

# RISK BASED APPROACH TO DOCUMENTING CONSUMER BEHAVIOR CHANGES DURING THE COVID-19 PANDEMIC

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## ABSTRACT.

**Background:** People's consumer behavior was significantly influenced by the Covid-19 pandemic. Nowadays, the impact still persists, and we can say that people changed the way how they think, shop, and what affects them while shopping. **Aims:** The aim of the article and our research is to identify and analyze the risks related to consumer behavior changes during the COVID-19 pandemic. **Methods:** To achieve the goal, survey research was conducted between the years 2021 and 2023 and, in use of SPSS Statistics, analyzed obtained data. To identify the representativeness of the sample file, the Chi-square test was used. Consequently, several contingency tables were created to analyze the set questions. **Sample:** The sample file consisted of Slovak consumers. **Results and Conclusions:** According to research findings, it can be concluded that the COVID-19 pandemic changed human thinking about such as common things like ways of shopping, consumption, or savings irretrievably. **Implications:** Overall, the COVID-19 pandemic created new challenges for both enterprises and consumers, however, many organizations managed to overcome them and adapt to continue to bring value to societies.

**Keywords:** consumer behavior, COVID-19, risks, sustainability, savings, consumption

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## Introduction

The COVID-19 pandemic emerged as a surprise, and its impacts are still resonating through societies worldwide. Many consumer behavior changes that occurred between 2020 and 2022 have already been well documented by many authors. The most complex findings can be found in the research of (Accenture, 2020; Vázquez-Martínez, Morales-Mediano & Leal Rodríguez, 2021; Valaskova, Durana & Adamko, 2021). A lot of attention has been given to exploring multiple ways how consumers changed their habits due to measures adopted by governments in order to mitigate the spread of the virus resulting in less frequent visits to shops. A paradox quickly became obvious that the more effective these measures were, the more negative impact they had on the business environment. Since the effects of the pandemic and these measures were immediate, companies were often able to respond quickly to new conditions and design strategies to mitigate the negative effects. Some companies were even able to use the pandemic as an opportunity to expand their business activities (Rychlik, 2020; Yan, 2020; Das et al, 2021). Nowadays, the COVID-19 pandemic is mostly over all around the world. However, what still is missing from the current pool of knowledge are the implications of the changes that occurred during the pandemic on long-term business activities and their future development. Therefore, this research focused on identifying and analyzing the risks related to consumer behavior changes during the COVID-19 pandemic considering not just the immediate effects but also the implications for the future in the form of long-term effects. Guidelines for the future can be derived from these results and their conclusions.

## Theoretical background

The COVID-19 pandemic wreaked havoc in societies during years 2020 – 2022, with its effects still resonating strongly in 2023. This pandemic created unprecedented conditions even in the business environment that had no precedent in modern history. Moreover, businesses had to deal with not only the pandemic itself but also with restrictive measures imposed by governments to stop the spread of the virus. As the evidence from these troubled years shows, some businesses managed to implement changes and continue their operations. However, the majority of companies struggled (Chang et al, 2022).

Just as the environment changed, so did the people. The most evident examples can be found in alternations of consumer behavior. A consumer is a person who uses consumer products to satisfy his needs, wishes and desires, and expectations. Consumer behavior as a basic marketing variable is characterized as people's behavior related to the acquisition, use, and disposal of consumer products (Li et al, 2021). It is a summary of external manifestations, activities, actions, and reactions of the organism divided according to their psychological nature into instinctive, habitual, and rational (Valaskova et al, 2021; Khanna et al, 2022). Based on the understanding of consumer behavior, businesses can subsequently create their marketing offer and apply it to the market. Rushi & Pradhan (2023) described how the imposed measures and disruptions in supply chains led to product shortages that resulted in various cases of panic buying in many countries. The most obvious change was recorded in the frequency of visiting shops (Moharana & Pattanaik, 2022; Veselovská et al, 2022). Celik et al (2020) also describe the observed tendency of consumers to pay less attention to their expenses which can have major implications on the ratio between savings and expenditures in society. In many countries, at the beginning of 2021, negative phenomena such as excessive purchasing of products for stock or panic buying were observed (Omar et al, 2021; Luckner, Chopra & Seifert, 2021; Jin & Ryu, 2022). All these changes negatively impacted the business environment and threatened stability in societies.

