

Understanding of Perceived Product Quality: Reviews and Recommendations

Somphol Vantamay

ABSTRACT

This article gives a review of the comprehensive concept of perceived product quality: definitions, impacts, factors affecting perceived product quality, determinants and consequences of perceived product quality, its dimensions. Besides, it also gives the recommendations for making perceived quality match actual quality. Nowadays, as businesses' competition becomes greater, the concept of perceived product quality is rapidly becoming an important, strategic tool in marketing management to make a difference of their products. In this article, perceived product quality is defined as the consumer's perception of overall components of the product -- both the tangible and intangible characteristics. It is so different from actual quality that it can powerfully affect the profit margins, brand power and market share, brand equity, perceived value, returns on investment (ROI) and profitability. Factors affecting perceived product quality have two cues the intrinsic cues and the extrinsic cues. The perceived product quality also has various dimensions such as performance, features, conformance, reliability, durability, serviceability, and "fit and finish". In the last part, the recommendations to make perceived quality match actual quality are included in this article.

Keyword: perceived product quality

บทคัดย่อ

บทความชิ้นนี้มีวัตถุประสงค์ที่จะนำเสนอแนวคิดเรื่องคุณภาพสินค้าที่ถูกรับรู้ (Perceived Product Quality) ทั้งในด้านความหมาย ผลกระทบ ปัจจัยที่มีผลต่อคุณภาพสินค้าที่ถูกรับรู้ ตัวกำหนดและผลลัพธ์ของคุณภาพสินค้าที่ถูกรับรู้ ตลอดจนองค์ประกอบของคุณภาพสินค้าที่ถูกรับรู้ ทั้งนี้เนื่องมาจากในปัจจุบัน ขณะที่การแข่งขันทางธุรกิจมีเพิ่มสูงขึ้น แนวคิดเรื่องคุณภาพสินค้าที่ถูกรับรู้จึงได้กลายมาเป็นเครื่องมือเชิงกลยุทธ์ในการจัดการทางการตลาดเพื่อสร้างความแตกต่างให้กับสินค้ามากยิ่งขึ้น ในบทความนี้ คุณภาพสินค้าที่ถูกรับรู้ จึงหมายถึง การรับรู้ของผู้บริโภคที่มีต่อองค์ประกอบทั้งหมดของสินค้า ซึ่งรวมถึงสิ่งที่จับต้องได้และสิ่งที่จับต้องไม่ได้ และที่สำคัญคือ คุณภาพสินค้าที่ถูกรับรู้นั้นไม่เหมือนกับคุณภาพสินค้าที่แท้จริงอย่างแน่

นอน แนวคิดคุณภาพสินค้าที่ถูกรับรู้นับว่าส่งผลกระทบต่ออย่างยิ่งต่อผลกำไร พลังในตราสินค้า ส่วนครองตลาด คุณค่าตราสินค้า คุณค่าที่ถูกรับรู้ ผลตอบแทนจากการลงทุน และความสามารถในการทำกำไรของธุรกิจเป็นอย่างมาก ปัจจัยที่ส่งผลต่อคุณภาพสินค้าที่ถูกรับรู้นั้นสามารถแบ่งได้ออกเป็น 2 ลักษณะ คือ ปัจจัยภายในและปัจจัยภายนอก นอกจากนี้ คุณภาพสินค้าที่ถูกรับรู้ยังมีหลายองค์ประกอบ ได้แก่ ประสิทธิภาพการทำงาน คุณลักษณะ ความน่าเชื่อถือ ความสามารถตามเกณฑ์มาตรฐาน ความคงทน ความสามารถในการให้บริการ และความรู้สึกถึงความมีคุณภาพ ในตอนท้ายของบทความ ผู้เขียนได้เสนอแนวทางการทำให้สินค้านั้นถูกรับรู้จากผู้บริโภคว่าเป็นสินค้าที่มีคุณภาพ เพื่อให้สอดคล้องกับคุณภาพสินค้าที่แท้จริง

INTRODUCTION

As businesses' competition becomes greater significantly, the concept of perceived product quality is increasingly becoming much on the minds of academicians and marketing practitioners today. That is because the concept of perceived product quality not only affects the purchase intention of the consumer but also affects the market share, brand profitability, brand power, and brand equity (Aaker, 1996; Aaker & Jacobson, 1994; Garvin, 1984; Jacobson & Aaker, 1987; Stobart, 1994). Also, the knowledge of the consumer perception of quality is useful for the effective management of people in a quality organization environment (Forker, 1991). However, full-version academic articles of this construct in Thailand is hardly found. Consequently, this article is hoped to explore and make all readers who are interested in this concept --not only academics, but also marketers, brand managers, marketing managers, and marketing communications managers-- understand this concept deeply. Above all, I hope that every marketing practitioner who has already read this article can apply the knowledge of this concept to the real world in improving and developing the perceived product quality in their consumer perceptions efficiently.

