Segmentation and Consumption of Luxury Fragrances: a Means-End Chain Analysis

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The main aim of this article is to analyze the associative relationship between values, benefits and attributes as perceived by female consumers of luxury fragrances who reside in the city of Curitiba in Brazil. To achieve this, the Means-End Chain model (Gutman 1982) was used, operationalized by the Association Pattern Technique (APT). Furthermore, to broaden the understanding of the phenomenon, segmentation was performed to determine the attitudes of the interviewees concerning the consumption of luxury goods (Dubois, Laurent and Czellar 2001). Three groups emerged: dreamers, skeptics and connoisseurs, with different categorization, selection and consumption processes of luxury fragrances.

[to cite]:

[url]:
http://www.acrwebsite.org/volumes/14139/la/v2_pdf/LA-02

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ABSTRACT

The main aim of this article is to analyze the associative relationship between values, benefits and attributes as perceived by female consumers of luxury fragrances who reside in the city of Curitiba in Brazil. To achieve this, the Means-End Chain model was used, operationalized by the Association Pattern Technique (APT). Furthermore, to broaden the understanding of the phenomenon, segmentation was performed to determine the attitudes of the interviewees concerning the consumption of luxury goods. Three groups emerged: dreamers, skeptics and connoisseurs, with different categorization, selection and consumption processes of luxury fragrances.

INTRODUCTION

Studies of luxury consumption first took place in the late nineteenth century, of which the most prominent are the works of Veblen (Dubois, Laurent and Czellar 2001), who coined the term “conspicuous consumption” to show that the quantitative or qualitative choices of an individual are indicators of social stratification or segregation. When it comes to consumer behavior, luxury goods are probably the most representative of all the complexity of a buying process as they simultaneously involve rational factors such as quality and originality and irrational factors such as striving for distinction, a taste for brand names and social codes (Allërés 2000).

The luxury market has reinvented itself in recent decades by incorporating more accessible products than before, albeit in a limited way in comparison with conventional products (Nuño and Quelch 1998; Vigeneron and Johnson 2004). It is estimated that in 2006 the luxury sector on a worldwide basis took in around US$157 billion, spurred by the large scale consumption of items such as fragrances, cosmetics, pens, scarves, wine and other distilled drinks (Thomas 2007). In Brazil, the sector registered growth levels of up to 35% a year from 2000 to 2005, placing the country among the top ten global consumers of luxury goods (Sônego 2006).

The aim of this study is to understand luxury consumption in one of its most accessible segments, fragrances, by utilizing the Means-End Chain model (Gutman 1982), i.e., reporting the attributes, benefits and personal values of the respondents. With a view to broadening the understanding of the phenomenon, an effort was made to identify the attitude of these consumers concerning the consumption of luxury goods and services in accordance with the methodology of Dubois, Laurent and Czellar (2001) and proposed segmentation based on the attitudes identified by using a Latent Class Model.

CONSUMER RELATIONSHIPS WITH LUXURY

Allërés (2000) points out four fundamental dimensions for luxury products: the functional dimension (concerning the utility of the product itself), the cultural dimension (concerning the history of the product or its creator), the symbolic dimension (hedonism and narcissism resulting from consumption of the product) and the social dimension (as seen from the desires either to stand out from the crowd or to feel part of the group).

In 2001, Dubois, Laurent and Czellar published a study entitled “Consumer Rapport to Luxury: Analyzing Complex and Ambivalent Attitudes”. The study was conducted in two stages: the first was of a qualitative nature to identify the different attitudes of the consumer; the second, of a quantitative nature, was applied to an international sample made up of 1,848 business administration students in twenty European, Asian and North American countries. Among the numerous views and commentaries contained in the qualitative interviews, the authors highlighted six facets pertaining to luxury products: excellent quality, very high price, scarcity and uniqueness, aesthetics and polysensuality, ancestral heritage and personal history and superfluousness.

