Attributes used by young consumers when assessing a fashion product: a conjoint analysis approach

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OPSOMMING

Voorkeurkeuse-ontleding ("Conjoint analysis") as 'n navorsingstegniek word baie populêr onder akademici en praktisyns. Hierdie navorsingstegniek word aangewend om verbruikers se voorkeure rakende produkte met multi attribute te bepaal.

Die doel van hierdie studie was om deur middel van 'n voorkeurkeuse-ontleding die dimensies te bepaal wat jong verbruikers gebruik ten einde 'n modeproduk te evalueer.

Hipoteses is ontwikkel en betekenisvolle resultate is verkry ten opsigte van produkattribute. 'n Hoofbevinding is dat jong verbruikers handelsmerk as die mees belangrike attribuut tydens die aankoop van 'n denim jean beskou.

Die resultate en hoofbevindinge wat uit hierdie studie na vore kom is baie belangrik vir plaaslike bemarkers van modeprodukte indien hul bemarkingstrategieë wil ontwikkel wat gerig is op dié teikenmark.

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INTRODUCTION

A fashion can be described as: " …a type of product or a way of behaving that is temporarily adopted by a large number of consumers because the product or behaviour is considered to be socially appropriate for the time and place" (Levy & Weitz, 1998:162). Fashion is accepted in a certain specific geographic area, country, culture and age group. Fashion is thus any norm which is accepted within a group; it may range from the choice clothes to the adoption of a world perspective.

According to Levy and Weitz (1998:163), fashion is affected by:

- *Economic factors .* Any fashion is a luxury. It is thus an expensive product and the underlying value is more than its functionality. Thus, demand for fashion products is greatest in countries with a high level of economic development and in market segments with higher disposable income.
- *Sociological factors.* Fashion changes reflect changes within society, feelings about class structure, the roles of women and men, and the structure of the family. For example, rising concern for the environment has resulted in natural fibres becoming fashionable and fur coats going out of fashion.
- *Psychological factors.* Consumers accept fashion in order to overcome boredom. Consumers get tired of wearing, seeing and living with the same fashions and then they seek changes in their lifestyles by buying new clothes or by redecorating their homes.

Young consumers at high school are playing an increasingly defining role in family decision making processes (Foxman *et al*, 1989). Current research regarding adult consumers recognition of and preferences for brands overshadows research on children. While much is known about preference formation and choice processes in adults, little is known about the development of these processes in young consumers (Hite & Hite, 1995).

PURPOSE OF THIS STUDY

The purpose of this study was to explore the attributes used by young consumers when selecting a clothing fashion product (denim jeans) and to determine the importance linked to those attributes.

RESEARCH OBJECTIVES

The primary objective was to determine the attributes used by young consumers when assessing a clothing fashion product.

The secondary objectives of this study were:
i.   to identify the most important attribute used by young consumers when assessing a clothing fashion product
ii. to determine a possible correlation between the various assessment attributes used by young consumers
iii. to determine the purchase probability of clothing fashion brands amongst young consumers
iv. to determine the price elasticity of denim jeans brands

RESEARCH DESIGN AND METHODOLOGY

CONJOINT EXPERIMENTAL DESIGN

According to Hair *et al* (1998:392), conjoint analysis is a multivariate technique used specifically to understand how respondents develop preferences for products and services. It is based on the simple premise that consumers evaluate a product or service by combining the separate amounts of value provided by each attribute.

The aim of the conjoint analysis is thus to identify the attribute combination of multi-attribute products or services preferred by consumers and to measure consumer preferences among competitive products and services. It is furthermore an important measurement instrument for estimating the relative importance of the attributes in terms of their share in the total product. The set of product attributes used in a conjoint analysis is described as product profiles. Every product is defined in terms of attributes and the various attribute levels (Rice, 1997).

The information in Table 1 is indicative of a conjoint profile, with various attributes and attribute levels.

The selection of this study's product attributes was based on information obtained from literature and from four focus groups held with young consumers. The focus groups were held with boys and girls between the ages of 13 and 16 years at two Afrikaans and two English schools in Pretoria. The focus groups indicated that the main attributes used to assess a fashion product (denim jeans) were brand, style (fit/cut), place of purchase (outlet) and price.

After the attributes and the levels of attributes had been selected, they were combined to form different hypothetical product profiles. A full profile approach (paired profiles) was used to design the hypothetical product profiles. Twenty-five hypothetical paired product profiles were generated by a fractional factorial design, using the Conjoint Value Analysis (CVA) Version 2 software program.

