

A MODEL OF THE MODERATING EFFECTS OF PRIOR KNOWLEDGE, LEVEL OF EDUCATION, AND INCOME LEVEL ON THE USE OF EXTRINSIC QUALITY CUES ON CONSUMERS' QUALITY ASSESSMENTS

UN MODELO PARA LOS EFECTOS MODERADORES DEL CONOCIMIENTO PREVIO, EL NIVEL DE EDUCACIÓN, Y NIVEL DE INGRESOS SOBRE EL USO DE SEÑALES EXTRÍNSECAS DE CALIDAD PARA LA EVALUACIÓN POR PARTE DE LOS CONSUMIDORES

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ABSTRACT

The present study follows Steenkamp's relativistic concept on the effects of personal variables on the relationship between extrinsic cues and perceived quality. It aims to discuss the moderating effects of prior knowledge, level of education, and income level on the use of price, brand name, warranty, country of origin, and advertising on consumers' quality assessments. A theoretical framework is proposed and several hypotheses are formulated.

RESUMEN

El presente estudio sigue el concepto relativo de Steenkamp sobre los efectos de las variables personales sobre la relación entre las señales extrínsecas y la calidad percibida. Se busca analizar los efectos moderadores que tienen el conocimiento previo, el nivel de educación y de ingresos sobre el uso del precio, la marca, las garantías, el país de origen y la publicidad en la evaluación de la calidad por parte del consumidor. Se propone un marco teórico y se formulan varias hipótesis.

Keywords: Perceived Quality, Extrinsic Quality Cues, Intrinsic Quality Cues.

Palabras Clave: Calidad Percibida, Señales Extrínsecas de Calidad, Señales Intrínsecas de Calidad.

1. INTRODUCTION

Perceived quality or the consumer's perception of a product's overall excellence or superiority [1] has called the attention of both, scholars and managers, due to its effects on customer satisfaction, purchase intention and customer value. Managing perceived quality implies an understanding of consumer perceptions of quality, which is necessary to direct the efforts toward factors that bring value to the consumer. Several studies discuss the influence of marketing cues (i.e. intrinsic and extrinsic cues) on the perceived quality of products. Within this context, Steenkamp [2] has argued that perceived quality is a relativistic concept, affected by *the competitive context* (i.e. number of other products alternatives), *personal variables*, (i.e. prior knowledge of the product category, level of education, perceived quality risk, quality consciousness) and *situational variables*. (i.e. Time pressure, the usage goal for which the product is purchased, physical surroundings, social surroundings).

The present study follows Steenkamp's relativistic concept of the effects of personal variables on the relationship between extrinsic cues and perceived quality. Its aim is to discuss the moderating effects of prior knowledge, level of education, and income level on the use of price, brand name, warranty, country of origin, and advertising on consumers' quality assessments. Since these moderators have received minor attention in the literature, a model depicting their effects will be developed as well as the methodology to test it.

In the first section, the concepts of perceived quality, intrinsic & extrinsic cues and its relation with perceived quality are reviewed. In addition, the effects of education, income and prior knowledge are discussed. In the next section, the model and the hypotheses regarding the moderating effects of education, income and prior knowledge are formulated. Finally, a methodology and further research is proposed.

2. THEORETICAL BACKGROUND

▪ Perceived Quality

There are several definitions of perceived quality; for instance, Herbig & O'Hara [3] have defined it as the consumer's judgment about the product conformance to specifications. Steenkamp [2] gave another definition, perhaps, more comprehensive:

“Perceived product quality is an idiosyncratic value judgment with respect to the fitness for consumption of the product which is based upon the conscious and/or unconscious processing of appropriate and available intrinsic and extrinsic quality cues in relation to relevant experience and credence quality attributes and formed within the context of prior experience, perceived quality risk, quality consciousness, usage goals, and other personal and situational variables.”

▪ Intrinsic vs. Extrinsic Cues

Quality cues are informational *stimuli* that according to the consumer are related to the quality of a product and can be ascertained through the senses before consumption [2].

