

Possibilities for Expanding the Use of Means-End Chains

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Abstract

Means-end chains are an established tool for investigating consumer motives. This tool, however, has one great constraint. It does not allow comparisons between the motives of representatives of different cultures. The method uses the Rokeach set of values. Research has been conducted among representatives of certain cultural communities, but not among representatives of different cultures at the same time. For such purposes, value sets of the type "value - anti-value" (value continuum) are appropriate. Such is the system of values by Schwartz. The purpose of this study is to provide certain evidence that the Schwartz system of values can successfully be combined with means-end chain methodology.

Since the values by Schwartz have been verified in intercultural studies, mean-end chains based on these value sets will also be suitable for that purpose. A study of the motives for the purchase of social housing was carried out as an illustration of the feasibility of the proposed approach. The data is collected through a survey of students.

The results obtained suggest that the proposed approach is suitable for studying buyers' motives.

Keywords: means-end chains, value survey, social housing

1. Introduction

According to modern geopoliticians, Eurasia is the supercontinent that gives the appearance of this century. Its population is 5 billion people living in over ninety countries. The cultural heritage of Eurasia is extremely rich. This is the homeland of the most influential world religions and values of the contemporary world. If economists intend to establish sophisticated economic systems operating in the interests of multiple actors from different countries, these systems have to be consistent with the cultural diversity of Eurasia. All these facts pose considerable challenges to economic and business researchers. They have to use different tools in order to be able to measure the characteristics of representatives of different cultures at the same time. The aim of the current study is to suggest an approach for expansion of the capabilities of a tool that has become popular in marketing practice over the years, namely means-end chains.

In marketing, means-end chains are used for the visual presentation of cognitive schemata stored in consumers' memory (Gutman, 1982). These cognitive schemata refer to products and services and form a part of the consumer behaviour of a given customer. After all, means-end chains reveal the acquired knowledge about products (Olson and Reynolds, 1983). That is why

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these chains have different length. They can be long and multi-component due to the customer's extensive experience with a particular product or service which leads to the acquisition of greater knowledge. It is also possible for the chains to be very short, which means that they reflect limited knowledge. The reason for this is the insufficient customer experience regarding particular products. Generally speaking, chains reveal the relation between the particular attributes of products and services and their beneficial impact that customers seek to receive by buying and using them (Gutman, 1997). The longest possible means-end chains include values such as the most profound and significant consequences of product use. That is why our study focuses on them and involves a short review of the nature of values as well as of their role in our lives. Many people consider values an ethical and moral category and do not see how values are related to our everyday life. When such a broad and abstract theoretical concept is used, it is easy to come to conclusions that are utter and definitely wrong and which at first glance do not contradict common sense. For example, it is not uncommon for the elderly people from a given culture to claim that the modern generation has no values. As a matter of fact, there are similar opinions in ancient chronicles as well. Obviously, there is a sustainable model of thinking that has survived for millennia. Actually, every person has their values no matter whether other people consider the person moral or immoral. It might be that this person's values are unacceptable for the rest of society but values as a psychological phenomenon are a component of every normal human psyche. We can understand this if we just consider what psychics actually is. It is a tool for flexible adaptation in a changing environment. This tool has developed throughout human evolution and has given the human species

the opportunity to dominate over the other species in the flora and fauna of the world (at least so far). Values are a component of the most sophisticated mental system - the one that allows an individual to make reasonable choices in different situations. In essence, values are beliefs that certain behaviours or extreme states of being are better than the rest. They are formed throughout every individual's life. Facing different situations people make different choices and thus their actions lead to different consequences. Some of these consequences are perceived as beneficial, others as unfavorable. Beneficial ones satisfy certain needs whereas unfavorable ones lead to dissatisfaction and frustration. Thus, gradually and keeping the memory of the past experience, there follows a process of internal arrangement and systematization of the choices made in the past. Some of the choices are perceived as more favorable and values belong to this kind (Pieters, Baumgartner, and Allen, 1995). This process is not simple and elementary at all. Most of all, it unfolds in a social environment and is influenced by the actions of the individual's closest people. At first glance, everything looks really spontaneous and undetermined - as if we live our lives led by our own desires and by the actions of the people who we consider closest and most important in our lives. Let us bear in mind that we all live in complex societies that have become complex social structures throughout their historical development. These social structures are determined by natural, social and historical factors. Values are formed in the conditions of a particular social order which they actually reflect. Values have been the subject of research in psychology since its beginning but the first comprehensive applied study in the field of marketing was done in the middle of the previous century and this is the Rokeach Value Survey - Milton Rokeach's theory of

values (Vinson, Munson, and Nakanishi, 1977).