DEFINITIONS OF PERCEIVED PRODUCT QUALITY

There are various academics defining the concept of perceived quality. According to Aaker and Joachimsthaler (2000), perceived quality is “a special type of association, partly because it influences brand associations in many contexts and partly because it has been empirically shown to affect profitability.” As Zeithaml (1988) said that perceived quality is “the consumer’s judgment about a product’s overall excellence or superiority.” Zeithaml (1988) emphasized that perceived quality is (1) different from objective or actual quality, (2) a higher level abstraction rather than a specific attribute of a product, (3) a global assessment that in some cases resembles attitude, and (4) a judgment usually made within a consumer’s evoked set. Similarly, the definition of perceived quality by Aaker (1991) is “the customer’s perception of the overall quality or superiority of the product or service with respect to its intended purpose, relative to alternatives.” In fact, the perceived quality is different from actual or objective quality, product-based quality, and manufacturing quality (Aaker, 1991). It can be viewed as the difference between overall quality and undetected quality. Furthermore, perceived quality may lead to consumer satisfaction, which is determined by perceived performance and expectation (Chaudhuri, 2002). Although there are a lot of definitions from many scholars, each of the definition has a shared common meaning; that is, perceived product quality is the consumer’s perception of overall components of product—both tangible and intangible characteristics. It may also include performance, features, reliability, conformance, durability, serviceability, and aesthetics etc. Above all, it is different from the actual quality of products.

IMPACTS OF PERCEIVED PRODUCT QUALITY

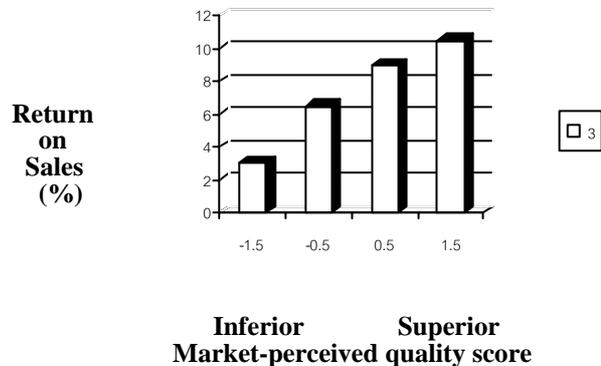
The perceived product quality has a powerful effect on various variables about business’ performances which can be described as follows:

1) Profit margins

Today, the widely-acknowledged importance of the perceived product quality has prompted scholars from a variety of disciplines to investigate and examine the impact of this concept (Aaker & Jacobson, 1987; Dodds, Monroe, & Grewal, 1991; Teas & Agarwal, 2000; Woodside & Taylor, 1978). First, perceived quality affects profit margins. The evidence is from studies of the Profit Impact of Market Strategy (PIMS) database developed at the Marketing Science Institute and the Strategic Planning Institute in Cambridge during the 1970s and 1980s. This database today contains data from some 3000 business units of 450 companies. The PIMS database is widely recognized as the only complete database in the world of strategic information on many different industries. Studies on the PIMS database dramatically confirm that market-perceived quality has the relationship with return on sales positively as shown in figure 1 (Stobart, 1994). The customers usually rely on perceived brand quality because they want to buy the best possible products, and the enormous profits that owners of successful

brands receive are in fact the reward for delivering high quality to their customers.

Figure 1: Market-perceived quality boosts margins



Source: Stobart, P. (1994). *Brand power*. London: MacMillan, p. 66.

2) Brand Power and Market Share

Stobart (1994) said that perceived product quality can result in brand power and dominant market share as shown in Figure 2. Let us now consider how the entrepreneurs and managers create power brands. They must start with a clear sense of needs and desire of a well-defined group of customers. They produce products and supply the associated services that meet those needs exceptionally well. Effective ‘quality control’ measures ensure they do things right the first time in delivering those products and services. Therefore, they achieve superior quality in areas that matter to the customer together with a cost structure no higher than that of lower-quality competitors. Then, they advertise to communicate their products’ advantages. The customer perceives the quality and the exceptional value is offered. The result: a power brand is created and dominant market share follows.