In the purchase decision, buyers prefer to compare the physical characteristics of similar models, of different brands. These characteristics or *intrinsic cues* refer to attributes that cannot be changed or manipulated without changing the physical features of the product itself [4]. Sometimes it becomes difficult for the purchaser to choose a particular model over others based solely on its physical features due to their similarity. Consequently, consumers include in their decision attributes that are not part of the product, or *extrinsic cues* [4]. Five extrinsic cues that have received considerable attention are: price [5], brand name [6], advertising [7], warranty [8] and country of origin [9].

▪ Relationship between Extrinsic Cues and Perceived Quality

• Price-Perceived Quality

Both research and empirical evidence suggest the existence of a price-quality relationship, as well as the use of price as an extrinsic quality cue [10]. For instance, Olson [4] suggested that people use price as an indicator of quality only for relatively expensive products. Gerstner [5] found that for many products, higher prices appear to be poor signals of higher quality, and the relationship quality-price is very product specific, with frequently purchased items displaying weaker relations than non-frequently purchased items. Monroe & Krishnam [11] found that it is the reasonableness of price to consumers that influence consumers' perceived quality of products. This implies that only when consumers perceive the price of a product to be high reasonable their perception of quality of the product will be positively influenced.

As seen above, considerable research has been devoted to the relationship between price and perceived quality. However the magnitude of the price-quality effect is influenced by the number of cues used, the type of product, personal and situational variables.

• Brand Name-Perceived Quality

Evidence indicates that brand name is an extrinsic cue with a positive influence on perceived quality. In an extension of a study by Doods *et al.* [13], Teas & Agarwal [12] concluded that brand is statistically significant even in the presence of other cues, namely, price, store name and country of origin.

• Advertising-Perceived Quality

Significant attention has been given to the advertising-perceived quality relationship. Kirmani & Wright [14] found that high advertising expense leads to higher quality perceptions. In later studies, Kirmani [15] concluded that high advertising expenditure and quality perceptions display an inverted U relationship as extremely high levels of expenditure suggest that the firm is desperate. Gotliev & Sarel [7] suggested that a direct-comparative advertisement has a more positive effect on perceived quality of a new brand than a non-comparative advertisement.

• Warranty-Perceived Quality

“A warranty is a manufacturer's assurance to a buyer that a product or service is or shall be as represented. It may be considered a contractual agreement between the buyer and the manufacturer entered into upon the sale of the product or service.” [16]. Kelley [17] established that warranties are positively correlated with quality while other studies have concluded that warranty is used as a quality cue. For instance, Boulding and Kirmani, [18] found out that consumers

perceive warranties as signals of quality. Since buyers often infer a more reliable product when a long warranty is offered, warranty is used as a quality cue. Previous studies [19] have showed that warranties may reduce the perception of risk associated with new product purchases.

- **Country of Origin- Perceived Quality**

Lee & Schaninger [9] define the country of origin of a product as “the country of manufacture or assembly.” Several studies suggest that country of origin affects consumer perceptions of quality. Research results reported by Hastak & Hong [20] point out that the impact of country of origin on quality perceptions can be comparable with that of the price. Darling & Arnold [21] suggested that country of origin can be more important than brand name as an influencer of quality perceptions. The results of Chaos’s [22] experimental research pointed out that price and country of origin were statistically significant predictors of respondents’ quality perceptions. Han & Terpstra [23] also reported significant main effects of country of origin and brand name on overall evaluation of automobiles.

- **Moderating Effects of Prior Knowledge, Level of Education and Income Level**

Steenkamp’s framework argues that quality judgements differ among individuals. In his opinion, important personal variables moderating the relationship between the above mentioned cues and perceived quality are: prior knowledge and level of education. We believe income level should also be considered.