Herve & Mullet (2009) and Stavkova et al (2008) described the factors that influence consumer behavior. However, during the pandemic, the influence of some factors diminished, and even new significant factors emerged (Gu et al, 2021). Due to forced social distancing, people were unable to connect with their friends and have face-to-face interactions. Home office measures also limited the contact between colleagues. As a result, the influence of these social groups decreased significantly (Veselovská et al, 2022; Sun et al, 2022). Furthermore, the influence of media and official government sources varied during the pandemic. People were more inclined to analyze the official information presented by the government carefully, and as consumers, they were influenced by them to act differently than they had before the pandemic. On the other hand, the popular media became less important when making decisions. According to Sun et al (2022) and Khanna et al (2022), during adverse events, people react more to official information provided by an authority more than during

situations perceived as normal. Various authors also describe the phenomenon of people seeking more information during such times. However, they are more likely to trust the information provided by unreliable sources and hoaxes (Sun et al, 2022; Li et al, 2021). Many authors contribute that fear is a major factor in media coverage of pandemic-related stories and risk examinations (Rajkumar, 2022; Chen et al., 2022; He and Hu, 2022). Currently, there is little evidence of how this tendency affected purchasing decisions. Ali et al. (2022) discovered that internal and external factors such as rumors, government strategies, fear and anxiety, and health security significantly affect consumers' panic buying behaviors. These findings also related panic buying with internal and external consequences that affected all consumers, such as price hikes, shortage of supply of products, dissatisfaction of consumers, and increase in utility (benefit) of the products but not on consumer's budget. All these negative feelings can influence consumers to spend more money on buying goods than they need or even can afford. Therefore, the focus of information analysis also needs to be on changes in the consumption-savings ratio that can also negatively impact other aspects of the economy through bank systems.

Initial information indicates major changes in consumer behavior, the effects of which persist even in 2023, when the impact of the pandemic has significantly decreased. Many authors raised the question of how these consequences will affect humanity's intention to achieve sustainable development for a better future (Peterson et al, 2021; de Leaniz & Castro-Gonzalez, 2023; Škerháková, Harničárová & Tírpák, 2021). It is clear that many activities in the field of sustainable development have stopped or slowed down during the pandemic. Various authors (Zhang & Chang, 2021; Yu, Legendre & Ma, 2021) warn that risks to achieving sustainability have become more significant, and need strategies need to be adopted to incorporate the effects of the pandemic. However, it is still not clear exactly how the changes in consumer behavior contributed to such negative outcomes.

Any major variations in consumer behavior can significantly influence the business environment of any society. Even short-term disruptions can create a ripple that affects companies for many years. However, it is the long-term changes in consumer behavior that represent risks not only to private companies providing goods and services but also to any organization and even public institution. These risks come with both minor and major implications for societal impacts. Therefore, they need to be carefully identified and analyzed in detail in order to design measures to mitigate their negative effects or to utilize their potential to create new opportunities for growth in a sustainable environment.

## Methodology

The consumer behavior changes documentation began as a part of a research project in 2021 when the data collection was initiated. The methodological approach selected for this study was empirical research. A survey was conducted in 2021 - 2023 in order to analyze changes in consumer behavior related to the pandemic of COVID-19 disease. The questionnaire was created and distributed among consumers for this purpose which consisted of 14 closed and semi-closed questions that collected data on consumer behavior changes and 5 closed questions aimed to provide consumers' socio-economic characteristics such as age, gender, level of education, household structure, and level of income. Empirical research was selected as the main research method to collect primary data since the data needed to sufficiently describe the changes in consumer behavior needed to include opinions of consumers on specific matters that are not yet available in any public databases of statistical bureaus. Therefore, a national survey was conducted on a representative sample of people in the Slovak Republic. Several stages of the survey were conducted to analyze the opinions and experiences of consumers in the Slovak Republic and then to compare them with international consumers. A questionnaire was used to evaluate the responses and to develop a comprehensive set of risks that threatens societies during the pandemic. The aim was to enable the use of findings as guidelines for the future. During the survey, the data was collected electronically using a questionnaire in Slovak language. The potential respondents were approached through selected partner consumer organizations, university students, and senior university organizations in order to achieve the largest data collection. All collected questionnaires were checked by members of the research team. Incomplete or inconsistent ones were discarded and not used further. Figure 1 presents the final structure of the sample file and information on how it related to the base file, which consisted of all Slovak citizens older than 18 years.

