Department of Social Systems and Management Discussion Paper Series

No.1180

The Effect of Product Country of Origin:
An Empirical Study Using Conjoint Analysis

By

Ali Mohammad Kowsar and Kenichi Ishii

July 2007

UNIVERSITY OF TSUKUBA
Tsukuba, Ibaraki 305-8573
JAPAN

THE EFFECT OF PRODUCT COUNTRY OF ORIGIN

AN EMPIRICAL STUDY USING CONJOINT ANALYSIS

Ali Mohammad Kowsar[*]

Kenichi Ishii[**]

ABSTRACT

This article extends cue utilization theory with the help of the idea of cue diagnosticity. The main objective of this study is to evaluate the strength of country of origin (COO) effect as a high scope cue during consumer choice decision for personal computers. Two conjoint analyses were done on the data collected by a questionnaire survey of 65 respondents. From the data we found that the influence of the cues, like-price, brand name, country of origin, product character and warranty, on the brand choice of the consumers is very important. The results showed highly significant interaction effects between country of origin and quality, as well as country of origin and warranty. That is an indication that country of origin effect is a low scope cue. Country of origin effect works better if it is combined with cues like quality, warranty etc. The conceptual framework of cue diagnosticity suggests that country of origin effect is a low scope cue, and it works depending on other cues. This is supported in our study.

Country of Origin (COO) effect is one of the most popular subjects in academic research of consumer behavior. Different researchers have studied this character of a product from different viewpoints. As a result of that, we know a lot about the different aspects of country of origin effect. But one shortcoming exists, up to now there are very few researchers concentrating on the significance of COO in connection to other attributes that influence consumer decision making.

[*] Doctoral Program of Social Systems and Management, Graduate School of System & Information Engineering, the University of Tsukuba. Japan.
[**] Associate Professor at Graduate School of System & Information Engineering, the University of Tsukuba. Japan.

In the country of origin literature out of the several perspectives on consumer decision making we emphasized "cue utilization theory," because of the big research gap about the question of whether country of origin effect is a stand alone product attribute .

LITERATURE REVIEW

In most of the situations, consumers are unaware of the true quality of competing products before making the purchase. In those situations empirical research suggests that consumers are likely to depend on simple heuristics, or cues to assess product quality (Rao & Monroe, 1989). Commonly studied marketing signals or cues in the literature include brand name (e.g., Aaker, 1996; Dodds, Monroe, Grewal, 1991; Maheswaran, Mackie, & Chaiken, 1992; Rao & Monroe1989), price (e.g., Olson, 1977; Rao& Monroe, 1989; Wolinsky, 1983), advertising (e.g., Kihlstrom & Riordan, 1984; Kirmani, 1990; Milgrom & Roberts, 1986), store name or retailer reputation (e.g., Chu & Chu, 1994; Grewal, Krishnan, Baker & Borin, 1998), and warranties and guarantees (e.g., Boulding & Kirmani, 1993; Grossman, 1981; Shimp & Bearden, 1982). Extending these ideas to marketing, we can conceptualize a product as an array of cues that may serve as signals of product quality. But there is a gap in the cue theory, which is, whether country of origin effect can work as a stand alone variable or does it depends on the existence of other cues to become effective.

Conceptual background

In this article we will try to expand the cue diagnosticity framework, by including country of origin effect as an extrinsic cue. We will also try to categorize COO effects on the basis of the main effect and interaction effect. The cue diagnosticity framework builds on cue utilization theory that suggests that most of the important judgments are based on multiple attributes (Slovic&Lischtenstein, 1971). Cue utilization theory also suggests that the extent to which a specific cue is utilized in assessing quality varies with its predictive value or its diagnosticity. We extend this idea by pointing out that because different types of cues are available in the marketplace, the diagnosticity and thus the use, of cues of a particular type may depend on the existence of other cue types. In other words, we will try to evaluate country of origin as an extrinsic cue and evaluate its interaction with other cues.

High scope cues can be characterized as cues that evolve over time such that their valence cannot be changed instantaneously (Purohit & Srivastava, 2001). High scope cues can also be regarded as stand alone cues in the sense that the diagnosticity of such cues is relatively less dependent on the presence of other cues. Examples of high scope cues include brand name and firm reputation. In contrast, low scope cues are transient in nature such that their valence can be changed relatively quickly and inexpensively; thus, such cues can be potentially used to send false signals.

