ORIGINAL RESEARCH:

The effect of product quality attributes on Thai consumers' buying decisions

Pajaree Ackaradejruangsri [1]

Abstract

This paper presents the results of an extended study that was first published here at *RJAPS (vol. 31, 2012)* as "Defining Thai Product Quality in the 21st Century"; the research follows with a detailed examination of the effects of product quality attribute dimensions on Thai consumers' buying decisions, specifically in the three product categories of electronics/IT products, automobiles, and home appliances. Further analysis of the responses to questionnaires distributed at the point of sale (POS) in Chonburi Province, Thailand shows that the seven examined attribute dimensions overall have relatively similar weight and influence on Thai consumers' buying decisions, with 'reliability', 'function', and 'durability' being the most influential attribute dimensions and 'eco-friendliness' and 'customer satisfaction' being less influential. Other attribute dimensions that may have some effect on Thai consumers' buying decisions include 'support service', 'value for money', and 'adaptability'. In addition, a number of demographic determinants including gender, age, education and income level were associated with and appeared to influence the impact of the attribute dimensions on Thai consumers' buying decisions.

Keywords: Attribute dimension, Consumer buying decision, Demographic determinants, Product quality, Thailand.

Introduction

When wanting to buy a product, the criteria that consumers commonly point out include 'good features', 'excellent function', 'high quality', 'technology resolution', 'reasonable price', 'well-known brand', 'durability', 'after sale service' and 'user-friendliness'. With global markets growing and rapidly emerging, the existing markets increasingly develop along the globalization processes and move towards a so-called global product standard. For market efficiency and effectiveness, where maximum opportunities exist to both sellers and buyers at minimum cost, information must be collected on the buying behaviour of consumers as they may have different values and use diverse methods for product quality evaluation; this issue has recently attracted the attention of many researchers from various disciplines, and while the concept of product quality has become a well-liked topic among researchers and business practitioners in recent years, few researches have touched on the attribute dimensions of product quality that directly have an effect on customers' buying decisions (Avery and Zabel, 1997).

Consumers may use a form of assessment to determine and make their purchasing decisions, especially when buying a quality product. Such assessments are particularly used when (a) there is a need to reduce the perceived risk of purchase (Jacoby, Olson and Haddock, 1971; Olson, 1977), (b) the consumer lacks expertise and consequently has little or no chance to assess quality (Rao and Monroe, 1988), (c) the consumer involvement is very low (Celsi and Olson, 1988), (d) the product quality is too complex for the consumer to assess (Allison and Uhl, 1964; Hoch and Ha, 1986), or (e) there is a preference or need to search for more information (Nelson 1970, 1974, 1978).

[1]Graduate School of Asia Pacific Studies, Ritsumeikan Asian Pacific University (APU), Beppu City, Oita, Japan
e-mail: pajaree.ack@gmail.com

By definition, quality attributes or product quality attributes refer to the cues that could be used by consumers to infer some expected and/or experienced (product) quality; 'experienced quality' refers to the result of physical evaluations of the product when experiencing, utilizing, or consuming the product, whilst 'expected quality' refers to the point of purchase, before experiencing or consuming the product. Although, experienced product quality and expected product quality are two different terms, however, due to their usage in perceiving different levels of product quality through both intrinsic and extrinsic cues, they are somewhat correlated and often used in the visual demonstration of product quality attributes valuations (Acebron and Dopico, 1999).

Product quality attributes are also called product quality criteria by Grunert et al. (1996). They refer to the functional and psychological benefits provided by the product (Steenkamp, 1990) that are hardly observable prior to consumption. Prior to consumption, benefits are unclear and sometime even unknown. For this reason, consumers may use many cues in comparing the available alternatives and rate their evaluations of the various product quality attribute dimensions before making the purchase or consumption decision (Steenkamp, 1989, 1990). Accordingly, firms often modify their product attributes. Other factors such as diversities in consumer preferences, advances in technological capabilities, changes in manufacturing costs, and competitions among the brands also drive the firms to modify and improve their product quality attributes to find a more competitive position (Ofek and Srinivasan, 2002).

