Food Consumption Patterns in the Post-COVID-19 Landscape: Urban and Rural Contrasts

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Abstract

The purpose of the study is to highlight the differences in grocery shopping practices between rural and urban areas prior to and following the recent COVID-19 epidemic and the New Normal. The study is based on an empirical methodology that was applied to Romanian customers using a questionnaire. The Mann-Whitney U test, chosen for its ability to compare two independent groups without assuming normality of data distribution. This approach was essential for highlighting the subtle differences between the two groups analyzed, both in the context of the COVID-19 pandemic and during the New Normality period, providing robust and relevant conclusions for the research field. Although respondents' earnings in urban and rural areas differ significantly, the volume of online orders from the two environments does not exhibit a similar trend. Unlike their urban counterparts, rural consumers were able to deal with the stress and issues of the COVID-19 pandemic, have a proactive and optimistic perspective to life, and figure out the best ways to handle difficult food procurement conditions. Regarding the frequency and process of online purchasing, including for groceries, both consumer groups exhibit comparable preferences under the New Normal. The study provides a valuable perspective on the consumption patterns of Romanians in urban and rural areas during the preceding pandemic and the New Normal, with a focus on their grocery shopping decisions. The study looked at how the two consumer groups managed the stress, difficulties, and buying process during the pandemic, as well as how these behaviours and preferences changed in the post-COVID era. To keep clients interested, managers can promote their online shopping platforms in both living spaces, encourage shopping as a social activity, and develop loyalty programs and special offers.

Keywords

COVID-19 pandemic, New Normal, urban, rural, Mann-Whitney U test, foodstuff, consumer behaviour.

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Introduction

Global consumer behaviour has changed dramatically because of the COVID-19 pandemic, especially regarding supermarket shopping. Supply chain disruptions, social distancing policies, and lockdowns compelled consumers to modify their buying habits, which resulted in changes in product selection, preferred channels (online vs. offline), and frequency of shopping. Numerous causes, such as mobility limitations, financial instability, and health concerns, had an impact on these adjustments (Sheth, 2020; Lu, Wand and Li, 2021). As regulations loosened and society shifted into the New Normal, it is unclear if consumers' pre-pandemic habits have returned or if these pandemic-induced habits have endured.

Although several studies have examined the grocery shopping habits during the pandemic (such as shifts in the use of online shopping and panic buying tendencies), little is known about how these habits have changed since then, especially when comparing urban and rural consumers. Without directly comparing these two periods in diverse geographic areas, most research (Headey et al., 2022) has emphasized pandemic consumer behaviours or broad post-pandemic consumption trends.

Therefore, the aim of this research is to stress out how much food shopping behaviours have modified between the pandemic and the New Normal, and to what extent do these changes vary for consumers in urban and rural areas? This research offers a complex picture of long-term consumer adaptation by looking at both behavioural changes and the endurance of pandemic-induced habits.

To address this research question, a quantitative approach using survey data was employed. Both urban and rural respondents are from Romania, an emerging market. This makes it possible to thoroughly examine important behavioural trends, inclinations, and determining aspects across various geographical locations. Income, shopping frequency, preferred channels of purchasing, spending habits, and perceptions regarding food shopping will all be compared between the two periods, COVID-19 pandemic, respectively post-pandemic.

By providing a longitudinal viewpoint on consumer behaviours, this research bridges the gap between pandemic-era studies and post-pandemic analysis, extending previous literature. For retailers, lawmakers, and marketers, the urban-rural comparison offers insightful information on how various customer categories have adjusted. The research examines the long-term implications of these alterations in a comparative context, in contrast to earlier studies that concentrate on the immediate pandemic effects.

This paper's following sections are organized as follows: The pertinent research on grocery shopping habits before and after the pandemic is reviewed in Section 1. The research methodology is presented in Section 2, which also includes protocols for data collecting and analysis. The findings are presented in Section 3, where consumer behaviour in urban and rural areas is compared over the two time periods. Section 4 ends with important conclusions, implications, and recommendations for further research.