The existence of the country of origin cue, to which the buyer can attach meaning, has spawned a stream of consumer and industrial buying research on country effect. Country of origin is an extrinsic product cue, a class of intangible product traits which include a product's brand, price and warranty. Unlike physical characteristics, a change in

these cues has no direct bearing on the product's performance .Nonetheless, they can still act as risk mitigants or quality cues for consumers who may be either unable to evaluate tangible traits of competitive offerings or unwilling to expend search efforts.

There is a very good prospect that cue utilization theory will contribute to the understanding of country of origin effect. At the moment the country of origin effect literature does not clearly answer, if it is a stand alone attribute or not. Some times it gives the feeling of glorifying country of origin effect, as a too much individually strong variable without enough empirical evidence. So, with the combination of cue diagnosticity theory and country of origin theory we will try to overcome this theoretical weakness.

The publication of Schooler`s (1965) seminal article in the Journal of Marketing Research began the systematic research on country of origin effect. Early research on COO can be described as demonstrational in nature; most research was only concerned with documenting the existence of the COO effect under a variety of circumstances. Statistically significant COO effects have been documented across countries, for a variety of product categories, and for both industrial buyers and consumers.

In 1982 Bilkey and Nes published a review article that effectively summarized the COO research to that point in time. That article quantitatively evaluated the results of twenty five COO studies, subsequently achieved the status of a classic and has been cited in nearly nine out of ten COO research efforts since its publication.

After concluding that "all of the studies reviewed indicated that country of origin does influence buyers' perception", Bilkey and Nes set forth several issues that they believed needed to be addressed to advance the state of COO knowledge. These issues stimulated a plethora of wide ranging research that set to establish theoretical explanations for the COO effects as well as determine its antecedents and relative influence in the presence of other cues. Several studies attempted to clarify and understand how individuals use country of origin in the context of information processing and knowledge activation (e.g., Hong and Wyre {1989}; Johansson {1989}; Obermiller and Spangenberg {1989}).

Most COO studies have involved the manipulation of a single cue 'made in....' . In such studies, consumers were asked to base their evaluation on COO alone, in isolation from the rest of the attributes that typically define a product (Peterson and Jolibert, 1995). Pecotich and Rosenthal (2001) point out that more inconsistencies in COO research stem from the use of single cue models versus multi-cue models, and there is an on going debate concerning the magnitude of the effect, particularly in the presence of other product information cues (Ettenson,1993). Although earlier studies (Prior to Bilkey and Nes) found a direct link between the use of COO and the absence of other product attribute information, more recent studies suggest an indirect effect of COO on product evaluation (Ozsomer and Cavusgil, 1991). Unfortunately, until recently the research has failed to clearly distinguish between the various conceptualizations and the interactions with other cues such as price and packaging (Pecotich and Rosenthal, 2001). To better understand country of origin effect and its antecedents, it is necessary to examine it more closely in a multi-cue consumer behavior context.

HYPOTHESES

Some of the previous studies predicted that there may be an existence of the interaction between the multiple attributes of the product. Hence, to find the statistical significance of the interaction affect between country of origin effect and other attributes we develop the following hypotheses:

Generally, products produced by trusted companies are more accepted by consumers. As compared to less trusted companies, consumers are less attentive to the country of origin of products made by trusted companies, because they have an existing perception in their mind about where that product is most likely to be produced. So we propose:

H1: Country of origin effect will be stronger for less trusted products.

When a consumer is more involved in a particular product, he or she will be aware of more attributes (e.g. quality). As a result, they will judge a product based on the total utility that may come from the synergistic effect of all the attributes. This will make the country of origin effect weaker. So we propose:

H2: If the respondent is highly involved with the product, the country of origin effect will be weaker.

Warranty reduces the risk of the purchase decision. When the consumer is confident about the security coverage, which is attained with the warranty, they will be less careful about the country of origin. Thus we propose:

H3: If the warranty is given, the country of origin effect will be weaker.

METHODOLOGY

The study uses conjoint analysis to investigate the relative importance of the country of origin of a product to respondents in Japan based on a sample of students. The conjoint analysis overcomes the problems associated with single cue studies by representing consumer choice as a multi-attribute judgment situation. In this conjoint analysis, we use price, brand, country of origin, physical characteristics and warranty as our conjoint attribute. The main advantage of using conjoint analysis is that, we can find the statistical significance of the individual attributes as well as the interaction effect between the attributes to determine the choice of products by consumers.