- **Prior Knowledge: moderating effects on the use of cues**

Prior knowledge is according to Monroe and Rao [24] “the amount of accurate information held in memory about product alternatives as well as buyers’ self-perceptions of this product knowledge.” Researchers like Johnson & Russo [25], have suggested that prior knowledge (or familiarity with the product) influences the extent to which consumers search for, recall and use information in assessing product quality. Similarly, Steenkamp [2] suggested that the extent of prior experience with the product category may influence the quality perception process. Park and Lessig [26] found that low familiar consumers select extrinsic cues (e.g. brand name, price) as the only significant product attributes. High familiar consumers include information of other extrinsic product attributes. However, moderately familiar consumers proved to use mostly intrinsic cues in assessing quality. Monroe and Rao [24] found that for a product that displays a positive price-quality relationship in the marketplace, low and high familiar consumers display a stronger price-perceived quality effect than do moderately familiar buyers. For products known to have a low quality variation due to industry standards, the use of price as a cue in product quality assessments tends to decrease with the familiarity of the consumer with the product. Srivastava and Mitra [8] examined how prior knowledge affects the relative use of warranty information when consumers are already aware of the manufacturer’s reputation. They found that experts use warranty information in quality assessment regardless of the manufacturer’s reputation. On the other hand, novices perceive higher quality with better warranties only when the firm is reputable. Their findings suggest that experts and novices rely on different extrinsic cues and weight them differently in their quality judgments, particularly in the presence of multiple cues. Moorthy and Hao [27] found that previous purchase experience reduces the effect on advertising spending on perceived quality. As discussed above, prior knowledge moderates the relationships between cues and perceived quality, meaning that it also has an effect on the use of cues.

- **Level of Education: moderating effects on the use of cues**

“The formation of quality perceptions involves, at least to some degree, cognitive processes. In general, higher educated consumers are more skilled in information processing than lower educated consumers, and this might influence the quality perception process.”, Steenkamp [2]. This means that consumer’s education level influences the way they perceive quality. For example, the nutritious contents (intrinsic cue) on the back of a cereal package will have a more valuable meaning to an educated individual than to a less skilled one. Furthermore, it is likely that these intrinsic cues will be perceived as more important relatively to extrinsic cues (e.g. price, advertising). Studies revealed that consumers with a higher level of education are more in favour of foreign products than those with limited education [28]. Therefore, the level of education has a moderating effect on the relationship between country of origin and perceived quality.

- **Income level: moderating effects on the use of cues**

In this paper, income is defined as the amount of money at the consumers’ disposal per month.

Wall *et al.* [28] found that there is a strong relationship between income level and positive attitudes towards imported products. Another study found that the higher the income level, the less likely is the consumer to buy domestic products [29].

3. NEGRU-ZEGARRA MODEL

In this chapter, we will present a set of hypotheses, which will constitute the model.

▪ Hypotheses

As suggested before, the degree of prior knowledge consumers have about a product will influence the cues used in making product quality assessments. We believe that high familiar consumers faced with a well-known brand disregard the made-in country. This argument contradicts with the study of Khachaturian and Morganosky [30] in which they concluded that associating a brand with less-industrialized countries could potentially lower the quality perception. However, as argued by Teas & Agarwal [12], consumers may perceive products made in less developed countries by well-known* brands, only as a trend of globalization, while the manufacturing process is supervised and controlled by the brand owner. In addition, high familiar consumers have more market-based knowledge about the product class [6]. The information they possess allows them to relate (to different extents) extrinsic information to product quality. Furthermore, a study by Srivasta & Mitra [8], on the use of warranty by experts vs. novices, found that experts use warranty information in quality assessments regardless of the brand reputation. On the other hand, novices perceive higher quality with a better warranty only when the brand is reputable

