CONSUMER MOTIVATIONS IN THE PURCHASE OF ORGANIC FOOD: A MEANS-END APPROACH[*]

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Abstract

The paper presents partial results from an Italian study on consumer perception and knowledge of organic food and related behaviour.

The means-end chain model was used to link attributes of products to the needs of consumers.

In order to provide insights into consumer motivation in purchasing organic products, 60 respondents were interviewed using "hard" laddering approach to the measurement of means-end chains. The results (ladders) of these semi-qualitative interviews are coded, aggregated and presented in a set of hierarchical structured value maps.

Even if organic products are perceived as difficult to find and expensive, most of consumers judge them positively. All consumers associate organic products to health at different levels of abstraction and want good, tasty and nourishing products, because pleasure and well-being are their most important values. Results show that differences exist between groups of consumer with respect to their frequency of use (experience) of organic products and level of information (expertise). In this paper results on consumer cognitive structures at different level of experience are reported and discussed.

Introduction: means-end chains and consumer behaviour

Economic theory has shown some limits in explaining the complexity and multidimensionality of consumer behaviour. These limits are not only relating to the

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assumption of consumer rationality (i.e. utility maximizing behaviour) and perfect information. Most economic models use relative prices and disposable income/budget as explanatory variables of consumer behaviour and treat all other influences (e.g. social, economic and cultural factors) as latent or unobservable variables: *quality perception* is one of them.

Deaton and Muellbauer (1980), for example, discuss consumer behaviour in terms of preferences and opportunities for choice: "unlike preferences, the opportunities for choice are often directly observable so that, to the extent that variations in behaviour can be traced to variations in opportunities, we have a straightforward and objective explanation of observed phenomena". In their view, therefore, "much can be so explained, and (…) the part played by preferences in determining behaviour tends to be overestimated."[†]

In marketing, however, the analysis of consumer behaviour is dealing primarily with preferences and how preferences are formed in the mind of the consumer. Marketing approaches to consumer behaviour may be distinguished in cognitive versus behavioural.

Cognitive approaches emphasise constructs dealing with mental structures and thinking processes; behavioural approaches emphasize direct links between the characteristics of the environment and behaviour. Both approaches are widely accepted and acknowledged way of analysing behaviour, with high degree of complementarity (Peter et al., 1999). In this study we will concentrate on the first approach and focus on consumer product knowledge, involvement and motivation in the case of organic products.

From a cognitive perspective, we can define consumer behaviour as the activities that people engage in when selecting, purchasing, and using products and services to satisfy needs and desires. Such activities involve mental and emotional processes, in addition to physical actions.

The cognitive approach is based on consumer knowledge, product's perception and the needs consumers want to satisfy. Cognition refers to the dynamic mental constructs and processes involved in thinking, understanding and interpreting stimuli and events from the environment. It includes the knowledge, meaning and beliefs that consumers have developed from their experience and stored in their memories (Peter et al., 1999). While many aspects of cognition are conscious thinking processes, other are essentially automatic. In other words, consumer behaviour does not imply only reasoned action but it is essentially a consequence of his/her consumption-relevant cognitive structure (Grunert and Grunert, 1995).

When a stimulus or event regarding a product, including new products information, come in relation with consumer self-knowledge and his memory, a link between him and the product is built. A network of links between product attributes, personal consequences and values can be revealed to give a deeper insight in consumer motivation. These links build up those elements of the cognitive network that the consumer rises from his mind when presented product information in the form of product attributes: when this network is structured in a hierarchical form is known as a "means-end chain" (Gutman, 1982).

Figure 1 - Linking values to products: the Means-End Chain Model
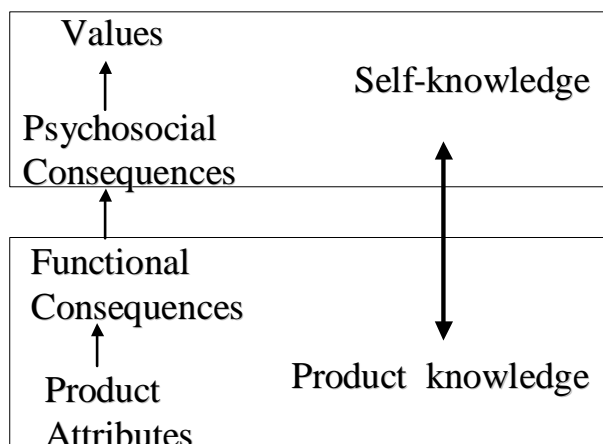
A means-end chain (MEC) is a knowledge structure that links consumers' knowledge about product attributes with their personal knowledge about consequences and values (Figure 1).