2. Literature Review

Marketers spend a lot of their working time discussing marketing strategies. In essence, each marketing strategy is based on the specific relationship between target consumers and a particular product. What matters is how consumers perceive product attributes. These attributes distinguish one product from another and on the basis of these differences, consumer preferences are shown. The extensive discussions of certain products and their characteristic features are an important part of marketers' daily routine. Their purpose is to design and develop products that will appeal to consumers (and therefore generate money). With consumers the situation is different because what matters to them is not the products themselves but the consequences of their use. It is important to know if these products solve a problem and how significant the problem is. Theodore Levitt was the first to note that products are not just a bundle of attributes but a bundle of consequences – both positive and negative. The positive consequences are the benefits of the product use. The negative consequences are perceived risks (Levitt, 1960). In order to realize the real significance of a product, consumers need knowledge about the product and knowledge about themselves at the same time. It is this relationship that means-end chains describe.

Product attributes are at the beginning of a chain. They can show at two levels – concrete and abstract. The concrete ones include physical characteristics such as colour, material, measures of length, etc. Abstract attributes result from concrete ones but are refracted through consumer's perceptions. For example, the combination of colour, material texture and surface features leads to

the characteristic aesthetic appearance. The appropriate measures of length and the soft surface lead to the characteristic comfortable to sit on and relax.

Product attributes lead to certain consequences which are manifested at two major levels – functional and psychosocial. The functional consequences are the immediate physiological outcomes of product use. Psychosocial consequences, on the other hand, are subdivided into psychological and social. The psychological ones show how a product makes one feel. The social ones include our perceptions of other people's reactions to us. Product attributes function as a trigger leading to consequences for consumers. The most important part of the study is related to the target group and the kind of consequences each attribute leads to. All these concepts are relatively well understood by the surveyed people and the researchers' task is to describe rationally the causal relationships between attributes and consequences.

Values are at the highest level of abstraction in consumers' minds. They are quite different from functional and psychosocial consequences. The main difference is in the degree of consumer awareness and this requires the use of different research tools. The starting point of the study is to determine the attributes based on which consumers distinguish one product from another. It should be borne in mind that actually consumers distinguish the consequences from the use of these products. Three procedures are used to determine and elicit attributes: free elicitation, hierarchical dichotomization and repertory grid (Steenkamp and Trijp, 1997).

Free elicitation involves the verbal description of the features inherent to the researched products made by respondents. The elicitation can be stimulated by researcher's help. However, this must be

done really carefully in order to preserve authentic perceptions. Since the information stored in the memory is associative, attribute elicitation makes it also possible to reveal attribute relationships (Collins and Loftus, 1975). Having activated the cognitive structure corresponding to the perceptions related to the researched products, it is relatively easy for respondents to word it. In marketing, the procedure used for attribute elicitation does not differ significantly from the procedures used for psychological research in cognitive psychology (Olson and Muderrisoglu, 1979).

In hierarchical dichotomization respondents are given a set of alternative products which they have to divide into dichotomous subsets. Each dichotomous subset consists of similar objects but the two subsets differ from each another. Both the similarities and the differences are based on product attributes that are discriminatory. First, the procedure is used for the whole set of researched products which are divided into two subsets. Then the procedure is consecutively applied for each of the initial subsets. This continues until there are subsets in which the products are similar and the respondents do not find significant differences between them. Not only does the procedure allow the identification of the discriminatory attributes, but it also helps outline the product perception hierarchy in consumers' minds (Coxon, 1982).

When eliciting attributes using the repertory grid, a respondent is given the product alternatives grouped by three - the so-called triads. This procedure is based on Kelly's personal construct theory (Kelly, 1955). The respondent's task is to group the products specifying which the two similar products are (and which the attributes they have in common are) and which are the attributes that make them differ from the third product in the particular triad. Kelly's theory is based on the assumption that every

consumer has a set of attributes of their own and uses it to structure the products within a given product category. In practice, this is personal experience with the product category stored in the person's memory as a hierarchical cognitive scheme. The repertory grid procedure was developed by Kelly for the needs of experimental psychology. It is aimed at giving psychologists a tool for the research and measurement of significant characteristic features of human personality. This tool turns out to be really suitable for the purposes of marketing which is why it is frequently used in marketing research.