3) Brand Equity

Aaker (1991) stated that perceived product quality is one of the key dimensions of brand equity as shown in Figure 3. Perceived quality will directly influence purchase decisions and brand loyalty, especially when a buyer is not motivated or able to conduct a detailed analysis. It can also support a premium price which, in turn, can create a gross margin that can be reinvested in brand equity. From Figure 3, having brand equity will provide values to customers by enhancing customers’: (1) interpretation/processing of information (2) confidence in the purchase decision and (3) satisfaction. As part of its role in adding value for the customer, brand equity has also the potential to add values for the firm by increasing (1) efficiency and effectiveness of marketing programs (2) brand loyalty (3) prices/margins (4) brand extensions (5) trade leverage and (6) competitive advantages. Furthermore, perceived product quality can be the basis for a brand extension. If a brand is well-regarded in one context, the

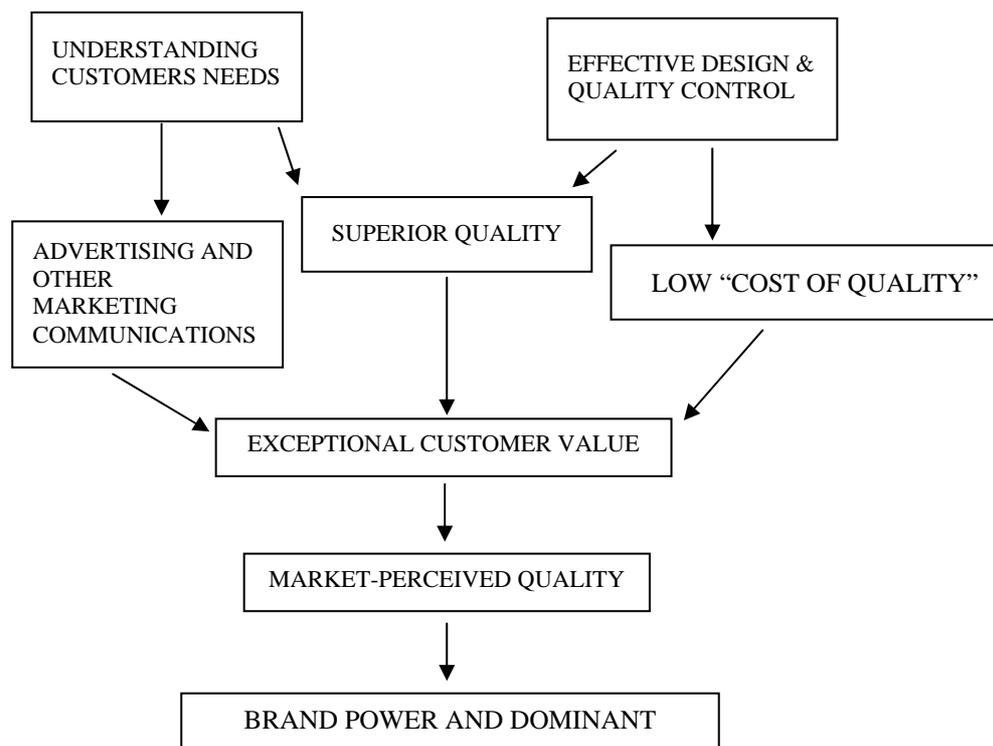
assumption will be that it will have high quality in related context as well.

4) Perceived Value

Besides, perceived product quality affects perceived value because it provides value in several ways. First, in many contexts, perceived quality of a brand provides a pivotal reason-to-buy, influencing which brands are included and excluded from consideration, and the brand that is to be selected. A customer often will lack the motivation to obtain the information that might lead to an objective determination of quality in given application. Sometimes, the information may simply be unavailable or the customer may not have the ability or resources to obtain or proceed it. In many cases, perceived quality becomes central in the customers' decisions. Second, perceived product quality can be used as a positioning strategy of various products, whether a car, a computer, or a