1. Review of the scientific literature

Ennui, which is characterized by a high calorie intake by ingesting significant amounts of proteins, fats, and carbohydrates, was brought on by the disruption of daily routines caused by the COVID-19 pandemic (Brüggemann and Olbrich, 2022). Furthermore, consumers who were under quarantine experienced stress and were more likely to turn to sweet foods to improve their well-being, as such foodstuff acts as self-medicating substances by promoting the release of serotonin. Such unhealthy eating patterns might lead to obesity, which is connected to COVID-19's severe side effects and chronic inflammations (Muscogiuri et al., 2020; Valaskova et al., 2021).

The COVID-19 pandemic generated customers stock-piling behaviours, generating supply chain disruptions (Sheth, 2020; Lu, Wang and Li, 2021). Meanwhile, brick-and-mortar stores were confronted with various restrictions, as they had to change their opening hours, close earlier, limit the number of clients etc. Furthermore, only stores providing foodstuff and primary aid remained open (Brüggemann and Olbrich, 2022).

To overcome these challenges, food and non-food stores switched from physical customer service to online fulfilment (Lu, Wand and Li, 2021; Brüggemann and Olbrich, 2022; Nguyen Thi et al., 2022; Akar, 2024). Online shopping platforms played a crucial role in meeting consumers' behaviours and expectations during this period, supporting their daily needs (Kumar, Landge and Jaiswal, 2023). They adapted rapidly to the one-click shopping (Akar, 2024) and the shift from visiting physical stores to online ordering (Nguyen Thi et al., 2022).

Strategies implemented by retailers throughout the pandemic turned out to be useful in New Normal. Online shopping increased in popularity and widespread during COVID-19 pandemic, exhibiting a long-term effect on consumers' lifestyle, behavior and preferences. Individuals' tendency to choose online food retail and home delivery services grew constantly (Gupta and Mukherjee, 2022), developing in one of the most preferred ways of shopping (Akar, 2024; Conlin et al., 2024).

Online fresh food retail embraced a quick expansion recently and the range of categories and products became more and more generous (Lu, Wang and Li, 2021). Forecasts indicate a continuous increase in online grocery shopping in the coming years. Customers changed their acquisition habits from brick-and-

mortar stores to one-click ordering and home delivery (Dabija et al., 2024). Nevertheless, after the pandemic restrictions were lifted, some consumers returned to procuring groceries from physical stores. Numerous consumers still use both shopping channels (Brüggemann and Olbrich, 2022).

The positive online purchasing experience encountered by consumers during the later pandemic, fostered by smooth acquisitions, ease of payment, convenience etc. (Dabija et al., 2024) increased their familiarity with and habit of online shopping, being kept in the New Normal. Previous research (Kumar, Landge and Jaiswal, 2023) indicates that if the interruption is temporary and the substitute option (chosen during the disruptive period) is not appealing and appropriate, consumers will revert to their previous behaviours as the disturbance subsides. Online shopping has become more common for both food and non-food retail than it was before to the pandemic (Kumar, Landge and Jaiswal, 2023). Consumers' residence (urban, suburban, or rural) has been shown to influence the propensity for preferring online shopping (Unnikrishnan and Figliozzi, 2021). Online shopping appears to be unevenly distributed among affluent and impoverished individuals, having an urban or rural residence, who may otherwise be deprived of access to online payment methods (Shahzad et al., 2022). There is a prevailing sentiment among consumers that their consumption patterns may undergo lasting transformations because of recent crisis and disruptions (Kumar and Abdin, 2021).