To ensure the representativeness of our sample files, we used Chi-square tests according to the criterion of the consumer's age. For each year, we have formulated null ( $H_0$  – sample file is representative) and alternative hypothesis ( $H_1$  – sample file is not representative). Statistic testing was

performed in SPSS software. The Chi-square test of representativeness in this research was performed at a significance level of 95 % ( $\alpha=0.05$ ), which means if the p-values are lower than the selected alpha, the null hypothesis is rejected, and the sample file is not representative. In every year, the p-value was higher than 0.05, which means we cannot reject the null hypothesis, and our sample files are representative. To identify the frequencies of analyzed factors, contingency tables were used.

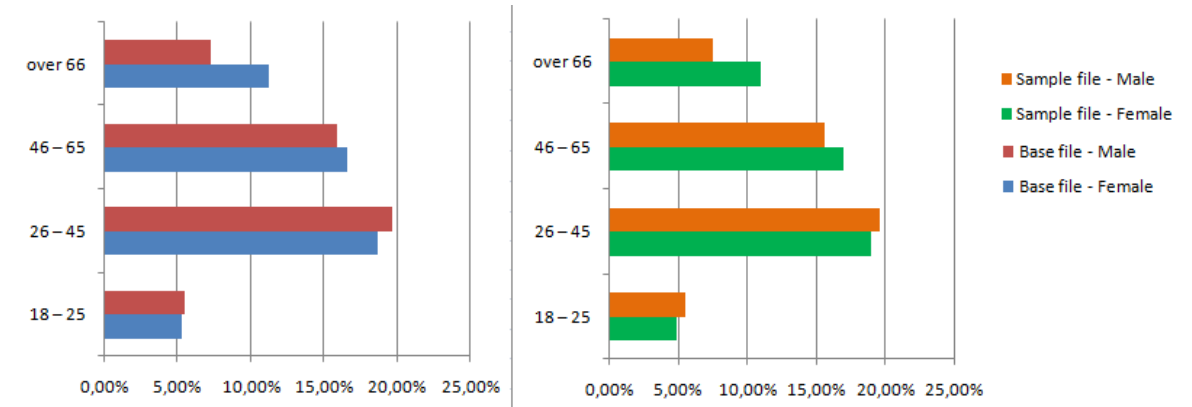


Figure 1. Structure of sample file based on age and gender of consumers

Source: *own data*

## Results

The main aim of this research was related to risks that have the potential to significantly affect the business environment. Since the data collected for this purpose was from the Slovak Republic, the risks greatly map the environment and situation of this economy. A list of 24 risks was created. These risks were evaluated as those with a major impact on the business environment because they were related to significant consumer behavior changes. The full list is available upon request from the authors. Table 1 provides detailed information on 6 risks that were evaluated as the most significant in terms of the extent of their impact, the duration of their effect during the entire period of the COVID-19 pandemic, and the degree of impact on the business environment and overall life in society. Both the immediate effects of the risks and long-term effects were considered and also necessary for the creation of guidelines.

Table 1. Risks related to consumer behavior changes

Risk	Immediate effects	Long-term effects
increase in the number of products bought	panic buying SC disruptions	threat to sustainability – sustainable consumption vs. sustainable production
changes in savings	increase in waste changes in bank operations	instability of the monetary system and inflation
substitution of products (brand switching)	SC disruptions	worsening in the predictability of demand threat to sustainable consumption
stockpiling	product shortages increase in waste	worsening in the predictability of demand threat to sustainable consumption
emergence of new factors influencing consumer behavior	immediate need to respond to new factors	need to develop new marketing strategies
new forms of product distribution preference	technological changes and increased demand	necessary development of new sales strategies

The first major risk was related to the number of products consumers bought for their households during the period of the COVID-19 pandemic. The data shows that in 2021 the majority of consumers bought the same amount of products as before the pandemic. The situation changed dramatically in 2022 and 2023, when 51.7 % (2021) and 50% (2023) of consumers claimed a reduction in purchase volumes. Table 2 shows changes in the number of products (in %) consumers bought for their household through the years 2021, 2022, and 2023.