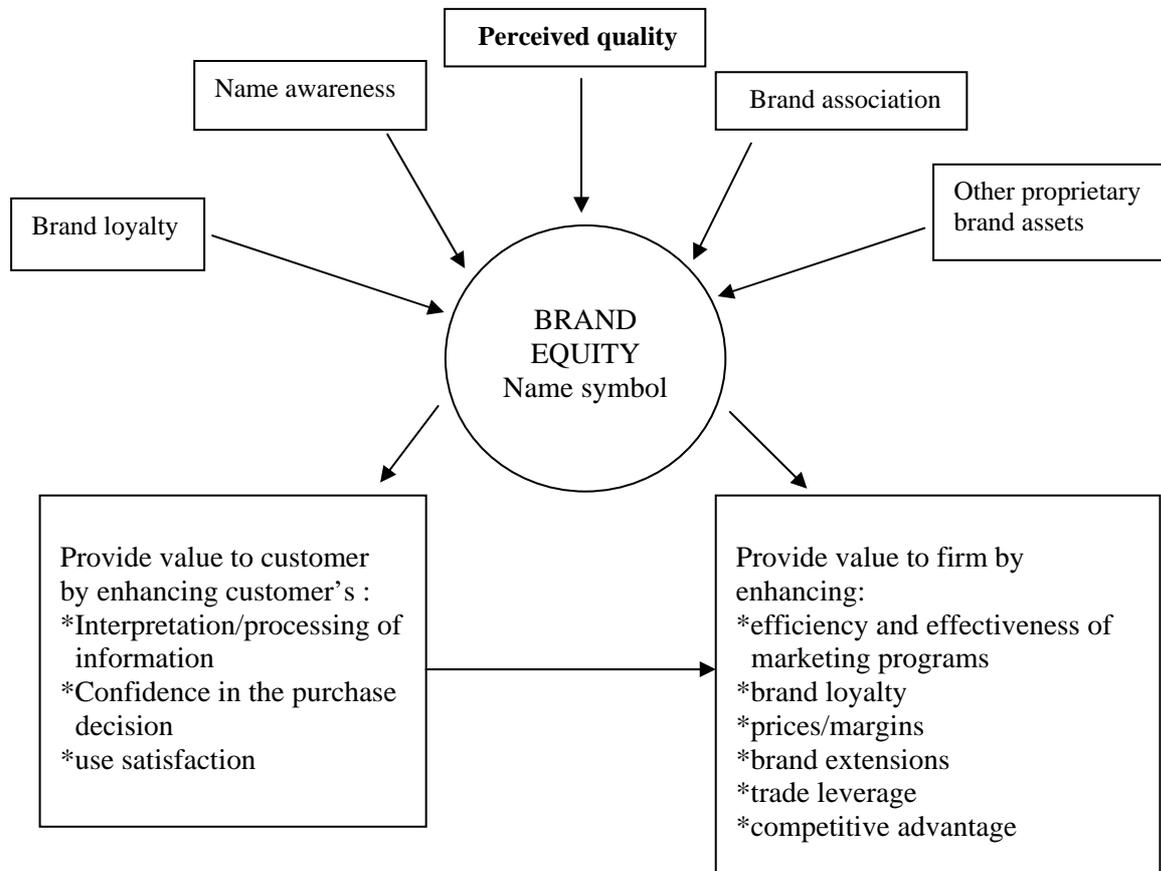
shirt. These products can be shown as a premium product for the high-end consumers. Third, a perceived product quality advantage provides the option of charging a premium price. Also, the price premium can increase profits and provide resources with which to reinvest in the brand. These resources can be used in such brand-building activities as increasing awareness or associations, or in R&D activities to improve the product. A price premium not only provides resources, but can also reinforce the perceived quality. Fourth, perceived product quality can also be meaningful to retailers, distributors, and other channel members and thus aids in gaining distribution. We should know that the image of a channel member is affected by the products or services included in its line. As a result, stocking "quality products" can attract customers significantly.

Figure 2: Power brands: the essentials



Source: Stobart,P.(1994). *Brandpower* London: Macmillan, p. 69.

Figure 3: Brand Equity



Source: Aaker, D. A. (1991). *Managing brand equity: Capitalizing on the value of a brand name*. New York: Free Press, p. 17.

Lastly, the perceived product quality can be exploited by introducing brand extensions, using the brand name to enter new product categories. A strong brand with respect to perceived quality will be able to extend further, and will find a higher success probability than a weaker brand (Aaker, 1991).

5) Returns on Investment (ROI) and Profitability

Buzzle and Gale (1987) said in their book *The PIMS Principles*: “In the long run, the most important single factor affecting a business unit’s performance is the quality of its products and service, relative to those of competitors”. They said that the perceived quality has a powerful effect on Returns on Investment (ROI) and Return on Sales (ROS). The lowest-20-percentile businesses had around a 17% ROI, whereas those in the top-20-percentile earned nearly twice as much (Aaker, 1991).

Figure 4: The Value of Perceived Quality



Source: Aaker, D. A. (1991). *Managing brand equity: Capitalizing on the value of a brand name*. New York: Free Press, p. 86.

Besides, a detailed examination of the relationship of perceived quality and other key strategic variables in addition to ROI, by Jacobson and Aaker (1987), provides insights on how perceived quality does create profitability: 1) perceived product quality affects market share. After controlling for other factors, products of higher quality are favored and will receive a higher share of the market. 2) perceived product quality affects price. Higher perceived product quality allows a business to charge a higher price. The higher price can directly improve profitability or allow the business to improve quality and further more to decrease competitive barriers. Further-more, a higher price tends to increase perceived quality by acting as quality cue. 3) perceived product quality has a direct impact on profitability in addition to its effect on the market share and price. Improved perceived quality will increase profitability even when the price and market share are not affected. Perhaps the cost of retaining existing customers declines less with higher quality, or competitive pressures are reduced when quality is improved. In any case, there is a direct link between quality and ROI. 4) perceived product quality does not affect cost negatively. In fact, it doesn't affect costs at all. The image that there is a natural association between a quality/prestige niche strategy and high cost is not reflected in the data (Aaker, 1991).