The three procedures for attribute elicitation that have been considered differ to some degree and each of them focuses on different aspects and properties of human memory. However, these differences are not essential and this is the reason why these procedures are applied in marketing for one purpose – to identify the product attributes consumers use to distinguish different products and brands within a given product category.

Based on the comparison of the three procedures, we can conclude that free elicitation is the procedure closest to the natural richness of the information stored in human memory. The other two procedures presuppose a priori the consumers' use of certain mental schemes – dichotomous comparisons or triad comparisons. However, free elicitation, especially if directed unskilfully by a researcher, can distort consumers' actual perceptions and bring subjectivity. This requires a search for possibilities for the structuring of the research process to a greater extent.

Having established the attributes that make consumers choose their preferred products and brands, we can build the other levels of the means-end chains. A procedure called laddering is applied in

practice (Reynolds and Gutman, 1988). The researcher asks respondents questions aimed at finding out more about the structure of the information stored in their memories about the given products and brands. For example: "Why is attribute X important to you?" The answer leads to some expected outcome. For example: "Well, this chair is very comfortable." (functional consequence). The answer prompts the next question: "Why is it important to you that the chair is comfortable?" A possible answer is: "I'll be fit longer and the others will see that I'm in good shape". Thus, the researcher is prompted the next question: "Why does it matter that the others see you as someone in good shape?" and so on. With the questions the researcher seems to climb and reach higher levels of abstraction in the cognitive structure stored in the respondent's memory. The questions "climb" through the first levels of the means-end chains (concrete and abstract attributes, functional and psychosocial consequences) up to personal values. It should be noted there is a very serious limitation to means-end chains that underlies the theoretical foundations of the overall research scheme. It is due to the fact that in essence values are very different from the first units of the chains. In other words, as a mental phenomenon consumer values are fundamentally different from consumer perceptions of product attributes as well as from consumer beliefs about the functional and psychosocial consequences of product use.

Hence, we can note that values are not only at the highest level of abstraction, but generally they are not realized as clearly stated opinions. This means that in the survey, pressed by the researcher's questions, the respondents can give answers that only rationalize their previous answers. After all, respondents can be attributed values that

are not directly related to the researched products and brands and not even part of their value orientation. In order to find out how to avoid such adverse phenomena, we should consider values and some of their major properties in detail.

As it has already been mentioned, the Rokeach Value Survey is the first considerable research of human values used for marketing purposes. According to Rokeach, values are strong genuine beliefs that particular behaviours or end-states of human existence are preferred to alternative or adverse behaviours or end-states of existence. These preferences can be expressed at a personal level as well as within small and big social groups. There are two kinds of values-instrumental and terminal. Terminal values are desired end-states of existence. They are strategic objectives a person would like to attain in life. A key issue in Rokeach Survey is that these values vary with representatives of different cultures. Instrumental values are the preferred ways of behaviour. They are a means or tool for achievement of terminal values. The list of values in Rokeach Value Survey includes 18 terminal and 18 instrumental values (Rokeach, 1973).

The next stage in the development of the understanding of human values is Schwartz Value Survey. Schwartz (1992, 2003) defines the basic human values as cognitive representations of significant aims pursued by an individual. An important feature of values is the fact that they transcend concrete human actions and life situations. In essence, they are standards for assessment of actions, events, people and objects. According to Schwartz (1992), there are 10 basic human values and each of them expresses a particular motivational purpose. They can be presented with a circle structure showing their interconnections (Figure 1).

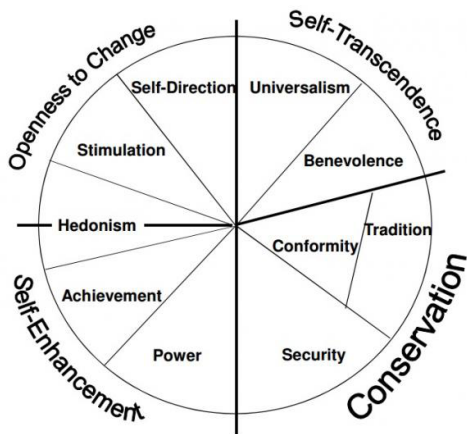


Figure 1: Structure of the ten basic human values by Schwartz.

The values close to one another show compatible motivational purposes and the distant – incompatible ones. Correspondingly, the correlation for neighbouring values within the circle is high, whereas for distant and opposite ones it is low or negative. The statistical procedure applied for the visualisation of the collected empirical data is multidimensional scaling. Different studies show that the Schwartz set of ten values is characterised by a rational balance between scope and completeness and the enumerated in the survey motivational aims are typical of all societies (Schwartz, 1992; De Clercq, Fontaine and Anseel, 2008). This is of crucial importance for studies with respondents from different cultures.