Table 2. Amount of products bought for households

	2021	2022	2023
<b>I bought less</b>	35,1	51,7	50,0
<b>I bought more</b>	18,2	14,8	12,5
<b>I bought the same amount</b>	46,8	33,5	37,5

The disposable household income can be divided into two categories: consumption and savings. The ratio of how consumers distributed their income changed significantly during the pandemic. Table 3 shows that in 2021 consumers mainly spent 50-70% of their incomes on the purchase of goods and services, which confirms the panic buying of consumers in that year. After the situation calmed down (years 2022 and 2023), the purchases came back to pre-pandemic levels, and consumers usually spend 31-50% of their incomes to purchase goods and services.

Table 3. Amount of income spent on the purchase of goods and services

	2021	2022	2023
<b>Up to 10%</b>	0	3,4	3,9
<b>11 – 30 %</b>	0	21,6	26,0
<b>31 – 50%</b>	37,5	33,0	29,9
<b>51 – 70%</b>	50,0	31,8	27,3
<b>71 – 90%</b>	12,5	9,1	9,1
<b>91 and more %</b>	0	1,1	3,9

Many consumers also decided to change the brands of products they usually buy due to various reasons. This research explored the extent to which these changes occurred and also the reasons for them. The data shows that 58.3% of consumers substituted the products they had bought before the pandemic for others in 2021. This rate of substitution increased in 2022 by almost 14%. The main reasons for the substitutions were availability, quality, and other personal reasons.

As documented examples from other authors show, stockpiling is often an accompanying sign of any major event. The COVID-19 pandemic also brought this phenomenon on, however, to differing extent in different stages of the pandemic. Up to 54% of consumers reported an increase in the amount of products they bought in 2021. This trend also continued in year 2022, which claimed almost 52% of consumers. However, this number significantly changed in 2023. This year only one third of consumers claimed that.

The influence of traditional factors affecting consumer behavior changed during the COVID-19 pandemic. Only less than 30% of consumers were influenced by media during the years 2021 -2022. Furthermore, new factors of influence emerged, such as a feeling of safety in shops and accessibility of shops. Table 4 shows all factors that influence consumers' decision to purchase a product or service during the pandemic with the percentage of consumers.

Table 4. Factors affecting consumer behavior

Factor	Percentage
Family	45,6
Expert information	42,8
Previous experience	46,2
Feeling of safety in the store	47,5
Store location	40,7
Shop availability	41,3

One of the most obvious outcomes of the pandemic was the increased need for new forms of product distribution. The online shopping with home delivery became especially significant in 2022. Even the food delivery increased during the pandemic. Figure 2 presents the corresponding data. Clearly, the increase in delivery was observed in the age group of 31 – 50 years. Moreover, these trends remained active even in 2023. These findings indicate a potential new trend in product distribution.