FACTORS AFFECTING PERCEIVED PRODUCT QUALITY

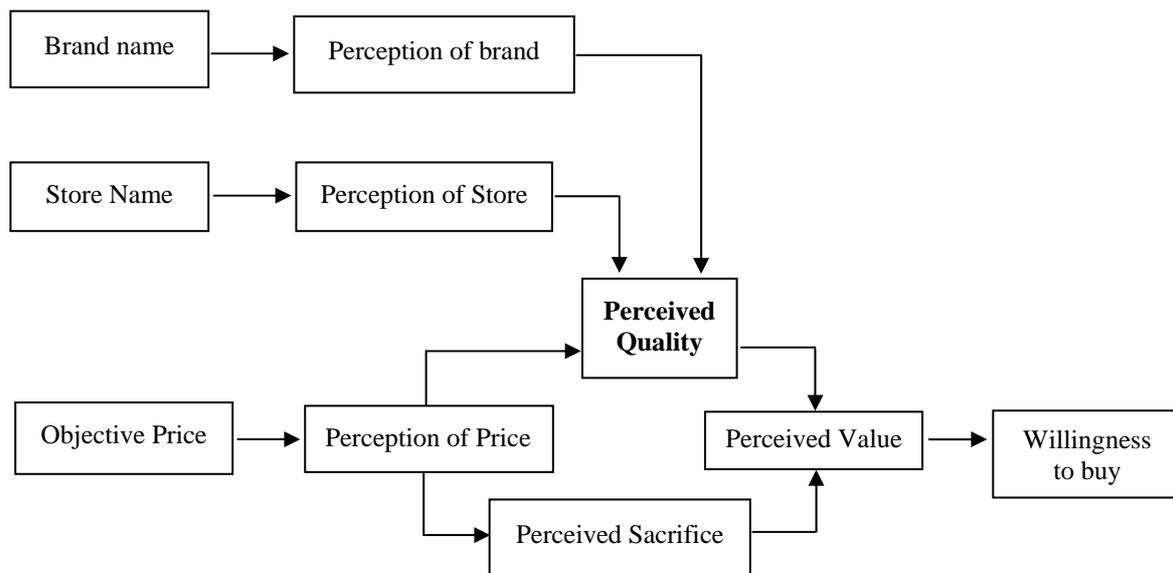
Understanding of the factors affecting perceived product quality is necessary for all marketing practitioners to design marketing strategies efficiently. In general, there are two types of factors discussed

among marketing academics. These are intrinsic cues and extrinsic cues. The intrinsic cue concerns physical characteristics of the product itself, such as size, color, flavor, or aroma. In some cases, consumers use these physical characteristics to judge product quality (Schiffman & Kanuk, 2000). As Bhuian (1998) said that intrinsic marketing cues refer to attributes that can not be changed or manipulated without also changing the physical characteristics of the product itself. Studies show that the perceived product quality varies with the variations in the nature of consumer perceptions of intrinsic marketing cues associated with those products (Schiffman & Kanuk, 2000).

However, frequently, consumers can not use intrinsic cues in making decisions. Hence, they often evaluate quality on the basis of extrinsic cues that are external to the product itself, such as price, brand image, manufacturer's image, retail store image, or even the country of origin (Schiffman & Kanuk, 2000). As Lin and Kao (2004) said that perceived product quality may be influenced from distribution channels, brand image, country of origin, price, and certificates. Besides, Thakor and Katsanis (1997) said that the extrinsic cues that affect perceived quality are price, warranty, advertising, market share, and the country of origin. Likewise, Dodds, Monroe, and Grewal (1991) studied effects of price, brand name, and store name on perceived quality. This study shows that not only price but also brand name and store name have the relationships with perceived product quality positively as shown in Figure 5.

As mentioned earlier, I may conclude that perceived product quality can be affected by various factors, both intrinsic cues and extrinsic cues. Thus, all marketing managers should be aware and deepen those factors in creating the brand image.