From a theoretical point of view, several signals and product related attributes/cues could serve as assessment tools in guiding a consumer's purchasing decision. Common signals include brand name or brand advertising (Akerlof, 1970; Darby and Kami, 1973; Olson, 1977; Ross, 1988; Milgrom and Roberts, 1986), product features or appearance (Nelson, 1970; Olson, 1977), price (Leavitt, 1954; Milgrom and Roberts, 1986; Olson, 1972, 1977; Rao and Monroe, 1989; Scitovsky, 1945; Wolinsky, 1983), product/retail reputation, store name, warranty, and guarantee (Cooper and Ross, 1985; Emons, 1988; Olson, 1977; Rao and Monroe, 1989). They can be categorized predominantly into intrinsic cues and extrinsic cues. Intrinsic cues involve characteristics of a product that tangibly are a physical part of the product, and cannot be changed without changing the physical product itself (Olson, 1977; Olson and Jacoby, 1972). For instance, flavor, color, texture, and degree of freshness are example attributes of intrinsic cues that could be used in evaluating food quality. On the other hand, extrinsic cues involve characteristics that are related to the product, but are not physically part of it (Olson, 1977). Price, brand name, country of origin, type of outlet, presentation of a product, influence of store personnel, promotion, packaging, advertising, are some examples for extrinsic cues (Steenkamp, 1989).

Many researches have been performed to study the relations between intrinsic/extrinsic cues and product quality evaluation and how they that lead to a consumer's buying decision (Holbrook & Corfirian, 1985; Nowlis and Simonson, 1996). Price, brand name, store name, and the country of origin as parts of extrinsic cues have been particularly highlighted as product quality indications. Many researches have investigated the effect of price on product quality and showed that consumers generally use price to infer product quality when price is the only available or accessible source or cue. In addition, a study by Jacoby, Olson, and Haddock (1971) demonstrated that intrinsic cues also have large effects on product quality evaluation and consumer buying decision. For example, in marketing research, a blind test of a beverage product may be done in which a consumer is allowed only to taste and see the color or the texture of an unnamed drink, and decide simply based on the flavour or actual taste whether to buy or not to buy without knowing who is the producer or what the price would be.

Intrinsic cues as well as extrinsic cues are very important for product quality related attribute evaluation and studying consumers' buying decisions; it can be said that product quality is a multidimensional construct with a variety of characteristics for which consumer may exhibit a heterogeneous preference structure (Maynes, 1976). Few researches have studied composite attribute dimensions that include both intrinsic and extrinsic cues on consumer buying decision in a specific country (Avery and Zabel, 1997). This research takes Thailand as a case study and extends the author's previous study of *"Defining Thai Product Quality in the 21st Century"* published in this very journal (Ackaradejruangsri, 2012) which attempted to identify the product quality attribute dimensions that influence Thai consumers' buying decisions. Here we further examine the effect of product quality attribute dimensions on Thai consumers' buying decisions, specifically in the three product categories of electronics/IT products, automobiles, and home appliances.

Methodology

Both secondary information gathered through literature review and primary data collected by the author of this study from questionnaires given to Thai consumers were used to examine the attribute dimensions on product quality and the effect on Thai consumers' buying decisions. In a previous study questionnaires were handed out to three consumer target groups of electronics/ IT products (mobile phone, computer, laptop, and tablet), automobiles, and home appliances (television, refrigerator, washing machine, and air conditioner) at the point of sale (POS) in various stores and shopping malls in Chonburi Province (Ackaradejruangsri, 2012). Questionnaires were distributed at the POS to 500 random customers in shopping malls and local stores of Chonburi, Thailand and 308 responses were collected, 144 from consumers of electronics/ IT products, 77 from buyers of automobiles and 87 from buyers of home appliances (Ackaradejruangsri, 2012).

The consumers who had just bought a product from the three mentioned product categories were questioned about the attribute dimensions that influenced their buying decisions. The findings from the questionnaires were used in this research, specifically those related to the three questions of "what product(s) did you buy?", "what factors influenced your decision to buy it?" and "what factor(s) can be used to evaluate product quality?"