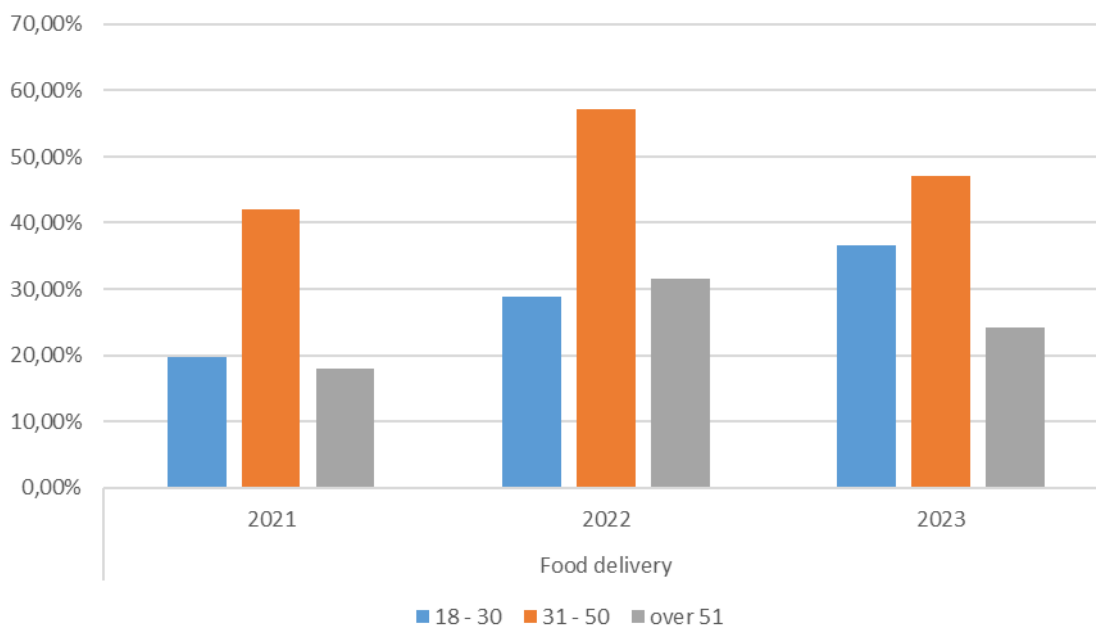


Figure 2. Food delivery utilization based on age and year of the pandemic

Source: own data

## Conclusion

It is now clear that the pandemic severely and, in some cases, even irreversibly altered modern-day life in societies. The long-term implications are not yet obvious, however, the immediate effects of what the COVID-19 pandemic left us with are clear. The first and most important factor that all consumer behavior change-related research focused on was possible changes in the number of goods and services purchased. This assumption of changes has been confirmed in all countries in the world, but not to the same extent. A positive trend was observed in some states (Guney & Sangun, 2021), but in most states, consumers increased the amount purchased (Basu & Swaminathan, 2021). In the Slovak Republic, up to 67.2% of consumers younger than 35 years increased the number of products they bought in 2021, but in 2022 only 20.3% of these consumers did this. It is necessary to evaluate this factor from a time point of view. Other changes were noted at the beginning of the pandemic in 2021, and differently, consumers approached the amount purchased in later periods of the pandemic. In many countries, at the beginning of 2021, negative phenomena such as excessive purchasing of products for stock or panic buying were observed (Omar et al, 2021; Luckner, Chopra & Seifert, 2021;



Jin & Ryu, 2022). The results of the primary survey confirm that both of these phenomena pose significant risks.

Since the COVID-19 pandemic significantly altered the shopping habits of consumers, many entrepreneurs had to make changes to their day-to-day operations in order to survive. However, survival is the fundamental goal; it should not be the main reason for existence. All businesses aim to thrive, and for that, they need successful business strategies. The findings of this research provide them with guidelines to define their strategic goals and means to flexibly adjust them when the next pandemic arises in the frame of sustainable development. One of the main findings includes the fact that modern consumers pay very little attention to savings. This risk was evaluated as significant not only because of the pandemic but also in relation to rising inflation as an accompanying phenomenon of the economic crisis. Up to 66.7% of younger consumers used 70% or more of their household income for buying products and services during the pandemic leaving only a minor part of their income for savings during the pandemic. There were no significant alterations in consumption – savings distribution of consumers' income during different stages of the COVID-19 pandemic. These findings indicate a fundamental risk for people in society who, with a low orientation towards creating savings, may become insolvent in the near future. As a whole, the lack of savings creates problems in the banking sector as well, which in the long run, can lead to such high inflation that would even further impair people's ability to satisfy their needs by purchasing goods and services.

