Abstract. *Abstract: The analysis of the consumer behavior has become one of the most important aspects in the way companies make their decision and the way they develop their strategy. Knowing the motivation and the behavior of buying of the consumers can help companies develop their strategy accordingly and by this to convince the consumers to buy more. Besides this, the behavior of the consumer is a good reflection of the image of the society, its values and its important aspects. So knowing the motivation of buying doesn't only give directions to companies for their strategy, but also shows the development of a society.*
The facts presented in this article are based on an experiment about the behavior of the consumers in different retail formats in Romania. More precisely, from the observed behavior of the Romanian consumers there were build six clusters, which present the way consumers shop and the product groups which are more important for them. There are presented the methodology of the Ward cluster analysis, the characteristics and some demographic data of the clusters.

Keywords: cognitive and emotional decisions, consumer behavior, consumer clusters, consumer typologies.

CLUSTERS OF CONSUMER BEHAVIOR FOR FOOD AND NEAR-FOOD PRODUCTS IN ROMANIA

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1. Introduction

The analysis of the consumer behavior is not only a key factor for the success of companies, but also gives a good insight in the way the society in which the consumers live, its orientation an its values. As Solomon et al. mention without understanding the way the consumer feel and think, it is almost impossible for a company to offer the products he wants and in the way he wants. This fact is amplified in the recent years by the fact that the bought products don't represent anymore just some things which cover their needs, but they also describe the way the consumer is. Consequently the consumer buys the products not only to have them, but also to define his image, express his personality and consolidate his image in the society (Solomon et al., 2010, p. XIV). Knowing the behavior and the complex motives which drive the consumer to buy products helps not only the producers, but also the retailers to develop their strategies (Dabija, 2011). Moreover within the orientation of the marketing towards creating a relationship to the customer, these strategies influence more and more the vision and the mission of the companies, helping them to find new orientations (Pop, Vlădoi, 2009, pp. 220-225).

In this article there are presented some behavior clusters of the Romanian consumer, based on a research about the cognitive and emotional decisions of the Romanian consumer. As it is known, the heterogenious population can be divided into more homogenious groups depending on some similarities in their behavior or beliefs. From a marketing perspective, it is sometimes easier to address to these small homogenious segments then to the whole population. Each of these segments has its own perception on products or different retail formats depending on their habits, values or beliefs. In this article there are defined and presented the clusters of the Romanian consumer, depending on the product types they buy more often or seldom, about their behavior at each product group and some demographic aspects.

2. Methodology of the determination of consumer behavior clusters

There were two steps in the determination of the cluster of Romanian consumer behavior. The first step was the collection of data and the second step was the determination of cluster with the help of the Ward cluster analysis in SPSS and interpretation of data.

For the collection of data an experiment was done, which had as objective the analysis and exploration of the cognitive and emotional reactions in the buying behavior and to determine the rationality from the point of view of the consumer. It consisted out of three parts. The initial part questioned the respondents on their initial purpose and desires of the buying process such as the products he wanted to buy, the amount of money, he wanted to spend and so on. The second part consisted out of an observation regarding the buying behavior. There were analyzed the reactions in the

buying process for several product groups. The third part included a survey, which should explain the aspects observed in the previous part, regarding the motives of buying the products. The marketing-experiment was conducted in the period December 2010 – February 2011 in different retail formats in the main cities of Romania. There were observed 146 persons, which were chosen randomly by the interviewer. The only aspect which was considered in the marketing-experiment was that the number of female respondents should be equal to the number of male respondents.

The cluster analysis was done based on the observed behavior of the consumers for different product groups. The first issue which was checked was the correlation of the different factors with the help of the factor analysis in SPSS. The factor analysis helps reduce the number of influencing factors, depending on some similarities (Backhaus, et al., 2000, p. 252ff). The MSA values in the Kaiser-Meyer-Olkin criterium indicated a miserable to mediocre adequacy of the data for a factor analysis, so as a consequence the cluster analysis was done based on the initial factors (Backhaus, et al., 2000, p. 269f). Actually the correlation among the factors was not strong enough to substract other factors but the mentioned initial ones, so that the cluster analysis was done based on these.

In order to determine the cluster the Ward method was used. In comparison to other cluster procedures, the Ward method divides the respondents into cluster, based on their homogenity. The clusters are built so that the heterogenity of the group should be as small as possible (Backhaus, et al., 2000, pp. 359ff). With the help of the elbow-criterium in the Ward analysis and based on the results of the Dendogramm, there were set 6 clusters. The inclusion of the respondents in the 6 cluster was done with the help of the SPSS. After the determination of the clusters, these were analyzed to see the characteristics of each of them.