2. Research methodology

A quantitative poll using an online questionnaire was conducted in 2023 to ascertain how Romanian urban and rural consumers behaved when it came to food purchases during the COVID-19 pandemic and the New Normal. Romania was chosen as a research context, as the country was severely hit by the initial waves of the COVID-19 pandemic, causing severe disruptions in supply chains and largely affecting both rural and urban consumers (Dascalu, 2020; Vinerean et al., 2022). Consumers highlighted a hoarding behavior when shopping (Lu, Wang and Li, 2021) and stockpiling (Sheth, 2020), which lead to stock-outs and difficulties on various food categories. Subsequently, consumers adapted to the new context, a trend towards online shopping being delimited (Brüggemann and Olbrich, 2022).

The research is based on convenience sampling, as the aim was to attract as many respondents as possible. This approach is frequently used in exploratory studies or in situations where access to a probability sample is limited. The questionnaire was distributed via social media platforms, but also to acquaintances and peers who could be approached in public spaces. Out of more than 1200 consumers approached, only 986 questionnaires could be retained for analysis because they were complete, respondents answering all questions. Of the questionnaires retained for analysis, 728 (73.83%) came from urban areas and 258 from rural areas (26.16%). 724 respondents (73.42%) are Millennials, and the rest belong to Generation Z. All items in the questionnaire were formulated on a 5-step Likert-type scale from strongly disagree (1) to strongly agree (5). Respondents participated voluntarily in the research and had to indicate various relevant socio-demographic characteristics. Following data collection, a number of statistical tests were performed on the data to confirm internal consistency, validity, and reliability (Culic, 2004; Brown, 2006). The values obtained from these analyses confirmed that the items in the questionnaire accurately measured the intended meaning, for example Cronbach Alpha coefficient values were above 0.765. The result of the Shapiro-Wilk (Shapiro and Wilk, 1965) test indicated a p-value of 0.03, suggesting that the data distribution significantly deviated from normality. Therefore, the non-parametric Mann-Whitney U test was considered appropriate for analyzing differences between groups.

The non-parametric statistical Mann-Whitney U test has been employed to examine differences in income and buying habits between two independent groups (rural versus urban consumers) and for the two situations (during the pandemic versus post-pandemic) when the data may not be normally distributed (Emerson, 2023). The test aids in identifying whether there are notable variations between the groups considered in important factors including frequency of purchase, spending habits, and preferred shopping channels. To determine whether the distributions differ significantly, the Mann-Whitney U test ranks data from both groups together, adds up the rankings for each group, and then computes the analysis. The null hypothesis states that there is no difference at all between the variable distributions of the two groups, while the alternative hypothesis suggests a significant difference (Oti, Olusola and Esemokumo, 2021). The Mann-Whitney U test offers a reliable way to evaluate differences without assuming equal variances or normality, which is appropriate given the nature of data, measuring behavioural inclinations rather than regularly distributed continuous variables.

3. Results and discussion

The research was extended by exploring the influence of the consumers' residence on the subjects' purchasing behaviour during the pandemic versus in the New Normal. By applying the Mann-Whitney U statistic test on the collected data, it was found that there were statistically significant differences in income, but not in the number of orders placed during and after the pandemic, according to respondents' residence. This suggests that their home background may have an influence on the income level, but not necessarily on purchasing behaviour in terms of placed orders. Significant differences were observed in some cases for the order value of online shopping during the pandemic versus the New Normal.

Table no. 1. Mann-Whitney U Results for income in urban areas (808 observations) versus rural areas (258 observations)

	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max	Mann-Whitney U	
				Lower Bound	Upper Bound			U	p-value
Urban	3,888.03	9,775.498	343.901	3,212.98	4,563.08	0	140,0	96309	0.004
Rural	4,417.85	16,232.232	1,010.575	2,427.79	6,407.91	0	200,0		

Table no. 1 contains the results of the analysis of the differences by residence (urban or rural) in terms of income. The mean income for urban respondents is EUR 781.27, while for rural ones it is EUR 887.73. This seemingly contradictory situation can be explained by the fact that within rural areas, the localities bordering large cities were also considered, where more affluent consumers who can afford a house or own one or more cars needed to commute to and from work have moved. The standard deviation is higher for rural consumers, indicating a higher variation in income. The Mann-Whitney U statistic test indicates a significant difference in income between the two residence means, with a p-value of 0.0046. The research continued with the analysis of resilience to acquisition during the pandemic, according to residence, the results of the analysis are shown in Table no. 2. By applying the Mann-Whitney U test, lower scores are observed in rural areas towards urban ones.