Furthermore, many sectors of the economy experienced supply chain disruption during the pandemic (Sarkis et al, 2020; Khan et al, 2022). Although the main cause was the lockdowns and production slowdown, many consumers also changed their preferences during the pandemic, which resulted in the substitution of products for other brands. Although the majority of consumers indicated that the reason for substitution was the price of the product (56.4%), up to 33.9% of consumers indicated insufficient quality as the reason for the change. Although, at first glance, this is a negligible share of consumers, it is necessary to state that this share was higher in 2022 than in 2021, indicating an upward trend. It is thus possible to deduce that during the pandemic, consumers paid more attention to the ratio of price and quality of the product. In the future, the demands on the quality of products will increase, which is what manufacturers should focus on not only in the product itself but also in the promotion of the products. Furthermore, current research indicates that consumers are becoming increasingly more socially conscious (Zulauf, Cechella & Wagner, 2021; Zhang, Chen & Grunert, 2022). The obvious implication of these findings is related to new challenges for marketing campaigns. The need to expand the orientation from corporate social responsibility to sustainable consumption and production patterns will become a necessity for all modern enterprises, with the focus of their propagation activities on motivating consumers to save more and buy only what they really need, which is quite a shift in thinking inherited from consumption-oriented societies of 20<sup>th</sup> century.

Since the impacts of the pandemic on sustainability were mostly negative (Zhang & Chang, 2021; Yu, Legendre & Ma, 2021), it is clear that risks that threaten these aspects of human life have emerged. The measures adopted by governments to stop the spread of the virus resulted in an increase in stockpiling of goods, as reported by 41.5% of consumers. An increase in consumption and stockpiling often resulted in throwing food away, which led to an increase in produced waste. The specific category was plastic waste which generation also increased, especially in the food sector since many restaurants were partially closed, allowing only take-out or delivery. The distribution needed to be adopted during the pandemic. This is most likely the change that will persist even after the pandemic is completely eradicated. The technological changes required to accommodate these new needs are already in place and will continue to evolve rapidly. However, this will require businesses to adjust, discovering new factors that influenced consumers during the pandemic. The omnipresent risk of infection caused up to 87% of consumers to be sensitive to the feeling of safety while shopping and 62% of customers also chose a store based on its location. The emergence of these new factors influencing consumer behavior, such as safety in shops and shop location and accessibility, will play a key role in the future and should be used in targeted marketing campaigns.

The main limitation of this study could be considered its sample file since it consisted solely of consumers from one country that may not be the representative example of its region or the world. However, the findings of this study represented by the set of risks could be applied to any country if carefully compared to its national consumer behavior indicators. There also lies the potential for future research since, overall, the COVID-19 pandemic created new challenges for both enterprises and consumers, however, many organizations managed to overcome them and adapt to continue to bring value to societies. However, the long-term effects of the COVID-19 pandemic remain uncertain and need to be carefully monitored.

