New factors of consumer behaviour in the context of business models used in retailing during the COVID-19 era

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Abstract

Innovative business models adopted in new retail stores will multiply and become available in a very short time and in large numbers, reflecting a new set of consumers' experts on offerings that will be inherent in defining changes in their behaviour as our world changes. The article aims to show new factors influencing the current shopping behaviour of Slovak households during the COVID-19 pandemic. Empirical research was conducted from February to mid-March 2021; the sample involved 534 households where the main member had the final word in terms of purchasing food. Factor analysis was used to predict changes in consumer behaviour. The data obtained allowed the researchers to create a model presenting five new target markets. The empirical survey results suggest from a theoretical viewpoint that consumers adopted mostly social rather than financial practices in consumption. The paper introduces practical contributions for retailers to formulate new marketing strategies and take their impact into account in the marketing mix, in a way that ensures business continuity and that their employees can effectively manage a prolonged crisis and build lasting customer loyalty in the post-COVID-19 era.

Keywords

business models, consumer behaviour, consumption, factor analysis, retailing

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Introduction

The events of 2020, namely the beginning of the COVID-19 pandemic, changed the way economies operate not only in Slovakia but also in other countries around the world, creating a new normal for households the world over. It meant that countries, organisations, and people were and continue to be exposed to uncertainty and constant pressure

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(Delibasic et al., 2021). Furthermore, the pandemic affected the thinking, lifestyle, and behaviour of each individual through their experiences with the COVID-19 virus (Butu et al., 2020). This crisis, which also caused an economic and financial crisis, included – in addition to the general characteristics typical of any crisis (Van Laethem et al., 2008) – factors which are specific to a health crisis (its long-term nature, the spread of the virus, high mortality, health system overload, curfews, partial or complete lockdown, etc.) (Seema et al., 2020). According to Kita and Šimberová (2018), the issue of approaches aimed at determining the business model relate to the changes in the environment which indicate that contemporary economic ideas are no longer sustainable. New approaches to the business organisation include sustainability as the key issue which needs to be considered. These authors also posited that the need to search for viable answers to this development is proving to be increasingly acute. Furthermore, their study clearly emphasised the finding that the changing link between the business model and the company is one of the critical issues. However, it is not entirely evident what roles, responsibilities, and functions should be defined and resolved within this transition (Kita and Šimberová, 2018). Business activities have a major influence on the economy, environment, and society (Šimberová and Kita, 2020).

The authors of this research paper contribute to an understanding of how the decision making of households during the COVID-19 pandemic forced most Slovak households to reconfigure their way of life and see their behaviour and shopping habits from a new perspective. In the first part, the article focuses on the theoretical aspects of the issue. Given the multifaceted impact of the health and economic crisis, this empirical research focused on selected activities of households and individual respondents, as well as their general characteristics. The purpose of the article is also to propose elements of reflection for economic operators in the post-COVID-19 era.

1. Literature review

The rapid spread of the COVID-19 virus led to a reduction in economic activity and minimised social contacts in Slovakia, as in other countries, which affected not only production and trade (Ketudat and Jeenanunta, 2021; Pelle and Tabajdi, 2021) but consumption as well (Čiarnienė et al., 2020). This was reflected in the economic situation of households, which affected levels of supply and demand for food during the COVID-19 pandemic (Kita et al., 2021). The Statistical Office of the Slovak Republic recorded the following indicators: the (registered) unemployment rate in 2018 was 5.04%, in 2019 4.92%, and in 2020 7.57% (Svabova et al., 2021; Statistical Office of the Slovak Republic, 2022a); gross cash income from employment increased from EUR 374.16 per month (2019), to EUR 395.61 per month (2020), to EUR 404.12 per month (2021); but household consumption expenditures also increased from EUR 329.19 per month in 2018 to EUR 340.91 per month in 2019 (Statistical Office of the Slovak Republic, 2022b,c). In 2020, the consumption of both alcoholic (6.9%) and non-alcoholic beverages (2.7%) decreased compared to 2019, while the total consumption of milk and dairy products (3.7%), fish (5.4%), eggs (2.2%) and nuts (7.1%) increased (Sitárová, 2021). For this reason, it is necessary to know their views on the relationship between environmental devastation and the emergence of the COVID-19 pandemic, as well as consumer attitudes toward selected aspects of sustainable consumption, and how their behaviour and habits have changed as a result of the pandemic (Pilelienė and Tamulienė, 2021). Goswami and Chouhan (2021) detailed how the socio-economic scenario has changed and what consumers purchase, especially what products they are buying and what the reasons for those purchases are (Goswami & Chouhan, 2021).

