



REFLECTION OF BRATISLAVA RETAIL NETWORK IN SELECTED ASPECTS OF CONSUMER BEHAVIOUR

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Abstract. The paper analyses the evolution of the retail network of the capital city of Slovakia Bratislava affecting buying behavior and lifestyle of its consumers. From the marketing point of view, it characterizes the current retail network in Bratislava and presents the main trends in the development of retail stores in Bratislava. It shows, on the one hand, how the importance of consumer behaviour rise in the decline economic prosperity during last years, while on the other hand, how the concentration in retail declines the chances for success of small independent food retail stores during last recent years. The authors used methods, e. g. multidimensional scaling, GIS, for testing assesses the significance of these changes on the sample involving 11.389 respondents interviewed. The paper presents the results of research project VEGA No. 1/0039/11 Geographical Information System as a Source of Strategic Innovation of Enterprise from the Point of View of Strengthening its Competitiveness.

Keywords: attractiveness of retail stores, accessibility, retail network, consumer behaviour.

JEL Classification: M31, O18, R31.

Introduction

Retail trade in many towns or regions is considered to be a branch ensuring its socio-economic development. Besides necessary natural, cultural and historical preconditions together with material-technological basis of retail trade, development of a town or region is also determined by its transport accessibility (Więckowski, Michniak 2012: 8). Good accessibility of a town contributes to its total attractiveness, which can result in a higher number of visitors (Trembošová 2012: 132–135). On the contrary, improper level of accessibility of a town many cause low use of the retail trade potential which is often reflected in a low level of turnover and selling space of point of sale (Pražská, Jindra 2012). The aim of this article is an analysis of accessibility of retail points of sale in the town Bratislava and the possibilities of increasing their attractiveness.

1. Space in consumer behaviour

Space interactions are a result of influence of many factors and show the mutual interdependence and functioning of different facts (Thang, Tan 2003: 193–200). In the case of retail trade the interactions are created mainly between the place of living of a customer and the place, which he/she visits most frequently (work, leisure), whilst the interactions are influenced by the very existence of the customer mobility. Perception of accessibility of the point of sale by a customer creates the basic factor of the point of sale attractiveness (Boučková *et al.* 2007: 377–381). Differentiation of attractiveness, possibilities and needs of inhabitants as well as reaching individual places of sales leads to the differences in competitiveness of retail points of sale (Wooda, Reynolds 2012: 1076–1087).

Within the analysis of locality as a precondition of deciding the location of the retail point of sale it is important

to realize that this decision determines the distance to the customer, who must develop some effort to cover the distance, spend some time and have some costs for the possible transport (Kampfa *et al.* 2011: 425–432; Šveda, Križan 2012: 460–481). The accessibility of point of sale expresses the possibility of reaching the offer of the point of sale in the so called acceptable time from the customer's point of view (Križan *et al.* 2008: 959–972). It is a matter of reaching the distance. Time accessibility is given not only by the distance, but by the way of overcoming the distance and other factors as well. This results in the point of sale attractiveness which is proportional to its accessibility with regard to the level of specialization of the offer (Križan *et al.* 2013: 198–209). We can say that attractive location of the point of sale is related to three elements: customer, road network and retail network in a given town or village (Wooda, Reynolds 2012: 1076–1087). Their mutual interactions leading to the attractiveness of the point of sale are illustrated in the following Figure 1.

Customer is attracted by the offer of the point of sale, which thus creates its radius and at the same time expresses the willingness of a customer to visit different points of sale distant from his place of living within the given

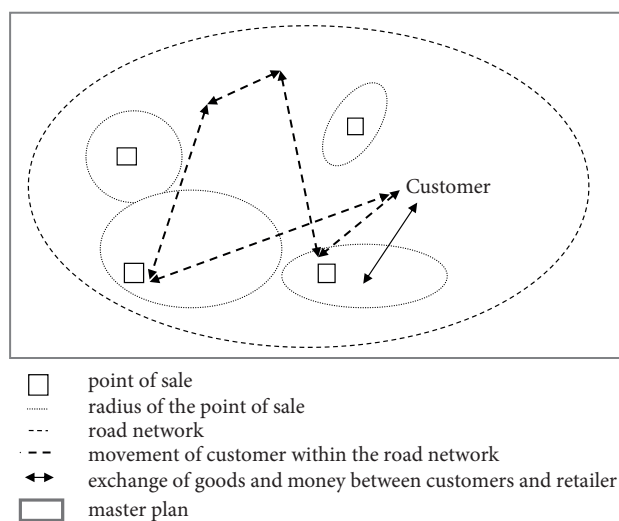


Fig. 1. Interaction customer-point of sale- road network (Source: own processing)

