



CONSUMER BEHAVIOUR OF SENIORS VISITING SHOPPING MALLS: CASE STUDY FROM BRATISLAVA

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Abstract

Seniors represent an important group of consumers for two reasons. The first reason is their specific consumer behaviour, differing from any other generation of consumers. The second reason is their growing number in many countries, including Slovakia. Consequently, increased attention has recently been paid to this group of consumers. The paper aims to evaluate the consumer behaviour of seniors visiting shopping malls in Bratislava (Slovakia) from the spatial context by using GIS tools. The consumer behaviour of seniors (60+) was analysed in terms of the changing distance between the address of residence and shopping mall, in the context of two variables: monthly income and time spent at a shopping mall. The study results show that distance continues to play a significant variable in understanding the consumer behaviour of seniors.

Key words

Seniors, consumer behaviour, shopping malls, Bratislava

INTRODUCTION

Studying the consumer behaviour of the post-productive population may be considered as being of current interest, as in the context of demographic changes we are likely to see an increase in marketing emphasis toward this age group in the near future, with this age group becoming crucial given its growing consumer potential (OECD, 2017), not just in developed countries, but also developing countries. Despite the radically different quantitative dimension of disposable income

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of Slovak pensioners compared to the countries of Western Europe (Michálek and Výboštok, 2019), the gaping regional differences within the territory (Bratislava) and the rest of Slovakia must also be emphasised (Káčerová and Ondačková, 2015). At the same time it is important to note that in the coming years the share of seniors will grow in proportion to the population due to demographic developments, both in Slovakia as well as in other countries of Central and Eastern Europe. Analyses forecast that within 15 years it will be seniors who will form most consumption in the developed world (McKinsey, 2016). Given the above, the understanding and studying of this group of consumers forming the “silver economy” will attract growing interest of the public and the scientific community (Klimczuk, 2016).

In this context, a specific situation is arising in the post-socialist countries of Central and Eastern Europe, where the absolute increase in seniors will be dramatic and, between regions, greatly differentiated (Káčerová and Ondačková, 2015; Ondačková et al., 2018). Concurrently, it can be assumed that the different qualities, preferences and perceptions of these seniors, compared to their Western European counterparts, will require special emphasis on their study (Kunc et al., 2013). Will the focus, in the post-socialist countries, turn to senior consumers, as it has in some developed countries today (e.g. Japan)? Against this background, it will be in the interest of retail management, shopping malls and retail chains to modify their strategies in the retail landscape in order to appeal to this growing consumer and unique group of seniors, who to a certain degree remain an ignored market segment. Since research shows that seniors exhibited different qualities (e.g. more time and experience), possibilities and also requirements for goods (Ford et al., 2016), technical assistance or shop environment (Angell et al., 2012; Luck and Benkenstein, 2015), it will be important to adapt shopping malls, which are becoming increasingly popular in Slovakia (CBRE, 2019).

Spatial features, as part of the comprehensive and distinctive consumer behaviour of seniors, represent yet another area that has been the subject of relatively little research in this regard. Despite the relatively little interest in researching the spatial tendencies of this population group in Slovakia, it is necessary to point out the overall importance of such study (Križan et al., 2018; Križan and Lauko, 2014). The reason is precisely the uniqueness of the consumer behaviour of seniors in many aspects, which naturally determines their different spatial behaviour.

OBJECTIVES

The paper aims to provide a spatial analysis of the consumer behaviour in post-productive consumers in selected shopping malls in Bratislava (Slovakia). The shopping malls analysed rank among the most attractive and most visited malls: Aupark, Avion Shopping Park (Avion SP), Bory Mall, Central, Eurovea. The paper focuses on spatial data analysis through geographic information systems (GIS), tak-



ing account of four aspects. The first aspect is the quantitative change in the number of respondents due to the changing address-to-mall distance. Subsequently, it is analysis of the main shopping zones of the respondents for each of the shopping malls analysed. The third aspect examined is an analysis of the links between the address-to-mall distance and respondents' spending at shopping malls. The last aspect is the impact the distance has on the time spent at a shopping mall.

THEORETICAL FRAMEWORK

Consumer behaviour can be characterised as a process that individuals or groups pass through in the selection, purchase, use and disposal of goods, services, ideas or experiences to satisfy their needs and desires (Solomon et al., 2018). Recently, in addition to "traditional" disciplines such as sociology and economics, there has been an increase in the number of scientific disciplines (not just social) looking into consumption and consumers. Such expansion of research is linked to the study of consumer behaviour as a response to changes that result from or are part of globalisation, something that reflects also geography.

The semantic definition of the term 'senior' as well as the age determination is rather problematic. In the retail context, the term 'senior' has many synonyms such as old consumer, retiree, silver surfer, mature consumer and many others (Zniva and Weitzl, 2016). The bottom age limit of seniority can be 55 years (e.g. Kohinoki and Marjanen, 2013), 60 years (e.g. Myers and Lumbers, 2008; United Nations, 2017). The most widely used age limits in this context are the milestones of 55 and 65 years of age, and depending on the study (and its objectives) the bottom limit may range 45 to 69 years of age (Zniva and Weitzl, 2016).

The rapid increase in the population of seniors can be seen long-term throughout the world, including in the Slovak population. These unprecedented demographic changes will have and already have had a number of implications. The outcome is, in particular, the economic and commercial development focused on this growing market segment, also termed the "silver economy", "silver consumers", or "silver market" (Lesáková, 2013; Klimczuk, 2016). Understandably, the growing number of seniors is closely linked to their growing share in the consumer market. Projections indicate that seniors aged 60 or more are expected to annually spend \$15 trillion in 2020, generating more than a third of global consumption growth (Dobbs et al., 2016).

