Typological Analysis of Buying Actions

Nicolae Teodorescu
Ph.D. Professor
Nicolae Al. Pop
Ph.D. Professor
Felicia-Aurelia Stăncioiu
Ph.D. Professor
Academy of Economic Studies, Bucharest

Abstract. *The typology of buyers and buying actions contracts are specific categories of consumer behaviour, determining group buyers and buying actions in classes, to fragment the markets. Market fragmentation through buyer typoligy and/or segmentation is presently characterized by a multitude of theoretical approaches and are especially generated by the common practice in the respective business. These two concepts are used for the same purpose, the essential difference being their starting point: the segmentation fragments the markets as a whole, while the typology of the buyer and of buying actions generate classifications starting from individual cases.*

Key words: buyer typlogy; buying actions typology; market fragmentation; statistical methods in buying typology.

JEL Classification: D11, M31.

On a conceptual basis, specialists distinguish the following main categories when referring to the typology of the buyer and of buying actions:

- the usual buying behaviour;
- the buying behaviour focused on variety;
- the buying behaviour focused on reducing the dissonance;
- the complex buying behaviour.

The usual buying behaviour is represented by that type of buyers who are not too implicated in acquiring products or services, when there are sortiments and brands in the market with no significant differences. In such situations, the consumers are in most cases used to a brand or another as a result of price and promotion and the decision processes is based on habit rather than personal evaluations.

The buying behaviour focused on variety also referrs to a reduced consumer implication in acquiring goods and services, but under the conditions that sortiments and brands found on the market are significantly different. This

type of consumer frequently changes the bought brands not due to insatisfaction but rather due to a need of variety.

The buying behaviour focused on reducing the dissonance is characteristic for the consumer type who is stongly implicated in the buying process, while the differences bewteen brands and sortiments on the market are vaguely relevant. Such situations are common between expensive products or services, with a reduced buying frequency, which demonstrates a risk of cognitive dissonance.

The complex buying behaviour is associated with the consumers who are very implicated in the buying process and who perceive significant differences between brands and sortiments existing on the market. In such cases we speak about expensive goods as well, with a reduced buying frequency, which expose consumers to cognitive dissonance.

From a *methodological* point of view, the approach to the typology of buyers and buying actions can be realized through a multitude of methods, technics or procedures. In this context an example based on *the analysis of the multiple liniar discriminant* is considered as instructive.

The discriminant analysis is one of the statistical methods applied in various studies of typology of the buyer and of buying actions, as well as in classifying problems in general. The interest of experts – statisticians, researchers, marketing people etc. – for the application of this statistical method is thoroughly justified, as markets are exceedingly heterogenous, and some traditional criteria of segmentation and typology (like statistical data regarding incomes, age, gender or occupation of consumers) have prove to be insufficient for adequately basing complex marketing decisions. Therefore, grouping the population in buyers and non-buyers (of a product or a brand) can be much more attractive and pragmatic for decision takers in real marketing, in comparison to the traditional grouping, according to some purely statistical criteria.

The discriminant analysis thoroughly satisfies such practical needs, because the types of consumers have to present a big internal homogeneity and simultaneously an external heterogeneity (they have to be as diverse as possible). Using and interpreting the discriminant analysis is very similar to the multiple regression analysis: a liniar combination of numerical values of several independent variables is used to predict the beaviour of a dependent variable.

In order to apply the analysis of the multiple liniar discriminant several steps have to be followed. In a hypothetical example, these would be as follows:

- Suppose a colour TV producer is interested in knowing the potential demand for a brand he wants to put on the market, on four characteristics considered as relevant: diagonal dimension of 57 cm (X_1), memory for 90 chanels (X_2), guaranty period of 3 years (X_3) and the sales price of 800 lei (X_4). In other words, the producer is interested to understand the relative importance potential buyers grant to each of the four characteristics. E.g. if a response "I would buy the product" is always associated with a high grade for characteristic "diagonal dimension of 57 cm", and the response "I would not buy the product" with a low grade of this attribute, we could conclude that the diagonal dimension is a good discrimination for separating buyers from non-buyers. Another characteristic, e.g. the capacity to memorize 90 channels, can have the same level for potential buyers as well as non-buyers, implying a reduced capacity to discriminate this attribute, in comparison to the diagonal dimension of 57 cm.
- A reduced number of potential buyers is requested (e.g. 20) to give a grade between 1 to 10 (10 being the best grade), for each of the four attributes, and to state, based on the given grades, if they would buy such a product or not. The received responses allow calculation of some arithmetic averages for each considered attribute, separately for the potential buyers and non-buyers.
- To determine the multiple liniar discriminant equasion we first need to calculate the differences between the average of the grades given by the persons who intend to buy the product and the average of the grades given by the persons who do not intend to buy this product, for every considered attribute.

- Further we determine the sums, the squared sum and the multiplied sum for the considered attributes, without taking into account whether these belong to the buyer or the non-buyer.
- Applying the formula:

$$\sum X_i X_j = \sum X_i X_j - \frac{\sum X_i \sum X_j}{N} \qquad (1)$$

the squared and multiplied sums can be expressed as deviations from their own average. In this formula, X represents the attributes considered and N the number of persons included in the research.

- Based on the deviations from the average of squared and multiplied sums, the coefficients of the multiple linear discriminant equation (a, b, c, d) are obtained, by solving a system of four simultaneous linear equations. The coefficients can have, of course, positive or negative values, as the case may be.
- In this way a linear equation is derived, that is used to evaluate the relative importance of each attribute considered, in the general selection, that can be performed in the decision to buy or not to buy the respective product. This linear equation is the abstract form of the discriminant, that in our case has the following content:

$$D = a \times X_1 + b \times X_2 + c \times X_3 + d \times X_4 \qquad (2)$$

In this equation the values X_1, X_2, X_3 și X_4 represent the given grades for all four considered attributes (or the average of the given grades), whereas a, b, c and d represent the values of the calculated coefficients.

- If in the equation (2) above the evaluations of X_1, X_2, X_3 and X_4 related to the buyers are used, a numerical index D_c is obtained, describing the group of potential buyers, and if the evaluations for X_1, X_2, X_3 and X_4 of the non-buyers are used then a numerical index D_n is obtained describing the group of potential non-buyers.
- If the values of X_1, X_2, X_3 and X_4 related to individual grades given by a new person contained in the research are introduced in equation (2) then a specific index will be used, and the respective person will be classified as a potential buyer or non-buyer as the numeric index value is closer to D_c or to D_n. Suppose D_c = 0.578, D_n = 0.191, and the value of D for a new person who is asked to evaluate the four attributes (without being asked if he/she will buy the considered product or not) is $D_{specific}$ = 0.412. This value is closer to D_c, which leads to the conclusion that this person can be included in the buyer group. A similar reasoning is applied for any other person in the research who will be included in the potential buyer or potential non-buyer category, according to the specific values of the discriminant numerical index.

References

Bemmaor, A.C., Wagner, U., „A Multiple-Item Model of Paired Comparisons: Separating Chance from Latent Preference", *Journal of Marketing Research*, Vol. XXXVII, November 2000

Dahl, D.W., Page Moreau, C., „Thinking Inside the Box: Why Consumers Enjoy Constrained Creative Experiences", *Journal of Marketing Research*, Vol. XLIV, No. 3, August 2007

Demetrescu, M.C. (1971). *Metode cantitative în marketing*, Editura Științifică, București

Kotler, Ph., Saunders, J., Armstrong, G., Wong, V. (1998). *Principiile marketingului*, Editura Teora, București

Olorunniwo, F., Hsu, M.K., „A typology analysis of service quality, customer satisfaction and behavioral intentions in mass services", *Managing Service Quality Journal*, ISSN: 0960-4529, vol. 16, nr. 2, 2006, Emerald Group Publishing Limited, Bradford, UK

Park, W.C., Jun, Y.S., Macinnis, D.J., „Choosing What I Want Versus Rejecting What I Do Not Want: An Application of Decision Framing to Product Option Choice Decisions", *Journal of Marketing Research*, Vol. XXXVII, May 2000