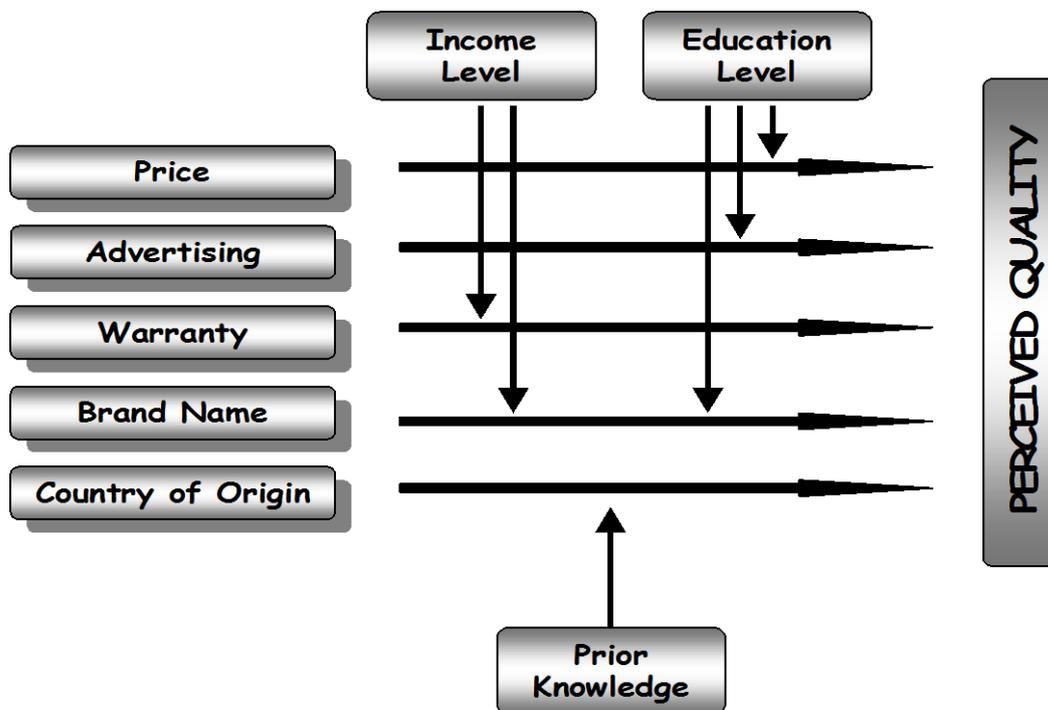


Figure 1 - Negru-Zegarra Model.

Considering the discussion above, our first hypothesis is as follows:

▪ H1:

- For a product manufactured under a well-known brand, high familiar consumers will perceive quality to be higher irrespective of the made-in country.
- For a product manufactured under a well-known brand, low familiar consumers will perceive quality to be higher only if the product is made in a developed country.

* We refer to well-known brands, as famous and trusted brands.

The next hypothesis is based on a study by Teas & Agarwal [12] in which they test the moderating effect of prior knowledge on the use of warranty and brand reputation as quality cues in assessing quality. We follow the same line of reasoning, while using education level as a moderator. The explanation follows.

High-income individuals have the possibility to purchase the desired model, independent of the price; furthermore, they have the financial capability to repurchase the product sooner and with less 'sacrifice' than low-income individuals do. This means that they will consider additional features of the product like a better warranty, less important relatively to lower-income individuals. Since they have the financial resources, they will use less warranty as a quality cue, while firstly considering the brand reputation. This implies that a better warranty will have a positive effect on perceived quality only if the brand is reputable.

On the other hand, low-income consumers will choose for the better warranty, disregarding the brand reputation, since it allows them to save costs in the future. Thus, low-income consumers perceive a better warranty as a signal of higher quality, irrespective of the brand name, since it offers them a higher economic value.

▪ **H2:**

- High-income individuals will perceive a good warranty relative to a poor warranty as a signal of higher quality only if the brand is well known.
- Low-income individuals will perceive a good warranty relative to a poor warranty as a signal of higher quality irrespective of the brand reputation.

It has been argued that high advertising expenditure and quality perceptions display an inverted U relation as extremely high levels of expenditure signify that the firm is desperate [15]. However, we believe that high educated consumers evaluate high advertising spending as high quality, only if the brand is well known. The following studies sustain our hypothesis. Since high educated individuals are more skilled in information processing [2] and have access to more information about brand alternatives, their evaluation process will be complex and most likely, involve more cues. Therefore, advertising expenditure alone will be less relevant to them in assessing quality, if the manufacturer is not reputable. Furthermore, they may perceive high advertising expenditure as a way for branded sellers to preserve brand image [31].