The authors detected three types of attitudes on the part of the respondents which they described as elitism, democratization and distance. Elitism and democratization are positive attitudes to luxury, albeit contradictory. The first group (elitism) believed that access to luxury should be restricted and that people required refined taste and education in order to appreciate it. To these people, the word luxury was synonymous to good taste and should not be mass produced and widely distributed. Meanwhile, the second group (democratization), as the name indicates, were in favor of the concept of accessible luxury, available to the general public. The attitudes of the ‘distance’ group were not particularly negative to luxury, but these respondents believed that luxury lay outside of their world and were in favor of its replicas, although at the same time they claimed they felt comfortable buying and using luxury items.

THE MEANS-END CHAIN MODEL

Gutman (1982) suggested that consumer behavior may be represented by an association between the end result sought by an individual when he consumes something and the means that he used to achieve this result. Therefore, the author developed the Means-End Chain Model (MEC) based on two basic premises of human behavior: (1) that values, defined as “desired states of being” play a fundamental role in forming choice patterns and (2) that people tend to deal with a huge diversity of products (potential agents of satisfaction and their values), grouping them into categories to reduce the complexity of the choice process. The MEC is structured at three levels (attributes, consequences and values) at which conceptual categorizations and abstractions occur.

Attributes are physical and psychological constructs through which consumers describe or differentiate products (Valette-Florence & Rapachi 1991). The attributes of a product act as the main stimulus that influences the consumer when deciding whether or not to make a purchase, and he evaluates them based on his own values, beliefs and past experiences (Gutman 1982).

The intermediate level of a Means-End Chain is formed by consequences which are defined by Gutman (1982) as results which consumers hope to achieve through the consumption of products in certain situations.

In the quest to understand human behavior, values and systems of values have been the objects of many studies. According to Viens and Ter Hofstede (2000), personal values can also be defined as relatively stable cognitions and beliefs that make a huge motivational impact on individuals. According to these authors, the meaning of a product may differ depending on the values of its consumers.

METHODOLOGY

This study was structured in three stages: the first two were exploratory and the third was conclusive and descriptive.
The preparatory stage was made up of preliminary and personal interviews with six professionals who work in the fragrance and luxury markets in order to define the brands of luxury fragrances for analysis. To achieve this, a list of fragrances was used which was prepared based on the luxury brands selected in the study of D’Angelo (2004). The data were collected in the work environment of the interviewees in August and September, 2006.

In the qualitative stage, interviews were conducted with nine final consumers of these luxury brands of fragrance. These interviews were semi-structured, in-depth and personal. They were recorded with the application of the Laddering Technique in order to define the perceptions of self-concept and the matrices of attributes, consequences and values for the preparation of the questionnaires to be answered in the final stage of the study. The script that was used in this stage had been approved by experienced scholars in the field of consumer behavior. The data were collected at the home and workplace of the respondents in December, 2006.

The quantitative stage involved survey-style interviews with 240 female consumers of luxury fragrances. In addition to studying the behavior of fragrance consumers, other aims of the questionnaire included the application of a self-concept scale based on Malhotra (1981), the attributes-benefits-values matrices in accordance with the Means-End Chain model and a set of attitudinal items developed by Dubois, Laurent and Czellar (2001). Originally prepared in English, this item was adapted to the Brazilian context, undergoing a reverse translation process, and applied in test form to a group of five female consumers as part of the pre-testing of the questionnaire given out during the quantitative stage. The data from this stage were collected in March, 2007 and the interviews were conducted at the residence and workplace of the respondents.

In the qualitative and quantitative stages, the sample was made up of female consumers residing in Curitiba in Brazil, with a minimum monthly household income of over 4,500 Brazilian reais (US$ 2,500), and who had obtained (either as a purchase or as a gift) at least one brand of luxury fragrance selected for this study in the previous twenty-four months. The sample in the quantitative stage was a non-probabilistic criterion sample with quotas related to the age group of the respondents. A choice was made to sample only women from certain age (from 20 to 55 years) and income brackets because they make up the majority of the fragrance consuming public in Brazil.

The analysis and interpretation of the data obtained during the quantitative stage were carried out with the aid of SPSS 15.0 and Latent Gold 3.0, utilizing the Associated Pattern Technique (APT), to operationalize the Means-End Chain and the Clusterization by the Latent Class Model to segment the consumers.