Table 1-1: Design of Stimulus for the Conjoint Analysis Model

	Attribute levels			
	First Analysis (Q2)		Second Analysis (Q3)	
Dummy variable values	0	1	0	1
Attributes				
Brand name	a	b	a	b
Price	a	b	c	d
Warranty	-	-	a	c
Physical characteristics	a	b	b	c
Country of origin	a	b	a	B

Product Category

We selected personal computers as our chosen category of product for this survey. Within this category we chose 2 brand names – less trusted brand (SOTEC) and more trusted brand (Toshiba). This category of product was chosen because, Personal computer is a widely diffused product in Japan and the respondents are familiar with them. PCs are a very good category to be considered as a utilitarian product and it is easier to manipulate the attributes for the purpose of conjoint analysis.

Design of Stimulus

The conjoint profiles of personal computers were based on attributes thought to influence the personal computer purchase decision. The coding system includes two brands- SOTEC (a), and Toshiba (b). Four price levels were used-150,000(a), 200,000(b), 175,000(c), and 180,000(d).Question 2 did not have warranty while Question 3 had 2 levels of warranty- no warranty (a), full three year warranty (b). Physical characteristics was based on HDD and RAM with 3 levels- HDD 60GB, RAM 1GB (a), HDD 100GB, RAM 2GB (b),HDD 40GB, RAM 512MB (c). Lastly, we had two countries to consider- Japan (a), and Indonesia (b). The attributes and levels are shown in Table 1-1.

The choice set design was created employing the fractional factorial design generation. The study used an orthogonal main effect plan for 7 factors with 8 treatment combinations. Since only four or five main effects were included in the study, two (Q3) or three (Q2) factors were omitted from the array. In order to ensure that the order of the items did not bias consumer's responses, the order of the choice sets was randomized.

Subjects

Convenience sample of 65 students were used as the respondents. The questionnaire survey was conducted at the date of 1st May 2007. The students were informed that this will be considered as a part of the coursework. They are all included in the graduate course of Business studies in the University of Tsukuba. However, the sample included mainly

Japanese student, we also had a mix of Chinese, Korean and students from other countries. Among the total number of respondents 43 were male and 22 were female. Concerning nationality 40 were Japanese students the rest of the 25 respondents came from different countries.

Procedure

One questionnaire was designed and this was used to collect the data from the respondents within a specified period of time. Respondents were asked to provide answers to closed ended questions and also to indicate their preferences toward a printed list of product attributes. Actually, we conducted two conjoint studies. The first study included 4 attributes and the second study included 5 attributes. For first analysis (Q2) and second analysis (Q3) of the questionnaire respondents provided a rank order of 1-8 on the basis of their preferences.

RESULTS

Descriptive Results

When asked how many computers they owned up to now – 38.5% said they owned one computer, 35.4% said they owned two, 13.8% said they owned three and 4.6% said they owned four and six or more computers. There was no one who owned five computers.

In response to the question, of they have their own computers- 16.9% said they had desktop computers, 60% said they had notebook computers and 21.5% said they had both desktop and notebook computers. 1.6% of the respondents had neither of them.

In order to measure their involvement level and knowledge about personal computers, we asked the respondents about their perception regarding, their skills about PCs as compared with their friends. In response, 29.2% said they knew a lot about personal computers, 47.7% said they knew as much as their friends and 23.1% said they did not know that much well about PCs. This variable will be used as a level of involvement in PCs in the following analysis.

For the purpose of getting a subjective evaluation from the respondents, we asked 11 questions using 4 point Likert scale (1= not important at all, 2= somewhat Important, 3= moderately important and 4= very important.) With regard to subjective purchase decision factors about PCs (Q4), the average scores of the questions show that, RAM volume gets the highest score (3.594), followed by price (3.462), and hard disk capacity (3.391). The lowest score is compatibility with previous hardware and software (1.594). The country of origin effect gets 10th position with the score of (2.422). Even if this is based a subjective evaluation, it showed that, country of origin effect is not considered highly important in the mind of consumers.