The means-end approach suggests that consumers think about product characteristics or *attributes* in terms of personal *consequences.* These may be perceived as positive (*benefits*) or negative (*risks*). In other words, the means-end chain model gives the possibility to explicitly link consumers needs and products characteristics, and reveals his goals/motivations in purchasing a product. In means-end chain theory consumer decision making is considered like a problem-solving process. Consumers exert a behaviour (as an example: acquire a credit card), as a *mean*, to reach an objective or an *end* (ex: not to pay cash) (Reynolds and Whitlark, 1995). Besides, consumer also see most product attributes as a mean to some end: at the conscious level this may be represented by some positive consequences, in a more abstract and subconscious level their end is to attain *values*, that is "*preferred* end states of being and *preferred* modes of behaviour" (Peter et al., 1999).

[†] An econometric study of consumer preferences with regards to organic food was conducted, for example, in Denmark using the Almost Ideal model by Wier and Smed (2000).

In order to understand *why* customers are interested in purchasing a product, it is necessary to understand the nature of this "finalised decisional process" and therefore of what they want or try to achieve through the purchase (Smith and Swinyard, 1999).

The actual motivations of product consumption can hardly be found by just asking straightforwardly to the consumer "why", since in most cases he is not aware of his decision-making process, neither he is able to directly reveal his personal reasons to purchase. However, means-end chain analysis is a useful tool to successfully reach this purpose.

Measuring means-end chain is a sequential stage process that consist of 3 steps (Reynolds and Gutman, 1988):

1. elicitation of product attributes that are most relevant to the consumer;

2. an in-depth interview process called *laddering,* intended to reveal how the consumer links product attributes to consequences and values;

3. the derivation of Hierarchical Value Maps, depicting the aggregate consumer means en-chains as expressed in the *ladders*, i.e. the association networks of attributes, consequences and values.

First, to extract consumer relevant product attributes/characteristics, direct elicitation or various other techniques are used (triadic sorting, free-sorting, ranking, etc.). Secondly, a certain number of most important product attributes are retained for laddering. Consumers are asked to build their means-end ladder just repeating an iterative simple question (*Why this is important for you?*). In this way interviewer speeds up connections between the various elements of the chain and consumers are driven to build up their own sequences attribute-consequence-value. The development of such procedure allows the consumer to naturally reveal his personal reasons, those motivating him to choose and that otherwise it would not be in a position to bringing back to the light from the memory. The technique has, in fact, the advantage to force consumer to reflect and reason about attribute-consequence-value relations.

Different laddering methods are reported: "soft" laddering is a procedure where the natural flow of speech of the respondent is restricted as little as possible, as in a face-to-face interview; "hard" laddering refers to interviews and data collection techniques where the respondents is forced to produce ladders one by one, and to give answers at an increasing level of abstraction (Grunert and Grunert, 1995). In both cases, at the end of the procedure, each consumer structures one or more ladder connecting his motivations to product's attributes and to their consequences, until succeeding in revealing values connected to his

choices (Gutman, 1982). Subsequently, consumer relevant motivations are decoded in chunks of meaning and then coded in categories of attributes-consequences-values (*content analysis*).

The further step is to form the so called *implication matrix* – a square matrix with a size reflecting the number of elements one is trying to map – which reports the frequency of the connections between single categories of attributes, consequences and values. This matrix is the basis to construct one or more *Hierarchical Value Maps* (HVM).

In the means-end chain model, links and connections are more important than single elements – attributes, benefits and values – of the chains. Relations between specific levels of abstraction – from the most concrete (attributes) to the most intangible (values) – can explain the strength/intensity of motivations.