Table no. 2. Mann-Whitney U Results for urban versus rural during the pandemic

During the pandemic, I...		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Mann-Whitney U	
						Lower Bound	Upper Bound	U	p-value
...was able to face all the challenges	Urban	810	3.77	0.998	0.035	3.80	3.94	97472	0.038
	Rural	258	3.96	1.072	0.067	3.83	4.09		
...coped well with the stress	Urban	810	3.85	1.080	0.038	3.77	3.92	96055	0.041
	Rural	258	3.98	1.093	0.068	3.85	4.11		
...looked on the bright side	Urban	810	3.65	1.158	0.041	3.57	3.73	96222	0.047
	Rural	258	3.81	1.157	0.072	3.66	3.95		
...turned to family for the purchase of food necessary for daily living.	Urban	810	2.18	1.344	0.047	2.19	2.37	97081	0.037
	Rural	258	2.44	1.352	0.084	2.27	2.60		

Further one, the analysis tested the hypothesis of purchasing behaviour in New Normal. Based on the Mann-Whitney U test it was found that there were no different buying behaviours between urban versus rural consumers. In other words, home environment does not influence the buying behaviour in the New Normal.

From the results presented in Table no. 2, the analysis of purchasing behaviour during the COVID-19 pandemic, according to the home environment (urban or rural), there are some significant aspects. First, there is an increased propensity towards managing challenges and coping with stress: consumers in rural areas scored higher in managing challenges and coping with stress compared to those in urban areas. This

may suggest a greater ability of rural consumers to adapt to difficult situations and cope with stress. Managers could turn their attention to strategies that value these specific abilities of rural consumers (Zenic et al., 2020).

Table no. 3. Mann-Whitney U Results for urban versus rural during the New Normal

In the New Normal, I...		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Mann-Whitney U	
						Lower Bound	Upper Bound	U	p-value
…continued to shop online	Urban	810	3.01	1.362	0.048	2.92	3.11		
	Rural	258	2.94	1.378	0.086	2.77	3.11	101390	0.4628
...prefer physical shops	Urban	810	2.68	1.265	0.044	2.59	2.77		
	Rural	258	2.73	1.274	0.079	2.57	2.88	102118.5	0.572
...buy more frequently online	Urban	810	2.53	1.243	0.044	2.45	2.62		
	Rural	258	2.62	1.298	0.081	2.46	2.78	101290	0.446
...buy from online stores.	Urban	810	2.37	1.237	0.043	2.28	2.45		
	Rural	258	2.46	1.291	0.080	2.30	2.62	100728	0.367
...buy more food from online stores.	Urban	810	2.22	1.188	0.042	2.14	2.30		
	Rural	258	2.23	1.225	0.076	2.08	2.38	104373	0.977
...recommend shopping in online stores.	Urban	810	2.86	1.233	0.043	2.77	2.94		
	Rural	258	2.91	1.268	0.079	2.76	3.07	102465	0.629
...highlight to my friends the advantages of shopping in online stores.	Urban	810	2.70	1.245	0.044	2.62	2.79		
	Rural	258	2.76	1.286	0.080	2.60	2.92	102351.5	0.611
...buy online from the same retailers I purchased groceries during the pandemic.	Urban	810	2.71	1.271	0.045	2.62	2.80		
	Rural	258	2.68	1.312	0.082	2.52	2.84	102643.5	0.661
....buy most of my groceries online.	Urban	810	2.10	1.181	0.041	2.02	2.19		
	Rural	258	2.15	1.213	0.076	2.00	2.30	102646.5	0.653
....have increased my online purchases.	Urban	810	2.48	1.258	0.044	2.40	2.57		
	Rural	258	2.57	1.265	0.079	2.41	2.72	100681	0.363
...have returned to our pre-pandemic food shopping habits.	Urban	810	3.43	1.272	0.045	3.34	3.52		
	Rural	258	3.34	1.296	0.081	3.18	3.50	100592.5	0.353
...maintained my food shopping habits during the pandemic.	Urban	810	2.79	1.256	0.044	2.70	2.87		
	Rural	258	2.80	1.264	0.079	2.65	2.96	103619	0.836
...went back to shopping for groceries in physical stores.	Urban	810	3.88	1.189	0.042	3.80	3.97		
	Rural	258	3.75	1.279	0.080	3.59	3.90	99050	0.185