In response to a question concerning quality perception they ranked Sony as the highest quality with the average score of 2.077, followed by Toshiba (2.154) and Dell (3.246.) SOTEC got the lowest ranking, with an average score of 4.046. So we can say that,

as supposed in the following conjoint analysis, Toshiba is a more preferred brand than SOTEC.

Study 1

In the first study, we included 4 variables. Regression parameters were estimated based on pooled data from eight items of Question 2 (See Appendix). Each variable was defined as a dummy variable (0 or 1) as shown in Table 1-1. After testing several different models with the stepwise regression model, Model 5 (Table 2-1) was chosen as the best fit model based on Akaike's information criteria. The results show that, price, brand, country of origin, quality, and interaction effect between brand and country-of-origin are statistically significant.

To calculate the mean willingness-to-pay for each attribute, we estimated the corresponding values: (range of prices)*-b (attribute)/b (price). Each of these values is understood to be a price change associated with a unit increase of a given attribute. Model 5 in Table 2-1 indicates that the differences in quality, brand, and country-of-origin are perceived to be equivalent to JPY 73,700 (US$589), JPY 39,900 (US$319), JPY 27,500 (US$220), respectively. These values are reasonable considering market prices of PCs in Japan. Estimated parameters of Model 5 demonstrate that the interaction between country of origin and brand is statistically significant. The negative parameter (-.107) means that the country of origin effect is stronger for SOTEC than Toshiba. Thus H1 is supported.

In order to test H2, the interaction term between involvement and country of origin was added to the independent variables (Model 6.) The results indicate that the interaction between involvement and country of origin is negative and statistically significant, which shows that the country of origin effect is stronger for less involved respondents. Thus H2 is also supported.

Table: 2-1 Conjoint Analysis of Personal Computer Attributes (4 attributes)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	0.227***	0.304***	0.241***	0.205***	0.178***	0.178***
Price		-0.154***	-0.154***	-0.154***	-0.154***	-0.154***
Brand			0.127***	0.127***	0.181***	0.181***
COO				0.072***	0.125***	0.152**
Quality	0.227***	0.227***	0.227***	0.227***	0.227***	0.227***
C*B					-0.107**	-0.107**
I*C						-0.013*
R square	0.170	0.248	0.302	0.319	0.328	0.329
Akaike`s Information Criteria	-1436.111	-1485.753	-1522.000	-1532.768	-1538.087	-1536.545

Note: C*B: interaction effect between country of origin and brand name

  I*C: interaction effect between involvement and country of origin

  Significance level (*** p<0.001, ** p< 0.01, and * p<0.05)

Table 2-2 Conjoint Analysis of Personal Computer Attributes (5 attributes)

	Model 1	Model 2	Model 3	Model 4
Constant	0.151***	0.151***	0.151***	0.177***
Price	-0.091***		-0.091***	-0.091***
Brand	-0.013	-0.013	-0.013	-0.013
Country	0.125*	0.034	0.125***	0.072*
Quality	0.231***	0.140***	0.231***	0.231***
Warranty	0.126***	0.126***	0.221***	0.072*
C*Q		0.182***		
C*W				0.107**
Involvement			-0.046*	
R square	0.309	0.309	0.316	0.318
Akaike`s Information Criteria	-1523.248	-1523.248	-1526.81	-1528.452

Table 2-2 (Continued) Conjoint Analysis of Personal Computer Attributes (5 attributes)

	Model 5	Model 6	Model 7	Model 8	Model 9
Constant	0.177***	0.177***	0.132***	0.177***	0.171***
Price		-0.091***			
Brand	-0.013	-0.013	-0.013	-0.013	
Country	-0.019*	0.072*	0.072*	-0.019*	-0.019*
Quality	0.140***	0.231***	0.231***	0.140***	0.140***
Warranty	0.072*	0.072*	0.072*	0.168***	0.168***
C*Q	0.182***			0.182***	0.182***
C*W	0.107**	0.107***	0.107**	0.107**	0.107**
Involvement		0.000		-0.046*	-0.046*
R square	0.318	0.318	0.291	0.325	0.325
Akaike`s Information Criteria	-1528.452	-1526.452	-1510.03	-1532.095	-1533.673

Note: C*Q: interaction effect between country of origin and quality.
C*W: interaction effect between country of origin and warranty.
Significance level (*** $p<0.001$, ** $p< 0.01$, and * $p<0.05$)

Study 2

In the second study, we introduced warranty as an independent variable into the conjoint analysis. To highlight this variable, the price gap was given a negligible value (5,000 yen), as compared to study 1 where the price gap was 50,000 yen. Also, relatively small quality gap was given in Study 2 (See Design of stimulus.) As for other attributes, the same stimulus sets (including brands and country of origin) were used. Possibly due to the smaller difference in these attributes such as price and quality as compared to Study 1, respondents seemed to give more attention to the newly introduced attribute (warranty) and targeted their response around it.