Table 2 provides an example of a product profile used in this study.

DATA COLLECTION

The research study was confined to the greater Pretoria area and the research population was the high school pupils in the 104 high schools (data obtained from Mapstudio) in the Pretoria area. From the 104 high schools, four schools were conveniently selected on the basis of their accessibility. Two Afrikaans schools (Overkruin and Oos-Moot) and two English schools (Crawford and Sutherland) were selected. Based on the location of the schools, Oos-Moot fell into LSM group 7 and the other three schools into the LSM group 8.

Hair in Quester and Smart (1998) recommend personal interviews to collect the data due to the high level of complexity of conjoint value analysis questionnaires. Teachers at the various schools were selected as interviewers. These teachers were trained and given a set of transparencies with the 25 hypothetical paired product profiles.

Conjoint value analysis software (CVA) estimates the reliability of the responses by calculating the R^2. The R^2 indicates the level of consistency with which the respondents answered the questionnaires on the paired profiles, in other words to what degree the respondents understood the paired profiles in the questionnaire. The following rule is then applied: if the R^2 value of an individual respondent is less than 0,4 the questionnaire is disregarded and cannot be used for further conjoint analysis.

DATA PROCESSING

Before the data analysis started the data obtained from the 25 product profiles were transposed by means of the Conjoint Value Analysis (CVA) Version 2 software program for utility estimation purposes. The data output of this process provided utility values indicating the importance of the various product attributes.

Descriptive statistics, cross tabulation, R^2 testing, correlation analysis (Pearson's **r** correlation coeffi-

TABLE 1:   COMPOSITION OF A SINGLE PRODUCT PROFILE

Profile	Attributes	Attribute levels
A1	Attribute A	Level **A1**, A2, A3
B3	Attribute B	Level B1, B2, **B3**
C2	Attribute C	Level C1, **C2**, C3

(Hu, 1997)

TABLE 2:   EXAMPLE OF A HYPOTHETICAL PRODUCT PROFILE

When it comes to selecting a pair of denim jeans, which would you prefer?		
	* Logo of Calvin Klein	* Logo of Diesel
The brand I prefer is...	Calvin Klein	Diesel
With a ... fit	Hipster	Regular
The retail store where I buy the denim...	Foschini	Speciality Brand Shop (for example Diesel)
At the price of...	R400	R200
* **The logos of all the brands involved were shown in the actual conjoint profiles**		

CHOOSE A NUMBER TO SHOW YOUR PREFERENCE											
Strongly prefer left											**Strongly prefer right**
	5	4	3	2	1	0	1	2	3	4	5

TABLE 3:   RULES OF THUMB USING CORRELATION COEFFICIENTS

Coefficient range	Strength of association
± 0,81 to ± 1,00	Strong
± 0,61 to ± 0,80	Moderate
± 0,41 to ± 0,60	Weak
± 0,21 to ± 0,40	Very weak
± 0,00 to ± 0,20	None

(Adapted from Burns & Bush, 1998:552)

TABLE 4:   SAMPLE DRAWN

Gender	Number	Percentage
Male (Boys)	81	38%
Female (Girls)	132	62%
TOTAL	213	100%

TABLE 5:   AVERAGE IMPORTANCE OF PRODUCT ATTRIBUTES (PERCENTAGES)

Attribute	Average	Standard deviation
Brand	32,2	13,082
Style (cut/fit)	31,5	14,575
Place of purchase (store)	19,7	8,393
Price	16,4	13,592

TABLE 6:   AVERAGE UTILITY VALUES

Brand	Utility value	Style	Utility value	Place of purchase	Utility value	Price	Utility value
CK	**25**	Hipster	**26**	LA Company	**15**	R 100	**25**
LA Comp	19	Regular	**25**	Edgars	14	R 150	**20**
Lee	**22**	Bell Bottom	15	Jet	11	R 200	**16**
Diesel	**39**	Baggy	29	Foschini	**16**	R 300	12
Levi	25			Speciality	**19**	R 400	8
JOE	18					R 600	0

TABLE 7:   SIGNIFICANCE TESTING REGARDING THE RELATIVE IMPORTANCE OF PRODUCT ATTRIBUTES

PRODUCT ATTRIBUTES	Average per group		p-value
	Male (Boys)	Female (Girls)	
Brand	30,3	34,1	0,040
Style (cut/fit)	34,7	28,3	0,067
Place of purchase (store)	19,6	19,8	0,908
Price	15,2	17,7	0,197

cient) and an analysis of variance (ANOVA) were calculated using *SPSS for Windows* software.