Several previous studies, such as a study of consumer purchasing behaviour by Vazquez-Martínez et al., (2021), posited that it is characterised in the existing literature as an extremely complex concept; furthermore, Goswami and Chouhan (2021) described it as a collection of decision-making processes driven by both internal and external factors. Vazquez-Martinez et al., (2021) summarised these studies, stating that a number of authors who have conducted research on changes in consumer buying behaviour associate such changes with different types of crises: financial crises, food security crises, crises in the country of origin, food safety crises, and country-of-origin crises. The effects of the health and economic crises to which households and individual consumers are exposed during their decision-making process affect their attitudes toward consumption, behaviour, and purchasing with varying intensity and strength, and also lead to different outcomes. There are several internal and external factors (Maciejewski et al., 2020) that influence their attitudes in terms of socially responsible activities, behaviour, and purchasing during the COVID-19 crisis, which can be taken into consideration. In their respective studies, Jakubowska and Radzymińska (2019) and Maciejewski (2020) detailed the complexity of the issues related to sustainable consumption based on the attitudes and behaviours of consumers which affect consumers' health and their natural environment.

In addition to the decline in purchasing power, which was caused by the fact that the freedom of movement of the population was restricted, several sectors of the economy were put on hold and companies went bankrupt (Borsellino et al., 2020). There were also new types of experiences, such as electronic word-of-mouth recommendations from acquaintances, bans issued by institutions related to the pandemic, the current emotional state of consumers, the negative impact of media information on health and the economy, and so on (Kita et al., 2020). Closely related to the factors already mentioned is the fact that such a crisis is often accompanied by psychological effects, which are reflected in consumers' consumption and shopping habits. The awareness of the existing health and economic crisis, supported by media coverage, evoked an increased sense of insecurity in consumers and forced them to be cautious in their spending, and often led them to behave either completely differently to normal trends (for example, excessive food purchases at the outset of the COVID-19 pandemic in the last week of February in Slovakia in 2020, etc.) or follow the trends exacerbating the fear of the coronavirus. At the same time, dissatisfaction with the introduction of a state of emergency and lockdown increased as people considered what the current health and economic crisis meant to them, but also importantly, what it would mean to their family, friends, and society in general. They had a sense of uncertainty about how long the COVID-19 crisis would last and how it would affect the economy (McKinsey & Company, 2020). Consumers feared the economic impact of COVID-19 (Fetzer et al., 2020) more than its impact on their health. In this sense, the crisis had a significant real impact on consumer spending, especially when economic activity was threatened, as a result of quarantine measures. Consequently, the contextual changes and emotional impact (Theodoridou et al., 2019), with social isolation reflected in the behaviour of individuals, called for a reconsideration of retail business models in the retail industry (Beckers et al., 2021). Pilawa et al., (2022), Vázquez et al., (2021), and Beckers et al., (2021) proved that consumers have developed new habits during the current health and economic crisis, resulting in new preferences for the brands or products covered in this study. Retailers wanted to be able to sustain the firm's wealth and meet its long-term market goals (Delibasic et al., 2021). As Beckers et al., (2021) pointed out, this was to serve customers' recurring needs and often rely on a physical store for service provision. COVID-19 accelerated the preference for using business models such as online channels, reducing the limitation of self-isolation, and temporal and space restrictions in physical shopping (Tahal, 2014; Mutinda Kitukutha et al., 2021). This suggests that certain dimensions of service innovation might create more value for customers and retailers, and thus decisively influence perceptions of retailers' innovativeness (Kucharska et al., 2015; Pilawa et al., 2022), helping to catalyse the continuing changes in the retail sector.

