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METHODS AND INSTRUMENTS FOR VALUE PERCEPTIONS. THE CONJOINT ANALISYS APPLIED TO THE WINE PACKAGING[1]

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Abstract

This work tries to provide a path to describe the modern marketing research and, at the same time, it tries to examine carefully in which context, a firm can be supported by marketing strategies focused to the consumers.

Between different methods examined, the *Conjoint analysis* has resulted the most effective. It shows an precise description of the consumer perception and behaviour.

This method has been chosen to evaluate how the features of a wine packaging can influence consumer purchasing. The research has shown that the label is the most important variable, which can prevalently influence the consumer product perception.

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Introduction

Consumer behaviour studies are increasingly important in the contest of marketing research. Nevertheless researchers have lately demonstrated that consumer behaviour cannot be represented only through statistical model describing consumption and socio-demographic variables (i.e. age, gender, income).

Therefore, as consumer behaviour is not directly affected by those factors, this kind of approach is not satisfactory. Indeed, a consumer is always expecting a benefit after buying a good: any kind of benefits, either material and related to functional attributes of the good, or immaterial, such as self esteem, social happiness and social status.

According to the modern economic theory assuming operators rationality impose some limits macro and microeconomic models (Marbach, 1993). As to say that the "*homo economicus*" does not exist in daily life: it is an artificial construction useful to describe virtual models, but not always suitable for real ones.

So it is necessary to cope with consumer behaviour research through particular models and analysis tools, which often require interdisciplinary approaches. Principle aims of this kind of study are both understanding fundamental motivations of a particular good consumption and measuring consumers' level of satisfaction after the consumption of that good.

Purchase-consumption process is complex and variable. Indeed consumers tastes and choices depend on several factors: psychological, social, environmental, and also irrational aspects of whom consumers may be conscious or not. For this reason consumer behaviour studies are considered very important in different fields of research other than economics, such as psychology, sociology and cognitive sciences.

In spite of several approaches from different academic disciplines, it is generally recognized that the process which leads the consumer to buying a good can be defined as a mental process characterized by *multidimensionality, individuality, dynamics, complexity*. Thus, *multidimensionality* has to be considered because perceptions and preferences are shaped on the basis of multiple functional and esthetical characteristics of the product. *Individuality* is another important aspect that influences purchase process because each individual perceives product characteristics differently according to his/her own needs, shared values, income, social status. Then, *dynamics* is a characteristic of the whole framework of values and experiences through which consumers evaluate and choose goods to buy. Indeed, social rules and cultural values, that shape consumer motivations, change continually affecting his/her habits and choices. Finally, *complexity* is related to consumer decision-making process, which results from the combination of many different factors and aims to satisfy consumers' needs.

Therefore, specific analytical tools are required to analyze consumer's perception ability, exploring variety of individual perceptive process and evaluation system.

Theory

In every sector, from manufacturing to services industry, a company has to face the question of meeting needs and desires of its consumers target, especially before launching a new product in the market or revitalizing a product already in the market. In particular, packaging is a fundamental aspect to be considered, especially in wine sector.

Hence, product *design* has been increasingly recognised as one of the most important element for a successful positioning strategy, especially in the actual society where esthetical norms influence every purchase choices, regardless of what need has to be satisfied.

Firstly, a correct product design draws consumers' attention. This aspect is particularly important considering wine industry, characterized by:

- many producers, only a few well-known because of their high quality production;

- many typologies of products differentiated on the basis of characteristics hardly to be perceived by most of the consumers;

- packaging only partially changeable, because of European and Government norms about it.

Besides, product design is a feature (such as price) able to inform consumers about the product before purchasing phase, helping them to create an initial idea about the product and stimulating deductions about other product characteristics. Furthermore, if associated to a positive experience, product shape makes easier recognizing the product to repeat the purchasing experience (Bloch, 1995).