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## References

- Accenture. 2020. COVID-19 will permanently change consumer behaviour. Retrieved from: <https://www.accenture.com/us-en/insights/consumer-goods-services/coronavirus-consumer-behavior-research> (accessed 23 March 2023)
- Ali, Md. R., Khan, A. G., Islam, Md. N., & Akram, U. (2022). Determinants of panic buying during COVID-19: Causes and consequences. *International Journal of Quality and Service Sciences*, 15(1), 34–56. Retrieved from: <https://doi.org/10.1108/ijqss-12-2021-0187>
- Basu, M., & Swaminathan, V. (2021). Consuming in a crisis: Pandemic consumption across consumer segments and implications for Brands. *Journal of Product & Brand Management*, 32(1), 14–36. Retrieved from: <https://doi.org/10.1108/jpbm-12-2020-3263>
- Celik, B., Ozden, K., & Dane, S. (2020). The Effects of COVID-19 Pandemic Outbreak on the Household Economy. *Journal of research in medical and dental science*, 8(4), 51-56. Retrieved from: <https://www.webofscience.com/wos/woscc/full-record/WOS:000558105000009>
- Chang, S. E., Brown, C., Handmer, J., Helgeson, J., Kajitani, Y., Keating, A., ... Roa-Henriquez, A. (2022). Business recovery from disasters: Lessons from natural hazards and the COVID-19 pandemic. *International Journal of Disaster Risk Reduction*, 80, 103191. Retrieved from: <https://doi.org/10.1016/j.ijdrr.2022.103191>
- Chen, T., Jin, Y., Yang, J., & Cong, G. (2022). Identifying emergence process of group panic buying behavior under the COVID-19 pandemic. *Journal of Retailing and Consumer Services*, 67, 102970. Retrieved from: <https://doi.org/10.1016/j.jretconser.2022.102970>
- Das, G., Jain, S. P., Maheswaran, D., Slotegraaf, R. J., & Srinivasan, R. (2021). Pandemics and marketing: Insights, impacts, and research opportunities. *Journal of the Academy of Marketing Science*, 49(5), 835–854. Retrieved from: <https://doi.org/10.1007/s11747-021-00786-y>
- Gu, S., Ślusarczyk, B., Hajizada, S., Kovalyova, I., & Sakhibieva, A. (2021). Impact of the COVID-19 pandemic on online consumer purchasing behavior. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(6), 2263–2281. Retrieved from: <https://doi.org/10.3390/jtaer16060125>
- Güney, O. I., & Sangün, L. (2021). How COVID-19 affects individuals' food consumption behaviour: A consumer survey on attitudes and habits in Turkey. *British Food Journal*, 123(7), 2307–2320. Retrieved from: <https://doi.org/10.1108/BFJ-10-2020-0949>
- He, G., & Hu, Z. (2022). A model of panic buying and workforce under covid-19. *International Journal of Environmental Research and Public Health*, 19(24), 16891. Retrieved from: <https://doi.org/10.3390/ijerph192416891>
- Hervé, C., & Mullet, E. (2009). Age and factors influencing consumer behaviour. *International Journal of Consumer Studies*, 33(3), 302–308. Retrieved from: <https://doi.org/10.1111/j.1470-6431.2009.00743.x>
- Jin, S. V., & Ryu, E. (2021). “The greedy i that gives”—the paradox of egocentrism and altruism: Terror management and system justification perspectives on the interrelationship between mortality salience and charitable donations amid the COVID-19 pandemic. *Journal of Consumer Affairs*, 56(1), 414–448. Retrieved from: <https://doi.org/10.1111/joca.12381>
- Khan, S. A., Waqas, M., Honggang, X., Ahmad, N., & Yu, Z. (2022). Adoption of innovative strategies to mitigate supply chain disruption: Covid-19 pandemic. *Operations Management Research*, 15(3–4), 1115–1133. Retrieved from: <https://doi.org/10.1007/s12063-021-00222-y>
- Khanna, P., Sehgal, R., Malviya, M., & Dubey, A. M. (2022). Examining the role of saving and safety on the buying behavior: Lessons from the indian consumer's in covid-19 crisis. *Benchmarking: An International Journal*. Retrieved from: <https://doi.org/10.1108/bij-06-2022-0351>
- Li, J., Jin, X., Zhao, T., & Ma, T. (2021). Conformity consumer behavior and external threats: An empirical analysis in China during the COVID-19 pandemic. *SAGE Open*, 11(3), 215824402110321. Retrieved from: <https://doi.org/10.1177/21582440211032152>
- Lücker, F., Chopra, S., & Seifert, R. W. (2020). Mitigating product shortage due to disruptions in multi-stage supply chains. *Production and Operations Management*, 30(4), 941–964. Retrieved from: <https://doi.org/10.1111/poms.13286>