2. Methodology

2.1. Research design

The peak of the second wave of the pandemic was reached during early spring, from February to mid-March 2021, when our empirical research was conducted, and Slovakia was the world leader in the mortality rate of COVID-19 per capita (Oxford Martin School GSDL, 2021). During this period, more precisely on 6 March 2021, a year had passed since the first coronavirus infection in Slovakia. At the same time, this period was characterised by events such as a state of emergency, lockdown, comprehensive testing, the introduction of a COVID-19 vaccine, and also a political crisis, which may have intensified consumer behaviour and habits. In this context, this cross-sectional study aims to show new factors influencing the current shopping behaviour of Slovak households during the COVID-19 pandemic. The empirical research took the form of a pre-arranged and structured online interview with each respondent.

The respondents were selected based on e-mail addresses and contacted accordingly. The research comprised an intentional selection of 534 households.In these households, the main member had the decisive word when it came to purchasing food. In determining the research question, we assumed that in business disciplines in which it is not possible to predict deterministic relationships in advance and in which an individual experiment cannot be evaluated as decisively as in the field of natural sciences, estimation methods can be used. These methods can determine, as far as possible, the most accurate "true value" of a quantity in the base set, assuming a certain mathematical model, based on observations of a particular selection. They are presented in Table 3. These methods include factor analysis, but go one step further than other estimation methods. The factor analysis of the data obtained and analysed allows for the expression of survey results in the form of schematic information and an explanation of the relationships between the variables based on the research question. Verified through the conducted survey, the following research question was formulated:

RQ: How have the pandemic and the associated economic realities affected household and consumer attitudes in the areas studied?

2.2. Characteristics of the research sample

The future business model innovation process in the retail industry should start by examining consumer shopping behaviour. The questionnaire was based on two study areas dealt with by the authors in their research. The first group of authors focuses on business models in retailing, e.g. Šimberová and Kita (2020), Crudu (2019), Loan et al., (2021), Kucharska et al., (2015), Matuszewska-Pierzynka (2021), Pilawa et al. (2022), etc. The other group are those who study consumer behaviour in the context of the current impact of the pandemic on society, e.g. Fetzer et al., (2020), Mutinda Kitukutha et al., (2021), Tahal (2014), Theodoridou et al., (2019), Vázquez (2021), Maciejewski et al. (2021), Mróz (2021), and Ozimek and Rakowska (2021).

The questionnaire also included questions about household characteristics and respondents' general characteristics, given that consumer attitudes are generally significantly influenced by education, age, household financial situation, residence, and gender. 57.12% of the group consisted of women and 42.88% were men. The distribution of respondents by age is shown in Table 1.

Table 1. Age composition of the base set

Age group	Number of respondents (%)
18–24 years	23.60
25–39 years	26.77
40–59 years	31.09
60 and over	18.54

Source: own elaboration

The most numerous groups were respondents living in cities (see Table 2) with a population of up to 50,000.

Table 2. Distribution of respondents by residence

Size of residence	Number of respondents (%)
Village with up to 5,000 inhabitants	27.15
City with up to 50,000 inhabitants	30.72
City of 50,000 to 200,000 inhabitants	18.35
City with over 200,000 inhabitants	23.78

Source: own elaboration

In terms of the number of household members, the surveyed households were distributed in the following way: one member (9.18%), two members (23.22%), three members (24.91%), four members (21.91%), five members (14.42%), six members (4.49%), seven members (1.31%), and eight members (0.56%).