The APT has proved to be useful as a Laddering Technique supplement and as a collection instrument for large data samples, having successfully been used in a number of studies (Kaminski & Prado 2005). The basic premise of the APT is that the connections between attributes and consequences and values can be measured separately. Therefore, in the attributes-benefits (AB) matrix, these are set out in columns and lines, considering all possible combinations. The same happens in the benefits-values matrix (BV). The result is a set of data composed of binary observations. The data analysis is generally done through a log-linear regression model that is based on the likelihood of a certain attribute being related to a consequence and the probability of a consequence being related to a value (Ter Hofstede et al., 1998; Vriens & Hofstede, 2000).

The likelihood of the occurrence of connections between attribute i, benefit j and value k is:

$$\ln p_{ijk} = \alpha + \gamma_{ij}^{AB} + \gamma_{jk}^{BV} + \gamma_{ijk}^{ABV} + \varepsilon$$

where:

- $\alpha$ - Scalar constant (Ter Hofstede et al., 1998).
- $\gamma_{ij}^{AB}$ - Frequency of the occurrence of the integration of attribute i with benefit j, removed from the contingency table generated by the AB matrix.
- $\gamma_{jk}^{BV}$ - Frequency of the occurrence of the interaction of benefit j with value k, removed from the contingency table generated by the BV matrix.
- $\gamma_{ijk}^{ABV}$ - Frequency of the occurrence of interaction of attribute i with benefit j and of benefit j with value k, removed from the contingency table generated by the AB and BV matrices.
- $\varepsilon$ - Random error for observation.

In the log-linear regression, the frequency of the occurrence of individual components of the Means-End Chain Model (attributes, benefits and values) was not considered as it had no significant effect on the end result.

PRESENTATION OF RESULTS

The presentation of results is structured into two topics: results of the qualitative stage and results of the quantitative stage.

Results of the Qualitative Stage

The main goal of the qualitative stage was to identify the self-concept dimensions and the matrices of attributes, benefits and values for preparing the scales applied in the quantitative stage. Eleven such terms or adjectives were found which characterized the consumers interviewed at this stage: outgoing, self-assured, dynamic, vain, discreet, organized, secure, admired, independent, economic and modern. Through the Laddering Technique, the consumers linked twelve attributes to luxury fragrance: citric scent, floral scent, sweet scent, intense scent, mild scent, elegant/classic bottle, clean/modern bottle, elegant/classic box, clean/modern box, luxury brand, long-lasting scent and price.

Fourteen benefits were connected to these attributes by the respondents: feeling of well-being, doesn’t bother other people, marks the presence of the person wearing it, personal identification, offers beauty and sophistication, lasts a long time, is worth what it costs, has high quality, arouses the senses, pleases others, the scent stays on your skin for a long time, brings you closer to nature, has the advantages of a luxury brand and increases self-esteem.

When asked about the values of life associated with luxury consumption, the respondents mentioned seven personal values, all of them found among the nine on the List of Values (LOV) developed by Kahle (Kahle & Kenned, 1989). For the purposes of this study, the LOV was chosen because it had been used successfully and was recommended by researchers such as Vriens and Ter Hofstede (2000) and Kaminski and Prado (2005) in cases of operationalizing the APT.

Results of the Quantitative Stage

Mapping the Means-End Chain

The chains of attributes-benefits-values were obtained when the 240 respondents made associations between the twelve attributes and fourteen benefits obtained in the qualitative stage and also the benefits and the nine personal values (LOV). In total, 294 chains were obtained, with 168 connecting attributes and benefits (AB) and 126 connecting benefits and values (BV). All 1,512 connections from the chains were submitted to log-linear regression in order to test the conditional independence among the matrices, i.e., that the relationship between attributes and benefits was independent of the relationship between benefits and personal characteristics.
values. Only twelve of them (0.8%) had any significance. It was now possible to apply APT, the premise of which is that the connections between attributes and consequences and consequences and values should be measured separately (Ter Hofstede et al., 1998).

Following the APT methodology, the Hierarchical Value Map (HVM) was constructed by analyzing all the chains (AB and BV) obtained from the respondents and through the selection of the strongest connections between them. For this study, in order to draw a clear HVM with significant connections, the cut-off point was set at 75, the percentage used in the studies of Kaminski and Prado (2005). Consequently, in the AB matrix, this was centered on the likelihood of association of 0.20 and in the BV matrix, of 0.27. The final Map (Figure 1) includes a total of 76 connections (42 between attributes and benefits and 34 between benefits and values), 26% of the 294 chains obtained.