Descriptive statistics (mean values and standard deviations) were used to determine the relative importance of the different product attributes. Cross tabulation was used for comparing the mean values per group (boys and girls) on the different product attributes, correlation analysis to investigate relationships between different product attributes (variables) and analysis of variance (ANOVA) for significance testing of mean values. The R^2 calculation was used for reliability purposes. The R^2 value should be as close as possible to 1 and the researcher used a 0,40 cut-off point (the criteria used by marketing researchers).

The following rules of thumb as provided by Burns and Bush (1998:551 & 552) were applied to investigate the relationship between the different product attributes (variables).

It is important to realise that the rules of thumb as reflected in Table 3 are in no way related to statistical significance. As reflected in Table 3, a correlation coefficient that is close to zero shows that there is no systematic association between the two attributes (variables) tested, whereas coefficients that are closer to ±1,00 reflect a systematic association between the attributes (Burns & Bush, 1998:552).

Research hypotheses

The following hypothesis were formulated and tested:
- **H₁**: Brand is the most important attribute during the purchase of denim jeans by teenagers.
- **H₂**: There is a negative correlation (association) between brand and price among young consumers.

RESEARCH RESULTS

A non-*probability sampling technique* (convenience sampling) was used and a sample of 213 youngsters (13-16 years) was drawn. The gender of the young consumers that make up the sample is shown in Table 4.

As shown in Table 4, 38% of the sample was male and 62% female. No questionnaires were discarded as all questionnaires had an R^2 higher than 0,4. An average R^2 of 0,867 was achieved.

Importance of product attributes

After the utility estimation, the CVA Version 2 computer software provided the relative importance of each attribute. Table 5 illustrates the relative importance of the different attributes (brand, style, store and price).

As depicted in Table 5 brand, with an average importance of 32,2%, was regarded as the most important attribute, followed by style (31,5%), place of purchase

(19,7%) and price (16,4%). There is, however, a significant difference in the relative importance of brand (32,2%) and cut (31,5%), (p-value of 0,000). This result provides the necessary evidence to accept H₁.

The popularity of the different brands is illustrated by the average utility values in Table 6. The average utility values reflected in Table 6 are indicative of the relative values that young consumers attached to the various levels of product attributes.

The following is clear from Table 6:
- Diesel was the most popular brand with a utility value of 39, followed by CK and Levi (25) and Lee (22).
- The baggy style was the most popular style with a utility value of 29, followed by the hipster style/cut (26) and the regular style/cut (25).
- The speciality shop with a utility value of (19) is the most popular place of purchase, followed by Foschini (16) and LA Company (15).
- As expected, a lowest price of R100 with a utility value of 25 was the most popular, followed by R150 (20) and R200 (16).

Differences between groups

A One-Way ANOVA was used to assess differences in the relative importance attached by the different groups (boys and girls) to the various product attributes.

Table 7 summarises the results on the relative importance of the various product attributes. The significance testing was performed at the 95% level of significance.

As reflected in Table 7, there is a significant difference (p-value < 0,05) between the relative importance attached to brand as a purchasing attribute by males (30,3) and females (34,1). The differences on style, place of purchase and price between boys and girls were not significant.

Relationships between the various product attributes

The Pearson's correlation coefficient (¶) was used to assess the relationships between the various product attributes. Based on the rules of thumb as described in Table 3, the following relationships can be reported:
i.   There is a moderate negative relationship between brand and style (¶ = -0,56), (p-value = 0,049). As the p-value < 0,05, this correlation is significant.
ii. There is a very weak negative relationship between brand and price (¶ = -0,40), (p- value = 0,027). As the p-value < 0,05 this correlation is significant.

Result (ii) provides evidence for accepting H₂ as it reflects a negative correlation between brand and price.