By looking at Hierarchical Value Maps it is possible to discover what motivate consumers to choose a product rather than something else. The model gives a more deep view into consumer perception, revealing characteristics consumer judges more important in their choice and linking them into a model of sequential motivations. In this model, product's attributes are means on which consumer can take advantage in order to obtain his own aims/ends; in other words, consumers catch up their own objectives, through those product's characteristics they perceive being important and producing suitable consequences to satisfy their own personal values.

This information is fundamental in order to position the product into the market, as well as devise effective communication strategies.

Objectives of the study

The principal aim of the study was to understand consumer product knowledge and motivations with regards to organic food.

The use of the means-end chain model was also finalized to have a deeper insight on the barriers, that still prevent a larger demand of organic products in the Italian market.

Besides, the study aimed at evaluating and connecting product knowledge (or *expertise*[‡]) and product *experience*[§], as relevant determinants of the consumer information base (Peter et al., 1999, p. 226). By comparing the level of experience and information of consumers with the number and length of the ladders, the study was aimed to understand to

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[‡] Consumer's *knowledge* was estimated distinguishing between *declared* and *effective* knowledge. This second one was measured through a 15-element scale purposely prepared for the present study.

[§] *Experience* is frequency of purchase. In other words, heavy organic consumers are more *experts* than *occasional* ones

what degree and how consumers comprehend organic product information: for a full account of the research results and discussion see Naspetti (2001).

Data and Methods

The laddering approach was used to measure relevant consumer MECs.

The "in depth", qualitative and contextual approach, associated to the laddering interviews, facilitates the understanding of the complex behaviour associated to organic food consumption, even in absence of quantitative studies on large representative samples of consumers.

As mentioned before, the study was essentially aimed at analysing consumers product knowledge with regards to organic food. From one side, therefore, the qualitative approach adopted is optimal to achieve the stated goals. The means-end chain model, due to its cognitive approach, relies heavily on unobserved mental constructs to be inferred in the laddering procedure; it is not an observation of real consumer behaviour, nor a verbal (stated) account of actual behaviour. The study has an exploratory aim, and the sample of consumers need not to be representative. Accordingly, its results will be used, deepened and widened in further quantitative studies.

From the other side, the method used avoids the problems of traditional qualitative research (Gengler and Reynolds, 1995); in fact, it assures wide freedom of answer to interviewed people and at the same time gives the researcher a limited amount of data to analyse.

Design of the study

A "hard" laddering approach was preferred to collect consumers data.

The method was preferred to the more traditional "soft" laddering approach given limited budget and timing restrictions to conduct the study as part of a larger research project on the organic consumer. Besides, the selected method minimizes the biases due to cognitive processing on the side of the interviewer, therefore increasing the objectivity of the results. On the other hand, "soft" laddering allows more "probing", and this is particularly useful whenever we can expect the cognitive structure of the respondents to be weak, due to low involvement and/or little experience with the product, and whenever the respondents are particularly experienced and involved with the product. "Hard" laddering is more useful in cases of average involvement and experience (Grunert and Grunert, 1995), and our screening procedure (see below) was indeed aimed to ensure such occurrence. Besides, although in general consumers are not particularly involved in food choice, it was assumed, on the basis

of previous literature (Grunert and Juhl, 1995; Zanoli and Pauri, 1996), that consumer involvement is relatively higher for organic food, though the average level of expertise is quite low due to scarce availability of organic products and generalised lack of information about them.

A written questionnaire was used as instrument to administer the laddering task to the respondents (Walker and Olson, 1991; Houston and Walker, 1996).

The laddering questionnaire was built in order to contain: an instruction handbook, an eliciting section of important product attributes/characteristics, and the core laddering questionnaire for the definition of MECs. Consumers have been suggested to think to a specific organic product, but no specific product was designated at the onset. This strategy allowed for a larger group of consumers to be considered as organic consumers, allowing the inclusion of different sets of experiences, at the same time allowing the results to be ascribed to organic product knowledge in general.

A second questionnaire was administered after completion of the first in order to obtain information pertaining consumer expertise and experience with respect to organic products.