Figure 5: Model of the effect of price, brand, and store name on product evaluation



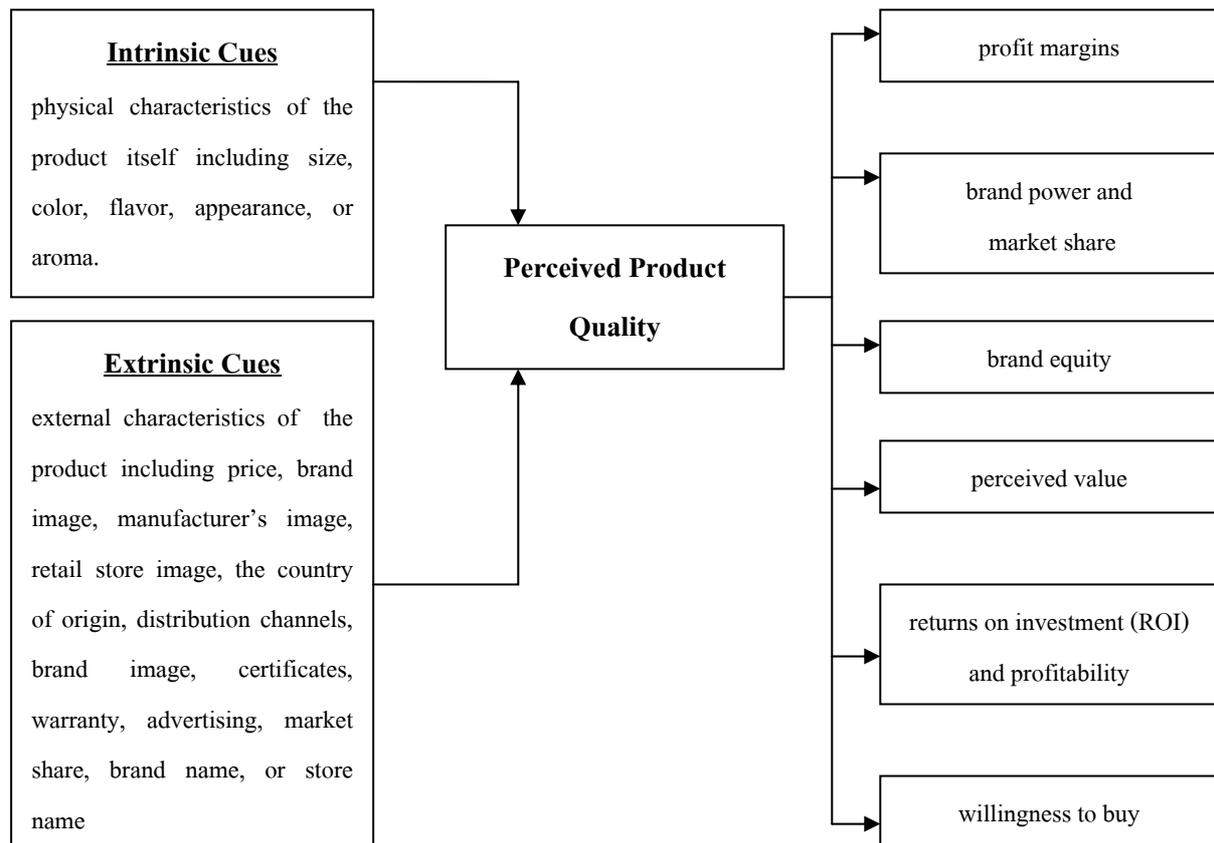
Source: Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, & store information on buyers product evaluations. *Journal of Marketing Research*, 28(3), p. 308.

I suggest that they should examine which factors affect perceived quality of their products by surveying the consumer's opinions, or using the qualitative research methods, such as in-depth interviews and focus group discussions. These approaches will make them understand customers more deeply.

DETERMINANTS AND CONSEQUENCES OF PERCEIVED PRODUCT QUALITY

As reviewed earlier, I can propose the model of determinants and consequences of perceived product quality as shown in Figure 6.

Figure 6: Model of determinants and consequences of perceived product quality



From Figure 6, the determinants of perceived product quality can be divided into two types. One is intrinsic cues that are physical characteristics of the product itself including size, color, flavor, appearance, or aroma. Consumers can use these physical characteristics to judge product quality. Consequently, some companies invest heavily in improving physical characteristics of their products. For example, General Motor's Cadillac division hired an Italian automobile-design firm, Pininfarina, to design its new Allante to give it a European appearance. The other is extrinsic cues, the attributes that are not part of the physical product. Price, brand image, manufacturer's image, retail store image, the country of origin, distribution channels, brand image, certificates, warranty, advertising, market share, brand name, or store name can thus be considered to

be extrinsic cues. Past researches suggest that consumer perceptions of product quality are generally formed on the basis of an array of extrinsic cues because, in some cases, consumers can't use the physical characteristics to judge product quality easily. Hence, marketing practitioners shouldn't overlook these cues.

Furthermore, the model shows the consequences of perceived product quality as well. We will see that perceived product quality not only affects profit margins, but also affects brand power and market share, brand equity, perceived value, returns on investment (ROI) and profitability, and consumers' willingness to buy as discussed before. There are various researches showing the consequences of perceived product quality on these variables. In other words, the more consumers perceive product quality,

the more businesses gain several benefits. However, despite this apparent importance, relatively little empirical work about perceived product quality has been undertaken in Thailand. In my view, there is still the need for developing researches in the area of perceived product quality, or even perceived service quality in Thailand to create competitive advantages in product quality distinctively.