3. Analysis of consumer behavior clusters in Romania

The cluster analysis based on the observed results has revealed 6 types of typologies for the Romanian consumer. These six typologies are presented in the following.

Cluster 1: The consumer of natural products

The first cluster of consumers is named “the consumer of natural products” because he prefers products like milk products, fruits and vegetables, meat products, bread products and all types of beverages. This type of consumer stops only seldom at product groups like cans, cooked and half-cooked products and cleaning products.

As it can be seen in Figure 1, 92.3% of the respondents don’t stop at the product group cans, which might indicate the fact that they prefer natural products in opposition to the preserved ones. Other two groups of products which are not that

often visited by this type of consumer are the cosmetic products (76.9% of the consumer don't stop at this product group) and cleaning products (69.2% of the consumers don't stop here), which indicates again the fact that they prefer natural products and rather dislike the chemical products offered in the store. Other two types of products which this type of consumer is not very font of are the cooked and half-cooked products. So, 84.6% of the consumer don't stop at the cooked products and 61.5% don't stop at the half cooked products, which indicate the fact that they rather buy traditional products, which they can prepare at home.

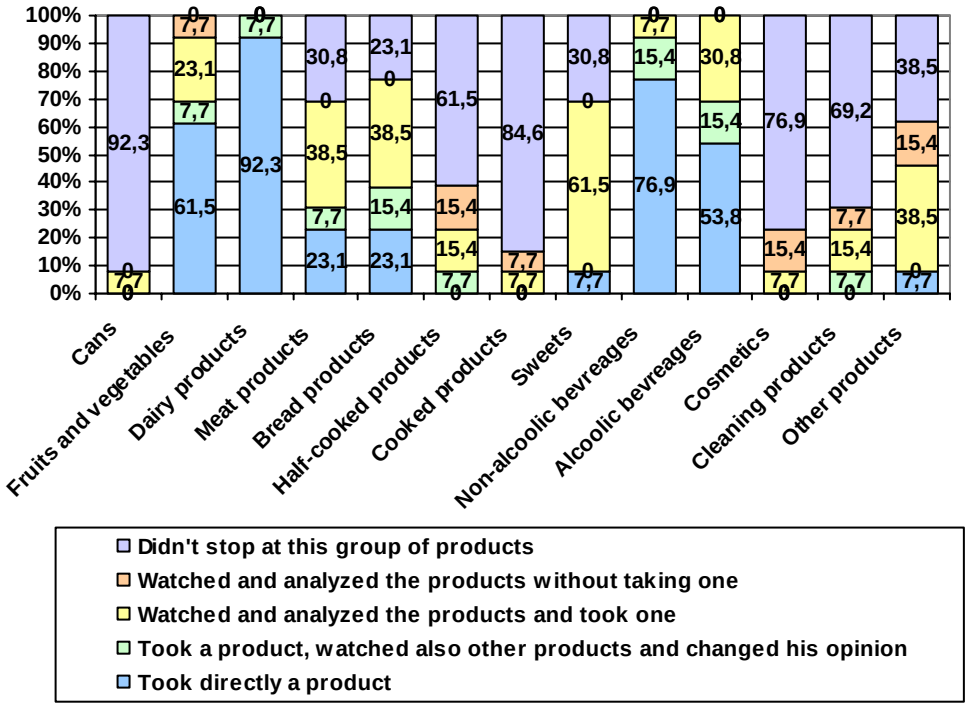


Figure 1. **Observed buying behavior for Cluster 1**

The product groups which are most preferred by these consumers are fruits and vegetables, dairy products and alcoholic and non-alcoholic beverages. All the respondents have stopped at these product groups. Regarding the type of behavior for these product groups, the preponderant behavior was the one in which the consumers took directly the products they liked, showing that they know what they buy. So 92.3% of the consumer took directly the diary products they like, while only 40% of the total sample did so (Pelău, 2011b, pp. 101-114). Only 7.7% have also analyzed the other products from this category. In the case of the fruits and vegetables, 61% of the consumers took directly the products they wanted, while 23.1% have analyzed the products before choosing one. Despite their natural orientation, these consumers buy

alcoholic and non-alcoholic beverages. So 76.9% of the consumer go directly to the non-alcoholic beverages they like and 53.8% of the consumer do so for alcoholic beverages. In the case of the alcoholic products the behavior is more analytic, so 30.8% of the consumer analyze the product they want and 15.4% of the consumer take one product and change their mind afterwards. In the case of meat and bread products the consumer have a mixed behavior, both analytical (38.5%) and targeted (23.1%).

