Pandemic Food Purchasing: an Example on Silver Generation in the Slovak Republic

Miroslava Trembošová1, Alena Dubcová2, Ľudmila Nagyová3, Elena Horská4
Constantine the Philosopher University in Nitra1,2, Slovak University of Agriculture in Nitra3,4
Faculty of Natural Sciences and Informatics, Department of Geography, Geoinformatics and Regional Development1,2, Faculty of Economics and Management, Department of Marketing and Trade3,4
Tr. A. Hlinku 1, 949011, Tr. Andreja Hlinku 2, 949 763, 4
Nitra, Slovakia
e-mail: mtrembosova@ukf.sk1, aldubcova@gmail.com2, ludmila.nagyova@uniag.sk3,
elena.horska@uniag.sk4
DOI: https://doi.org/10.15414/isd2022.s3.15

Abstract
The COVID-19 pandemic in 2020 affected the shopping behavior of each of us. As more and more people stayed at home to limit the spread of COVID-19, it is no surprise that this new reality may have changed the way and place where people shop. Even if only time will tell whether these changes will be temporary or permanent, we can begin to observe the change in how the pandemic affects demographic shopping behavior. Many studies confirm that the silver generation is not a homogeneous group and is most affected by the pandemic. The aim of the paper is to examine the consumer habits and patterns of seniors when buying food during the pandemic in 2020. The segmentation factor is their age. The survey results confirmed that the seniors aged 50-64 are a heterogeneous group with a higher variability of responses. Due to the greater isolation and greater restriction of movement, people aged 65 and over were less variable in their responses to food purchases. The purpose of this study is to broaden the knowledge base about the attitudes and buying behavior of the silver generation during the pandemic.

Keywords: silver generation, senior community, shopping behavior, retail network, Slovakian consumers

JEL Classification: R21, R230

1. Introduction
Not only in Europe, but also in Slovakia, the importance of the senior community is growing significantly, and it is therefore necessary to understand its shopping behavior. People's shopping habits also evolve with the age and time, resulting in changing needs for products and services as well as shopping behavior. This is why the age is one of the key factors that should be taken into account by retailers when considering marketing strategies (Broeckhoven et al. 2021, Rahman and Yu, 2019, Spence and Youssef, 2021). It is becoming crucial for retailers to deal with and understand the specific needs and expectations of older consumers. These are considered to become a completely different marketing segment (Kendall et al., 2016, Conklin, Maquire and Monsivais, 2013, Rousseau, 2018, Bazoche et al., 2020). Many studies confirm that seniors are not a homogeneous group and require the study of other more sophisticated segmentation factors. The importance of older consumers also lies in their changing food habits and patterns, which in turn influence their buying decisions. Consumer habits are of great importance to retailers, as the sales have a major impact on their business (Alhammadi, Santos-Roldán, and Cabeza-Ramírez, 2021, Teller, C. and Gittenberger, 2011, Yin, Pei, Ranchhod, 2013). These authors point out that if eating habits change with the age of older consumers, it is important to alert traders to these changes in order to offer products accordingly.

Relatively little attention was paid in the academic sphere to age-related work – to silver seniors. According to Evanschitzky and Woisetschläger (2008), there are at least two reasons: firstly, most sectors of the economy have been traditionally focused on younger segments of consumers who are more perceived as throwaway shoppers. As a result, research funding is spent mainly in
this direction. Secondly, the academic research on consumer behavior has an almost natural tendency to use student samples because they require less effort to obtain representative household samples. These are also the reasons why so little is known about the relationship between seniors and consumption, e.g. on purchasing behavior in relation to chronological age, on the collection and processing of information, etc. With its restrictions, the pandemic has exacerbated the problems in the elderly's shopping. The aim of the paper is to enrich this area, to better understand the behavior of older consumers when buying food during the Covid-19 pandemic. Based on a review of the literature and the purpose of this research, it is assumed that:

i) silver generation shows more heterogeneous shopping patterns regardless of age, ii) age segmentation shopping patterns emerge, with the younger seniors (50-64 year olds) responding with more variable options than the older seniors (65 and more).