Regarding the second question (what factors influenced your decision to buy this product?), the respondents were requested to rank their preferences in seven given attribute dimensions. These included 'function', 'ease of use', 'reliability', 'durability', 'design', 'eco-friendliness', and 'customer satisfaction'. Thus each factor was ranked on a numerical scale from 1 up to 7. The average rank for each product category was calculated by summing up the scores collected in each attribute dimention for all products in that category and dividing it to the number of purchases made.

There were additional questions about the background of the respondents, such as gender, age, education, and monthly income, to look for possible influences of such factors on consumers' buying decisions. These will also be discussed here.

The findings of this study may be beneficial to consumers, by delivering a useful and composite set of product quality attribute dimensions, and to the business sector, by providing guidance on product design, and helping them understand consumers' needs, wants, and expectations on product quality, particularly in the area of electronics/IT products, automobiles, and home appliances.

Findings and Discussion

Responding to the question of "what factors influenced your decision in buying this product?", there were 308 responses, 144 by consumers of electronics and IT products, 77 by buyers of automobiles, and 87 by consumers of home appliances. In the electronics/IT products sector, 'function' played the most influential role in making a buying decision, followed by 'reliability', 'design', 'durability', 'ease of use', 'customer satisfaction', and 'eco-friendliness'. Automobile buyers gave slightly different responses where 'durability' had the largest effect on buying decision, followed closely by 'reliability', 'eco-friendliness', 'design', 'customer satisfaction', 'function' and 'ease of use'. The differences in the impact of these attributes were statistically insignificant. Home appliance consumers, regarded 'durability' and 'reliability' as the first and second most influential attributes, followed by 'function', 'ease of use', 'eco-friendliness', 'design', and 'customer satisfaction'.

Interestingly, demographic determinants such as gender, age, education, and monthly income of the respondents had a significant impact on consumer buying decision and seven attribute dimensions.

***Gender**:* The majority of the respondents, except for the automobile market, were female, implying the larger role of women in making buying decisions. Men and women both saw 'function', 'reliability', 'durability', and 'design' as their most important attribute dimensions in the overall three product categories; 'ease of use' had a slightly greater effect on female buying decision than males. The average point given by male and female customers to 'function' (5.42 and 5.51, respectively) was the highest score in the electronics/IT products sector. For automobiles, men gave 'reliability' at an average point of 4.73 as the highest factor whereas women gave 'eco-friendliness' at an average point of 4.58 as the highest average score. For home appliances, men gave 'function' an average point of 4.67 as the most important factor, while women gave 'durability' an average point of 5.00 as their highest average score (Table 1).

Among the three product categories, the biggest variance in data was seen in electronics/IT products, with 0.87 for men and 0.95 for women, compared with variances of 0.24, 0.21 (for automobiles) and 0.16, 0.38 (for home appliances) among men and women, respectively. The larger variance implies that different consumers evaluated the seven-attribute dimensions more diversely, for example in regard with electronics/IT products as compared with automobiles and home appliances.

Table 1: The rankings and the average ranking score of attributes associated with consumers' buying decisions, by gender. 'R' shows the rank of each attribute among the seven attributes; the mean score by respondents is also provided.

		function		ease of use		reliability		durability		design		Eco-friendly		satisfaction	
		R	Mean	R	Mean	R	Mean	R	Mean	R	Mean	R	Mean	R	Mean
Male	IT	1	5.42	5	3.90	2	4.32	3	4.16	4	4.10	7	2.26	6	3.85
	Auto	7	3.43	6	3.48	1	4.73	2	4.4	3	4.30	4	3.85	5	3.83
	Home	1	4.67	4	3.79	3	4.21	2	4.36	5	3.72	7	3.63	6	3.67
	Overal	**1**	**4.64**	**6**	**3.75**	**2**	**4.41**	**3**	**4.28**	**4**	**4.07**	**7**	**3.07**	**5**	**3.80**
Female	IT	1	5.51	4	3.94	2	4.44	6	3.77	3	4.26	7	2.26	5	3.83
	Auto	5	3.92	7	3.31	4	3.97	2	4.53	3	4.06	1	4.58	6	3.64
	Home	4	3.79	3	4.36	2	4.49	1	5.00	6	3.51	5	3.57	7	3.33
	Overal	**1**	**4.64**	**5**	**3.94**	**2**	**4.36**	**3**	**4.31**	**4**	**3.98**	**7**	**3.15**	**6**	**3.63**