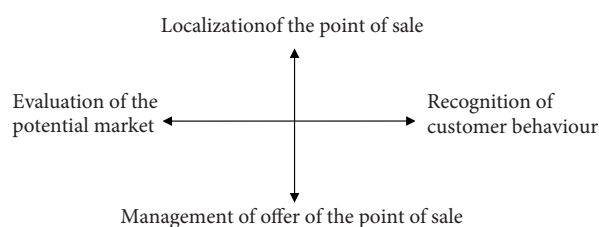


Fig. 2. Starting points of a distributor when localizing the point of sale (Source: Douard, Heitz 2004: 62)

road network of the town (Cheng *et al.* 2014: 165–174). Figure 2 also shows the space behaviour of customer who decides visiting a point of sale independently and most often according to the offer of the point of sale, possibilities of transfer, level of disposable financial means and his/her motivation. Therefore when locating a point of sale a distributor must judge its buying behaviour in evaluating the potential of the given sphere of interest (Samalavicius 2013: 69–72).

2. Methodology

The criteria for localization of the point of sale are related to the space dimension of geomarketing, which connects geography with the database of the data characterizing the purchasing behaviour of customers (Turhan *et al.* 2013: 301–402), which makes it possible to personify the point of sale offer with regard to the localization conditions and in this way create an effective instrument of knowing the customer behaviour and develop an effective marketing of the point of sale. The above criteria are evaluated by customers and they can be illustrated by means of multidimensional scaling. The use of multidimensional scaling as an alternative of factor analysis makes the information more simple and transparent for a distributor in recognising his/her potential customers.

The aim of this method is to find veiled reasonable dimensions, which make the marketing manager able to explain the similarities or differences (distances) found out among the subjects researched. The principle of the method lies in transferring objects in the space, which is limited by an exact number of dimensions and in the research of the impact of a given arrangement on the reproduction of original distances between the objects. The aim of this method is to optimally decrease the number of data and to search the relations of objects in the reduced space. To make the results most clear with regard to the possibilities of optical evaluation of relations, it is effective to be limited by a three-dimensional space (Urbonavičius, Ivanauskas 2005: 199–206). Each coordinate axe has its own meaning resulting from decisive qualities of the objects evaluated according to their position in the space. Although the methods of output may also be numerical, it is mainly a visual technique. The objects are described in a reduced space, which is the so called map of perception, and which is usually a basic navigator in interpreting the relations between the objects. This method has a useful and a much frequented application in the marketing research. It is useful in the study of consumer relations, mainly the relations connected with perception and preference of products and services (Križan *et al.* 2008: 959–972). It makes it possible to identify the attributes, which are important for consumers and to measure their relative importance.