Consumer product knowledge (*expertise*) was measured using a 8-item reliable scale[**]. Self-reported frequency of purchase was used to measure organic product use (*experience*). All interviewed consumers had a general knowledge of what an organic product was and all were able to correctly define them in a multiple-choice question (1 correct answer out of 3 possible answers).

Content analysis and coding of the data was performed according with the relevant literature (Reynolds and Gutman, 1988; Kassarjian, 1977). Two separate judges coded the data. The index of reliability (Perrault and Leigh, 1989) was 0.87, exceeding the recommended guideline (interrater reliability = 0.70). All disagreements were resolved by discussion. From only 57 consumers out the 60 interviewed it was possible to extract meaningful ladders and categories of meaning. The coding for organic products results in a list of 41 categories.

The LADDERMAP software by Gengler and Reynolds (1993) was used to derive the implication matrixes and the relevant HVMs.

Data Collection
The laddering interviews were carried out on a group of 60 consumers; all of them were responsible for their household food purchases. Half of them were chosen among the

customers of an organic specialised shop (a consumers' cooperative), and the screening procedure was targeted to assure the presence of 15 occasional and 15 regular customers of the shop[††]. The other 30 consumers were screened as a control group of generic consumers, and each respondent was paired and matched with each consumer in the first group according to socio-demographics aspects such as sex, age, civil status, education, current job, number of children. Among the consumers in the control group, there could be organic consumers, but that was not known beforehand.

Results

In this section the hierarchical value maps of consumers with different level of experience (frequency of purchase) are presented and discussed, both at the aggregate level and at the individual one.

At the aggregate level, consumers were split in two groups according to their frequency of purchase; those (35) who declared to purchase organic products more than once per week were coded as *frequent* or regular users. All others (18) consumers were labelled as *occasional*, with the exception of 6 non responding/not knowing.

On the basis of the respective implication matrixes, two separate maps were derived choosing a cut-off of 3 for occasional and 6 for frequent users[‡‡]. By comparing maps is possible to observe similarity and divergences between the cognitive structures of the two groups.

The maps of occasional and frequent users are shown in figures 1 to 4, where the negative ladders where separated from the positive ones for the sake of clarity.

In particular, both maps obviously suggest that aspects linked to health and well-being occupy a central position. That is, these values are the most important motivation for the purchase of organic products, as appear at all levels – attributes, consequences and values – of their cognitive structures. With respect to all other motivations, health is definitely of preponderant personal relevance. Anyway, the results show that the health factor is not

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[**] The original scale included 15-items. In order to maximize reliability the scale was reduced to 8 items (Cronbach's Alpha = 0.64).

[††] It should be note, howevere, that mong the occasional customers of the shop there were some regular consumers of organic products.

[‡‡] The choice of a cutoff level is needed in order to reduce the complexity of the map, since the distribution of the cell entries in the implication matrix is usually heavily skewed. The cutoff level gives the minimum cell entry in the implication matrix necessary to be represented as a link in the map. There are no theoretical or statistical criteria to guide the selection of the cutoff level. The choice is normally based on an attempt to compromise between retaining meaningful information at one hand and creating a manageable map on the other hand (Grunert and Grunert, 1995)

discriminating among the choices of the two groups of respondent; by comparing consumers with different experience with the product, the perception of which other attributes are linked to an "healthy" product are not much dissimilar. The same applies to the benefit consisting in "eating healthy".

On the contrary, other attributes and their respective chains (ladders) are perceived in a different way by the two groups of consumers. Occasional consumers are particularly attracted by personal satisfaction: they wish want the product to be tasty and good-looking as well, for one of their important value is accomplishment and pleasure, to get most from life. However, they perceive organic products to be indeed tasty but their appearance is generally perceived as negative, as a deterrent from the purchase.

Occasional consumers' map is lacking transcendental values (as defined by Schwartz, 1992), which are present in the regular consumers' one: "altruism/relationship with others" and "ecology, harmony with the universe and sustainable future". Frequent users seem to have a more idealistic cognitive structure than occasional consumers, and this may be considered a symptom of an higher involvement.