Today we see a move toward equal interest among the scientific community's in research into the consumer behaviour of teenagers (Arslan et al., 2010; Spilková and Radová, 2011; Muratore, 2016; Uddin and Khan, 2016; Valaei and Nikhashemi, 2017; Pooler, 2018) and seniors or post-productive consumers (Pettigrew et al., 2005; Myers and Lumbers, 2008; Lesáková, 2013; Tomazelli et al., 2017; Križan et al., 2018). In practice, though, the emphasis remains on toward young consumers (Moschis,



2003), who are often more readable than consumers of an advanced age (Myers and Lumbers, 2008). Against this background, we are analogously witnessing weaker adaptation of products and services in practice in connection to seniors, though the situation in the retail sector is somewhat better (McKinsey, 2016).

The consumer behaviour of seniors cannot be perceived homogeneously and generalisations are hard to reach. The reason for this lies not just in the number of variables characterising a given individual at present, but also in past events linked to such an individual's life, determining his/her current perception (Moschis, 2012). For instance, seniors may be parents, grandparents, great-grandparents, and at the same time be economically active in different ways or not at all, where all these factors hold implications directly or indirectly for their consumer behaviour.

A particular topic of consumer behaviour research is, as indicated in Ahmad (2002), the age or the aging, which must be viewed in this context as multidimensional (biological, psychological, social aging) and not only as a simplified chronological sequence (age measured by years lived). The "cognitive age" is of specific significance (Szmigin and Carrigan, 2000; Myers and Lumbers, 2008). Paradoxically, as shown in the overview study of Zniva and Weitzl (2016), the chronological age dominates despite its explicit limitations. For this reason, the concept of an average consumer requires a careful and critical approach, as it is a greatly simplified concept that does not reflect actual consumer behaviour (Szmigin and Carrigan, 2000; Incardona and Poncibò, 2007; Myers and Lumbers, 2008). Analogously, generalisations working exclusively with the chronological measurement of age require a sensitive approach.

Consumer behaviour in post-socialist countries, such as Slovakia, is characterised by certain peculiarities (e.g. Zagata, 2012; Križan et al., 2015; Bilková et al., 2016). This concerns not just the time lag in the diffusion of trends and gradual efforts to pursue convergence in today's European Union (Ganesh, 1998), which may be seen for instance in the currently rising preference for organic food (Dabija et al., 2018). These are different value properties (Lebedeva et al., 2018), preferences and perceptions (Bilková et al., 2016; Kunc et al., 2013) in contrast to consumers of advanced age, for example in Western Europe, which stem from a different historical development and other aspects of the retail environment (Križan et al., 2018; Kunc and Križan, 2018; Spilková, 2018).

The specifics of the consumer behaviour of seniors are, viewed through the heterogeneity of this demographic group (Myers and Lumbers, 2008), a mystery naturally transpiring also in post-socialist countries with some specific features (Lebedeva et al., 2018). The transformation of the retail sector, which implied changes in consumer behaviour in these countries, also played a role (Spilková, 2012). Angell et al. (2012) emphasises the importance of the shopping environment, shop design, and for a certain fraction of seniors also social interaction with employees or shop customers. On the other hand, Luck and Benkenstein (2015)



found that the overcrowding of shops has a negative impact on the satisfaction of the elderly in connected to the infringed personal space. In reference to the interaction between seniors and shop staff, the competence and approach of employees must be taken into consideration as a relevant variable (Pettigrew et al., 2005). At the same time, older customers usually prefer employees of equal age (Wägar and Lindqvist, 2010). Research to date indicates that seniors are, due to their life experience and relative abundance of time, less prone to the impulsive shopping common among teenagers (Muratore, 2016). The relative abundance of time among older consumers also means different methods of decision-making in shops (McKinsey, 2016). Ford et al. (2016) notes that seniors represent a sensitive consumer segment inadequately considered by producers, which is evident from, for instance, older consumers' interaction or manipulation with packaged goods.

The spatial characteristics of consumer behaviour of the elderly reflect their specific needs manifested in space. The outcome is the involvement of geographers in the interdisciplinary issue of consumer behaviour (Bilková et al., 2016). Consumer behaviour research (of seniors) is usually presented in this context by local case studies (e.g. Marjanen, 1994; Spilková and Hochel, 2008; Bilková and Križan, 2014; Trembošová et al., 2016).

DATA AND METHODS

Primary data for the research was obtained through a questionnaire survey conducted in months of April and May 2017. The analysis concerned post-productive consumers aged 60 years or more at the date of conducting the survey. Respondents ($n = 334$) were questioned in five shopping malls (Tab.1) of Bratislava (Fig. 1). In addition to the condition linked to the permanent residence in Bratislava, we deducted those respondents whose permanent address location failed to correspond to the concentric zones of the particular shopping malls determined by us.

Table 1 Number of respondents by address-to-mall distance ($n = 334$)

	2 km	5 km	10 km	15 km	Total
Avion SP	16 (27.12%)	18 (30.51%)	18 (30.51%)	7 (11.86%)	59 (100%)
Aupark	27 (32.93%)	26 (31.71%)	21 (25.61%)	8 (9.76%)	82 (100%)
Bory Mall	6 (9.23%)	12 (18.46%)	33 (50.77%)	14 (21.54%)	65 (100%)
Central	20 (27.78%)	31 (43.06%)	18 (25.00%)	3 (4.17%)	72 (100%)
Eurovea	18 (32.14%)	26 (46.43%)	12 (21.43%)	-	56 (100%)
Total	87 (26.05%)	113 (33.83%)	102 (30.54%)	32 (9.58%)	334 (100%)

Source: *Own calculation*



Of the total number of 334 respondents, 40.5% were men and 59.5% were women. The average age of respondents was 68.9 years, with a median age of 69 years. In terms of the educational structure, the least numerous group was represented by seniors with basic education (3.3%). The most numerous level of education among seniors was secondary education (56.2%), followed by university education (40.5%).