2. Data and Methods

Information about a customer can be obtained from several sources (loyalty cards, monitoring of shoppers' movements through shopping malls and other activities), but the most complete is from questionnaire surveys. Empirical research was conducted in the months of May to June 2020 in the Nitra region through an online questionnaire distributed by Department of Geography, Geoinformatics and Regional Development students, obtaining 269 answers of the representatives of silver generation (50+). Age acts as the main study variable. The term third age is commonly used to refer to persons over 65 years of age. There are also studies (Páleník et al. 2012, Pavlič et al., 2018, Rahman and Yu, 2019, Križan et al., 2020, Trembošová et al., 2021) that indicate a person 50+ to belong to the third age, which is also our case. Many researchers (Gordon et al., 2002, Tréguer, 2002) use 50+ as a cut-off point for their studies of mature people. According to another classification, this is the “pre-boomers” generation that was born before 1946 (Schiffmann et al., 2012), the “baby boomers” consumer generation born in 1946-1964 (Solomon et al., 2016), but also the X or “baby busters” generation of 1965-1970 (Dunne et al., 2011), who reached the age of 50 in 2020. Seven questions were analyzed for the purposes of this paper:

1 How often do you buy groceries? (circle)
   a) regularly every day, b) 2-3 times a week, c) once a week, d) I do not shop (the others do that for me)

2 Did anything change in your shopping habits during the first wave of the COVID-19 pandemic?
   a) changes: a1) out of former smaller purchases one big purchase became, we buy more – only once a week, a2) out of more purchases one purchase realised, we buy less and limit the grocery consumption – only once a week, a3) of more purchases one big was realised, we buy more – several times a week, a4) of more purchases one purchase was realised, we buy less and limit the grocery consumption – several times a week,
   b) no changes: we purchased the same way as before the pandemic and we did not limit the consumption, c) I cannot judge.

3 I prefer shopping in the grocery store (max 1 option)
   a) a small shop up to 100 m², b) a medium size shop up to 100 – 400 m², c) a large one over 2 500 m².

4 Indicate the most common type of grocery store during the COVID-19 pandemic:
   a) hypermarket, such as Kaufland, b) supermarket, such as Billa, Lidl, Terno, c) smaller self-service shops, e.g. Jednota, Náš kraj, Samoška, Nitra zdroj, d) small counter stores, e) marketplace, e.g. farmer’s market, f) mobile shops, g) internet shops - online sales, h) I don’t buy, it’s done by a family member, i) I don’t buy, I eat in a senior housing.
5 Which of the factors influenced your choice most while shopping during the pandemic?
   a) a wide range of goods, b) the product quality, c) a favourite food brand, d) location - proximity to the household, e) a long-term habit f) advertising, g) pleasant environment, h) lower prices, i) opening hours, j) friendly and helpful staff, k) Slovak products, l) healthy food,
m) parking near the store, n) I have no choice, o) I don't know.

6 Do you use your car when you go shopping? YES/NO

7 Do you use the internet shop in order to buy groceries? YES/NO

The first part of the questionnaire focused on demographic information, such as gender, age, the level of education, occupation, the level of personal monthly income and geographical information - place of residence.

Subsequently we tested whether shopping behaviour is depended on demographic characteristics (gender, age groups, education, economic activity, household size, and average household income). If there was an addiction, we monitored its intensity. We performed the testing using the test of square contingency of qualitative features, where we tested $\chi^2$ at the significance level $p$ with a value of 0.05. If the value of the calculated $\chi^2$ is lower than the critical value, the two characters are independent, the dependence does not exist. If the value of the calculated $\chi^2$ is lower than the critical value, the two characters are independent, the dependence does not exist. Otherwise, there is a dependency. The intensity of the relationships between the characteristics of the respondents and the types of shopping behaviour was determined on the basis of the coefficient of consistency $C$ and verified using the Cramer's test.