In this cluster 61.5% of the consumer are men, which can be an explanation for the high rate of buying of alcoholic products. In comparison to the other cluster, these consumers are younger, with an average income. For 69.2% of these consumer the purpose is to buy products for one week, while only 30.8% came to the store because they have needed something. The preponderant behavior for this cluster is went directly to the products he needed but also watched other (46.2%), while they went directly to needed product is represented with 23.1%. The time spent in the shop ranges between 30 minutes and 2 hours and has an average of 76.1 minutes.

Cluster 2: The consumer with a healthy, traditional, non-alcoholic lifestyle

The second cluster was named "the consumer with a healthy, traditional, non-alcoholic lifestyle" because he prefers natural products like diary products, fruits and vegetables and bread, but in comparison to the first cluster, they consume less alcohol. Similar to cluster 1, this type of consumer doesn't stop too often at product groups like cans, cooked and half-cooked products. In opposition to the first cluster, they stop seldom at alcoholic products and they stop more at cosmetics and cleaning products.

As mentioned above, this type of consumer doesn't stop too often at product groups like cans, cooked and half-cooked products and alcoholic beverages and when they stop they have a rather analytical behavior. So 88.6% of these type of consumers don't stop at half-cooked products and 84.4% don't stop at cooked products. Despite, these high percentages, 6.8% of the consumers analyze the product group half-cooked products but they don't buy anything and 11.4% of the consumers analyze the product group cooked products without buying anything, Actually only 4.5% of the consumers buy something in these product groups after analyzing the products. A similar situation is in the case of alcoholic products. 79.5% of these consumers don't stop at this product group, while 13.6% stop at this product group, without buying anything.

As it can be observed in Figure 2, for the other product groups, the behavior of the consumer varies among buying directly and analyzing the product. The product group at which most of the consumers of this cluster stop is dairy products. 95,5% of the consumers stop at this product group, from which 56,8% buy directly the products and 27.3% analyze the products before buying them. Another frequently visited product group are the fruits and vegetables. In comparison to the whole sample where 28.8% of the consumers don't stop at this product group (Istudor, Pelău, 2011, pp. 1759-1764), only 11.4% of this cluster don't stop at the fruits and vegetables. In this case, the consumer have an analytical bevavior, 45.5% of the consumer analyze the

products before they buy them. In comparison to the previous cluster, these consumers stop more at cosmetics and cleaning products. In case of the cosmetics they have a rather analytical behavior (38.6%), while in the case of the cleaning products the behavior varies, 29.5% take directly the needed product, while 38.6% of the consumers analyze the products they buy.

In this cluster 59.1% of the consumers are women and they have an older age average then cluster 1. The main shopping purpose for this cluster is that they came to buy something they have needed (50%), while only 43% came to make they shopping for a week. The time spent in the shop varies from 15 minutes to 3 hours, with an average time of 64.5 minutes. The preponderant buying behavior is took directly a product, but also analyzed other products (38.6%).