The households were asked to provide a subjective assessment of their financial situation. 2.06% of households were in a very bad financial situation, 11.98% in a bad financial situation, 43.63% in a satisfactory financial situation, 38.20% in a good financial situation, and 4.11% in a very good financial situation.

Table 3 characterises situations in which households have the highest share in making decisions concerning the changes in their purchasing behaviour. The respondents were asked to express their opinion on the phenomenon being investigated by recording a position on a five-point semantic scale. This scale determines not only the content of the attitude but also its approximate strength. The semantic differential is a method relatively frequently used for the measurement of attitudes, not only in the field of psychology (Chráska and Chrásková, 2016) but also from a marketing perspective. On a semantic scale, it is assumed that there is a neutral attitude "from time to time", as the impact of the crisis is a personal and relative concept (Guerin, 2008). For this reason, it is considered a very useful tool for researching attitudes in management research.

Table 3. What changes in your behaviour and that of members of your household have occurred as a result of the COVID-19 pandemic?

Changes in shopping behaviour	1 Never	2 Almost never	3 From time to time	4 Almost always	5 Always	Not answered	N	Mean	Standard deviation
1. We care more about health and hygiene.	0.37	2.43	8.43	38.20	50.56	–	534	4.360	0.769
2. We pay more attention to environmental protection.	4.12	11.99	32.96	33.33	17.60	–	534	3.482	1.044
3. We use payment cards more often.	3.56	6.55	10.11	27.72	51.87	0.19	534	4.169	1.098
4. We shop online more often.	3.93	5.99	19.66	34.46	35.58	0.37	534	3.906	1.095
5. We feel less secure.	3.18	10.11	26.22	38.01	21.54	0.94	534	3.618	1.084
6. We have cut back on large expenses (e.g. furniture, large household appliances, and electronics).	4.31	14.61	30.15	32.40	17.98	0.56	534	3.433	1.107
7. We limit visits to cultural institutions (cinemas, theatres, concerts, etc.).	2.25	4.31	5.06	26.78	61.42	0.19	534	4.403	0.953
8. We limit loans and credits.	6.55	10.67	28.09	21.16	32.58	0.94	534	3.605	1.271
9. We borrow the necessary items more often than we buy them (e.g. drill, sewing machine, clothes, etc.).	13.48	19.10	32.02	26.03	8.80	0.56	534	2.957	1.181
10. We use the services of catering facilities less often.	5.06	16.29	23.60	33.90	20.79	0.70	534	3.475	1.158
11. We shop less often.	7.49	15.73	30.90	32.58	12.17	1.12	534	3.230	1.149
12. We support charities and aid organisations to a lesser extent.	8.80	20.60	35.96	27.15	7.49	–	534	3.034	1.063
13. We do more things remotely, whether by phone or computer.	1.87	2.25	11.05	32.40	52.25	0.19	534	4.299	0.912
14. We do more on our own (e.g. painting a room, cutting hair, beauty treatments, etc.).	3.56	6.74	19.85	44.19	25.47	0.19	534	3.806	1.019
15. We throw less food away.	4.87	9.36	29.40	34.46	21.91	0.00	534	3.589	1.078
16. We feel more tired and depressed.	2.81	10.49	17.42	36.14	32.96	0.19	534	3.853	1.089

Source: own elaboration

3. Research results

The KMO index equals 0.780 for all answers (see Appendix). The KMO index is considered middling (Olejnik, 2021) with an approximate Chi-Square of 1513.769 degrees of freedom 120 and a significance of .000. It can be considered good to use the factor analysis introduced by Kita and Hasan (2010) where the main factor analysis resides in application techniques of the main component on reducing the covariance matrix import variable (Kita & Hasan, 2010). Our analysis used the research data shown in Table 4 and graph-based responses presented in the appendix. The research data proved that factor five explored share of cumulative exceeds 1. This sufficiently explained parameters of variability. Five factors were figured to represent 56% of all factors in Table 4.