TABLE 8:   BASE CASE

Brand	Attribute		
	Cut	Place of purchase	Price
CK	Regular	Edgars	R300
LA Comp	Regular	LA Comp	R300
Lee	Regular	Edgars	**R250**
Diesel	Regular	Specialities	R600
Levi	Regular	Edgars	R300
JOE	Regular	LA Comp	R150

TABLE 9:   UTILITY MAP – CHANGES IN PURCHASE PROBABILITY (PERCENTAGE)

DENIM	R 100	R 150	R 200	R 300	R 400	R 600
CK	21,52	12,58	7,68	*0,00*	-7,68	-16,21
LA Comp	20,03	11,63	7,46	*0,00*	-7,94	-17,17
Lee	17,69	9,22	*4,32*	*-4,32*	-11,65	-21,69
Diesel	37,63	29,82	25,69	18,39	11,15	*0,00*
Levi	18,28	11,00	7,00	*0,00*	-6,59	-15,95
JOE	8,01	*0,00*	-4,35	-11,05	-17,77	-25,97

TABLE 10:   THE RESULTS OF PRICE ELASTICITY

Product	R100 - 150	R150 - 200	R200 – 300	R300 - 400	R400 - 600
Lee	-0,17	-0,10	-0,09	-0,07	-0,05
CK	-0,18	-0,10	-0,08	-0,08	-0,04
Diesel	-0,16	-0,08	-0,07	-0,07	-0,06
LA Comp	-0,17	-0,08	-0,07	-0,08	-0,05
Levi	-0,15	-0,08	-0,07	-0,07	-0,05
JOE	-0,16	-0,09	-0,07	-0,07	-0,04

Tables 3 and 5 furthermore revealed that brand is the most important product attribute when young consumers assess a fashion product.

Simulation findings

Simulations can be used to predict the consumer behaviour. During these simulations, the researcher simulated the influence of price change on the brand choice. The probability model that was used for the simulation purposes for this study was purchase likelihood. Purchase likelihood was determined in relation to a base case. The base case is an arbitrary standard against which consumers' purchase probability is measured. The researcher usually predetermines this arbitrary value. The simulation will then tell the researcher how the purchase likelihood will change in relation to the base case. As reflected in Table 8, an arbitrary base case value of R250 was used in this study.

The effects of the simulation, with regard to every product, could be summarised using the utility map shown in Table 9.

The zero values (*0,00*) shown in Table 9 correspond to the prices used in the base case in Table 8. The base case of R250 given in Table 8 is calculated as the value half way between R200 (4,32) and R300 (–4,32) as depicted on the utility map in Table 9.

The change in purchase probability (as a percentage) of every product can be observed when there are subsequent price changes. For example: The purchase probability will increase by 7,68% if Calvin Klein lowers its price from the current R300 to R200. The purchase probability will decrease by 16,21% if the current price (R300) is increased to R600.

Apart from the purchase probability, the simulation provided valuable information on price elasticity. The price elasticity of every product was determined with the aid of the utility map. The formula for the calculation of the price elasticity is as follows:

$$\text{Elasticity } [E] = \frac{\% \text{ Change in sales (probability)}}{\% \text{ Change in price}}$$

The higher the value of [*E*], the more elastic the demand and the smaller the value of E the smaller the elasticity of the demand (Nagle & Holden, 2000:109).

Table 10 provides an illustration of the price elasticity results.

As reflected in Table 10, the elasticity was not the same at all the price levels. All of the products showed an increase in product elasticity when the price decreases to R150 and lower. This is indicative of the competitive nature of the market for denim jeans among teenagers in the higher LSM groups in the Pretoria region.

CONCLUSIONS

Although the study was bound to time and place it does not change the importance of the insights gained. The following main conclusions can be drawn from the results achieved by this study:

♦ The young male and female consumers between the ages 13 and 16 indicated that brand is the most important attribute when they assess a fashion product (denim jeans). This is a definite indication of the importance of brand as a product attribute among young consumers.

♦ An implication of the above-mentioned conclusion is that it is necessary for fashion marketers targeting young consumers to focus their marketing strategy on brand. Brand building should be the core of any marketing strategy for fashion products aimed at young consumers.

♦ The result on price elasticity implies that young consumers tend to be price sensitive and that they are willing to switch from one brand to another. Therefore, marketers of the different brands of denim jeans should be cautious about any price change, as a small change in the price of denim jeans can result in a big change in the demand.

RECOMMENDATIONS FOR FUTURE RESEARCH

The following recommendations are made for future research purposes:

♦ Although this study was limited to LSM 7 & 8 income groups and to schools in the Pretoria area a similar study at the national level might reveal interesting results.

♦ Longitudinal research on the attributes used by young consumers could possibly help to distinguish between fads and fashion in the young consumer market.

♦ Future research on brand loyalty among young consumers is to allow the marketers of fashion products to determine how brand loyal their young consumers are and whether they will remain loyal to a specific brand in future.

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