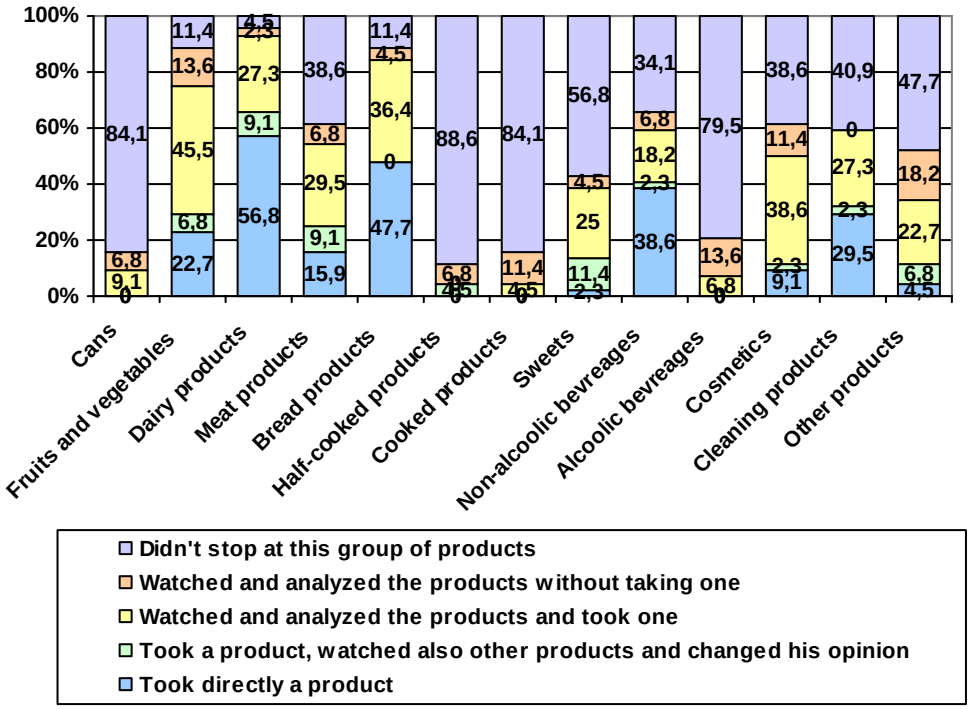


Figure 2. **Observed buying behavior for Cluster 2**

Cluster 3: The consumer who enjoys he's food

The main characteristic of this type of consumer is the fact that he stops at all types of food in the same amount and less at near-food and other products and for this reason he was named "the consumer who enjoys he's food". For the different types of product groups, his behavior is different.

The product group, where he stops least is "other products", where 70% of the consumers don't stop and 15% of the respondents stop, but they don't buy anything. Other products groups which are not frequently visited by this type of consumer are the cooked products, where 55% of the respondents don't stop and other 35% don't buy anything, even if they stop. In the case of the half-cooked products 50% of the respondents of this cluster don't stop. In the case of the cosmetics and cleaning products 45% and 50% of the consumer don't stop, while for the cleaning products most of the consumer have an analytic behavior (40%), while for the cosmetic products the behaviors differs. In comparison to the first two clusters, there is no food product group where this type of consumer doesn't stop.

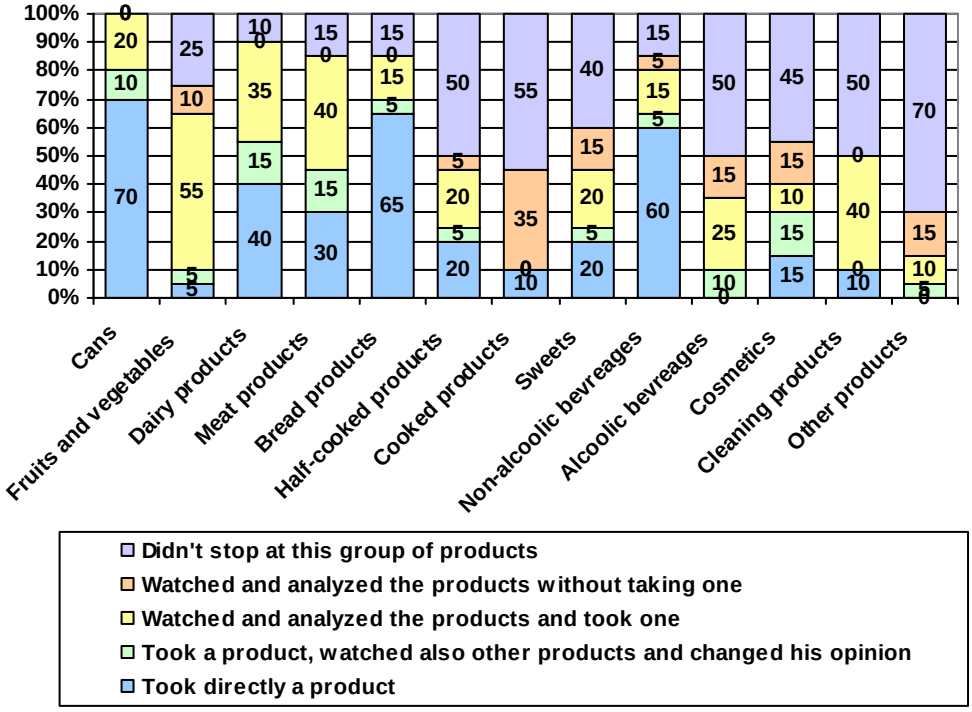


Figure 3. **Observed buying behavior for Cluster 3**

If we analyze the type of behavior at the product groups, where this consumers stop, we can observe that he has a different behavior. In some cases he goes directly to the needed products, as for instance cans (70%), bread products (65%) and non-alcoholic beverages (60%), showing that he knows what he wants. Besides this, these are also the products groups, where the products don't differ too much. There are also other product groups, where this type of consumer is more analytic then the whole sample as for instance fruits and vegetables (55%) (Istudor, Pelău, 2011, pp. 1759-1764).