By analyzing only the chains with medium and strong intensity, i.e., with a likelihood greater than 0.23 and which have connections at all levels, a concentration of connections was found involving three human values: self-fulfillment, security and self-respect. These values are more concerned with the individual than interaction with other people. The benefits most closely connected with these values are: marking your presence, not bothering anyone, getting closer to nature, personal identification with the perfume, arousing the senses, the scent stays longer on your skin, high quality, offers the advantages of a luxury brand and a good cost-benefit relationship. The attributes with the most connections to these benefits have to do with the several types of scents, the elegant packaging and how long-lasting the scent is.

Segmentation of the Consumers of Luxury Fragrances

In this part, the proposed model for the segmentation of consumers of luxury fragrances will be presented, based on the attitudes of the respondents concerning luxury product consumption, measured by the scale of Dubois, Laurent and Czellar (2001).

The model utilized (LC cluster models) identifies consumer groups (cases) that share interests, values, characteristics and/or behaviors. Magidson and Vermunt (2002) list some of the advantages of this technique for traditional statistical cluster analysis models as a more arbitrary choice of criterion for classifying cases (based on conditioned probability) and the inclusion of stringent statistical tests which permit the validation of groups from the original sample. In the analysis, a variation was found of one to five different groups (Table 1).

According to the indicators in Table 1, the best configurations generated were those which contained three to five groups of consumers. The option was to work with three groups, principally taking into account the AWE (Average Weight of Evidence) indicator, which signals the adjustment of the model according to the number of estimated parameters, and also the possibility to compare three groups, as found by Dubois, Laurent and Czellar (2001). To understand better the composition of the clusters found, their data was also crossed with socio-demographic co-variables and the chi-square test was applied in order to identify the differences among them. The co-variables of income, level of education and the characteristics of self-concept and consumer behavior factors influenced the formation of the groups. This did not happen with aspects such as household income, marital status and whether or not the consumer had children. After establishing the three
clusters, the hierarchical values map was redone and showed different configurations for each group. A brief summary of each of the three clusters will now follow.

The “dreamers” group had the highest number of consumers, with a total of 92 cases (38.3%). Although they considered luxury consumption as lying outside of their world, they did aspire to its beauty and quality. Their level of income is slightly higher than that of the other groups. They usually receive luxury fragrances as a gift and tend to wear them less, saving them for special occasions. They consider themselves to be shy, more modest, less well organized, more insecure, less admired by others, more spendthrift and more traditional. Analysis of the HVM for this group (Figure 2) detected the value “sense of belonging”, which did not appear on the general map. This need to feel welcome in a certain group of people was connected with the benefit of increased self-esteem, which could mean that by wearing a fragrance whose characteristics are related to those of a certain group they aspire to be part of, the consumer feels more confident and, consequently, begins to feel a sense of

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</tr>
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</table>
| Source: RESEARCH DATA

FIGURE 2
HIERARCHICAL MAP OF THE “DREAMERS”

Source: RESEARCH DATA
belonging. The attribute “luxury brand” established connections with the benefits “marks the presence of the person who wears it” (connected to the values of security and self-fulfillment) and “does not bother other people” (connected to the value sense of accomplishment). It is possible that this group feels that having the scent of a luxury fragrance is an important factor in making them confident and secure.

The “skeptics” group included 87 cases (36.3%) and was in favor of the concept of mass availability of luxury and the use of replicas, establishing less intense connections with the dimensions of quality, aesthetics and pleasure. The members of this group had a lower level of education and lower income. They normally purchase a luxury fragrance or receive it as a gift. They are also the group that most wears other types of fragrances. In the HVM for this group (Figure 3), the values “sense of accomplishment” and “fun and enjoyment of life” had no significant connection. On the other hand, the values “being well respected,” “warm relationships with others” and “sense of belonging” had important connections, the opposite of the general map. Analyzing this configuration of personal values, it is possible to observe that these consumers tend to associate high price, rather than brand, with high quality.