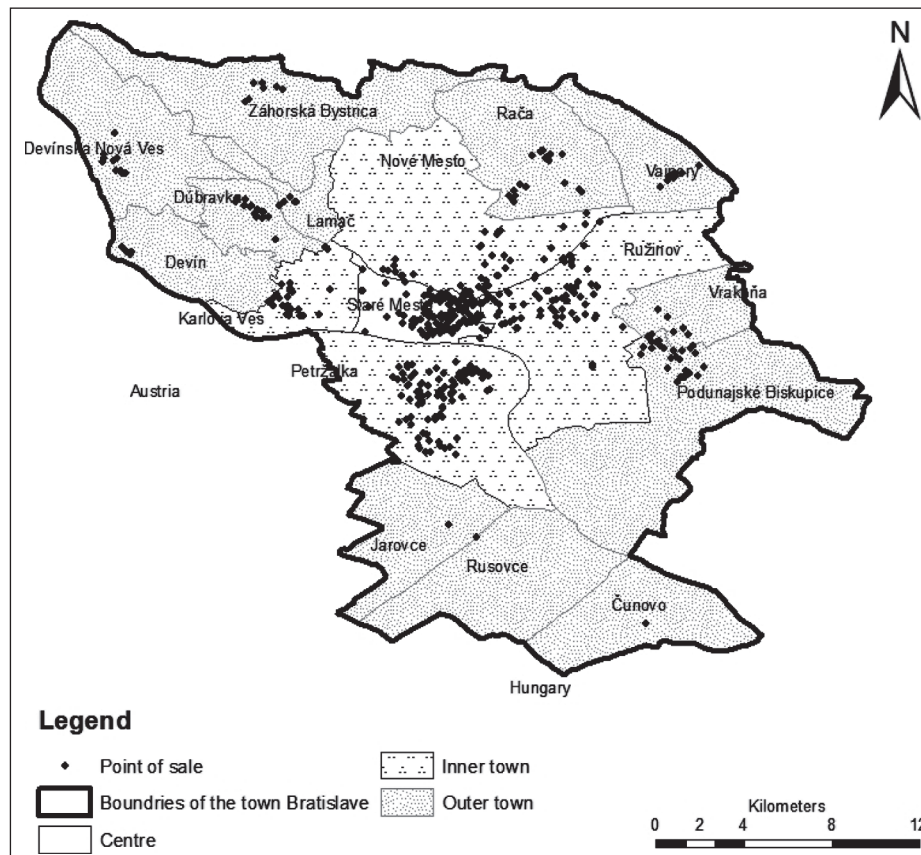


Fig. 3. Lay-out of retail points of sale in the town Bratislava in the year 2011 (Source: The results of research within the project VEGA No. 1/0039/11 Geographical Information System as a Source of Strategic Innovation of Enterprise from the Point of View of Strengthening its Competitiveness)

3. Results and discussion

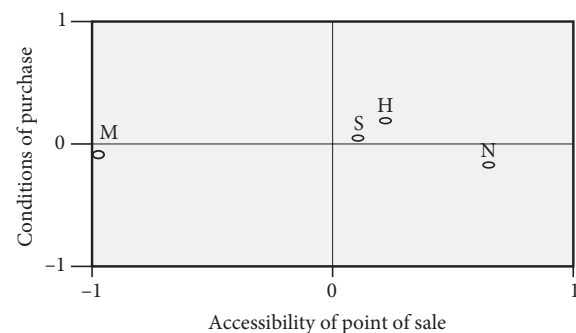
The aim of the research carried out in the year 2011 in the territory of the capital of the Slovak Republic Bratislava was to create the space lay-out of the retail network in the territory of the city (Fig. 3) using the knowledge of geo-marketing and creation of database data about the retail network as a part of a geographic information system (GIS). Besides this it also concerns the perception of accessibility of retail points of sale of the retail chains selling foodstuffs to customers.

To get the answers a standardized questionnaire was used. It was completed by 11.389 respondents shopping in the retail establishments located in individual parts of the town Bratislava. The respondents had to comply with the conditions – to have a permanent or temporary residence in Bratislava and to be at least 18 years old.

The general perception of attractiveness of different forms of points of sale by customers is illustrated in the Figure 4.

The popularity of hypermarkets and supermarkets results from the fact that customers generally reason they prefer a car (an average of 4.87) as a means of transport to the point of sale and spend an average time of almost 14

minutes to get to the place of purchase. The customers, who marked the possibility not to prefer any of the given types of forms of points of sale claim that they do shopping at the time and the place when it suits them best. The Table 1 shows more exactly the answers of respondents to the question which way of transport to the food store they prefer.



Explanations: M: a small point of sale, S: a supermarket, H: a hypermarket, N: none of the given forms of points of sale is preferred.

Fig. 4. The map of perception of attractiveness of the forms of points of sale (Source: The results of research within the project VEGA No. 1/0039/11 Geographical Information System as a Source of Strategic Innovation of Enterprise from the Point of View of Strengthening its Competitiveness)

Table 1. The way of transport of customer to the food store (Source: The results of research within the project VEGA No. 1/0039/11 Geographical Information System as a Source of Strategic Innovation of Enterprise from the Point of View of Strengthening its Competitiveness)

The way of transport	Relative share of respondents	Average time
by car	40.82%	13.50 min.
by public transportation	30.28%	16.36 min.
on foot + others	28.42%	13.50 min.
no response	0.47%	11.83 min.
Total	100%	

The transfer of customers to the popular points of sale which are located in the district of the town Bratislava which is different from the place of residence is shown in Figure 5.