The de-motivating parts of the maps (*negative ladders*) are always related to costs aspects and to product's distribution. Negative aspects are more relevant to frequent users than to those buying organic products occasionally. Relevance is measured by the relative strength of the links in the ladders, and not by the number of respondents mentioning the attributes. For example, higher prices of organic products are mentioned by a higher percentage of occasional consumers (87%) than regular ones (66%); but in the latter case, this attribute is linked to the unfavourable consequence on the family budget in 74% of cases, while this values is "only" 64%.

Occasional consumers, on the other hand, seem particularly concerned about the ladder "not easily available" – "inconvenient location of point-of-sale" – "time consuming"; though an identical ladder is existing in the regular consumer map, here the links are relatively much stronger, showing its cognitive personal relevance.

At the individual level, results of the individual laddering interviews were quantified and some statistical analysis was performed.

No significant correlation was found between the average length of the ladders and the frequency of purchase nor between the latter and the number of ladders provided by each respondent. Indeed, the expectation is that the number of ladders produced as well as the average length of the ladders will be a non-linear (inverse U-shaped) function of the level of experience: the more experience the consumer has with a given product, the more information

is likely to be retrieved from memory, but this is true only up to a moderate level of experience, then the absolute amount of information retrieved decreases with increasing levels of experience (Sørensen et al., 1996). However, in general, occasional consumers' ladders are shorter, on average, than those of the regular consumers' group: 3 categories vs. 3.34 (t=2,199[§§]) and this is a proof of higher involvement of the latter group (Celsi and Olson, 1988).

Product experience is positively correlated (r =0.282[***]) with the number of values relative to the total number of concepts in the ladder; and is inversely correlated (r = – 0.358[7]) with the proportion of consequences over the total number of concepts in the ladder. Both correlations met the theoretical expectations (Sørensen et al., 1996), since more experience will allow consumers to better detect which values can be attained by organic products, while more experienced consumers tend to leave out intermediate links (especially at the consequence level) in means-end chains (Grunert and Grunert, 1993).

Conclusions

The results of this study have interesting implications for the marketing of organic products.

As theoretically expected, lower prices and better distribution, of course, would help to increase the demand of organic products. At the same time, potential organic consumers want good tasting products as well as easy-to-use products which aren't perishable. In terms of product development, better packaging and organoleptic quality standards should be a target for organic farmers and processors.

The consequence level can give information on organic products' positioning. Consumers ask for more information. They want to chose with more freedom and knowledge is an instrument, but they are also interested in more "natural" products: certification and labelling is a starting point, food safety is a desirable target, but most of all they desire to understand and to be aware about how organic production and processing is indeed different from the conventional one, and how organic products can be distinguished.

Organic consumers do not want to be driven by the market, they want to eat healthy and at the same time are not keen to renounce to the pleasures of life.

The value level may be useful to devise a better communication strategy (Peter et al., 1999). "Health" is clearly the key-word to this respect, but it should be coupled with implicit

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[§§] Independent Samples T-Test, Equal variances not assumed.

[***] Pearson's correlation coefficient is significant at the 0,05 level (2-tailed)

reference to value states such as hedonism, pleasure and achievement, which also act as driving forces.

References

Celsi R.L, Olson J.C. (1988).The Role of Involvement in Attention and Comprehension Processes. *Journal of Consumer Research*, **15,** p. 210-224.

Deaton A., and Muellbauer J. (1980). *Economics and Consumer Behaviour*. Cambridge University Press, Cambridge.

Gengler, C.E., Reynolds T.J., (1995). Consumer understanding and advertising strategy: analysis and strategic translation of laddering data. *Journal of Advertising Research*, **July/August**.

Gengler, C.E., Reynolds T.J., (1993): *LADDERMAP: A software Tool to Analyze Laddering data*. Mimeo.

Grunert, K.G., Grunert, S.C., (1993). *A comparative analysis of the influence of economic culture on East and west German consumers' subjective product meaning*. MAPP Working paper no. **15**, The Aarhus School of Business, Aarhus**.**

Grunert K.G., Grunert S.G., (1995). Measuring subjective meaning structures by laddering method: theoretical considerations and methodological problems. *International Journal of Research in Marketing*, **12**, p. 209-225.