As in Study 1, the mean willingness-to-pay values for each attribute were computed. For example, Model 1 in Table 2-2 indicates that the differences in brand, country-of-origin, quality, and warranty are perceived to be equivalent to JPY -708, JPY 6900, JPY12700, JPY6900, respectively. A negative value (-708 yen) is somewhat contradictory because this result indicates that SOTEC is more preferred than Toshiba although this value is not statistically significant. These unexpected parameters may be due to the repetition of the similar sets of attributes, as discussed above.

Model 9 was chosen as the best model among the models for four independent variables (brand, country, quality, warranty) according to Akaike's information criteria. This model shows two interaction terms are statistically significant; namely interaction between COO and quality, COO and warranty. Positive parameters of these interaction effects show that. COO effects are stronger for products of higher quality and products with full warranty. This is completely opposite to H3, thus H3 was not supported.

LIMITATIONS

The study was conducted in only one country, with a small number (N=65) of homogeneous consumer group (student subject). The generalization of the study should be tested for other consumer groups, including consumers in other countries. Since conjoint analysis is normally only applicable to utilitarian products such as personal computers, non utilitarian (luxury) products should be tested with a different method.

DISCUSSION AND CONCLUSION

In this research we conducted two conjoint studies. In the first study we used 4 attributes of personal computers namely – price, brand name, country of origin and product quality (RAM & HDD). This study showed us statistically significant results concerning all the attributes. It also indicated that country of origin effect is stronger for SOTEC than Toshiba. H1 and H2 were supported. In the second study, we introduced the fifth attribute (warranty) along with the existing four attributes. However, the results were contradictory. H3 was not supported. We think the repetition of a similar attributes might have affected respondents in the Study 2. Results of the conjoint analysis suggest that the respondents

may have been focusing their attention to the newly introduced attribute. For example, in Study 2, the effect of brands is not statistically significant despite using the same set of attributes as in Study 1. In contrast, the quality and warranty were highly and statistically significant in the Study 2. These unexpected results can be attributed to the repetition of similar attributes both in Study 1 and Study 2. Despite such methodological shortcomings of the Study 2, we believe that based on the theoretically rigorous and practically tractable procedure, this study offers new perspectives.

From the findings of the conjoint analysis including other product cues, we may propose that country of origin effect should be considered as a low scope cue. The effect of country of origin is contingent on other variables. As we can see from both of the study results, the interaction effects of country of origin are strong. This is an indication that as an individual attribute, without the existence of other cues COO has not a very strong influence on consumer decision making. It should be used in combination with other high scope variables for the purpose of getting appropriate outcomes. The designing process of the conjoint analysis is relatively complex. If too many options are included respondents may resort to simplification strategies, we got a hint of that in the data collected from the second study.

The area of research in cue diagnosticity theory has a number of empirical studies done with experimental methodology (For example, see Purohit & Srivastava,2001). This research was motivated by their interest in how consumers deal with pre-purchase product uncertainty by assessing product quality based on multiple cues. The cue diagnosticity framework suggests that the extent to which a cue is used in product quality judgment varies with the other cues that are available. They proved warranty as a low scope cue. Another study worth mentioning is Shimp & Bearden (1982). In this research warranty was emphasized as a product attribute. Warranty quality, warrantor reputation, and price were manipulated in five separate experiments that were designed to examine the effect of these cues on consumer perceptions. In this sense, our conjoint analysis is an important theoretical contribution because it shows that country of origin effect is a low scope cue. With the continuation of further research, there will be very good opportunity to contribute to theoretical and practical implications in this area of study.