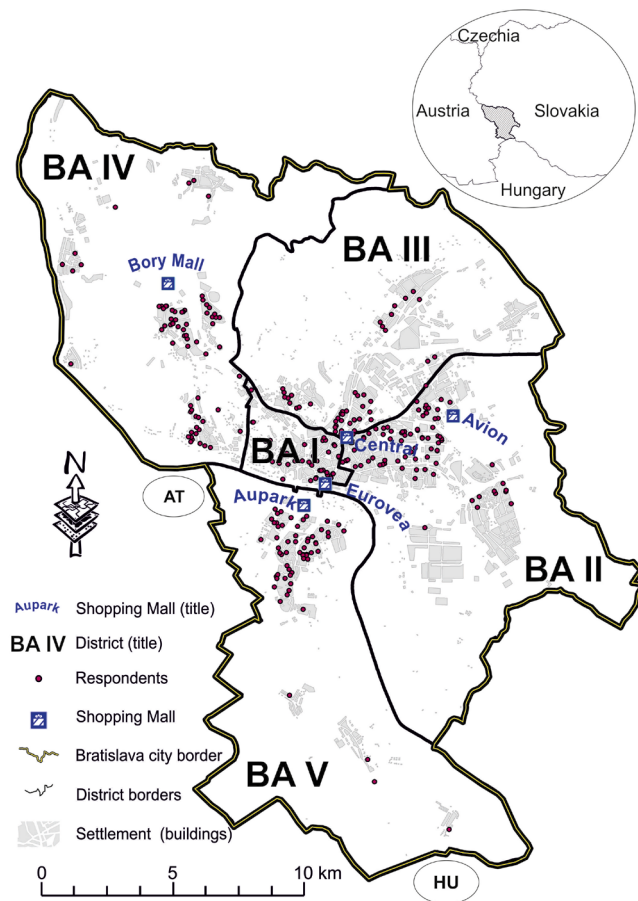


Figure 1
Territorial definition and spatial distribution of respondents
Source: Author's survey, 2017

The questionnaire survey consisted of a broad range of questions, while the paper works with only a few selected attributes such as, primarily, the permanent address location (street and number), the average time spent by respondents at shopping mall, the average monthly income, the share of monthly income spent at



shopping mall, and denomination of the most important factor in choosing a preferred shopping mall.

The data obtained from the questionnaire was geocoded and concentric zones were created for each of the five shopping malls (Fig. 2). Replies were subsequently grouped by the respondent's address location in relation to the shopping mall where the respondent was questioned (Tab.1).

The paper used the questionnaire survey method by using a controlled interview with respondents (Rochovská et al., 2014). The data was processed in the GIS environment, using the spatial analysis with the aid of Kernel density (Tierno et al., 2013) and Multiple Ring Buffer zones (Križan et al., 2018). The purchasing zone analysis is perceived within this paper as a spatial distribution of potential shopping mall consumers. In terms of methodology, this analysis can be performed through Kernel density, which is a function performing a parameter-free estimate of the density of a different variable (Rosenblatt, 1956). In other words, it expresses the relationship between the frequency of occurrence of an element in a particular territory, based on the distance between individual elements in space. Primarily, the elements analysed have the same weighting, but we can define for them any selected weightings. As an example we can state the definition of a greater weighting for population in retirement age whose visit to the pharmacy in question is more likely. Depending on the weighting we define for the elements, this is reflected in the frequency of the given element occurring in the space. Despite several types of nuclear density estimation function (cf. Silverman, 1986), their choice is irrelevant for the survey quality and output analysis according to W. Härdle (1991), as they offer high reliability. The Kernel density calculation can be done in the ArcGIS, using the Kernel Density tool, which is part of the Spatial Analyst tool kit. Its result is a map output showing the different concentration of a given phenomenon in space, which in general may be interpreted in terms of colour intensity, the greater intensity of colour of the territory, the higher the concentration.

Impact of commute distance of seniors

Distance, along with other aspects, is one of the key elements when consumers are choosing a shopping mall (Marjanen, 1994), as confirmed by our survey, where 31.74% of the respondents identified accessibility (or a synonym of the term) as the most important factor in choosing a shopping mall. When analysing the spatial characteristics, it is necessary to consider also the allocation of shopping malls (Fig. 1), where in particular Bory Mall and partially Avion SP feature, in contrast to other malls, the character of a suburban shopping mall, reflected in the specific relationship between the number of respondents and distance (Tab. 1). Above all, this concerns the growing number of visitors in relation to the distance from the Bory Mall. The cause here is likely to be the allocation of the majority consumer base.



On the other hand, in terms of its location, the Eurovea shopping mall is considered part of the historical centre of Bratislava (Križan et al., 2015). Our analysis showed a non-linear relationship between increasing distance and descending number of respondents, with the anomaly of the Bory Mall caused by its very marginal location with regard to Bratislava as well as by other specifics.

Aupark shopping mall reaped the largest share of respondents – residents in its immediate vicinity (relative to the shopping mall) of 0 to 2 km, where the distance of 2 to 5 km included the shopping malls Eurovea, Central, Avion SP, and Bory Mall in the distance of 5 to 10 km (Tab.1). The spatial distribution of respondents per surveyed shopping mall and their location in the framework of the given distance zone is shown in Fig. 2, where the tendencies and distributions in space described above can be observed.