DIMENSIONS OF PERCEIVED PRODUCT QUALITY

If perceived product quality is to be managed efficiently, it is necessary to consider the dimensions of it. With respect to product quality, Harvard's David A. Garvin suggests seven perceived product-quality dimensions (Aaker, 1991). The first is performance, the primary operating characteristics of the product. For an automobile, these could include traits like acceleration, handling, cruising speed, and comfort. For a television set, they would include sound and picture clarity, color, and ability to receive distant stations. The second is features--the bells and whistles of products. They are secondary elements of products that supplement the product's basic functioning. Examples include free drinks on a plane flight, permanent press as well as cotton cycles on a washing machine, and automatic tuners on a color television set. The third is conformance with specifications (the absence of defects). This is a traditional, manufacturing-oriented view of quality.

The fourth is reliability. It is the consistency of performance from each purchase to the next. Japanese manufacturers typically pay great attention to this dimension of perceived quality, and used it to gain a competitive edge in the automotive, consumer electronics, semiconductor, and copying machine industries (Garvin, 1984). Next, the fifth is durability (a measure of product life): How long will it last? Volvo has long positioned its car as durable. It once showed pictures of 10-year-old Volvos still running well (Aaker, 1991).

The sixth is serviceability. It reflects the ability to service the product, or the speed, courtesy, and competence of repair. A number of companies have begun emphasizing this dimension of perceived quality. Caterpillar Tractor promises that it will deliver repair parts anywhere in the world within forty-eight hours and Mercedes guarantees of twenty-four-hour services in California and Arizona show that even top-of-the-line producers believe that this approach has value (Garvin, 1984). The seventh is "fit and finish". It refers to the appearance or feel of quality. For automobiles, it might be reflected by the paint job and fit of the doors. "Fit and finish" is important because it is a dimension which customers can judge. The assumption is usually that if the business cannot produce good "fit and finish" products, the products will not probably have the

other, more important, quality attributes (Aaker, 1991).

From various dimensions of perceived quality, it can be concluded that perceived product quality can be different from the actual quality of products (manufacturing quality) significantly; that is, although the actual quality of products is good, it's possible that the products may be perceived negatively. Thus, all marketing managers shouldn't overlook the perceived quality concept and they must make consumer perceptions of quality match actual quality.

RECOMMENDATIONS FOR MAKING PERCEIVED PRODUCT QUALITY MATCH ACTUAL QUALITY

As mentioned earlier, perceived product quality is so different from actual quality or manufacturing quality. Hence, it is important that all marketing managers make the perceived product quality match actual quality. If they're sure that their products have quality (actual quality). The three following recommendations will make the perceived product quality match actual quality efficiently: 1) You must communicate the information about product quality to your customers continuously by using the integrated marketing communications tools such as advertising, public relations, sales promotion, direct marketing, personal selling etc. (Kotler, 2000). 2) Don't talk boastfully about your product quality. Although your products are of high-level quality, you shouldn't boast about your products too much. Often, it will make your customers feel the products can't satisfy them as they highly expected before. Also, the dissatisfaction of your customers will happen. Lastly, 3) You must pay attention to the factors affecting the quality of products as mentioned earlier such as price policy, store image, advertising, warranty, and brand image etc. Those factors can affect perceived product quality directly. Certainly, it can easily make your perceived quality change negatively. For example, you shouldn't use the low pricing strategy too much. It can make the perceived product quality decrease extremely because most consumers often believe that the extremely cheap products are suitable for the low-end consumer (Dodds et al., 1991). Surely, your brand image will not be desirable. Besides, you must select the good-image distribution channels. It will make customers perceive your products positively as well. Also, using advertising, a warranty, and creating brand image can help building your perceived product quality effectively as well. I strongly believe that once these recommendations have been adopted, the perceived product quality in the consumers' minds--including profit margins, perceived value, brand power, market share gains, brand equity, returns on investment (ROI), and profitability--can hardly be far behind.