Age: The respondents were allocated into eight separate age groups: those less than 20 years old, from 21-25, 26-30, 31-35, 36-40, 41-45, 46-50, and 51-and up. The respondents whose age was between 31-35 and 26-30 years old appeared to be the major target consumers on the three product categories (21.1% and 16.23%, respectively). Those under 20 years old valued 'function', 'design', and 'reliability' as their most important factors; they were predominantly customers of electronics/IT products. Among those between 21-25 years old, the overall evaluation was comparable and similar to the previous age group; however, the 'durability' attribute was also seen as a very influential factor in evaluating automobile and home appliance.

Those between 26-30 years of age ranked 'function', 'ease of use', and 'durability' as their top three attribute dimensions on buying electronics/IT products; 'reliability', 'durability', and 'design' for automobiles; and 'durability', 'ease of use', and 'reliability' for home appliances. Thus, in this age group the respondents started to take 'ease of use' into consideration when deciding to buy a product. For those between 31-35 years of age, the top three attributes were 'function', 'durability', and 'reliability'. Among those between 36-40 years old, the respondents started to weigh 'eco-friendliness' as the second important attribute dimension in buying decision, especially for automobile and home appliances. However in terms of the overall attributes in three product categories, 'function', 'reliability', and 'durability' still were the most dominant attribute dimensions in their buying decision.

For those between 41-45 years old, 'reliability', 'customer satisfaction', and 'function' were the most influential attribute dimensions in their overall buying decision. Specifically in this age group, 'customer satisfaction' was firstly raised and ranked as the second influential attribute dimension for both electronics/IT products and automobiles. Overall, 'reliability' was ranked as the most influential attribute dimension in all product categories.

For those between 46-50 years old and above, the effects of attributes on their buying decision were very much alike, especially for electronics/IT products. In these age groups, the respondents evaluated 'function', 'reliability', and 'design' as the most influential attribute dimensions in buying electronics/IT products; however, the effects of attributes for customers of automobiles and home appliances were rather different. They saw 'eco-friendliness', 'customer satisfaction', and 'durability' as the most important attributes when deciding to buy a car, whereas 'function', 'ease of use', and 'reliability' were the leading attributes for home appliance buying decision. Those at 51 years of age and above ranked 'reliability', 'durability', and 'ease of use' as their most influential attribute dimensions in buying automobiles and home appliances.

In term of average point/mean, the attribute 'function' received the greatest highest average score for electronics/IT products in nearly all age groups, except for those at 46 years of age and above. Most of respondents across all age groups ranked the 'durability' attribute as the most influential factor for home appliance buying decision. However the results for automobile purchase were varied in different age groups. In younger age groups, the respondents frequently valued 'design' as their most influential attribute, whereas in older age groups, 'durability', 'reliability', and 'eco-friendliness' attributes were held at higher average scores.

In general, the variances of three product categories were higher among younger age groups than senior age groups. The smaller variance, predominantly in home appliances, implies that consumers ranked and evaluated these seven attribute dimensions evenly and close to the average point/mean.

Accordingly, the study could draw three common trends, for the younger age group, middle age group, and older age group. The younger age group among respondents represents consumers who are young, fresh,

and fascinated with new gadgets in the market. Accordingly, 'design' and 'reliability' (which includes brand and trademark), were valued and ranked at the top for a buying decision. The middle age group of respondents, from 26-40, represents consumers who have contemporary and casual lifestyles, and like modern-ness but seek simple and stress-free lives. They recognize and evaluate 'ease of use' and 'eco-friendliness' but also praise 'design' and 'reliability' as the most influential factors in their buying decisions. The older age group, from 41 and up, represents mature consumers who generally make a buying decision according to experience of use, expectations, and overall perception. They would possibly take many attributes into consideration and their satisfaction or 'customer satisfaction' attribute also plays a major role in their buying decisions.