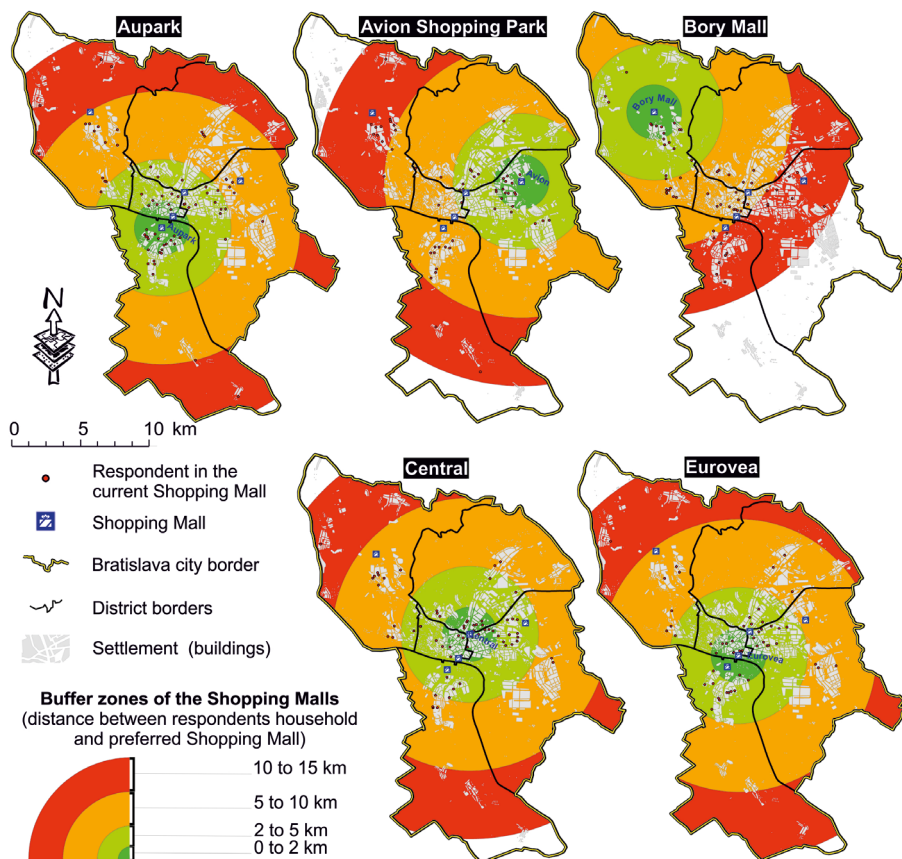


Figure 2
Concentric zones of surveyed shopping malls in Bratislava
Source: Author's survey, 2017



Shopping areas of seniors in Bratislava

When analysing the shopping zones with regard to the shopping malls in question, we assumed representativeness of the survey sample on the basis of which the zones were delimited, from where the visitors came, for each of the shopping malls in question using the Kernel density tool (Fig. 3).

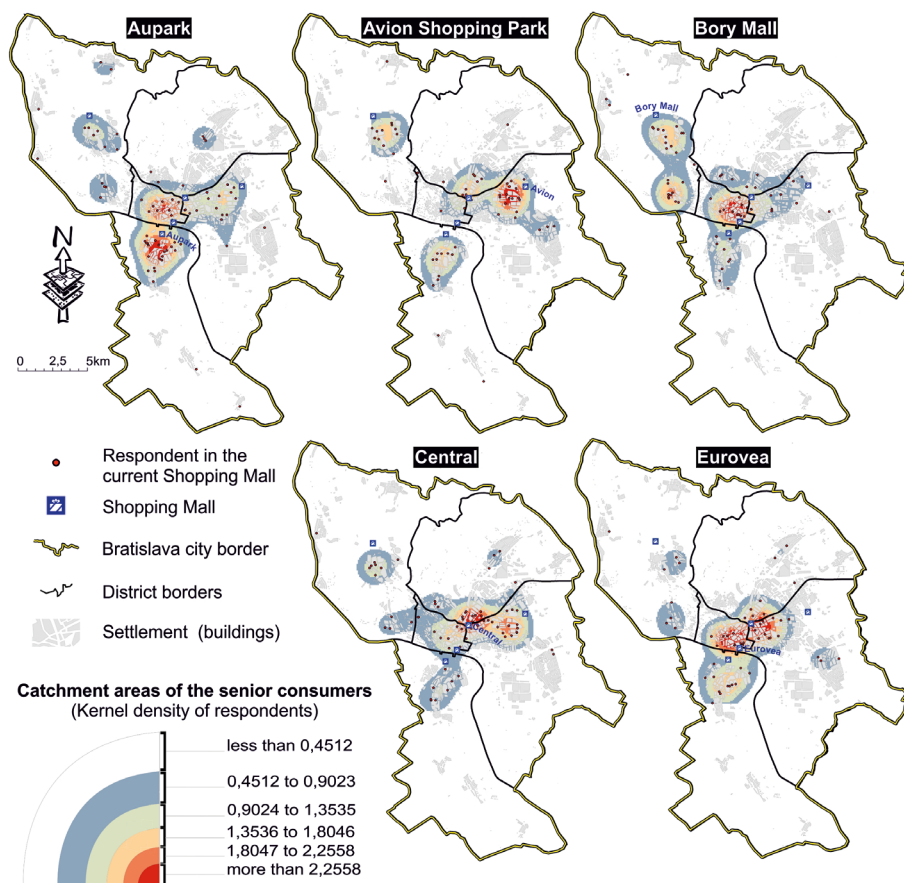


Figure 3

Shopping zones of selected shopping malls of Bratislava

Source: Author's survey, 2017

Based on the Kernel density analysis of the respondents' residence addresses, a shopping zone was deemed to constitute a locality with a coefficient value exceeding 1.3535. Subsequently we arrived to the following conclusions. The shopping zones for the Eurovea shopping mall are primarily the city districts of Staré Mesto, Nové Mesto, the adjacent district of Ružinov and Petržalka. In the