CONCLUSION

The concept of perceived product quality is regarded as an significantly important construct for all marketing managers. It is becoming a strategic tool to make a difference from competitors. The perceived product quality is defined as the consumer's perception of the overall components of a product--both tangible and intangible characteristics. It may also include performance, features, reliability, conformance, durability, serviceability, and aesthetics etc. Above all, it's not actual quality of products. It has a powerful effect on profit margins, brand power and market share, brand equity, perceived value, Returns on Investment (ROI) and profitability. The factors affecting perceived product quality are both intrinsic cues and extrinsic cues. The intrinsic cue concerns physical characteristics of the product itself, such as size, color, flavor, or aroma. The extrinsic cues are external to the product itself, such as price, brand image, manufacturer's image, retail store image, or even the country of origin. The perceived product quality has various dimensions such as performance, features, conformance, reliability, durability, serviceability, and "fit and finish". Consequently, All marketing managers shouldn't overlook the perceived quality concept and they must make consumer perceptions of quality match actual quality. The three following recommendations will be helpful for them. That is: (1) To communicate the quality information continuously (2) Don't talk boastfully about your products quality (3) To be aware of factors affecting quality of products and use them efficiently. Lastly, I hope that this article will be very helpful for any person in the business or marketing field, especially all marketing managers or marketing communications managers to match the product quality perceived in the consumer's minds efficiently. Likewise, I strongly expect that this article will make academics and marketing practitioners in Thailand turn to give attention to study this concept more increasingly. The empirical research in this area in Thailand is still needed.

REFERENCES

- Aaker, D. A. (1991). **Managing brand equity: Capitalizing on the value of a brand name**. New York: Free Press.
- Aaker, D. A. , & Jacobson, R. (1994). The financial information content of perceived quality. **Journal of Marketing Research**, 31(2), pp. 191-201.
- Aaker, D. A., & Joachimsthaler, E. (2000). **Brand leadership**. New York: The Free Press.
- Bhuiyan, S. N. (1997). Marketing cues and perceived quality: Perceptions of Saudi consumers toward products of the U.S., Japan, Germany, Italy, U.K., and France. **Journal of Quality Management**, 2(2), pp. 217-235.
- Buzzell, R. D., & Gale, B. T. (1987). **The PIMS principles**. New York: The Free Press.
- Chaudhuri, A. (2002). How brand reputation affects the advertising brand equity link? **Journal of Advertising Research**, 42(3), pp. 33-43.
- Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, & store information on buyers product evaluations. **Journal of Marketing Research**, 28(3), pp. 307-319.
- Forker, L. B. (1991). Quality: American, Japanese, and Soviet perspectives. **Academy of Management Executive**, 5(4), pp. 63-74.
- Garvin, D. A. (1984). What does "product quality" really mean? **Sloan Management Review**, 26(1), pp. 25- 43.
- Jacobson, R., & Aaker, D. A. (1987). The strategic role of product quality. **Journal of Marketing**, 51(4), pp. 31-44.
- Kotler, P. (2000). **Marketing management** (10th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Lin, C. H., & Kao, D. T. (2004). The impacts of country-of-origin on brand equity. **Journal of American Academy of Business**, 5(1), pp. 37-40.
- Marconi, J. (1996). **Image marketing: Using public perceptions to attain business objectives**. Lincolnwood, IL: NTC Business Books.
- Schiffman, L. G., & Kanuk, L. L. (2000). **Consumer behavior** (7th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Stobart, P. (1994). **Brand power**. London: MacMillan.
- Teas, R. K., & Agarwal, S. (2000). The effects of extrinsic product cues on consumers' perceptions of quality, sacrifice, and value. **Journal of the Academy of Marketing Science**, 28(2), pp. 279-29
- Thakor, M. V., & Katsanis, L. P. (1997). A model of brand and country effects on quality dimensions: issues and implications. **Journal of International Consumer Marketing**, 9(3), pp. 79- 99.
- Woodside, A. G., & Taylor, J. L. (1978). Consumer purchase intentions and perceptions of product quality and national advertising. **Journal of Advertising**, 7(1), pp. 48-51.
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. **Journal of Marketing**, 52(July), pp. 2-22.



Mr. Somphol Vantamay received his M.A. (Advertising) from Chulalongkorn University, and his M.B.A. (Marketing), and B.A. (Mass Communications) with 1st class honors from Kasetsart University. He is currently a full-time lecturer and the Head of Mass Communications Division, Faculty of Humanities, Kasetsart University. He has published a number of academic papers in the areas of integrated marketing communications, consumer behavior, advertising, and brand management. He has done a lot of researches; such as “The movie-viewing behavior of undergraduate students in Bangkok” (2001), “The relationships of consumer ethnocentrism to country-of-origin image, perceived product quality, and purchase intention” (2004), “The impact of ethical perceptions in advertising on consumers’ behavioral and attitudinal responses” (2006), “A comprehensive study of integrated marketing communications of advertisers in Thailand: perceptions, performances, and measurement” (2006). He also has written a lot of academic articles; such as “Influence of attitude on consumer behavior” (2005), “Influence of country-of-origin image on consumer behavior in the international market” (2005), “The integrated marketing communications concept: An impact on educational circle” (2006), “Developing brand equity in telecommunication businesses” (2006). Besides, he wrote complementary papers for students in his class on several subjects including Advertising I, Marketing Communication, and Target Audience Analysis in Mass Communications.