3. Data and Methodology

This study is aimed to establish the attitudes of Bulgarian students to social housing. Researchers are interested in the cognitive schemata stored in students' memories regarding housing policy at central and local levels. The results will be used to facilitate the development of a social housing policy. The respondents are 53 students and the survey can be seen as a piloting one. The aim of the survey is to test research tools and facilitate the development of a survey with a

bigger sample involving Bulgarian and Russian respondents, i.e. representatives of close and yet different cultures. The piloting survey has a classical framework. The respondents compare several kinds of housing and one of them is a social dwelling given to successful applicants by the municipal authorities under certain conditions. The distinctive concepts (the key product attributes used for housing comparison) are determined with free elicitation. The further construction of the means-end chains is done with the question "Why is this attribute (consequence) important to you?" The answers are recorded and processed with the use of content analysis. The first step of this processing is the data reduction by summarising and reducing the answers to a relatively small number of phrases. The aim is to give as accurately as possible the content of the answers of each respondent. Finally, the basic concepts are established and the phrases are grouped with regard to them. Every basic concept is coded for further processing. The concepts from the piloting survey will be used later on for the development of questionnaires for research of bigger samples and thus the data analysis on the next stage will be facilitated to a great extent. On it there are always options for open questions for the cases in which respondents do not accept the basic concepts from the content analysis. At the piloting survey stage each answer must fall within one of the basic concepts used. Since whole means-end chains are constructed, the concepts from the content analysis include attributes, consequences and values and all of them are properly coded.

The final results from the content analysis, the code system, are used to generate an implication matrix. Its main task is to find a balance between the qualitative and quantitative aspects of the applied technique. This is a square matrix of a size equal to the number of the coded concepts (Reynolds and Gutman, 1988). A cell located in the intersection between

two coded concepts reflects the number of times (based on the empirical data) one concept has been related to the other. Decimal numbers are used: before the decimal point are given the direct relations and after it – the indirect ones. There is a direct relation when the two coded concepts are adjacent in the means-end chain, whereas the indirect relation means that there is a third concept between them. Based on the information from the implication matrix, a Hierarchical Value Map (HVM) is made. It is a graphic expression of the relations registered in the survey. Researchers apply a cut-off criterion which helps determine the relations to be included in the HVM.

In this study, the common procedure for determination of means-end chains has been modified. First, the Rokeach traditional values are replaced by the Schwartz values. This does not change the procedure substantially for neither the former, nor the latter are at the level of instrumental and terminal values. However, in order to study the possibilities and limitations of the replacement, the respondents complete the second part of the questionnaire which determines their personal values based on the Schwartz methodology. For this purpose, we use questionnaires and procedures which have already been used

in Bulgaria and have proved their efficiency (Dimitrov, 2013a; 2013b). A questionnaire SVS 58, written by Shalom Schwarz (Schwartz, 2004), was used to achieve the research tasks. The respondent should assess the significance of each of the 58 values using a nine-degree scale. The scale starts from -1 (minus one) - “opposed to my preferences”, through 0 - “not important”, up to 7 - “extremely important”. The number of items ranges between 3 and 8 for each of the categories. Values are assessed by the surveyed person as a “guiding principle in my life”. The list of values contains 30 terminal and 28 instrumental values.

Then differences are searched for in the determination of the values with the laddering procedure and the standard questionnaire of Schwartz. If any differences are found, they are analysed in order to improve the suggested approach.

4. Results

Precise determination of student values is not an objective of this study. This is the reason why we do not focus on the precise application of the value survey methodology. However, the application of multidimensional scaling reflects the circular structure of values (Figure 2).

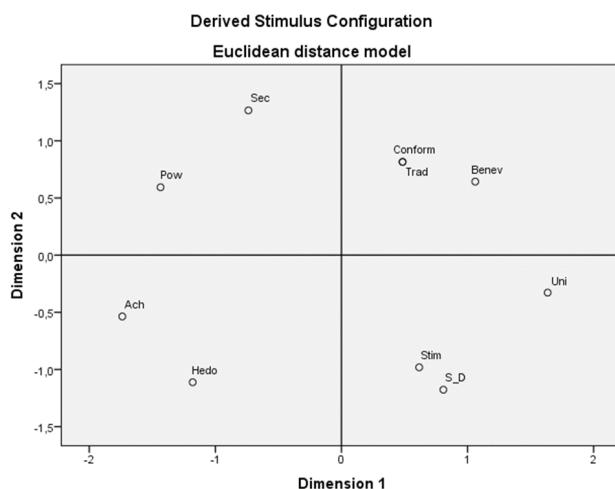


Figure 2. Structure of Respondent's Values.