case of the Central mall, these were the city districts of Staré Mesto, Nové Mesto and Ružinov. As for the Aupark shopping mall it was Petržalka, Staré Mesto and Ružinov. The source city districts of the Avion SP were Ružinov, Petržalka, Dúbravka and Nové Mesto. In the case of the Bory Mall it was Staré Mesto, Karlova Ves and Dúbravka (Fig. 3). The results obtained correlate with more detailed research by Bilková and Križan (2014) concerning urban districts, underlining the justification of the above statements.

These findings can be used to optimise the (absent) direct public transport routes between the sources of shopping zones and the shopping malls (Bory Mall, Avion SP). The results can likewise be applied to more targeted addressing of marketing adverts to potential senior visitors to the shopping malls in question.

Distance of residence as an indicator of seniors' consumer behaviour

The issue of income receives much attention, as it is one of the most important factors affecting consumer behaviour (Vadim, 2009), along with other factors such as education, age, etc. (Li and Houston, 2001).

In this section we analysed the relationship between the average monthly income of seniors at the given distance zone from the visited shopping mall (Fig. 2). In this context, the values obtained, with the exception of the seniors in Aupark shopping mall, show no relevant statistical dependence or tendency. Senior respondents at Aupark shopping mall are an exception, showing a linear dependence between the increasing distance from their home and the respondent's average monthly income. It is also interesting to note that, given the average Slovak pension of €425 for February 2017, all the monitored groups receive a significantly above-average pension income. We see the cause in the context of consumer behaviour, as low-income groups of seniors, in our opinion, come up against higher prices in shopping malls. The second cause lies in regional differences, with a higher average pension income being a typical feature for the Bratislava region and its background in comparison with the rest of Slovakia.

The opposite situation arose in analysing the share of spending at a shopping mall from the respondents' monthly income in distance zones from the shopping mall. Here, there is a noticeable relationship between distance and consumer's spending, when the average spending of respondents for all shopping malls, other than those for Aupark shopping mall, grew in line with the address-to-mall distance. Paradoxically, respondents at the Aupark shopping mall demonstrated exactly the opposite relation, where the share of spending in the seniors' income declined with the increasing address-to-mall distance. These results indicate a significant impact of distance on the senior consumer behaviour, while contrasting results for the Aupark shopping mall indicate intriguing features of this long-term successful shopping mall (Sikos, 2010; Kunc et al., 2016).



The respondents' role was to express an opinion on a hypothetical question: There are two shopping malls and are approximately equidistant. A. Will the size of the shopping mall decide on the purchase? B. Will the additional services of the shopping mall decide on the purchase? We used the Likert scale: strongly agree, agree, disagree, strongly disagree, no opinion. More than half of the seniors (57%) strongly agree and agree that the size of shopping mall (gross leasable area) is decisive for the selection of the purchase location in a hypothetical case (Fig. 4A). Even more important for the selection of purchases from two approximately equally distant shopping malls are additional services (restaurants, cinema, banks, doctor, etc.). Almost 2/3 of the respondents totally agree or agree with this statement. Only 20% of respondents disagree or totally disagree (Fig. 4B).

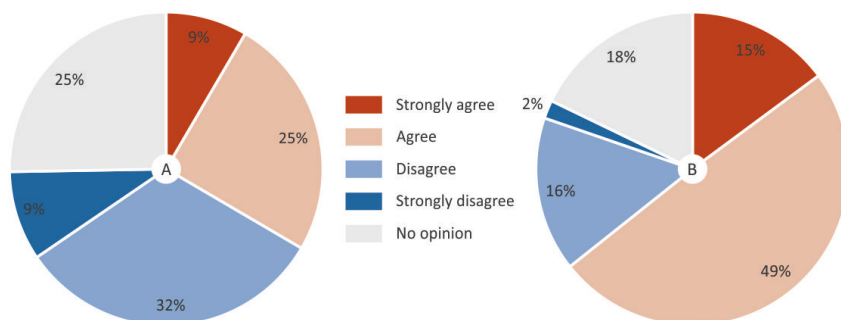


Figure 4

Perceptions of seniors for the selection of the purchase location in the case of two shopping malls that are approximately equidistant
(A - The size of the shopping mall will decide on the purchase; B - The additional services of the shopping mall will decide on the purchase)

Source: Author's survey, 2017

We used a paired sign test to assess the statistical significance of the findings. Based on its results we can say that visitors for purchase location prefer additional services rather than size of shopping mall at a significance level of 5%. Up to 47% of respondents gave higher ratings to additional services compared to shopping mall size, 42% of people rated services and size in the same way, and 11% of respondents considered shopping mall size a decisive factor in choice. These findings (based on the assessment of significance level) lead to the conclusion that that additional services are a significantly more important factor for purchasing than the size of a shopping mall if the shopping mall are equidistant from each other.

Another task was to find out which factor of shopping mall choice is the most important for seniors. Of all the answers (which we grouped into six classes: distance, tenant mix, services, feelings, price and others), we found that up to 41% of them consider the accessibility (distance) of a shopping mall as the most important factor.