Education: The study divided the respondents into three education groups, respondents without a bachelor degree, those with a bachelor degree, and those with a higher degree. Respondents with a bachelor degree were the most frequent among consumers of the three product categories in the study. The result of the effects of attribute dimensions on consumer buying decision by education is illustrated in Table 2.

Table 2: Effects of attributes on consumer buying decision by education

		function		ease of use		reliability		durability		design		Eco-friendliness		satisfaction	
		R	Mean	R	Mean	R	Mean	R	Mean	R	Mean	R	Mean	R	Mean
<Bachelor	IT	1	5.94	4	4.03	2	4.29	6	3.54	3	4.2	7	2.37	5	3.66
	Auto	6	3.32	7	3.2	1	4.56	1	4.46	3	4.36	4	4.24	5	3.76
	Home	2	4.35	3	4.12	4	4.08	1	4.77	6	3.65	7	3.01	5	3.88
	Overal	**1**	**4.7**	**5**	**3.81**	**2**	**4.3**	**3**	**4.2**	**4**	**4.08**	**7**	**3.2**	**6**	**3.76**
Bachelor	IT	1	5.43	5	3.95	2	4.37	4	4.01	3	4.05	7	2.27	6	3.92
	Auto	5	3.73	7	3.46	1	4.73	2	4.6	3	4.02	4	3.83	6	3.62
	Home	4	3.85	3	4.35	2	4.39	1	4.96	6	3.54	5	3.78	7	3.15
	Overal	**1**	**4.61**	**4**	**3.95**	**2**	**4.46**	**3**	**4.4**	**5**	**3.90**	**7**	**3.04**	**6**	**3.64**
>Bachelor	IT	1	4.96	6	3.7	3	4.58	4	4.23	2	4.62	7	2.08	5	3.85
	Auto	5	3.87	6	3.47	7	3.3	3	4.07	2	4.20	1	5.07	4	4
	Home	1	4.8	4	3.67	2	4.73	3	4.07	7	3.47	6	3.6	4	3.67
	Overal	**1**	**4.63**	**6**	**3.63**	**2**	**4.29**	**4**	**4.14**	**3**	**4.10**	**7**	**3.29**	**5**	**3.84**

Among those with education under a bachelor degree, 'function', 'reliability', and 'design' were at the top for electronics/IT products buying decision. For buying a car as well as home appliances, 'reliability', 'durability', and 'design' were the most important attributes.

Among those with a bachelor degree, attributes for a buying decision were similar to the previous group, particularly in electronics/IT products and automobiles. However, they valued 'reliability' at more weight than 'function' in a buying decision for home appliances.

Those with a higher degree provided similar responses ranking 'function', 'design', and 'reliability' as the most influential attribute dimensions for electronics/IT products; however for cars, the finding was unique, with respondents strongly evaluating 'eco-friendliness' as the most influential factor in their buying decisions. In addition, smaller variances were seen across all education groups for the three product categories, which indicate that the overall impact of attributes on consumers' buying decisions is

comparable across all education groups. This simply implies that regardless of education level, 'function', 'reliability', and 'design' attributes tend to have the biggest impact on consumer buying decision for electronics/IT products, while 'durability', 'reliability', and 'eco-friendliness' are the most influential attribute dimensions in automobile buying decision, and 'durability', 'reliability', and 'function' are the most important attribute dimensions for home appliances.

Income: the study divided the respondents into five different income groups, respondents with an average monthly income less than or equal to 15,000 baht, between 15,001-25,000 baht, between 25,001-35,000 baht, between 35,001-45,000 baht, and above 45,000 baht. Respondents with an average monthly income between 15,001-25,000 baht and 15,000 baht or less were the largest groups among our respondents (32 baht was equivalent to 1 USD, as of August 2013). The result of the effects of attribute dimensions on consumer buying decision by income is illustrated in Table 3.

Table 3: Effects of attributes on consumer buying decision by income.