V. The testing was processed in the SPSS program.

Pearson's contingency coefficient expresses the degree of dependence between two qualitative features in a contingency table and is determined by the relation:

$$C = \sqrt{\frac{\chi^2}{\chi^2 + n}}$$

where $\chi^2$ is the Pearson test statistic (square contingency test) Enter the equation.

$$n = \sum \sum n_{ij}$$

The more $C$ acquires values approaching 1, the higher the dependence of both qualitative features. Conversely, $C$ values approaching 0 indicate very low to no dependence. The Cramer $V$ coefficient represents the most appropriate degree of association between two qualitatively variable ones and is a modified version of the correlation coefficient. It is used for tables of variables larger than 2x2, which is true in our case. Cramer's $V$ coefficient is expressed:

$$V = \sqrt{\frac{\chi^2}{n \cdot \min(m - 1, k - 1)}}$$

where $\chi^2$ is Pearson's test statistic, $n$ is the number of variables in the table, $m$ is the number of columns and $k$ is the number of rows in the table. We calculate Pearson's test statistic $\chi^2$ based...
on the relation: where \( f \) are the frequencies of the variables arranged in \( q \) classes, \( f_e \) are the empirical frequencies and \( f_o \) the expected frequencies.

\[
\chi^2 = \sum_{p=1}^{q} \frac{(f_{ep} - f_{op})^2}{f_{op}}
\]

3. Results and Discussion

Overall, we can say that the current COVID-19 pandemic has not only caused global concerns about individuals’ health problems, but it has also triggered a change in consumer behavior, especially in the retail network. During the pandemic, going out and shopping normally is considered a threat to people's lives due to the danger of virus infection. Examples of changed behavior include e.g. disinfection, temporal restricted movement, food imports, storage, etc., when going outside for social reasons was prohibited. In contrast to previous times, new products have been added to the shopping list, such as durable foodstuffs and items such as disinfectants, masks, gloves and other antiviral stuffs to protect health.

This situation is a particular challenge for older people. In Slovakia, the term "essential shops" was introduced, i.e. grocery stores, drugstores and pharmacies, but with limited opening hours. At the same time, the recommended shopping time for retirees was introduced from 9:00 a.m. to 11:00 a.m., which they did not have to comply with as a matter of priority, but at that time other age groups were not allowed to enter. However, the pandemic has not only triggered a change in shopping, but in the longer term it has triggered much more serious societal problems - a significant disruption of normal service activities, job losses and redundancies in companies due to business losses. The pandemic has triggered not only the physical health vulnerability of the elderly, but also other mental health problems such as depression and anxiety caused by confinement in the home, or states of panic and threat (Morrow-Howell, Galucia and Swinford, 2020). In addition, earnings and savings problems have led older people in particular to spend their savings on grocery shopping. Thus, there is an overall change in traditional ways and habits of shopping. Online shopping increased drastically during COVID-19, and technology began to take over more and more. Customers have the option of shopping online instead of physically visiting stores (Reddy, 2021). Contributions related to the silver generation shopping behavior during the pandemic address consumer assessments of specific foodstuffs (Broeckhoven et al., 2021) as well as food safety in households of the elderly over 60 (Thaivalappil et al., 2021), the impact of the senses on eating behavior (Spence and Youssef, 2021), food insecurity, loneliness and social support among older people (Burris et al., 2021). In the countries hard hit by COVID-19, the older generation of consumers is stockpiling food and other basic things, with greater isolation.

