as a vital component of durability. Therefore, consumers always favor the athletic shoes assembled in USA and Japan rather than those in Mexico.

Baker and Michie investigated British car driver's perceptions of and attitudes towards foreign car brands which included Honda, Proton, Hyundai and Toyota. Results indicated that product country images had a significant impact (both positive and negative) on the consumer's intention to buy. Seaton and Laskey (1999) performed a research in COO automotive area to find out the effects on perceived value of mid-size automobiles of changing COA. Lower perceived value would be obtained if the automobile's COA is in a less-developed country compared to its brand country. Hence, they concluded that other than the cost saving scheme, the COA must also be carefully analyzed and chosen in order to avoid the losses in perceived value.

To conclude, research studies find that overall product evaluation is influenced by country stereotyping and this impacts consumer evaluation of products from that country (Bilkey and Nes, 1982). Consequently, country stereotyping significantly impact consumer's product perceptions and their subsequent purchase decisions.

Research objectives and conceptual framework: A review of the literature indicates that researches to date have focused primarily on country of origin effects on product evaluation and nationality differences in the consumption of a product in more developed countries and most of these researches examined consumer's perceptions in the Western context (Fan, 2006; Balestrini and Gamble, 2006; Balabanis and Diamantopoulos (2008) and Koubaa (2008).

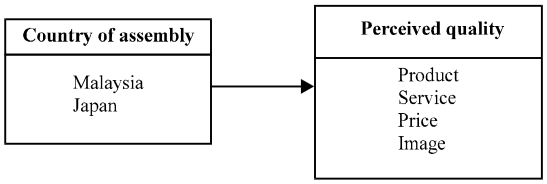

Fig. 1: Conceptual framework

As suggested by Fetscherin and Toncar (2009), it would also be interesting to compare consumer perceptions of other emerging market car manufacturing countries such as Malaysia or Brazil.

The comparison of quality perceptions by country of assembly between developed countries and developing countries revealed the significant differences in every quality dimension including in total quality (Panusbordee, 2013). This is what is just perfectly in accordance with the denotation by Fetscherin and Toncar (2009) that further research should not only take into account a broader base of respondents from other countries but also different automotive manufacturers from different geographical regions such as Eastern Europe and South America to assess the similarities and difference between consumer brand perception of automobiles from other emerging markets.

The issue of how much weighted pressure the country of origin cue provides in product evaluations is not yet decided and therefore opinions appear to differ widely. Previous researches have provided some insights but did not focus specifically on the total effect of country of assembly and the perceived quality of cars made in Malaysia and Japan.

As such, this study has two main objectives. The first objective is to investigate if there is a significant difference in the perception of COA between Malaysia and Japan. The second objective is to determine the influence of country of assembly on the Malaysian consumer's perceived product quality of cars made in Malaysia and Japan. It is conceptualized as Fig. 1.

Hypotheses development: Brand personality serves as a sustainable competitive advantage for the firm (Aaker, 1996). Perceived quality refers to consumer's intangible perceptions or judgments of the overall quality or superiority of a product or service and their overall feeling about the brand (Keller, 1993). Consumers do in fact rely on brand information to form an expectation of automobile quality (Chandrasen and Paliwoda, 2009). The brands personality should be strong enough to matter to the consumers (Aaker, 1996) since brand personality is the "soul" of the brand and is derived from the brand's

characteristics and marketing communications it is an important cue for consumers perception of quality (Ramaseshan and Tsao, 2007). Hence, the following hypothesis is proposed as below:

- H_1: Perception on Country of assembly for automobile between Malaysia and Japan is significantly different

Based on the result obtained by Iyer and Kalita (1997) country of manufacture which is also known as COA has effects on product quality perceptions. COA image matters when evaluating automobile quality (Chandrasen and Paliwoda, 2009). Ulgado and Lee (1993) uncovered that consumer perceived quality on consumer products is stimulated by COA. Other studies have also shown that "production location" consisting of parts manufacture and product assembly affects consumer's perception of product quality (Johansson and Nebenzahl, 1986). Therefore, the following hypothesis is developed:

- H_{2a}: There is a relationship between Country of Assembly in Malaysia and consumer's perceived quality of cars made in Malaysia
- H_{2b}: There is a relationship between Country of Assembly in Japan and consumer's perceived quality of cars made in Japan

MATERIALS AND METHODS

Based on the research purpose and data collection method, purposive sampling was chosen for the survey, where the respondents (customers) who visit the Toyota, Nissan and Honda showroom which are considered to be the sampling unit. At the end of data collection period, a total of 130 responses are useful for further analysis. Scale on brand personality was adopted from Aaker's brand personality scale which was also used by Ekinci and Hosany (2006). Meanwhile, measurement for country of assembly was based on the research of (Pappu and Quester, 2010). Measurement for perceived product quality was based on measurement used by Li *et al.* (2009), Winata and Darmayanti (2009). Reliability test on all items were conducted using the Cronbach alpha and results indicated the reliability measures were all within the accepted threshold of <0.6.