Income (in Baht)		function		ease of		reliability		durability		design		eco-		satisfaction	
		R	Mean	R	Mean	R	Mean	R	Mean	R	Mean	R	Mean	R	Mean
≤15,000	IT	1	5.53	5	3.87	2	4.42	4	3.90	3	4.40	7	2.15	6	3.75
	Auto	6	3.50	7	3.17	1	4.42	2	4.33	2	4.33	4	4.17	5	4.08
	Home	6	3.86	5	3.89	4	4.07	1	4.54	2	4.18	3	4.11	7	3.46
	Overall	**1**	**4.82**	**5**	**3.79**	**3**	**4.32**	**4**	**4.13**	**2**	**4.33**	**7**	**2.94**	**6**	**3.71**
15,001-25,000	IT	1	5.83	3	4.10	2	4.19	6	3.74	5	3.76	7	2.60	4	3.79
	Auto	6	3.42	7	3.39	2	4.50	1	4.69	4	3.92	3	4.19	5	3.89
	Home	2	4.61	3	4.55	4	3.94	1	5.03	6	3.33	7	3.18	5	3.42
	Overall	**1**	**4.81**	**4**	**4.06**	**3**	**4.19**	**2**	**4.41**	**6**	**3.66**	**7**	**3.20**	**5**	**3.69**
25,001-35,000	IT	1	5.06	6	3.69	3	4.33	5	3.75	4	4.38	7	2.06	2	4.63
	Auto	4	4.09	6	3.36	2	4.41	2	4.41	1	4.72	5	4.05	7	2.95
	Home	3	3.85	4	3.69	1	5.77	2	5	5	3.23	5	3.23	5	3.23
	Overall	**3**	**4.33**	**5**	**3.55**	**1**	**4.76**	**2**	**4.35**	**4**	**4.24**	**7**	**3.22**	**5**	**3.55**
35,001-45,000	IT	4	3.5	4	3.5	1	5.33	1	5.33	4	3.5	7	1.67	3	5.17
	Auto	5	3.89	3	4	2	4.33	6	3.67	7	3.22	1	4.89	3	4
	Home	1	4.83	4	4.17	2	4.5	2	4.5	6	3.5	7	2.67	5	3.83
	Overall	**4**	**4.05**	**5**	**3.9**	**1**	**4.67**	**2**	**4.38**	**6**	**3.38**	**7**	**3.33**	**3**	**4.28**
>45,000	IT	1	5.45	5	4.05	3	4.4	4	4.2	2	4.5	7	2.2	6	3.2
	Auto	7	2.75	5	3	2	4.75	1	5.13	5	4.25	4	3.5	3	4.63
	Home	6	3.29	3	4.29	2	4.71	4	4	7	2.86	1	5.14	5	3.71
	Overall	**2**	**4.4**	**4**	**3.86**	**1**	**4.54**	**3**	**4.37**	**5**	**4.11**	**7**	**3.09**	**6**	**3.63**

Among those with an average monthly income less than or equal to 15,000 baht, in electronics/IT products, the respondents valued 'function', 'reliability', and 'design' as the top influential factors of their buying decisions. For automobiles, the respondents ranked 'reliability', 'durability', and 'design' as the most important attribute dimensions. For home appliances, the respondents gave 'durability', 'design', and 'eco-friendliness' as the most influential attributes. 'Design' appeared to be one of the top three important attribute dimensions in buying decisions in all three product categories.

Among those with a monthly income between 15,001-25,000 baht, 'function', 'durability', and 'reliability' were strongly praised as the most influential attribute dimensions. The respondents evaluated 'function', 'reliability', and 'ease of use' as their most important factors for electronics/IT products. In addition, 'durability', 'reliability', and 'eco-friendliness' ranked at the top in purchasing a car, while 'durability', 'function', and 'ease of use' were as the most influential factors for home appliances.

Among those with a monthly income between 25,001- 35,000 baht, 'reliability', 'durability', and 'function' were the most important attribute dimensions in overall buying decisions. However, the respondents in this income group started to add satisfaction or 'customer satisfaction' into their buying decisions, specifically when for electronics/IT products.

Those with an average monthly income between 35,001 – 45,000 baht and above, took various attributes into their consideration in making their purchasing decisions, particularly 'eco-friendliness' and 'customer satisfaction', but 'reliability' and 'durability' were still the two most influential attribute dimensions for a buying decision across three product categories.