Besides these, there are product groups, where he has a mixed behavior as for instance dairy products and meat. In both product groups, there are simple products, where there is not much to choose, but also specialities. As for instance the product group dairy products, contains both milk where you don't have to choose very much, but also cheese, with its specialities. The same happens in the case of meat.

This cluster is equally represented by men and women, within different age groups and income classes. The preponderant general buying behavior is went to the needed products, but also watched other (40%). The main buying behavior purpose is to buy things for a week (60%). The average time spent in the store has an average value of 70.5 minutes.

Cluster 4: The hurried consumer, who knows what he wants

The consumer in this cluster was called the "hurried consumer, who knows what he wants" because he doesn't stop at too many types of products. The product groups where he stops most are alcoholic and non-alcoholic beverages, with 51.9% for each of them. For this reason, it is assumed that he stops only at the product groups he is interested in. At the product groups, where he stops the consumer has different types of behavior.

The product groups, where this type of consumer stops least are the cans and the cleaning products. 92.6% of the consumer don't stop at these types of products. In opposition to the previous clusters, where most of the consumer stop at dairy products, 88.9% of these consumers don't stop. Fruits and vegetables are also a product group, where 81.5% of the consumers of this cluster don't stop. In the case of half-cooked products 81.5% of the consumer don't stop, while in the case of cooked products, 74.1% don't stop, while 11.1% of the consumers stop, but they don't buy anything. Similar percentages are also for the product groups bread, where 74.1% don't stop and 3.7% don't buy this type of products and meat, where 70.4% don't stop and another 7.4% don't buy any products.

As it can be seen in fig. 4, the product group, where this consumer stops most frequent are alcoholic and non-alcoholic beverages (51.9%). In the case of this product groups, the behavior is similar, but not the same. So 22.2% take non-alcoholic products directly, while 29.6% do so for the alcoholic beverages. 11.1% of the consumers change their mind after taking an alcoholic beverage. 18.5% of the consumers analyze the non-alcoholic beverages before they buy them, while 7.4% of the consumers do so for alcoholic beverages. Another product group, which is more frequent visited by these consumers are the sweets (44.4%). In this case 29.6% of the consumers have an analytic behavior.

In this cluster, most of the consumers are men (63%) and the preponderant general buying behavior is that the consumers went directly to the needed products (37%). The main reason for coming to the shop is to buy something they need. The age and the average income vary for this product group. Although the consumers in

this cluster don't visit to many product groups in the store, the average time spent in the store is 59.3 minutes. This value is smaller than for the other clusters, but it is high compared to the visited product groups.

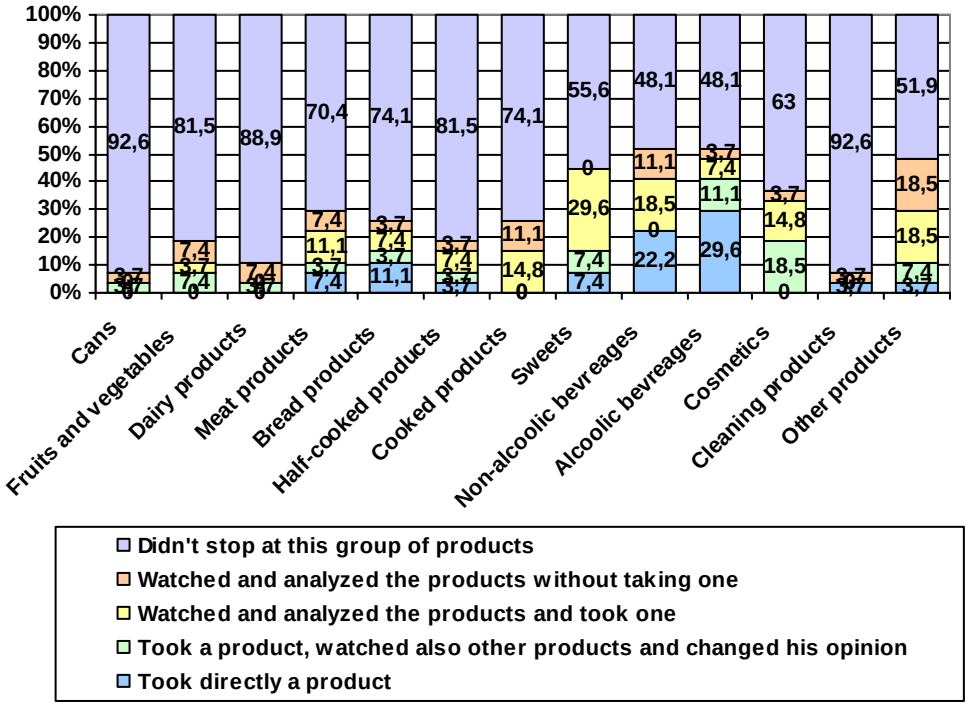


Figure 4. **Observed buying behavior for Cluster 4**

Cluster 5: The sweet tooth consumer

This type of consumer was named "the sweet tooth consumer" because he enjoys buying sweets. It is the only category, where all consumers buy sweets. Besides sweets he also likes and stops at all types of product groups.