Grunert S.C, and Juhl H.J., (1995). Values, environmental attitudes, and buying of organic foods. *Journal of Economic Psychology*, **16,** p. 39-62**.**

Gutman J., (1982). A means-end chain model based on consumer categorization processes. *Journal of Marketing*, **46(1)**, p. 60-72.

Houston M.B., and Walker B.A., (1996). Self-relevance and purchase goals: mapping consumer decision. *Journal of Academy of Marketing Science*, **24(3)**, p. 232-245.

Kassarjian H.H., (1977). Content analysis in consumer research. *Journal of Consumer Research*, **4**, p. 8-18.

Naspetti S. (2001): L'analisi motivazionale nel marketing ecologico: il caso dei prodotti biologici, *Unpublished Ph.D. Thesis.* University of Ancona, Ancona.

Pauri V., and Zanoli R., (1996). Indagine sul consumo di prodotti biologici nella provincia di Ancona. *Bioagricoltura*, **38,** p. 32-36.

Perrault W.M. and Leigh L.E., (1989). Reliability of Nominal Data Based on Qualitative Judgements. *Journal of Marketing Research*, **26**, p. 135-48.

Peter J.P, Olson J.C., and Grunert K., (1999). *Consumer Behaviour and marketing strategy (European Edition).* McGraw-Hill, London.

Reynolds T.J., and Gutman J., (1988). Laddering Theory, Method, Analysis and Interpretation" *Journal of Advertising Research*, **28(1)**, p. 11-31.

Reynolds T.J., Whitlark D.B., (1995). Applying laddering data to communications strategy and advertising practice. *Journal of Advertising Research*, **July/August, p.** 9-17.

Schwartz S.H., (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. in *Advances in experimental social psychology,* **25**, Academic press, San Diego, CA.

Smith S.M., and Swinyard W.R., (1999). *Introduction to marketing models*, http://marketing.byu.edu/htmlpage…ses/693r/modelsbook/chapter5.html.

Sørensen E., Grunert K.G., and Nielsen N.A., (1996). *The impact of product experience, product involvement and verbal processing style on consumer's cognitive structures with regard to fresh fish*. MAPP working paper no. **42.** The Aarhus School of Business, Aarhus.

Walker B.A., Olson J.C., (1991). Means-end chains: connecting products with self. *Journal of Business Research*, **22(2),** p. 111-119.

Wier M., and Smed S. (2000). *Consumer Preferences for Organic Foods – the Case of Consumption of Dairy Products in Denmark.* Mimeo.

Figure 1. Hierarchical Value Map of positive ladders of the regular consumers (cutoff=6)

Altruism and relationship with others

Well-being, happiness, inner harmony

Hedonism & achievement, get the most of life

Values

Ecology, harmony with the universe and sustainable future

A healthy and long life

Wholesomeness & physical well-being

Food safety

Consequences

Lower environmental impact

Eating healthy

Enjoy eating it

Healthy

Nourishing

No chemicals

Attributes — Taste, texture and odour

Natural product

Figure 2. Hierarchical Value Map of negative ladders of regular consumers (cutoff=6)