The second most important factor is the additional services (27%). The price is in the third place of importance, feelings have a greater impact than tenant mix (Fig. 5). The Chi-square test was used to determine that the frequencies were statistically significant and it was confirmed that the differences found were not due to chance.

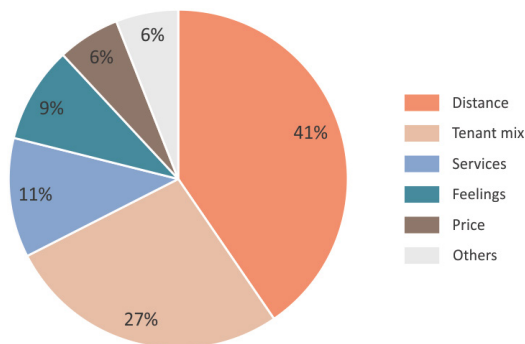


Figure 5
Factors influencing the shopping mall choice for purchasing
Source: Author's survey, 2017

Impact of distance on the time respondents spend at a shopping mall

The amount of time spent at shopping malls depends on a number of objective (availability, price of goods, etc.) and subjective (personal preference, ancillary services, etc.) factors (Križan et al., 2015). At present, consumers frequently place emphasis on subjective factors when they are in preference of more distant shopping malls for a certain subjective reason (Handy and Clifton, 2001).

The analysis of the average time spent by seniors at a given shopping mall with regard to their place of residence showed that the shopping malls in question indicated two distinctive features in the behaviour of their consumers. Seniors living in the immediate distance (0 to 2 km), as well as those living at the maximum distance analysed (10 to 15 km) from the shopping mall visited, achieve in total below-average values of time spent at the shopping mall compared to other zones (Tab. 2). On the other hand, seniors living in distance zones of 2 to 5 km as well as 5 to 10 km indicate significantly above-average values of average time spent at shopping malls (Tab.2). We view this specific feature in the consumer behaviour of seniors in the context of their residence as interesting, and in our opinion it reflects different reasons for visiting a shopping mall in relation to their overall accessibility.

In terms of the average time spent by seniors at shopping malls, Aupark and Bory Mall achieve the highest values, with respondents staying the shortest time at Central and Avion SP (Tab. 2). The Aupark leadership may be seen as yet another specific feature underlining the success of this shopping mall, while the higher



values behind the Bory Mall indicate rather the phasing out of some sort of a “discovery” stage of this, at the time of our survey, relatively new shopping mall in Bratislava.

Table 2 Time (in min.) of seniors spent at shopping malls in relation to the address-to-mall distance (n = 334)

	2 km	5 km	10 km	15 km	average
Avion SP	79.38	82.50	91.11	71.33	81.57
Aupark	91.48	88.27	95.95	61.25	88.65
Bory Mall	75.00	86.67	94.15	80.00	87.60
Central	71.05	87.17	80.83	84.17	81.16
Eurovea	69.50	90.19	91.66	-	83.86

Source: *Own calculation*

CONCLUSIONS

In the paper we analysed selected spatial aspects of consumer behaviour of the post-productive population (seniors) visiting five selected shopping malls (Avion SP, Aupark, Bory Mall, Central, Eurovea) in Slovakia's capital city, Bratislava. Despite the limitations of our research relating to the size of the research sample and the possibility to generalise the findings for other locations, we consider our results to be relevant and enriching information about consumer behaviour of this growing and unique market segment of consumers.

From the analysed aspects of consumer behaviour of seniors, it emerged that the distance or accessibility of a shopping mall is one of the fundamental factors determining seniors' decision-making. Paradoxical, in this context, is our finding that the shopping zones of some shopping malls (Bory Mall, Avion SP) defined for the selected category of consumers (seniors) currently lack a direct public transport connection. With regard to the share of expenditure spent at a shopping mall out of the monthly income of respondents, we found that in the case of all shopping malls, with the exception of Aupark shopping mall, this spending increased in line with the distance of the seniors' place of residence from the mall. The distinctive position of Aupark as a successful and specific shopping mall (Sikos, 2010; Kunc et al., 2016) is also underlined by the linear dependence between the increasing address-to-mall distance and the average monthly income of the respondent. The amount of time spent by seniors at a shopping mall proved to be significantly determined by distance, with the main reason for variability being seen in the different reasons for visiting the shopping mall. The paper confirmed the results of several studies (e.g. Marjanen 1997, Handy and Clifton, 2001) that distance remains a significant variable in understanding consumer behaviour. The research results



correlate with other local studies (Bilková and Križan, 2014; Križan et al., 2015), which can be evaluated positively in relation to the nature of our findings. On the other hand, it should be noted that some studies hold out different results. The time and money it takes to reach the consumer space and the price of the target product affect the consumption behavior at the same time. With the rapid development of urban transportation, the distance and time cost for consumers to buy products are greatly reduced. Therefore, the impact of traffic factors on the formation of consumer spatial clustering is decreasing (Fan et al., 2019). The reason may be different methodology as well as real different behavior of seniors consumers in different economies. Motorization of seniors in Slovakia reaches a low level and therefore the distance for making purchases may have a greater impact on the choice of the shopping location than in other cities.

Given the research objectives, it must be openly noted that the characteristics, preferences and perceptions of the analysed seniors as well as the results we have reached reflect the particularities of the urban environment in the post-socialist countries of Central and Eastern Europe (Kunc et al., 2013). This aspect must therefore be taken into account when contrasting our results with others.