Additionally, this study offers an important managerial implication. As we all know, country of origin effect exists as a negative attribute for most of the countries of the world. Only a few developed countries enjoy the perception of country of origin as an advantageous attribute in a limited number of product categories. However, most countries in the world try to participate in international marketing. So anyhow they must overcome the unlucky position they are holding. This study seems to indicate that country of origin works as a low scope cue. This means, it will become influential only at the existence of other high scope cues. Hence, the managers should start to look for combinations of high scope cues and low scope cues such as the COO effect. Hopefully that will overcome the disadvantages faced by developing countries in the arena of international marketing.

REFERENCES:

12

Aaker, D. (1996). *Building strong brands*. New York: Free Press.

Bilkey, W.J. and Nes E. (1982). Country of Origin Effect on product Evaluations, *Journal of international Business Studies*, No 13, Spring/Summer 1982, pp.89-99.

Boulding, W., & Kirmani,A. (1993). A consumer side experimental examination of signaling theory Do consumers perceive warranties as signals of quality?", *Journal of Consumer Research*, No 20, pp.111-123.

Chu,W. & Chu, W. (1994). Signaling quality by selling through reputable retailers: An example of renting the reputation of another agent. *Marketing Science*, No.13, pp.177-189.

Dodds, W, Monroe, K.B., & Grewal, D. (1991). Effects of price, brand and store information on buyers` product evaluations. *Journal of Marketing Research*, 28,pp.307-319.

Erickson, G.M., Johansson, J.K., and Chao, P. (1984). Image Attributes in Multi-attribute product evaluations, *Journal of Consumer Research*, vol.11, September 1984, pp. 694-99.

Ettenson, R. (1993). Brand name and country of origin effects in the emerging market economies of Russia, Poland and Hungary. *International Marketing Review*, 10, pp.14-36.

Grewal, D., Krishnan, R., Baker, J., & Borin, N. (1998). The effect of store name, brand name, and price discounts on consumers` evaluations and purchase intentions. *Journal of Retailing*, 74, pp.331-352.

Grossman, S. (1981). The information role of warranties and private disclosure about product quality. *Journal of Law and Economics*, 24, pp. 461-483.

Han, C.M. & Terpstra, V, V. (1988). "Country of Origin effects for Uni-national and Bi-national products", *Journal of International Business Studies*, No 14, summer 1988, pp.235-255.

Hong, Sung-Tai& Robert. S .Wyer,Jr. (1989). Effects of country-of-origin and Product-attribute information on product evaluation: an information processing perspective. *Journal of Consumer Research*,16(September)pp.175-87.

Johansson, Johny, K. (1989). Determinants and effects of the use of `made in` labels. *International Marketing Review*, 6(1): pp.47-58.

Kihlstrom, R.E., & Riordan, M.H. (1984). Advertising as a signal. *Journal of Political Economy*, 92, pp.427-450.

Kirmani, A. (1990). The effect of perceived advertising costs on brand perceptions. *Journal of Consumer Research*, 17, pp.160-171.

Maheswaran, D. Mackie, D.M., & Chaiken, S. (1992). Brand name as a heuristic cue: the effects of task importance and expectancy confirmation on consumer judgments. *Journal of Consumer Psychology*, 1, pp.317-336.

Milgrom, P., & Roberts, J. (1986). Price and advertising as signals of product quality. *Journal of Political Economy*, 94, pp.796-821.

Obermiller, Carl & Eric R. Spangenberg. (1989). Exploring the effects of country of origin labels: An information processing framework. In T.K. Srull, editor, *Advances in Consumer Research*, 16: pp.454-59.

Olson, J.C. (1977). Price as an informational cue: Effects on product evaluation. In A.G. Woodside, J.N. Sheth, & P.D. Bennet (Eds), *Consumer and Industrial Buying behavior*.pp.267-285. New York: Elsevier.

Ozsomer, A., & Cavusgil, S.T. (1991). Country of origin effect on product evaluations: A sequel to Bilkey and Nes ` review. In M.C.Gilly et al. (Eds.) ,*Proceedings of the American Marketing Association's annual summer meeting*. pp.267-277.

Pecotich, A., & Rosenthal, M.J.(2001) . Country of origin, quality, brand and consumer ethnocentrism. *Journal of Global Marketing*, 15(2), pp. 31-60.

Peterson, R .A., & Jolibert, A.J. P. (1995). A Meta Analysis of country-of - origin effects. *Journal of International Business Studies*, 26(4), pp.883-900.