Women predominated in the research sample of seniors (approximately 71%). With regard to age groups (Table 1), 69% of respondents belong to the age group from 50 to 64 years. The structure of education showed that the majority of respondents (75%) graduated from secondary school, while one third reached higher education. In addition, only less than 60% of respondents were employed. Almost 80% of respondents had a monthly household income below € 800.
Table 1: Respondents´profiles

<table>
<thead>
<tr>
<th>Demographic characteristics</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AGE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50-64</td>
<td>185</td>
<td>68,8</td>
</tr>
<tr>
<td>65 and over</td>
<td>84</td>
<td>31,2</td>
</tr>
<tr>
<td><strong>GENDER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>191</td>
<td>71,1</td>
</tr>
<tr>
<td>Male</td>
<td>78</td>
<td>28,9</td>
</tr>
<tr>
<td><strong>EDUCATION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary school or less</td>
<td>2</td>
<td>0,7</td>
</tr>
<tr>
<td>High school</td>
<td>202</td>
<td>75</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>65</td>
<td>24,3</td>
</tr>
<tr>
<td><strong>OCCUPATION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public sector</td>
<td>83</td>
<td>30,9</td>
</tr>
<tr>
<td>Private sector</td>
<td>66</td>
<td>24,5</td>
</tr>
<tr>
<td>Private businessperson</td>
<td>14</td>
<td>5,2</td>
</tr>
<tr>
<td>Housekeeper</td>
<td>5</td>
<td>1,8</td>
</tr>
<tr>
<td>Retired</td>
<td>101</td>
<td>37,6</td>
</tr>
<tr>
<td><strong>MONTHLY INCOME €</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Ø in 2019 - 477,14 €)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤4 00</td>
<td>15</td>
<td>5,6</td>
</tr>
<tr>
<td>401-600</td>
<td>28</td>
<td>10,4</td>
</tr>
<tr>
<td>601-800</td>
<td>167</td>
<td>62,1</td>
</tr>
<tr>
<td>801-1000</td>
<td>41</td>
<td>15,2</td>
</tr>
<tr>
<td>1001 ≤</td>
<td>18</td>
<td>6,7</td>
</tr>
</tbody>
</table>

Source: own research

The frequency of purchases (Graph 1) once a week was the most common for both groups assessed. This frequency was reaffirmed in the second question, (Graph 2) “Did anything change in your shopping habits during the first wave of the COVID19 pandemic?” Most seniors said that more purchases were replaced by one big purchase; they buy more - only once a week. All 269 respondents reported a change in shopping during the pandemic.

50-64 n=185

65+ n=84

Graph 1: How often do you buy groceries?

*Source: own research*
Graph 2: Did anything change in your shopping habits during the first wave of the COVID-19 pandemic?

Source: own research

As many as 71% of the younger seniors and 68% of the older ones mentioned that the preferred shopping format of the supermarket and the size of the store was from 100 to 400 m² (Graph 3). Younger seniors ranked hypermarkets in second place, while the older ones listed small shops up to 100 m². 39% of the older seniors reported that their purchases were made by relatives (Graph 4).
In relation to the internet shopping of the seniors, we can indicate its deficit during the pandemic (Graph 5), as pointed out by Teerakapibal and Melanthiou (2019), who confirm seniors' distrust in their skills and ability to understand and use technologies. 63% of the younger seniors and about 20% of the older ones used their cars to buy groceries (Graph 5).

Among the factors influencing shopping during the pandemic, seniors preferred the low price (23% younger seniors and 50% older ones), then the location and a wide range. As many as 12% of older seniors said they had no choice but to buy at a certain outlet. The possibilities
of parking were also mentioned by seniors among the decisive factors. Surprisingly, advertising was of neglected importance, respectively, it was not a decisive factor (Graph 6). Pleasant environment, Slovak products and healthy food were not preferred as decisive factors. On the contrary, up to 15% of the younger seniors and 5% of the older seniors mentioned pleasant and friendly staff.

Graph 6: Which factors influenced you most when buying food during the pandemic?
Source: own research

In all 7 questions about the pandemic food shopping, the younger seniors aged 50 to 64 reported a wider range of answers than the older seniors (see Charts 1-6). This follows naturally from their freer movement and less isolation during the pandemic (commuting to work, for necessary services, etc.).