On the other hand, low educated individuals are less skilled in information processing and have less information available. This implies that their quality assessment process will be less complex and probably based on fewer cues than in the case of high educated consumers. Therefore, their evaluations on the product's quality will be more influenced by the advertising expenditure, being one of the few cues available. We believe that low-educated consumers will relate high advertising expenditure with high quality irrespective of the brand reputation, since their educational abilities do not allow them to fully process the information available on the market.

▪ **H3:**

- High educated individuals will perceive high advertising spending as a signal of higher quality only if the brand is reputable.
- Low educated individuals will perceive high advertising spending as a signal of higher quality irrespective of the brand reputation.

A consequence of the above hypothesis is the following. Given a product exhibiting a positive price-quality association [24] the authors believe the level of education of the individual influences the relation between advertising and price, on one hand, and perceived quality on the other. Our belief is based on the statement that high educated consumers use more market based information and cues, in making product quality assessments. Therefore, high educated consumers, in assessing quality, will exercise their ability to process more information, using not only extrinsic, but also intrinsic cues. Low educated consumers faced with a similar situation, will base their evaluations solely on few extrinsic cues [2].

▪ **H4:**

Regardless of the positive price-quality association of a product in the market place, the positive effect of price on the perceptions of product quality is higher for low educated than for high educated ones.

- For a product exhibiting a positive price-quality association in the market place, the positive effect of price on the perceptions of product quality is lower for high educated than for low educated ones.

4. RESEARCH METHODOLOGY

This chapter proposes the research methodology to test the hypothesis of the Negru-Zegarra model. Moreover, further research is proposed.

- **Methodology**

- **Prior Knowledge**

As argued by Rao and Monroe [24], a composite multi-item scale combining an assessment of information held in memory with self-assessed perceptions of familiarity could be used to measure prior knowledge. Furthermore, the taxonomy suggested by Brucks [32] could help in discriminating among people's knowledge structures.

- **Brand Reputation**

Consumer Reports rank brands and therefore, they are convenient sources of brand differentiation in terms of reputation.

- **Income Level**

To differentiate consumers based on income, the relative income structure of each country can be used. As a point of reference, the monthly average income according to the occupation can be used to differentiate between low and high-income consumers.

- **Level of Education**

In order to differentiate subjects in low or high educated, the educational structure of the country in which the model will be tested could be used to group them. This implies that the educational structure will be used as a relative measure of the level of education. For example, in the Netherlands a person who finished MBO could be considered as low educated while a person with a university degree can be considered high educated. As an other example, in Romania, a person who finished high school, will be considered as low educated, while a person who finished university will be considered as high educated.

- **Product Selection**

Following the methodology of Rao & Monroe [24], two main considerations form the basis of the product selection in testing the model: 1) The product must display a strong positive price-quality relationship; 2) The product should be appropriate for testing on a population divided in low and high income individuals. Gerstner's [5] list of products could be used as a source of products with a positive price-quality association.

5. CONCLUSION

It can be concluded from the discussion and the extensive literature review that there are several moderating effects affecting the use of quality cues on consumer's quality assessments. The theoretical model proposed is an attempt to summarize the different interactions between quality cues and perceived quality and the effects of three moderating variables affecting the cues-perceived quality relationship. Nevertheless, these effects should be empirically tested to validate the model. Furthermore, since single and multiple extrinsic-cue studies exist already, as well as studies focused on the moderating effect of one variable on the relation between cues and perceived quality, we argue that it will be interesting to make a conjoint study including two or more moderating variables of different type, for instance a combination of a personal and a situational variable. In addition, further research should compare the effects of advertising expenditure on quality perceptions for different income groups, using a product that does not manifest a price-quality association. Finally, while elaborating the present paper, we reached several interesting outcomes involving culture and gender as moderators on the use of cues. Therefore, it would be interesting to study the role of these two variables on the quality perception process.

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