Pair sample t-test was utilized to check whether there is any significant different in the mean scores of two data groups answered by a single respondent. In this research, paired sample t-test was used to test the significant different of country of assembly in Malaysia and country of assembly in Japan. Results in Table 1, Country of Assembly in Japan achieved higher mean scores (M = 4.17) compared to country of assembly in Malaysia (M = 2.44). Furthermore, there was a significant difference between both country of assembly where t = -33.93 with p = 0.000. Therefore, H_1 is supported.

Table 1: Paired sample t-test for Country of Assembly in Malaysia and Country of Assembly in Japan

Independent variables	Mean	SD	df	Sig. (2-tailed)
Country of Assembly in Malaysia	2.44	0.44	129	0.00
Country of Assembly in Japan	4.17	0.27		

Table 2: Regression results between Country of Assembly in Malaysia and perceived quality of the cars made in Malaysia

	Unstandardized coefficients			
Model 1	B	SE	t-value	Sig.
Constant	0.52	0.15	3.41	0.00
Country of Assembly in Malaysia	0.75	0.06	12.32	0.00

Dependent variable: Perceived quality of the cars made in Malaysia

Table 3: Regression results between Country of Assembly in Japan and perceived quality of the cars made in Japan

	Unstandardized coefficients			
Model 1	B	SE	t-value	Sig.
Constant	2.62	0.27	9.87	0.00
Country of assembly in Japan	0.36	0.06	5.62	0.00

Dependent variable: Perceived quality of the cars made in Japan

Regression analysis was used to determine the relationship between between Country of Assembly in Malaysia and perceived quality of car made in Malaysia; and the relationship between country of assembly in Japan and perceived quality of car made in Japan. The results were displayed in the Table 2. Results indicate the relationship of Country of Assembly in Malaysia towards perceived quality of car made in Malaysia was positive and significant (r = 0.74, p = 0.00). The effect size of towards perceived quality of car made in Malaysia was medium (R^2 = 0.54). Hence, H_{2a} was supported and thus, it was indicated that there is a significant relationship between and consumer's perceived quality of car made in Malaysia.

Table 3 indicates the relationship of Country of Assembly in Japan towards perceived quality of car made in Japan. Results indicate the relationships is positive and significant (R = 0.45, p = 0.00). Thus, H_{2b} is supported where there is a significant relationship between country of assembly in Japan and consumer's perceived quality of car made in Japan.

RESULTS AND DISCUSSION

Respondents were asked to rate the quality of automobiles assembled in two different countries. Firstly, those assembled in a developing country (Malaysia) and available as CKD models, then those assembled in a

highly industrialized country (Japan), imported as CBU automobiles. Generally, in this study, the quality of cars made in Japan is perceived to have a higher quality compare to those made in Malaysia. However, it is also found that the level of significance of the Country of Assembly in Malaysia is higher than the level of significance of the country of assembly in Japan. Likewise, compared to the impact of the country of assembly in Japan Complete Build Up (CBU), the influence of Complete Knock Down (CKD) stands out to be more significant to affect the perceived quality of cars. This result is consistent with the findings of (Seidenfuss *et al*., 2010; Roth and Romeo, 1992) who found that COA is one of the predictors to affect and influence perceived product quality.

About 54.2% of the perceived quality of cars made in Malaysia was explained by Country of Assembly in Malaysia while about 20% of perceived quality of cars made in Japan was justified by country of assembly in Japan. As mentioned before, the cars which are assembled in Malaysia are known as CKD unit while the fully imported and ready to be used cars are called CBU unit. In this case, the cars assembled in Japan and being imported into Malaysia is known as CBU.

The technology used for assembling a car, the skill level of the workmanship whether the manpower is convincing and credible and the similar reasons might really matter to the perceived quality of a car made in Malaysia as CKD. Country of Assembly in Japan explains about 20% of perceived quality of cars made in Japan. The perception by Malaysians towards Japan is good and the image of Japan respectable and high. This is consistent with the previous studies by Chandrasen and Paliwoda (2009) where this current research found out Malaysian consumers favored more on automobile assembled in a highly and vastly industrialized country that is Japan in this research. This was revealed in their perceived quality assessment where they graded automobile assembled in Japan much higher than those assembled in Malaysia.

CONCLUSION

The current study gives implication to the Product Country Image (PCI) theory because the Country of Assembly was found as one of the variables to stimulate the product quality perception. The present study illustrated that the Country of Assembly has significant power in shaping the perceived quality of the products. The way the consumers view a country can really manipulate the apparent evaluation on a product that is assembled in that particular country.

Throughout this study, there are some essential and critical suggestions for manufacturing companies. Most remarkably, country of assembly is one of the most vital keys. International automobile managers should be aware of the effects of Country of Assembly. Thus, the choice of countries for manufacture will have a prominent and imperative influence on consumer's choice. Manufacturers might need to reassess their policies of shifting the production to other countries and think of the impacts of relocating the production sites of their established brands and products to lower-cost countries because the less developed countries will unfavorably affect the customer's perception of quality. Carefully incorporate the value perceptions of consumers into decision regarding site location will minimize the unfavorable effect of country of assembly.

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