Purohit, D, & Srivastava, J,. (2001). Effects of Manufacturer Reputation, Retailer Reputation, and Product Warranty on Consumer Judgment of Product Quality: a Cue Diagnosticity Framework. *Journal of Consumer Psychology*, 10(3),pp. 123-134.

Rao , A.R., & Monroe, K.B.(1989). The effect of price, brand name, and store name on buyer's perception of product quality: An investigative review. *Journal of Marketing Research,* 26, pp.351-357.

Schooler , Robert, D. (1965). Product Biases in the Central American Common Market. *Journal of Marketing Research*, 4 (November): 394-97.

Shimp, T.A., & Bearden, W.O. (1982). Warranty and other extrinsic cue effects on consumers' risk perceptions. *Journal of Consumer research*, 9, pp.38-46.

Slovic, P., & Lischtenstein, S.(1971). Comparison of Bayesian and regression approaches to the study of information processing in judgment. *Organizational behavior and Human Performance*, 11, pp.649-744.

Wolinsky, A. (1983). Price as signals of product quality. *Review of Economic Studies*, 50, pp647-658.

Survey about Personal Computers

Q) 1-1. Up to now, how many personal computers (including notebook and desktop type) did you buy?

0) none 1) 1   2) 2   3)   4)   5)   6) 6 or more

Q) 1-2. Do you own a personal computer now?

0) no
1) yes   desktop type
2) yes   notebook type
3) yes   Desktop and note book both

Q) 1-3. What do you think about your PC skill level in comparison to your friends?

1) I know about PCs a lot more than my friends
2) I know about PCs as much as my friends know.
3) I don't know as much as my friends.

Q2. The following table includes eight different models of PCs (A4 notebook, Windows VISTA). If you buy a PC, which one do you like best? Give rankings to these eight models based on your preference.

	A	B	C	D	E	F	G	H
Price	150,000 yen	200,000 yen	150,000 yen	150,000 yen	200,000 yen	200,000 yen	150,000 yen	200,000 yen
Maker	SOTEC	SOTEC	TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA	SOTEC	SOTEC
Country	Japan	Japan	Indonesia	Japan	Indonesia	Japan	Indonesia	Indonesia
Hard disk	100GB	60GB	100GB	60GB	60GB	100GB	60GB	100GB
RAM	2	1	2	1	1	2	1	2
Rank the models based on your preference								

Q3 As in Q2, the following table also includes eight different models of PCs (A4 notebook, Windows VISTA). Rank these eight models based on your preference.

	A	B	C	D	E	F	G	H
Price	180,000 yen	175,000 yen	180,000 yen	175,000 yen	175,000 yen	180,000 yen	175,000 yen	180,000 yen
Maker	SOTEC	SOTEC	TOSHIBA	TOSHIBA	TOSHIBA	TOSHIBA	SOTEC	SOTEC
Country	Japan	Japan	Indonesia	Japan	Indonesia	Japan	Indonesia	Indonesia
Hard disk	40 GB	100 GB	100 GB	100 GB	40 GB	40 GB	40 GB	100 GB
RAM	512MB	2	2	2	512MB	512MB	512MB	2
Warranty	No warranty	Three year full warranty	No warranty	No warranty	Three year full warranty	Three year full warranty	No warranty	Three year full warranty
Rank the models based on your preference								

Q) 4. How important the following things will be when you buy a PC   Encircle (O) the appropriate number.

	Not Important at all	Not very important	Somewhat important	Very important
Price	1	2	3	4
Maker	1	2	3	4
Country of origin	1	2	3	4
RAM volume	1	2	3	4
Hard Disk capacity	1	2	3	4
Guaranty	1	2	3	4
Design	1	2	3	4
Preinstalled software	1	2	3	4
Compatibility with my previous PC	1	2	3	4
Opinion of the friends	1	2	3	4
Ranking in Magazines and websites	1	2	3	4

Q) 5. Suppose price and quality are the same for all products. Which maker's product would you like to buy? Please rank the makers in order of your preference.

Makers name	Dell	Toshiba	SONY	SOTEC	HP
From the most preferred to the least preferred 1,2,..,5					

Q) 6. Your gender: Male (1) Female (2)
       Nationality : Japanese (1)   Foreigner (2)