Analytical models have been elaborated to study consumers' preferences with the aim of reducing uncertainty level during formulation (or renovation) stage of a product. So, starting with the assumption that a consumer evaluates the product on the basis of partial utilities which he/she associates to each relevant attribute of the product, these models try to identify what product components are relevant to the consumer and critical for the purchasing choice. The analysis has to be focused on the components that a firm is able to modify (Lancaster, 1966). One of the most interesting and commonly used tool to explore consumers' preferences is the *Conjoint Analysis*.

Considering a good or a service as a set of attributes, in variable quantity and intensity, every attribute can be divided in units (*levels*). Every product differs by number of units for each attribute.

Moreover, the consumer chosen process is based on "compensatory processes", where the consumer is always disposed to renounce more attribute of the product in favor of ulterior member units (Auty S.; 1995).

The combined analysis to gain the attributes relative importance, uses the deductive method, rather than the self-esplicative that adopts the contingent appraisal. Practically, instead asking directly to the customer which importance he associates to every product

attribute, it is prefer to find the importance through the approval variations observation entire product to varying of its members (Meyer, 2002).

Otherwise, it would ask the consumer giving a value judgment of each member, but this way introduces numerous disadvantages. Green and Srinivasan (1978) have demonstrated the customer tendency to give much importance to product members that have little important and the contrary; moreover, the consumer will stretch, more or less unconsciously, to vitiate the answers regarding social sensitive members.

Generally, the Conjoint Analysis is more used than the Contingent Appraisal due various factors: greater flexibility with it manages metric qualitative variable, the inherent foundations between the dependent and independent variables relation, etc (Sungbin, 2003). Ù

Moreover, the Conjoint, calculating the attributes relative importance regarding the total usefulness that the consumer associates to the product, allows to know the the single levels part-worths, to understand which of the levels, of every considered attribute, turns out more appreciated from the consumer because it introduces a greater partial usefulness.

Material and Methods

The research is based on case study analysis (wine cooperative called *Umbria Viticoltori Associati*, Perugia province) followed from 2007 to 2008, during the company restyling phase (of the entire wines). In the 2007 enterprise determined to modify the labels of seven wines typologies to realize three different labels prototypes.

At the moment, the company introduces a little known business brand because in the last years it operated as service for other enterprises and, recently, it has begun to commercialize own brand wines.

The study objective has been to estimate the consumers different perception in the comparisons of new and old mean wine packaging (Montefalco Red) and to estimate which packaging attributes can mainly influence the choice at the purchasing moment.

They have been characterized four fundamental attributes:

- frontal label (two alternatives);

- form of the bottle (two alternatives);

- back label (two alternatives);

- price (four alternatives) [3].

To realize the analysis, it has chosen:

- the ideal bottles number to subject to interviewed;

- The interviews execution modalities.

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[3] The prices have been characterized starting old prices, increasing them for their quality attributes. Four prices have been found (4.9 €, 5,3 €, 5.6 € and 6.1 €).

Successively, by SPSS program, after to have created an attributes file (with the respective levels), the possible "profiles" have been defined and a orthogonal array design has been created (it is a total profiles model, that permit to estimate the partial usefulness, holding in consideration all main attributes effects, but not the eventual influence of their mutual interactions.

In the experiments design it has been decided to introduce to the consumer six bottles of the possible combinations, and has been asked they to execute a "rank order" about the decreasing order of preference.

The experiment has subordinate to interviewed six bottles, while the orthogonal plan proposed to subject eight profiles, of which only two perfectly correspondents to the six alternatives of product chosen, while four only corresponded to these last in terms of attributes closely legacies to the confection, label and back label, but not associated about price level (tab.1).

Tab.1 - SPSS Ortogonal plan with twelve profiles to elaborating, that ones yellow used for the interview

Number card	Bottle Shape	Label	Information	Price (€)
1	normal	old	detailed	5,30
2	normal	new	essential	5,60
3	normal	new	detailed	4,90
4	round	new	essential	5,30
5	round	old	essential	4,90
6	round	old	detailed	5,60
7	round	new	detailed	6,10
8	normal	old	essential	6,10
9	normal	new	essential	5,30
10	normal	new	detailed	5,60
11	round	new	essential	5,60
12	normal	old	essential	4,90

Source: SPSS elaboration, 2010.