The “connoisseurs” group was made up of 61 consumers (25.4%) who valued all the dimensions commonly associated with luxury products (quality, scarcity, distinction, pleasure, etc.). They have a higher level of education and are in the habit of buying their luxury fragrances and have been using them for a longer time and more frequently than the other consumers. They are also more familiar with the origin of the product and the brand. They consider themselves outgoing, self-assured, dynamic, vain, well organized, confident, admired by others and independent. In the HVM for this group (Figure 4), the value “fun and enjoyment of life” stood out as having the most connections. It was associated with the following benefits: “the scent stays on your skin for longer” (directly linked to the attribute of long-lasting scent), “increased self-esteem” (directly linked to the price attribute) and “it aroused the senses” (linked to the attributes floral scent, intense scent and price). Analysis of this information showed that these consumers seek pleasure and hedonism, made possible by longer-lasting fragrances with a pleasant scent and a price that matches all of these aspects. Furthermore, this was the group for which the attribute luxury brand had the highest number of significant connections.

Both similarities and differences were found between the groups from this study and the groups from the study of Dubois, Laurent and Czellar (2001). Nevertheless, it is important to point out that one of the biggest differences between the two studies has to do with the sampling profile. While the French researchers worked with a sample made up of university students from twenty countries (whom they believed to be potential consumers of luxury goods), this study involved consumers who already are users of luxury fragrances. After analyzing the data, the differences in the profile and the chain of attributes-benefits-values of each group, plus the categorization, selection and consumption processes for
luxury fragrances are evident. Furthermore, a higher degree of ambiguity and complexity in the attitudes of consumers concerning luxury consumption was found here than in the international study.

FINAL CONSIDERATIONS

The study of consumer behavior using the Means-End Chain Model takes the researchers on an interesting path for the characterization of cognitive interrelationships between attributes, consequences and personal values. In the study of occasional luxury consumption, which—accordingly to Dubois, Laurent and Czellar (2001)—commonly involves a high level of complexity and ambiguity, this approach, along with segmentation by the Latent Class Model, proved to be effective when it came to broadening the understanding of the consumption process.

By analyzing the results, it is possible to assume that, by wearing a luxury fragrance, the consumers who took part in this study wish to feel good about themselves and more confident and secure when dealing with other people. They wish to “make their mark without bothering anyone”. The fragrance was also seen as a form of self expression and, therefore, the consumers wished to make their perfume match their style.

Like the work of Dubois, Laurent and Czellar (2001), research for this study also came across the ambiguity and complexity involved in the occasional consumption of luxury items. However, in this study, these aspects are more intense, especially for the “dreamers” and “skeptics”. Although the “dreamers” are already consumers, they view luxury as lying outside of their world but aspire to the prestige to be gained from a luxury brand. Meanwhile the “skeptics”, who have also declared that they are consumers, are more in favor of making luxury available to the general public and do not value the term “brand name” and its dimensions of quality, aesthetics and pleasure. To these consumers, attributes such as packaging and high price are normally understood to be indicators of quality.

A comparison of the results of this study and the dimensions of luxury products of Allérès (2000) and Dubois, Laurent and Czellar (2001) showed that the respondents more intensely associated luxury perfume with the functional dimension (the usefulness of the product itself) and the symbolic dimension (having to do with hedonism and narcissism when using the product). The social dimension, a desire to feel a sense of belonging or to stand out from the crowd, was secondary. On the other hand, the historical/cultural dimension (valuing the history of the brand or its creator) was not an important factor in this study.

From a managerial viewpoint, the results of this study indicate a great marketing challenge for companies operating in the luxury fragrance sector in that the brand is unknown to the occasional consumer. At the same time, the results indicate that there is an opportunity for other fragrance companies to give their products new attributes for aroma, external packaging and long-lasting fragrance, emulating features that tend to be associated to luxury fragrances.

There are some limitations to this study due to the fact that the sampling is non-probabilistic, limited to one geographical region and only includes women. These factors do not allow a more objective evaluation of the results and do not provide data on all consumers of luxury fragrances. To carry on with this study, it would be interesting to apply the same methodology to the study of...
luxury fragrances worn by men. It would also be interesting to examine other categories of luxury products and services.

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