As mentioned before, the main characteristic of this type of consumer is the fact that he likes sweets. So, all consumer stop at this product group and all consumers buy at this product group. Regarding the behavior of the consumer towards sweets, the behavior varies between habitualized and analytic behavior. So 45.5% of the consumers go directly to the sweet products they like, while 36.4% of the consumers analyze the products before they buy them. 18.2% of the consumers go directly to the wished product but change afterwards their mind. Another frequently visited product group is bread products. In this case the consumers analyze the products before they buy them (45.5%), while 27.3% of the consumers go directly to the needed products. For the non-alcoholic beverages this type of consumer knows what he wants, because

45.5% of the consumers go directly to the needed product, while only 4,5% analyze it and 22.7% don't stop at this product group.

The product groups, which are not frequently visited by this type of consumer are the cans (72.7%), alcoholic beverages (68.2%) and cooked products (63.6%).

In this cluster, there are more women (54.5%) then men (45.4%) and the main buying reason varies between "I need something and came to buy it" (50%) and shopping for a week (40.9%). The preponderant buying behavior is "went through the store and took the needed products" (40.9%). Despite this observed behavior, this is the consumer who needs the least time for his shopping experience (59.09 minutes).

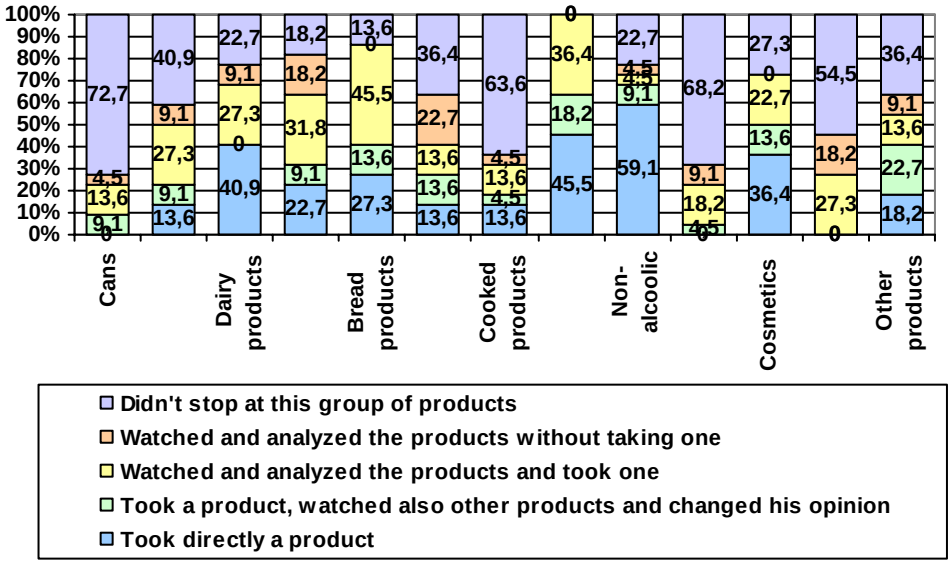


Figure 5. **Observed buying behavior for Cluster 5**

Cluster 6: The full sortiment consumer, who has time and knows what he wants

The last cluster was named "full sortiment consumer who knows what he wants, but has time" because this type of consumers stops at most of the product groups and in most cases he takes directly the product he wants. The only product groups where he doesn't stop to often are other products (50%), cans (50%) and alcoholic products (35%). For all the other product groups the maximum percentage of consumers who didn't stop at this product group is 15%.

At the product group dairy products, sweets, and cleaning products, all consumers of this cluster stop and in the case of sweets and cleaning products, all the consumers also buy something. While for the dairy products the behavior varies, in the case of sweets (50%) and cleaning products (60%) the consumers go directly to the

needed products. The product groups non-alcoholic beverages, cooked products and meat products are visited by 95% of the consumers, but their behavior is different. While in the case of the non-alcoholic beverages most of the consumers take directly the needed product (55%), in the case of cooked products (35%) and meat products (40%), the consumer changes his mind after taking a certain product. Another frequently visited product group, where the consumers take directly the needed products is bread (60%). For the other product groups there is no preponderant behavior.