- Martínez García de Leaniz, P., & Castro-González, S. (2023). Consumer behavior on sustainable issues. *Cuadernos de Gestión*, 23(1), 7–9. Retrieved from: <https://doi.org/10.5295/cdg.221853pm>
- Moharana, T. R., & Pattanaik, S. (2022). Post-pandemic revisit intentions: How shopping value and visit frequency matters. *International Journal of Retail & Distribution Management*, 51(3), 386–406. Retrieved from: <https://doi.org/10.1108/ijrdm-04-2022-0115>
- Omar, N. A., Nazri, M. A., Ali, M. H., & Alam, S. S. (2021). The panic buying behavior of consumers during the COVID-19 pandemic: Examining the influences of uncertainty, perceptions of severity, perceptions of scarcity, and anxiety. *Journal of Retailing and Consumer Services*, 62, 102600. Retrieved from: <https://doi.org/10.1016/j.jretconser.2021.102600>
- Peterson, M., Minton, E. A., Liu, R. L., & Bartholomew, D. E. (2021). Sustainable Marketing and consumer support for sustainable Businesses. *Sustainable Production and Consumption*, 27, 157–168. Retrieved from: <https://doi.org/10.1016/j.spc.2020.10.018>
- Rajkumar, R. P. (2022). Do we need media guidelines when reporting on panic buying? an analysis of the content of news reports during the COVID-19 pandemic. *Frontiers in Communication*, 7. Retrieved from: <https://doi.org/10.3389/fcomm.2022.867511>
- Rushi, W. A., & Pradhan, V. (2023). Factors influencing customer grocery shopping behaviour amid covid-19 pandemic. *Cardiometry*, (25), 743–755. Retrieved from: <https://doi.org/10.18137/cardiometry.2022.25.743755>
- Rychlik, R. P. (2020). Corona-Pandemie: Krise oder chance? *Gesundheitsökonomie & Qualitätsmanagement*, 25(05), 225–225. Retrieved from: <https://doi.org/10.1055/a-1220-7231>
- Sarkis, J., Cohen, M. J., Dewick, P., & Schröder, P. (2020). A brave new world: Lessons from the covid-19 pandemic for transitioning to sustainable supply and production. *Resources, Conservation and Recycling*, 159, 104894. Retrieved from: <https://doi.org/10.1016/j.resconrec.2020.104894>
- Stávková, J., Stejskal, L., & Toufarová, Z. (2008). Factors influencing consumer behaviour. *Agricultural Economics (Zemědělská Ekonomika)*, 54(6), 276–284. Retrieved from: <https://doi.org/10.17221/283-agricecon>
- Sun, Y., Leng, K., & Xiong, H. (2022). Research on the influencing factors of consumers' green purchase behavior in the post-pandemic era. *Journal of Retailing and Consumer Services*, 69, 103118. Retrieved from: <https://doi.org/10.1016/j.jretconser.2022.103118>
- Škerháková, V., Harničárová, M. & Tirpák, D. (2021).Talent development in time of covid-19 prevention measures in the Slovak republic organizations. *Journal of Management and Business: Research and Practice*, 12(2), 11–25. Retrieved from: <https://doi.org/10.54933/jmbrp-2021-13-2-4>
- Valaskova, K., Durana, P., & Adamko, P. (2021). Changes in consumers' purchase patterns as a consequence of the COVID-19 pandemic. *Mathematics*, 9(15), 1788. Retrieved from: <https://doi.org/10.3390/math9151788>
- Vázquez-Martínez, U. J., Morales-Mediano, J., & Leal-Rodríguez, A. L. (2021). The impact of the COVID-19 crisis on consumer purchasing motivation and behavior. *European Research on Management and Business Economics*, 27(3), 100166. Retrieved from: <https://doi.org/10.1016/j.iedeen.2021.100166>
- Veselovská, L., Hudáková, L., & Bartková, L. (2022). Feeling of safety: A new important factor influencing consumers? *Cogent Business & Management*, 9(1). Retrieved from: <https://doi.org/10.1080/23311975.2022.2143007>
- Zulauf, K., Cechella, F. S., & Wagner, R. (2021). The bidirectionality of buying behavior and risk perception: An exploratory study. *The International Review of Retail, Distribution and Consumer Research*, 31(5), 566–590. Retrieved from: <https://doi.org/10.1080/09593969.2021.1936596>
- Zhang, J. Z., & Chang, C.-W. (2020). Consumer Dynamics: Theories, methods, and emerging directions. *Journal of the Academy of Marketing Science*, 49(1), 166–196. Retrieved from: <https://doi.org/10.1007/s11747-020-00720-8>
- Zhang, T., Chen, J., & Grunert, K. G. (2022). Impact of consumer global–local identity on attitude towards and intention to buy local foods. *Food Quality and Preference*, 96, 104428. Retrieved from: <https://doi.org/10.1016/j.foodqual.2021.104428>
- Yan, Z. (2020). Unprecedented pandemic, unprecedented shift, and unprecedented opportunity. *Human Behavior and Emerging Technologies*, 2(2), 110–112. Retrieved from: <https://doi.org/10.1002/hbe2.192>
- Yu, H., Legendre, T. S., & Ma, J. (2021). We stand by our brand: Consumers' post-food safety crisis purchase intention and moral reasoning. *Journal of Business Research*, 132, 79–87. Retrieved from: <https://doi.org/10.1016/j.jbusres.2021.04.020>