The data collection has been carried out through 111 interviews to consumers inside of point the sale desk of the wine surveying object: Coop and Conad.

In table 2 the distribution of the interviewed ones for age classes is brought. From this output it emerges as the almost total of the interviewed is comprised between 31 and 65 years.

Tab. 2 - Consumer interviewed.

Class	N°	%
< 30	19	17,1
31 – 45	44	39,6
46 – 65	38	34,2
> 65	10	9
Total	111	100

Source: data questionare elaboration, 2010.

At last, relatively price variable "price" through "less linear" process, has been assumed the existence of a linear relation with the consumer tendency of to prefer price low levels because the usefulness turns out inversely proportional to the cost that the consumer must support.

This factor is explicate from the program through the calculation of a angular coefficient called *B* that indicates the inclination of a straight that expresses the associated partial usefulness's course regarding to various price levels.

Clearly the value of the coefficient *B* assumes always negative value with the demand curve slope.

Findings

In table 3 is brought back the attributes relative weight and the partial usefulness of the levels.

Tab.2 - SPSS output

Averaged Importance	Utility	Factor
19,64	0,4521	Normal bottle shape
	-0,4521	Round bottle shape
46,82	2,7385	New label
	-2,7385	Old label
9,5	0,186	Detailed information
	-186	Essential information
24,04	-11,651	Price = 4,9 €
	-12,602	Price = 5,3 €
	-13,315	Price = 5,6 €
	-14,504	Price = 6,1 €

$$B = -2{,}3777$$

$Pearson's\ R = 0{,}975$

$Kenall's\ tau = 0{,}909$

Source: SPSS elaboration, 2010.

From table 2 the data, it is possible to reconstruct the total usefulness adding single *part-wort*. As an example, if it is indicated with $u(a_i)$ the part-worth of every level considered in the profile and if one of the profiles is considered (as an example the sixth illustrated profile, correspondent to seventh card of the *Plancard*, in which the combination was:

- "round bottle", $u(a_i)$=-0,4521;

- "new label", $u(a_i)$=2,7385;

- "back detailed label", $u(a_i)$= 0,1860;

- "price" 6.1 €, $u(a_i)$=-14,5040.

the total medium usefulness of the champion, to it associated, drift from the following equation:

(- 0.4521) + (2,7385) + (0,1860) + (- 14,504) + (18,9183) = UTOT Profile 7 = 6,8867

All estimated data have introduced an significance level inferior to 0.05%. The coefficient *B* has turned out equal to – 2,377 while the constant equal to 18,9183, come addition in the usefulness calculation of every profile.

The total elaboration result has been shown, but it is possible to analyze also the usefulness functions of all interviewed subjects and their level of homogeneity expressed from the differences between *Pearson'R* and *Kendall's Tau*.

Altogether, it can be understand that the member with the greater relative weight, in the approach to wine purchasing, is label (46.22%), followed from the relative importance associated to price (24.04%).

Placing the attention on the specific packaging attributes, it can be noticed like is clean the difference between the value associated to the label and those inherent other factors (round bottle, back label, etc).

Moreover, considering the remaining attributes levels, the greater preferences have been had for the "new design", the "classic bottle" and a detailed information in back label.

Discussion

The present job opens the doors to remarkable cues of argument.

From the managerial point of view, the analysis has confirmed the corrected decision of the management to operate restyling of the wines line, concentrating its attention on the potentialities of a new label. The expressed preferences, in fact, are concentrated on the new product design. That confirm the conjoint analysis validity in order to reduce the uncertainty level in the planning or restyling phase.

The information obtained are therefore particularly interesting in order to contribute to the management process decision. However, ulterior efforts are necessary in order to resolve some aspects that limit the analysis effectiveness.

A first aspect is the usefulness levels heterogeneity of that emerge between the single consumers. The sample size becomes therefore substantial in order to reduce the error, and this involves high budgets for the analysis, that the small agricultural and food- enterprises are not in a position to supporting independently.