Moreover, 'function' proved to be one of the most influential factors tin electronics/IT products buying decision. The variances of electronics/IT products were the highest among the three product categories. The bigger variances imply that the seven attribute dimensions ranked by respondent consumers of electronics/IT products were distributed far from the average point, as compared to the other two product categories.

The results clearly indicate that differences in demographic determinants, including gender, age, education, and income, have some significant influences on the seven attribute dimensions in consumers' buying decisions. Overall, 'reliability', 'function', and 'durability' had the biggest impact on consumer buying decision at various demographic determinants for electronic/IT products, automobiles, and home appliances.

Also 177 answers were received in response to the question of "what other factors can be used to evaluate product quality?" The respondents specified that they would consider 'support service', 'value for money', and 'adaptability' in evaluating product quality and making a buying decision. In addition, other potential factors might be 'product guarantee', 'feedback and review from previous users', 'product description', 'net sales in the market', as well as 'advertisement'. Both male and female respondents at an age between 31-35 and 36-40 years old who held a bachelor degree with an average monthly income of 25,000 baht or less mostly mentioned 'support service' as a significant factor in evaluating product quality. Furthermore, the majority of female respondents at the age of 26-30 years old who mostly held a bachelor degree with an average monthly income of 25,000 baht or less believed that 'value for money' had some influence on product quality evaluation and their final buying decisions.

Likewise, 'adaptability' was generally mentioned in evaluating product quality by male respondents, especially at the age of 26-30 years old with a bachelor degree and an average monthly income of 15,001-25,000 baht. Largely female respondents at various ages with or without a bachelor degree and an average monthly income of 25,000 baht or less commonly used 'advertisement', and 'review from previous users' in evaluating product quality. Therefore, the in-depth respondents/consumers' opinion poll revealed that 'support service', 'value for money', 'adaptability' and 'secondary data', such as feedbacks and reviews, performance of a product in the market, and advertisement, have some significance in the perception, decision, and product quality evaluation of customers.

'Support service' refers to all types of services provided by manufacturers and the intermediate seller/store which add extra value to a product and help increase the chance of a purchase. These include product guarantee/warranty, seller courtesy, accessibility/ availability of retail store, and etc. While 'value for money' refers to the value or the worth of a product compared with the price paid in order to obtain that product. Value of money under this context includes the original price compared with other brands or companies who provide a similar type of product, the price of repairing parts, and the price of resell as second hand. Finally, 'adaptability' basically implies that a product should be usable and adjustable disregarding the particular brand and the manufacturing company.

Conclusion

One of the aims of this study was to examine the effect of product quality attribute dimensions on the average Thai consumers' buying decisions, and that is why the sample area was selected from Chonburi province, not the capital city, Bangkok, where the average monthly incomes, expenses, and consumption levels are considerably higher. The research on attribute dimensions of product quality, and their impact on the average Thai consumers' buying decisions provided some significant results. First, 'reliability', 'function', and 'durability' are the three most important attribute dimensions that have the largest overall influence on Thai consumers' buying decisions in the three product categories examined. From the consumers' perspective, all the seven attribute dimensions have approximately comparable weight and influence on Thai consumers' buying decisions; however, 'eco-friendliness' and 'customer satisfaction' appear to have less influence on buying decisions in these three product categories. Also, 'support service', 'value for money', and 'adaptability' are additional attribute dimensions, which could be used for evaluating product quality and have an influence on buying decision.

The differences in demographic determinants including gender, age, education, and income have important effects on attribute dimensions used for Thai consumers' buying decisions. Overall, the seven attribute dimensions of 'function', 'ease of use', 'reliability', 'design', 'durability', 'eco-friendliness', and 'customer satisfaction', as well as the three additional attribute dimensions of 'support service', 'value for money', and 'adaptability' proved to have credible effects on the consumer buying decision in the case of Thailand, in that order.

This research has several limitations, which could serve as possible areas for future studies. First, the research focused on only three product categories and also the overall product quality attribute dimensions that influence on Thai consumers' buying decisions. The limited number of product categories might not be large enough to represent the overall product quality attribute dimensions' population. It would be interesting to test these product quality attribute dimensions on other types of product categories and see the effects and their validities.

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