Expensive

Not Easily Available

Attributes

point-of-sale location of Inconvenient

Consequences

Elitarian

Deters the purchase

Lack of time

on family budget Negative impact
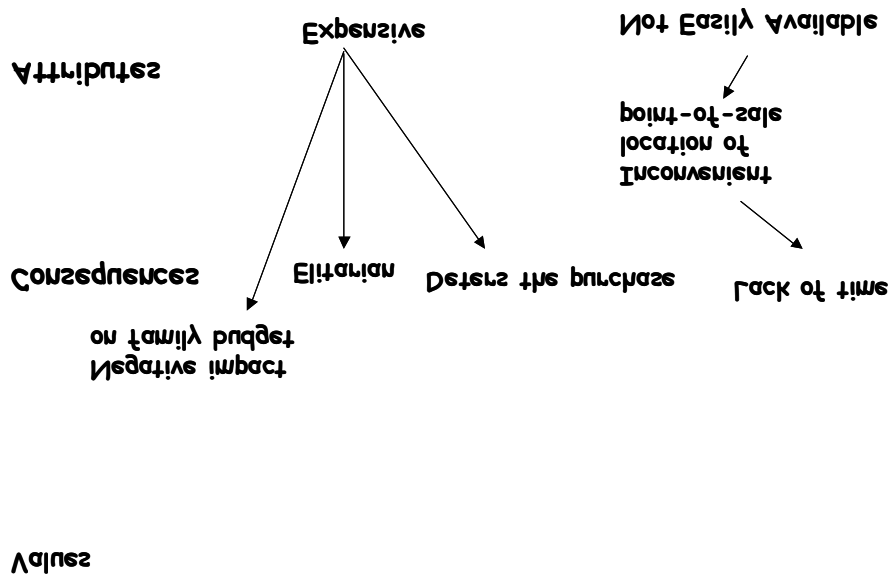
Values

Figure 3. Hierarchical Value Map of positive ladders of the occasional consumers (cutoff=3)

Values

Hedonism & achievement, get the most of life

Well-being, happiness, inner harmony

Self-fulfillment

A healthy & long life

Wholesomeness & physical well-being

Consequences

Easy to get information and identify the product

Enjoy eating it

Food safety

Eating healthy

Healthy   Nourishing   Wholesome

Certified

No chemicals

Attributes   Taste, texture and odour
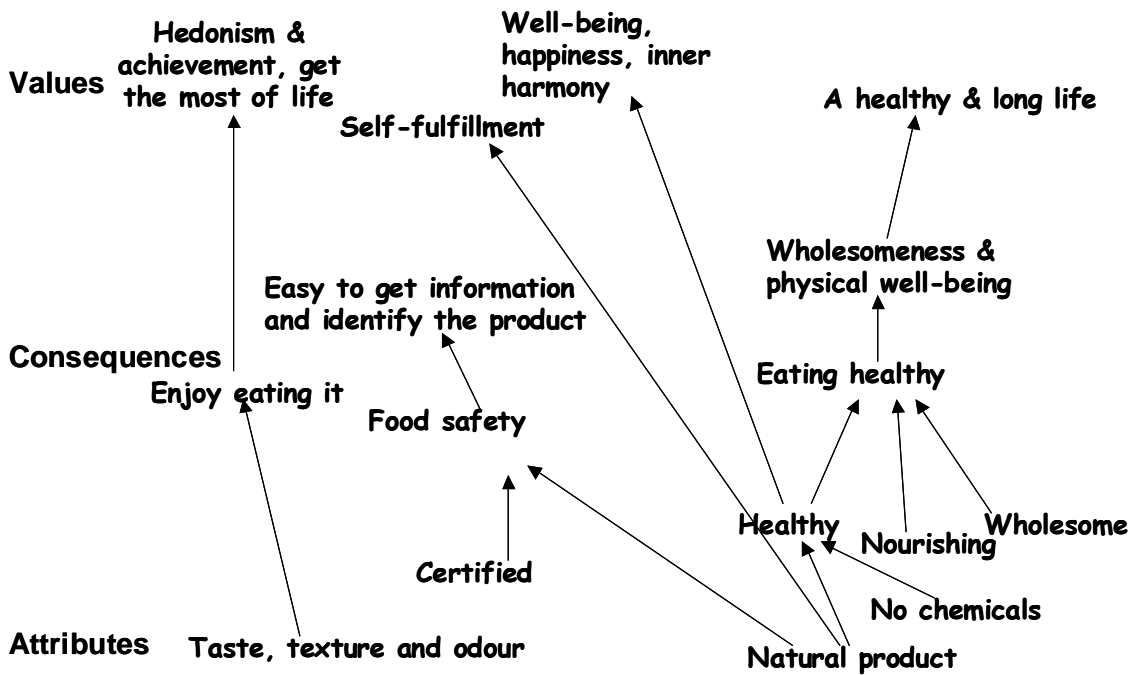
Natural product

Figure 4. Hierarchical Value Map of negative ladders of occasional consumers (cutoff=3)

Values

Consequences

Negative impact on family budget

Deters the purchase

Lack of time   Lots of waste

Not easy to use

Elitarian

Attributes

Inconvenient location of point-of-sale

Expensive   Aspect & packaging   Not Easily Available   Perishable