An ulterior reflection regards the technical operative aspect in the surveying method. In fact, having to subject to the consumer the various profiles (previewed from plan card), the number of attributes to analyze must be necessarily reduced and limited to the essential members of the packaging. This forces to a exemplify the consumer chosen process who instead is much complex and influenced from numerous factors (as purchase and consumption experience).

As an example, defining the attributes of packaging, the research have not considerate the business Brand, due the analyzed company commercializes wines from few years and hence introduces a low level of notoriety.

However, especially in wine market, the presence of historical marks can represent a dominant factor regarding the remaining attributes of the packaging. The consumer is carried to the purchase not only from the aesthetic characteristics of the product, but from the brand of the winery and its levels of reputation on the market. In other words, it is difficult to insert and to estimate the brand with the package attributes, because the consumer cognitive process for the brand is different from that aesthetic one (of the product on the supermarket shelf).

On the contrary, less problematic is the appraisal of the qualitative characteristics that the product has conquered as example: prizes, acknowledgments, quality marks, certifications, etc. For these last characteristics it is possible to insert in the plan card profiles the presence or the absence of qualitative elements.

In spite of these limits, the conjoint introduces numerous advantages regarding the methodologies of analyses that measure the total usefulness total like sum of the express preferences for single attribute. In these cases, a greater risk can be had evaluating exuberantly the importance of a single attribute regarding the conjoint, that instead quantifies the usefulness levels leaving from the total choice of a product respect to an other.

At last, from analytical point of view, it is opportune to signal another relative difficulty to the creation of the orthogonal plan through software SPSS. In fact, the software does not manage the variable price because it is responsible of the interaction effects between attributes that cannot be considered in the orthogonal design; therefore, the profile proposals series of the software would not have can be equal perfectly with those chosen ones.

On the contrary, the possibility offered from the software to consider the price variable as inversely proportional function to the usefulness, allows to hold in consideration the price effects on choice process.

Conclusions and Implications

The Conjoint Analysis has confirmed a valid poured method and, like preferences appraisal instrument of the consumer, because it allows the interviewed subject to activate, also unconsciously, the mental processes of product chosen moment. Moreover the conjoint, respect to other methods, allows to eliminate the risk of over appreciation of the attributes found and the contemporary under appreciation of the less important requirement.

From a managerial point of view, it is an instrument of remarkable support for the enterprise on delineating the consumer preferences and on inquiring the market reactions to the changes of the product design and planning. Thinking to the case study analyzed, the pre-eminent role of the label and its aesthetic characteristics are emerged, and these condition the value perception, and that confirmation the role of the product image determining the processes of chosen and wine consumption.

Strangely, price turns out less influential than aesthetic, and this sends back to the consideration of the meaning that the consumer associates to the product purchase of such. The role of the packaging in the wine purchase processes turns out more important how much is minor the weight of the brand equity and the brand reputation generated from the consumption experience. Such aspect is not inquired cause the difficulty to consider the Brand reputation like an attribute to insert in the various profiles of the plan card. Moreover, the winery analyzed was young and deprives of business reputation.

Therefore, the strong attention to packaging and its members (label, bottle, etc) turns out strategic for the products with minor reputation and for lows market bands. The packaging, in fact, represents a "promise of quality" that must find confirmation on qualitative, technological and taste characteristics of product because it can generate brand loyalty.

At last, the great role of the label is connecting to two important wine market phenomena. The first one has had to the multiplication of the brand on the market, which is always more fragmented, confusing the consumer (jam effect) and rendering complex the choice process. This aspect feeds the "informative asymmetries" that can be used from the enterprises in order to propose high image but lowland technological quality products.

The second phenomenon is connected to the purchase and consumption behaviour of the consumer, which is to the research of continuous innovations in order to experience new products and consumption occasions. In wine market there is a continuous research of a identity link between the single consumer and the acquired wine; this is a dynamic process in continuous evolution and the role of the product image is often dominant regarding the objective quality of wines proposals on the market.

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