The customers living in the district 1 most often visit the points of sale in the district 5 and subsequently in the district 2, i.e. 11.60%, and in the district 3 it is 13.44% of customers. Only 9.58% of customers do shopping within the district 1. The least visited are the points of sale located in the district 4. Only 7.91% of customers do shopping out of the town Bratislava. The share of 28.84% represents the respondents living in this district, who did not inform whether they travel to the points of sale in a different district. We can claim that 61.58% of respondents living in the district 1 do shopping in a different district. Finally we can claim that

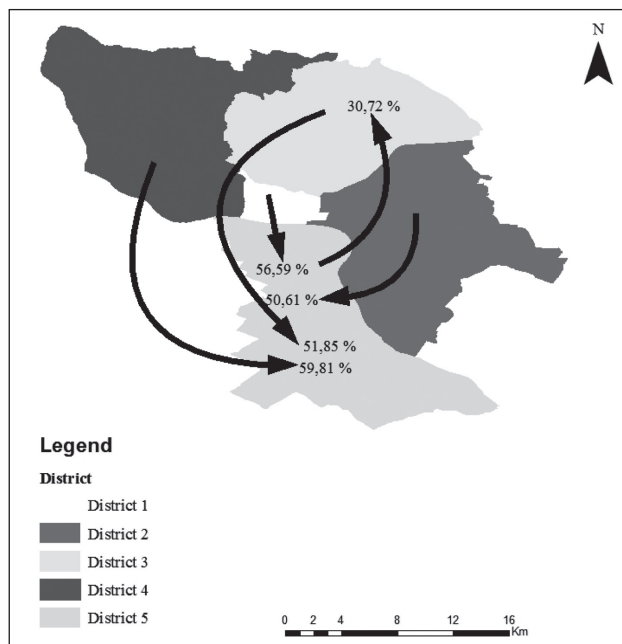


Fig. 5. The main purchasing flow of customers between individual districts of the town Bratislava in the year 2011 (Source: The results of research within the project VEGA No. 1/0039/11 Geographical Information System as a Source of Strategic Innovation of Enterprise from the Point of View of Strengthening its Competitiveness)

61.58% of respondents living in the district 1 do shopping in a different district.

The customers living in the district 2 most often visit the points of sale in the district 5.

Then they travel to the points of sale located in the district 3, i.e. 16.75% of customers and in the district 1 it is 15.80% of customers. 15.65% of customers do shopping in the district 2. The least visited are the points of sale located in the district 4. The share of 9.39% represents the customers shopping out of the town Bratislava. The share of respondents living in this district who did not give the information whether they travel or do not travel to the points of sale in a different district is 29.13%. Finally we can claim that 55.22% of respondents living in the district 2 do shopping in a different district.

The customers who have residence in the district 3 most often travel to the points of sale in the district 5. Then they visit the points of sale located in the district 1, i.e. 16.75% and district 2, i.e. 14.49%. The least visited points of sale are located in the district 4. 18.48% do shopping within the district 3. As many as 10.71% of customers do shopping out of the town Bratislava. The share of respondents living in this district, who did not give the information whether they travel or do not travel to the points of sale in a different district, is 29.81%. Finally we can claim that 51.71% of respondents living in the district 3 do shopping in a different district.

The customers who have residence in the district 4 most often travel to the points of sale located in the district 5. Then they visit the points of sale located in the district 3, i.e. 14.51% and in the district 1 it is i.e. 11.69%. The least visited points of sale are in the district 2. 15.6% do shopping within the district 4. Only 3.65% of customers do shopping out of the town Bratislava. The share of respondents living in this district who did not give the information if they travel or do not travel to the points of sale in a different district is 24.81%. Finally we can claim that 51.71% of respondents living in the district 3 do shopping in a different district.