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REFERENCES

- ANGELL, R., MEGICKS, P., MEMERY, J. et al. (2012). Understanding the older shopper: a behavioural typology. *Journal of Retailing and Consumer Services*, 19(2), 259-269.
- ARSLAN, T. V., SEZER, F. S., ISIGICOK, E. (2010). Magnetism of shopping malls on young Turkish consumers. *Young Consumers: Insight and Ideas for Responsible Marketers*, 11(3), 178-188.
- BILKOVÁ, K., KRIZAN, F., BARLÍK, P. (2016). Consumers preferences of shopping centers in Bratislava (Slovakia). *Human Geographies*, 10(1), 23-37.
- BILKOVÁ, K., KRIŽAN, F. (2014). Delimitácia nákupných zón vybraných nákupných centier v Bratislave. *Geografické informácie*, 18(2), 5-15.
- CBRE, (2017). Shopping centre index Slovakia 2017. Retrieved from: <https://www.cbre.sk/en/research-and-reports/>. Accessed on 30 March 2019
- DABIJA, D. C., BEJAN, B. M., GRANT, D. B. (2018). The impact of consumer green behaviour on green loyalty among retail formats: A Romanian case study. *Moravian Geographical Reports*, 26(3), 173-185.



- DOBBS, R., REMES, J., WOETZEL, J. (2016). Emerging demographics are the new emerging markets. In Harvard Business Review. Retrieved from: <https://hbr.org/2016/07/emerging-demographics-are-the-new-emerging-markets>. Accessed on 30 March 2019.
- FAN, T., GUO, N., REN, Y. (2019). Consumer clusters detection with geo-tagged social network data using DBSCAN algorithm: a case study of the Pearl River Delta in China. *GeoJournal*, 1-21, doi: /10.1007/s10708-019-10072-8.
- FORD, N., TROTT, P., SIMMS, C. (2016). Exploring the impact of packaging interactions on quality of life among older consumers. *Journal of Marketing Management*, 32(3-4), 275-312.
- GANESH, J. (1998). Converging trends within the European Union: Insights from an analysis of diffusion patterns. *Journal of International Marketing*, 6(4), 32-48.
- HANDY, S., L., CLIFTON, K., J. (2001). Local shopping as a strategy for reducing automobile travel. *Transportation*, 28(4), 317-346.
- HÄRDLE, W. (1991). Smoothing techniques with implementation in S. New York: Springer Verlag.
- INCARDONA, R., PONCIBÒ, C. (2007). The average consumer, the unfair commercial practices directive, and the cognitive revolution. *Journal of consumer policy*, 30(1), 21-38.
- JANSENBERGER, E., STAUFER-STEINNOCHE, P. (2004). Dual Kernel Density Estimation as a Method for Describing Spatio-Temporal Changes in the Upper Austrian Food Retailing Market. In Toppen, F. a Prastacos, P. (eds.): Agile 2004 - 7th Conference on Geographic Information Science. Conference Proceedings. Heraklion: Crete University Press, 551-558.
- KÁČEROVÁ, M., ONDAČKOVÁ, J. (2015). The process of population ageing in countries of the Visegrad Group (V4). *Erdkunde*, 69(1), 49-68.
- KLIMCZUK, A. (2016). Comparative analysis of national and regional models of the silver economy in the European Union. *International Journal of Ageing and Later Life*, 10(2), 31-59.
- KRIŽAN, F., BILKOVÁ, K., KITA, P., KUNC, J., BARLÍK, P. (2015). Nákupné centrá v Bratislave a atribúty ovplyvňujúce preferencie spotrebiteľov. *Geografický časopis*, 67(4), 341-357.
- KRIŽAN, F., BILKOVÁ, K., KUNC, J., MADAJOVÁ, M. S., ZEMAN, M., KITA, P., BARLÍK, P. (2018). From school benches straight to retirement? Similarities and differences in the shopping behaviour of teenagers and seniors in Bratislava, Slovakia. *Moravian Geographical Reports*, 26(3), 199-209.
- KRIŽAN, F., LAUKO, V. (2014). *Geografa maloobchodu. Úvod do problematiky*. Bratislava: Univerzita Komenského.
- KUNC, J., KRIŽAN, F. (2018). Changing European retail landscapes: New trends and challenges. *Moravian Geographical Reports*, 26(3), 150-159.