Due to the small volume of the sample and its exceptional homogeneity, the structure of the values, albeit close, differs from the original Schwartz scheme. The sequence of some of the values of the circular structure has been changed. The values "Conformity" and "Traditionalism" that are contiguous in the original scheme practically coincide with the respondents in our study. All these deviations are natural and are a direct consequence of the type of sampling. In order to obtain reliable results through the Schwartz's value survey, a complex multi-step procedure is required. In our case, the goal is not to validate the Schwartz value survey, but to prove experimentally that this survey is compatible with means-end chain methodology. The statistical parameters of the conducted survey meet the requirements. The two standard tests that indicate the suitability of the data for structure detection are KMO and Bartlett's test (Kaiser-Meyer-Olkin Measure of Sampling Adequacy and Bartlett's test of sphericity). The results are presented in Table 1 and indicate that the data in the sample is suitable for factor analysis.

Table 1. *KMO and Bartlett's test results.*

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,795
Bartlett's Test of Sphericity	Approx. Chi-Square	284,536
	df	45
	Sig.	,000

The reliability of the scale used is also good, as can be seen from the Cronbach's alpha indicator (Table 2).

Table 2. *Cronbach's alpha.*

Reliability Statistics		
	Cronbach's Alpha Based on Standardized Items	N of Items
Cronbach's Alpha		
,937	,949	73

The results in the implication matrix are not surprising and show a connection between perceptions of affordable price, consequence optimization of the personal budget and values such as reciprocity in benefits (instrumental), family security (terminal) and general security (terminal and motivational). The part of the implication matrix containing the target results is shown in Table 3.

Table 3. *Part of the Implication Matrix.*

	C1	C2	C3	C4	C5
C1	XXXXXXXX	5.00	2.03	4.02	6.00
C2		XXXXXXXX	0.03	3.00	4.03
C3			XXXXXXXX	0.00	7.00
C4				XXXXXXXX	7.00
C5					XXXXXXXX

C1 – Affordable price;

C2 – Optimal personal budget;

C3 – Reciprocation of favours;

C4 – Family security;

C5 – Security.

Although the results in the implication matrix are not surprising, empirical data shows a very worrying phenomenon. Even those young people who value social housing for their affordable price determine their attractiveness as very low - between 1 and

2 on the scale used. Authorized persons who develop social housing programs should pay close attention to the perceived perceptions of young people and the root causes of these perceptions.

Conclusions

What we had to prove was that building means-end chains based on values by Schwartz is possible and useful for improving marketing research tools, and that goal was reached. The substitution of values by Rokeach with values by Schwartz does not change the essence of the approach. Both sets of values are based on the assumption that values are a finite number and that there are value inventories inherent in all human beings (Braithwaite and Law, 1985). In addition, the both value inventories have a similar structure - they consist of instrumental and terminal values.

While both approaches have their advantages and disadvantages, for multicultural research, the Schwarz values are preferred. It should be noted that attempts have been made to use Rokeach's value survey in the cross-cultural environment as well (Valette-Florence, 1998). With this approach, however, there is a risk of assigning values to a particular group that are at a low level in its value hierarchy. Respondents' responses can be influenced by the limited number of choices provided by the researcher. This can be avoided by using value sets organized in continuum "value - anti-value". Such is the system of values by Schwartz. Additionally, the availability of a special section for precise measurement of values enhances the quality of investigation of the means-end chains. Unfortunately, the suggested approach also has some shortcomings and definitely needs further improvement. During the survey, it was found that the second part of the questionnaire (the Schwartz's Values Survey) was close in size and even larger than the main part (information about means-end chains). This makes the questionnaire difficult to fill and inappropriate for application in electronic form. Having additional 58 questions makes each study difficult to conduct. It is necessary

to test whether Schwarz's short value survey (SSVS) can be successfully used. There is some evidence that Schwarz's short value survey (SSVS) is much more compact and convenient to use, and its results are comparable to Schwarz's classic study (Lindeman and Verkasalo, 2005).

It can be concluded that the pilot study is successful. A large sample of representatives of different cultures can be studied with a common questionnaire. It is necessary to experiment whether the Schwarz's short value survey (SSVS) is applicable

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