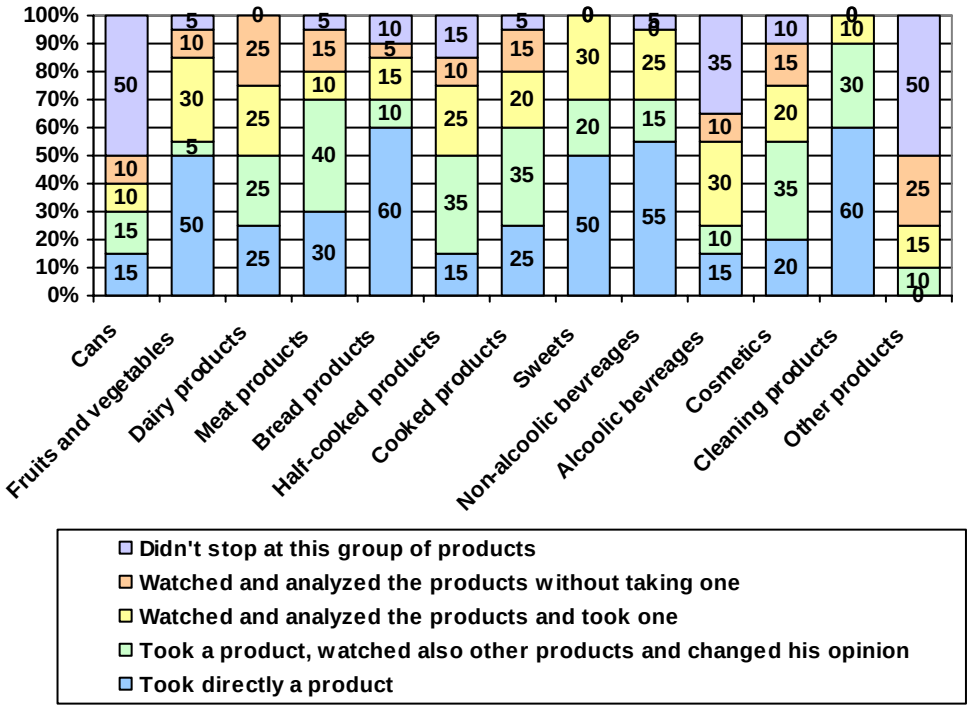


Figure 6. **Observed buying behavior for Cluster 6**

In this cluster, most of the consumers are women (65%). They have as main buying objective to make shopping for a week (60%) and have a preponderant general behavior "walked through the store and took the needed products" (45%). For this cluster the age and the income varies. The fact that this type of consumer stops at most product groups is also reflected in the spent time. The consumer of this cluster spend an average time of 102.9 minutes in the store.

4. Conclusions

The cluster analysis of the Romanian consumer shows the sub-segments of behavior of the consumer. If we analyze the theories of consumer behavior these can be also found at the Romanian consumer. At one extreme we have the hurried consumer, who knows what he wants (cluster 4), which corresponds wit a rather cognitive oriented consumer who goes shopping only to buy the products he needs. At the other extreme, there are two clusters of emotional shopper, who enjoys this activity: there is full sortiment consumer, who has time and knows what he wants (cluster 6) and the sweet tooth consumer (cluster 5), who also takes his time to go shopping. A mixed behavior can be observed at the other clusters. There are two close clusters, the consumer of natural products (cluster 1) and the consumer with a healthy, traditional, non-alcoholic lifestyle (cluster 2), which are both oriented to natural products, but they differ in they way they approach the other product groups. The last cluster the consumer of special products (cluster 3) is a consumer who is oriented towards food products and also corresponds to the Romanian culture.

Depending on these behavior typologies a company should know, how to develop its strategy in order to increase the buyings of the consumer.