- KUNC, J., KRIŽAN, F., BILKOVÁ, K., BARLÍK, P., MARYÁŠ, J. (2016). Are there differences in the attractiveness of shopping centres? Experiences from the Czech and Slovak Republics. *Moravian geographical reports*, 24(1), 27-41.
- KUNC, J., MARYÁŠ, J., TONEV, P., FRANTÁL, B., SIWEK, T., HALÁS, M., KLAPKA, P., SZCZYRBA, Z., ZUSKÁČOVÁ, V. (2013). *Časoprostorové modely nákupního chování české populace*. Brno: Masarykova univerzita.
- LEBEDEVA, N., DIMITROVA, R., BERRY, J. (Eds.). (2018). *Changing Values and Identities in the Post-Communist World*. Springer.
- LESÁKOVÁ, D. (2013). Silver consumers and their shopping specifics. *Oeconomia Copernicana*, 4, 103-114.
- LI, H. S., HOUSTON, J. E. (2001). Factors affecting consumer preferences for major food markets in Taiwan. *Journal of food distribution research*, 32(1), 97-109.
- LUCK, M., BENKENSTEIN, M. (2015). Consumers between supermarket shelves: The influence of inter-personal distance on consumer behavior. *Journal of Retailing and Consumer Services*, 26, 104-114.
- MARJANEN, H. (1997). Distance and store choice: With special reference to out-of-town shopping. In Reponen, T., ed., *Management Expertise in the New Millennium: In Commemoration of the 50th Anniversary of Turku School of Economics and Business Administration*. Turku: School of Economics and Business Administration, pp. 113-128.
- MCKINSEY&COMPANY (2016). Getting to know urban elderly consumers. Retrieved from: <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/getting-to-know-urban-elderly-consumers>. Accessed on 30 March 2019.
- MICHÁLEK, A., VÝBOŠTOK, J. (2019). Economic Growth, Inequality and Poverty in the EU. *Social Indicators Research*, 141(2), 611-630.
- MOSCHIS, G. P. (2003). Marketing to older adults: an updated overview of present knowledge and practice. *Journal of Consumer Marketing*, 20(6), 516-525.
- MOSCHIS, G. P. (2012). Consumer behavior in later life: Current knowledge, issues, and new directions for research. *Psychology & Marketing*, 29(2), 57-75.
- MURATORE, I. (2016). Teens as impulsive buyers: what is the role of price? *International Journal of Retail & Distribution Management*, 44(11), 1166-1180.
- MYERS, H., LUMBERS, M. (2008). Understanding older shoppers: a phenomenological investigation. *Journal of Consumer Marketing*, 25(5), 294-301.
- OECD, (2017). *Incomes of older people*. In *Pensions at a Glance 2017: OECD and G20 Indicators*. Paris: OECD Publishing.
- ONDAČKOVÁ, J., KÁČEROVÁ, M., MLÁDEK, J., POPLÁKOVÁ, D., VANČURA, M. (2018). Population age structure transformation in the capitals of the Visegrad Group countries. *Geographia Polonica*, 91(3), 281-299.
- PETTIGREW, S., MIZERSKI, K., DONOVAN, R. (2005). The three "big issues" for older supermarket shoppers. *Journal of Consumer Marketing*, 22(6), 306-312.



- POOLER, J. A. (2018). Demographic targeting: the essential role of population groups in retail marketing. London: Routledge.
- ROCHOVSKÁ, A., KÁČEROVÁ, M., ONDOŠ, S. (2014). Výskumné metódy v humánnej geografii a ich aplikácie. Bratislava: Univerzita Komenského
- ROSENBLATT, M. (1956). Remarks on some nonparametric estimates of a density functios. *Annals of Mathematical Statistic*, 27(3), 832-837.
- SIKOS, T. (2011). Competition between Aupark Shopping Center and Avion Shopping Park. *Romanian Review of Regional Studies*, 7(2), 79-90.
- SILVERMAN, B.W. (1986). *Density estimation for statistics and data analysis*. London: Chapman and Hall.
- SOLOMON, M. R., MARSHALL, G. W., STUART, E. W. (2018). Marketing: Real people, real decisions. Hoboken: Pearson.
- SPILKOVÁ, J. (2012). Geografie maloobchodu a spotřeby: věda o nakupování. Praha: Karolinum.
- SPILKOVÁ, J. (2018). "Tell me where you shop, and I will tell you who you are": Czech shopper profiles according to traditional, large-scale and alternative retail options. *Moravian Geographical Reports*, 26(3), 186-198.
- SPILKOVÁ, J., HOCHÉL, M. (2008). Toward the Economy of Pedestrian Movement in Czech and Slovak Shopping Malls. *Environment and Behavior*, 41(3), 443-455.
- SPILKOVÁ, J., RADOVÁ, L. (2011). The formation of identity in teenage mall micro-culture: A case study of teenagers in Czech malls. *Czech Sociological Review*, 47(3), 565-587.
- SZMIGIN, I., CARRIGAN, M. (2000). The older consumer as innovator: does cognitive age hold the key?. *Journal of Marketing Management*, 16(5), 505-527.
- TIERNO, N. R., BAVIERA-PUIG, A., BUITRAGO-VERA, J. (2013). Business opportunities analysis using GIS: the retail distribution sector. *Global Business Perspectives*, 1(3), 226-238.
- TOMAZELLI, J., BROILO, P. L., ESPARTEL, L. B., BASSO, K. (2017). The effects of store environment elements on customer-to-customer interactions involving older shoppers. *Journal of Services Marketing*, 31(4/5), 339-350.
- TREMBOŠOVÁ, M., DUBCOVÁ, A., KRAMÁREKOVÁ, H. (2016). Consumers shopping behaviour in the Nitra city. In *International Scientific Days 2016: The Agri-Food Value Chain: Challenges for Natural Resources Management and Society*, Nitra: Slovak University of Agriculture in Nitra, pp. 836-850.
- UDDIN, S. F. KHAN, M. N. (2016). Exploring green purchasing behaviour of young urban consumers: empirical evidences from India. *South Asian Journal of Global Business Research*, 5(1), 85-103.
- VADIM, K., D. (2009). Income as a factor of consumer behaviour of Latvian inhabitants in economics and tourism. In *The Berlin International Economics Congress*. Berlin: ICD.



- VALAEI, N., NIKHASHEMI, S. R. (2017). Generation Y consumers' buying behaviour in fashion apparel industry: a moderation analysis. *Journal of Fashion Marketing and Management: An International Journal*, 21(4), 523-543.
- WÄGAR, K., LINDQVIST, L. J. (2010). The role of the customer contact person's age in service encounters. *Journal of Services Marketing*, 24(7), 509-517.
- ZAGATA, L. (2012). Consumers' beliefs and behavioural intentions towards organic food. Evidence from the Czech Republic. *Appetite*, 59(1), 81-89.
- ZNIVA, R., WEITZL, W. (2016). It's not how old you are but how you are old: A review on aging and consumer behavior. *Management Review Quarterly*, 66(4), 267-297.