Rural consumers manage to positively and proactively approach coping positively and proactively during the COVID-19 pandemic, thus showing increased resilience to this disruption of daily activity and living. They also scored higher in positive thinking about living during the pandemic, basically they were more likely to find positives and opportunities in a difficult context. Managers could explore how this positive attitude can be reflected in marketing and communication strategies to boost consumer engagement and loyalty to marketed products and/or brands (Headey et al., 2022).

Rural consumers scored higher in their ability to identify the best solutions to difficult food procurement situations during the COVID-19 pandemic. This strategy may suggest an increased ability to solve challenges among rural consumers. Managers could take this into consideration when developing products and/or services, ensuring that they meet the specific needs and requirements of this segment of the population (Di Gennaro et al., 2020). Rural consumers also scored higher in online food shopping compared to their urban counterparts during the COVID-19 pandemic. This may suggest a more pronounced trend towards online purchasing in rural areas. Managers could explore the development and

promotion of online platforms tailored to the needs of rural consumers, thereby encouraging increased online shopping among them (Headey et al., 2022).

Rural consumers scored higher in food purchases based on the advice from family/relatives during the pandemic. This may indicate a close connection in the rural community and trust in the advice and preferences of family members. Managers can explore how to promote the shopping experience as a socializing or cooperative activity within the community, word-of-mouth could be a factor/vector to quickly and easily amplify brand and/or product purchase in this environment (Firoz and Talwar, 2021). The New Normal (see table 3) shows no significant differences between urban versus rural consumer behaviours in terms of how online shopping is conducted compared to the pandemic. This indicates that both urban and rural consumers are still interested in purchasing products online. Managers can maintain their efforts to promote and sustain their online shopping platforms in both environments (Kumar, Landge and Jaiswal, 2023; Akar, 2024).

In terms of preference for online shops, in the New Normal (see table 3) there are no significant differences in this respect between urban versus rural consumers. This indicates that urban and rural consumers have similar inclinations towards online shopping. Managers can continue to develop and improve online shopping experiences to attract and maintain this preference (Kumar, Landge and Jaiswal, 2023; Akar, 2024; Dabija et al., 2024). It is also found that there are no significant differences in the frequency of online shopping in urban versus rural areas. Basically, both consumer groups can become loyal towards grocery chains and increase online purchases. Managers can develop loyalty programs and customized offers to keep customers engaged and induce them to intensify their shopping quantities (Kumar and Abdin, 2021; Unnikrishnan and Figliozzi, 2021; Shahzad et al., 2022).

There are no significant differences in the trend towards online shopping in click-and-order versus brick-and-mortar stores between the two consumer groups. This result suggests that regardless of their residence, consumers may choose online shopping to fulfil their needs. Managers can promote the benefits and especially the convenience of online shopping to encourage this trend and to support the acquisition of their preferred brands and/or products (Dabija et al., 2024). Managers can explore ways to bring the quality, variety, and safety of food purchased online to the forefront (Lu, Wang and Li, 2021).