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References

Backhaus, K., Erichson, B., Plinke, W., Weiber, R. (2000), *Multivariate Analysemethoden – Eine anwendungsorientierte Einfuehrung*, Springer, Berlin

Balan, C. (2010), Present shifts in consumer complaint management, in: Brătianu C., Lixăndroiu D., Pop N.A., Business Excellence, *Proceedings of the 5th International Conference on Business Excellence*, Vol. I, Informarket Publishing House, Braşov, Romania, pp. 38-41

Blythe, J. (1998), *Comportamentul consumatorului*, Teora, Bucureşti

Cătoiu, I., Teodorescu, N. (2003), Comportamnetul consumatorului, Uranus, Bucureşti

Cătoiu, I. (coord.) (2002), *Cercetări de marketing*, Uranus, Bucureşti

Dabija, D.C. (2011), Producers versus Retail Brand Strategies – Positiong Vectors in Consumers' Minds, in: *Management & Marketing*, vol. 6, no. 3

Diller, H., Haas, A., Ivens, B. (2005), Verkauf und Kundenmanagement – Eine prozessorientierte Konzeption, Kohlhammer, Stuttgart

Dmitrovic, T., Vida, I., Reardon, J. (2009), Purchase behavior in favor of domestic products in the West Balkans, *International Business Review*, no. 18, pp. 523-535

D'Rozario, D. (1999), Effect of Assimilation on Prepurchase External Information-Search Tendencies, *Journal of Consumer Psychology*, Vol. 8, No. 2, pp. 187-209

Foscht, T., Swoboda, B. (2004), *Käuferverhalten: Grundlagen – Perspektiven – Anwendungen*, Gabler, Wiesbaden

Foxall, G.R. (2003), The behavior analysis of consumer choice: An introduction to the special issue, *Journal of Economic Psychology*, no. 24, pp. 581–588

Istudor, N., Pelău, C. (2011), "Consumer behavior on the fruits and vegetables market", at the *international conference European Integration – New Challenges*, Oradea, 27-28 May 2011, pp. 1759-1764

Jimenez-Martin, S., Ladrón-de-Guevara, A. (2007), "Modeling consumption patterns in the attribute space: Theory and evidence of hybrid behavior", *International Journal of Research in Marketing*, 24, pp. 242-253

Jones, M.A., Reynolds, K.E., Weunc, S., Beatty, S.E. (2003), "The product-specific nature of impulse buying tendency", *Journal of Business Research* 56, pp. 505- 511

Kroeber-Riel, W., Weinberg P. (2003), *Konsumentenverhalten*, Vahlen, München, 2003

Manolica, A., Ciobanu, O., Bobalca, C. (2011), "The Perception of Marital Roles in Decision-Making Processes in the Global Context", in Rusu, C. (ed.) *Proceedings of the 7th International Conference on Management of Technological Changes*, Alexandroupolis, Greece, September 2011, pp. 201-205

Orth, U.R., Limon, Y., Rose, G. (2010), "Store-evoked affect, personalities, and consumer emotional attachments to brands", *Journal of Business Research*, no. 63, pp. 1202–1208

Pelău, C. (2011a), "Cognitive and emotional buying decision of the Romanian consumer", at the Conference *Provocările crizei şi răspunsul ştiinţei economice*, Bucureşti, 1-2 July 2011

Pelău, C. (2011b), "Analysis of consumer behavior for different product groups", *Management & Marketing*, vol. 6, special issue/2011, pp. 101-114

Pelău, C. (2009), *Marketing-Controlling – Măsurarea performanţei in marketing*, Editura Economica, Bucureşti

Pop, N. Al., Pelau, C. (2007), "Knowing the motivation of buying", in Analele universităţii din Oradea, seria: Ştiinţe economice, editura Universităţii din Oradea, Tom XVI, 2007, special issue for the 3rd international conference „Integrarea Europeană – Noi provocări pentru economia României", Oradea, pp. 1063-1066

Pop, N.Al., Pelău, C. (2011), Cognitive and emotional reactions in the buying decision and their impact on the success of tehnological changes, in: Rusu, C. (ed.) *Proceedings of the 7th International Conference on Management of Technological Changes*, Alexandroupolis, Greece, September 2011, pp. 193-196

Pop, N.Al., Vlădoi, A. (2009), "Characteristics of the implementation of a marketing vision in Romanian companies", in: Brătianu, C., Lixăndroiu, D., Pop, N.A. (eds.) Business Excellence, *Proceedings of the 4th International Conference on Business Excellence*, Volume II, Informarket Publishing House, Braşov, Romania, pp. 110-113

Solomon, M., Bamossy, G., Askegaard, S., Hogg, M.K. (2010), *Consumer Behavior – A European Perspective*, 4th edition, Prentice Hall, Financial Times, Harlow

Swoboda, B., Berg, B., Dabija, D.C. (2009), "Perception of retail marketing – empirical study on formats", in Brătianu, C., Lixăndroiu, D., Pop, N.A. (eds.), Business Excellence, *Proceedings of the 4th International Conference on Business Excellence*, Volume II, Informarket Publishing House, Braşov, Romania, pp. 220-225