The customers who have residence in the district 5 most often travel to the points of sale located in the district 3. Then they travel to the points of sale located in the district 1, i.e. 26.76% and in the district 2, i.e. 24.01%. As many as 36.81% of customers do shopping in the district 5. The least visited points of sale are in the district 4, only 6.20%. 12.31% of customers do shopping out of the town Bratislava. The share of respondents living in this district who did not give the information if they travel or do not travel to the points of sale in a different district is 30.23%. Finally we can claim that 32.96% of respondents living in the district 5 do shopping in a different district.

On this basis we can characterize the attractiveness of the points of sale of individual retail chains selling foodstuffs, the points of sales of which were performing in the year 2011 in different districts of the town (Fig. 6).

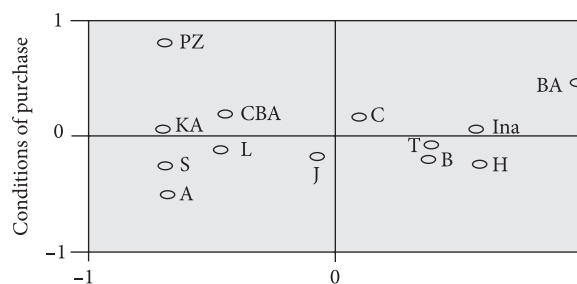
The map 3 shows that the points of sale of the chains Carrefour, Billa, Tesco, Balla a Ahold (Hypernova) are at a good level as for their accessibility which is due to the fact that their points of sale are either in the shopping centres (Carrefour, Billa, Ahold), or isolated (Tesco), with a good parking facility and a suitable access by the municipal public means of transport. The points of sale Albert, Lidl, Jednota COOP, CBA or Kaufland, Moja Samoška, which are most often located within the town quarters in the vicinity of the customers' homes, where there is no problem with the accessibility, can be evaluated from the point of view of purchasing conditions i.e. price, variety of offer, staff, facilities of the point of sale, opening hours and other factors influencing their perception such as the knowledge of the offer of the point of sale or the number of the points of sale of the chain, image and others.

Limits of research

It may be asked why in this paper a Bratislava retail network in selected aspects of consumer behavior was treated only. Population of Bratislava city is more than 500 000 habitants and it can not compare its retail network and buying behavior of habitants with other Slovakian cities which population is less than 100 000 habitants. The consumer behavior of the Bratislava consumers might not be considered for a general model applied for whole Slovakia. Others aspects such as transport network, highways and geographic location, e. g. near to Vienna, Brno and Budapest are not comparable with the another cities. Therefore, paper offers an overview of the most promising locations for new point of sales in the separate districts on the basis of characteristics of buying behaviour of the consumers.

Conclusions

Better knowledge of the space behaviour of a customer enables the distributor to understand the attractiveness of the sales point and plan the future implantation of a new point of sale. The results of the research show, that out of the total number of inhabitants of Bratislava, the inhabitants of the district 4 travel to other districts the most to purchase in their popular point of sale. On the contrary, the inhabitants of the district 5 travel to other districts the least. This aspect in buying behaviour is explained by differences in the structure of points of sale in these districts which is reflected in the offer of products taking into regard the way and events of everyday life of a consumer of a given district (the place of work, the place of leisure). On the basis of realising the popularity of the forms of points of sale and the points of sale of individual retail chains we can claim that the accessibility is a strategic element in the market position. Therefore, evaluation of consumer buying behaviour is an



Explanations: PZ – Prima zdroj, C – Carrefour, BA – Balla, B – Billa, A – Albert, L – Lidl, Ka – Kaufland, H – Hypernova, T – Tesco, S – Moja samoška, Other – the point of sales of other retail chain.

Fig. 6. Attractiveness of the points of sale of retail chains in the year 2011 (Source: The results of research within the project VEGA No. 1/0039/11 Geographical Information System as a Source of Strategic Innovation of Enterprise from the Point of View of Strengthening its Competitiveness)

important tool in marketing planning and decision-making of the implantation of a new retail store. Knowledge of the geographical dimension in the future analysis of consumer behaviour makes it possible to follow their preference, behaviour, and customs with regard to the distance of different implanted points in our territory according the geographical zones.

In addition further research can benefit from this paper considered for a part in time-line survey of development of the retail network and the consumer behaviour in building the time-space model of consumer behaviour for citizens of Bratislava.

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