In the New Normal, no significant differences in recommending online store shopping to peers are observed between urban and rural consumers. This result suggests that both types of consumers can become promoters of online shopping. Managers can encourage this approach through referral programs and special offers for customers who bring other new customers (Sheth, 2020). In the New Normal, no significant differences in the return to pre-pandemic food purchasing habits between urban and rural consumers were observed. This result suggests that consumers in both settings have reverted to their pre-pandemic behaviors and their preference for the different stores, brands, and/or food they were buying before the pandemic (Brüggemann and Olbrich, 2022).

Conclusions

From a theoretical perspective, the results indicate a continuity of online shopping behaviour in urban and rural areas, as well as some uniformity in shopping preferences and tendencies between these two home environments. These findings can provide useful insights into developing marketing strategies tailored to the needs and preferences of consumers in different socio-economical contexts. An important result is that there are no significant differences between urban and rural consumers in terms of continuity and preference for online shopping. This suggests that both groups of consumers are equally open and interested in conducting their purchases through online platforms, regardless of their residence.

From a managerial perspective, it has been found that there are no significant differences in the propensity to revert to pre-pandemic buying habits. This means that food retailers marketing strategies developed to attract consumers online have been successful in retaining them in the long term and in preventing significant abandonment of online shopping in New Normal. The results underline the need to continue to invest in developing and improving consumers' online shopping experiences, irrespective of their residence. Managers can continue to develop strategies to maintain and increase online customer engagement, improve the user experience and offer personalized services that meet the needs and preferences of different consumer segments, both urban and rural. Significant differences between urban and rural consumers exist in managing challenges, dealing with stress, looking positively at things and finding the best solutions to situations where rural consumers seem to score higher. Online food shopping is less pronounced in urban areas compared to rural ones. These findings may provide relevant insights

for adjusting their marketing strategies, communications and product/service offerings to better align with the needs and preferences of consumers in different residences.

Although the studies provide useful insights into online shopping behavior, there are several limitations that need to be considered. First, the convenience sampling used in data collection may introduce a self-selection bias, which limits the representativeness of the results for the entire consumer population in Romania. Second, the uneven distribution of respondents between urban and rural areas may influence the generalizability of the results. Also, the exclusive use of an online questionnaire restricted the participation of people with internet access, thus excluding other categories of consumers. Another limitation is that the analysis focused on comparing two distinct groups (urban/rural) and did not explore in depth the dynamics of other demographic factors, such as age, income or education level, which can significantly influence purchasing behavior. In addition, consumer behavior was analyzed at a specific point in time, without assessing in detail changes over time or the effects of other crises, such as the energy crisis or armed conflicts.

Future studies could analyze consumer behavior in three distinct phases: the pre-pandemic period, the pandemic period, and the New Normal, to identify long-term changes in consumption habits. It would also be useful to compare the New Normal with the pre-pandemic period, both considered “normal” but with differences generated by the COVID-19 pandemic. In addition, it would be relevant to investigate the impact of other macroeconomic or geopolitical factors, such as the energy crisis or armed conflicts, on purchasing behavior. Finally, research could include cross-cultural and geographical comparisons to better understand the diversity of purchasing behavior and propose marketing strategies adapted to local contexts. The use of mixed methods, combining quantitative and qualitative analyses, could provide a deeper understanding of consumer motivations and preferences.

Future studies could consider analysing consumers switch behaviour before, during the pandemic versus in the New Normal, thus comparing three stages. One could also compare the New Normal with the pre-pandemic situation, both periods being free of pandemic restrictions and considered as 'normal', but considering the differences produced by the pandemic. Future studies should also consider the impact of other crises on consumption behaviour and food purchases, such as the energy crisis or the armed conflict between Russia and Ukraine or in other parts of the world, as well as by comparing cultures or geographical areas.

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