Chi-square testing confirmed that younger seniors 50-64 years are a heterogeneous group with higher response variability and lower chi-square testing than seniors 65+ (Table 2). Due to greater isolation and greater restriction of movement, people aged 65 and over were less variable in their responses to food purchases. In the group of younger Nitra seniors, one relationship was not confirmed, namely the question of determining the factors influencing the purchase of food during the pandemic.
Table 2: Phi square test of good agreement answers about shopping behavior by age

<table>
<thead>
<tr>
<th>Questions</th>
<th>( \chi^2 ) 50-64</th>
<th>( \chi^2 ) 65+</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often do you buy groceries?</td>
<td>0,76</td>
<td>0,78</td>
</tr>
<tr>
<td>Did anything change in your shopping habits during the first wave of the COVID-19 pandemic?</td>
<td>0,66</td>
<td>0,73</td>
</tr>
<tr>
<td>Prefer shopping at the grocery store</td>
<td>0,77</td>
<td>0,82</td>
</tr>
<tr>
<td>Indicate the most common type of grocery store during the COVID-19 pandemic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which of the factors influenced your choice most while shopping during the pandemic?</td>
<td>0,43</td>
<td>0,53</td>
</tr>
<tr>
<td>Do you use your car when you go shopping</td>
<td>0,79</td>
<td>0,82</td>
</tr>
<tr>
<td>Do you use the internet shop in order to buy groceries?</td>
<td>0,72</td>
<td>0,81</td>
</tr>
</tbody>
</table>

Source: own research

4. Conclusions

The aging of society is a major challenge not only for academic research but also for business management. This paper examines a specific segment of the consumer market during the pandemic when direct contact with respondents has been limited. Nevertheless, an initial sample was obtained. The results of the research confirmed the assumption of segmentation of seniors by age. Younger seniors (50-64 years old) showed a greater variability in responses than the group of older seniors (65 and older). The assumption of homogeneity of the entire 50+ senior group during the Covid-19 pandemic has not been confirmed.

The average pension in 2020 in Slovakia was € 477.14 (EU SILC, 2019). It is evident that seniors spend a significant part of this income on food purchases. As blockades began to be introduced around the world, nervous consumers and seniors alike were struggling to cope with the new restrictions caused by the COVID-19 pandemic. In the early stages of the pandemic in 2020, when the first blockades began to be imposed, seniors in particular began to reassess their expenditures. Consumers have focused on buying the things they need to survive and protect themselves from this new, invisible threat, which is not surprising.

It is evident that spending patterns have suddenly changed for all age groups. All senior respondents (100%) reported a change in shopping during the pandemic, while in the contribution of Križan et al. (2020), only 55.5% reported a change in the 18+ sample.

According to the results, food purchases were most often made once a week, in medium-sized supermarkets from 100 to 400 m², several purchases were replaced by one large purchase, the seniors were buying a larger quantity but only once a week, it often happened that older seniors (65+) were brought the grocery by relatives. The lower price, location and quality of products stand out from the factors influencing the purchase of food. The lower price suppressed healthy food or Slovak food. Here it turned out that many seniors had to reconsider their purchasing expenses and reached for their savings. The family predominates especially as the modality with the greatest impact on the senior consumer thanks to the help with the implementation of purchases in 39% of the older seniors. A group of older consumers face difficulties in using online shopping technologies because they lack confidence in their skills and abilities. The survey also shows that 5% of younger seniors and 2% of older seniors used an online store to buy food during the pandemic. In this regard, it is necessary to support and inform seniors about the benefits of online shopping. Based on the results, we can predict that seniors will continue to play an important role in retail spending in this tense economic situation during the pandemic.
Acknowledgements

This paper was created within the project grant VEGA No. 1/0245/21 project “Implementation of the New EU Food Strategy in the Food Chain in Slovakia” and VEGA project No 1/0880/21 "Transformation of the Nitra Region in Changing Socio-economic Conditions with Special Focus to the Effects of the COVID-19 Pandemics”

References