Table 4. Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1. We care more about health and hygiene.	3.570	22.314	22.314	3.570	22.314	22.314	1.966	12.290	12.290
2. We pay more attention to environmental protection.	1.856	11.599	33.913	1.856	11.599	33.913	1.950	12.189	24.480
3. We use payment cards more often.	1.417	8.855	42.768	1.417	8.855	42.768	1.760	11.000	35.479
4. We shop online more often.	1.117	6.982	49.750	1.117	6.982	49.750	1.735	10.842	46.322
5. We feel less secure.	1.006	6.288	56.038	1.006	6.288	56.038	1.555	9.716	56.038
6. We have cut back on large expenses (e.g. furniture, large household appliances, and electronics).	.940	5.876	61.914						
7. We limit visits to cultural institutions (cinemas, theatres, concerts, etc.).	.803	5.018	66.932						
8. We limit loans and credits.	.729	4.556	71.487						
9. We borrow the necessary items more often than we buy them (e.g. drill, sewing machine, clothes, etc.).	.705	4.409	75.896						
10. We use the services of catering facilities less often.	.684	4.278	80.174						
11. We shop less often.	.623	3.895	84.069						
12. We support charities and aid organisations to a lesser extent.	.613	3.830	87.899						
13. We do more things remotely, whether by phone or computer.	.549	3.432	91.331						
14. We do more on our own (e.g. painting a room, cutting hair, beauty treatments, etc.).	.522	3.264	94.595						
15. We throw less food away.	.486	3.036	97.631						
16. We feel more tired and depressed.	.379	2.369	100.000						

Note: Extraction Method: Principal Component Analysis.

Source: own elaboration

Table 5 shows the results of the rotation model. These particular factors were tabulated according to the size of the data order. For this analysis, the principal components method was used because we were not sure whether the expected structure would consist of correlated or uncorrelated factors (Olejnik, 2021).

In the process of determining the number of factors, the Kaiser eigenvalue criterion was used by Olejnik (2021). Generally, the next step is the rotation of factors, the aim of which is to obtain such a set that is suitable for the better interpretation thereof in comparison with the primary factors (so that each variable has a high load in only one factor). In this case, the most frequently used methods include "varimax" rotation, which is used assuming that the dimensions will not be correlated with each other (Kita & Hasan, 2010; Olejnik, 2021). It is a rotation aimed at simplifying the columns of the factor structure matrix by minimising the number of variables which are highly correlated with individual factors. This produces a factor model in which each factor represents a different fact, i.e. a simpler interpretation.

The interpretation of the estimated factors and the entire model is based on the factor saturation of the individual factors after rotation and the knowledge which the analyst has of their mutual relations (Table 5). A high saturation value means that the factor and the given variable have a great deal in common. On the one hand, a given variable identifies the hidden factor well; on the other hand, the factor significantly affects the variability of the given variable. This means that variability is most affected by changes in a given factor. Finally, we chose the loads below 0.4 in the statistical programme because we were to test a new tool for a theory (Olejnik, 2021).

Table 5. Rotated Factor Matrix*

	Component				
	1	2	3	4	5
2. We pay more attention to environmental protection.	.764				
1. We care more about health and hygiene.	.733				
3. We use payment cards more often.	.584			.480	
15. We throw less food away.	.524	.510			
9. We borrow the necessary items more often than we buy them (e.g. drill, sewing machine, clothes, etc.).		.746			
14. We do more things on our own (e.g. painting a room, cutting hair, beauty treatments, etc.).		.572		.423	
6. We have cut back on large expenses (e.g. on furniture, large household appliances, and electronics).		.534			
8. We limit loans and credits.		.462			
11. We shop less often.			.693		
7. We limit visits to cultural institutions (cinemas, theatres, concerts, etc.).			.685		
10. We use the services of catering facilities less often.			.639		
13. We do more things remotely, whether by phone or computer.				.787	
4. We shop online more often.				.762	
16. We feel more tired and depressed.					.689
5. We feel less secure.					.689
12. We support charities and aid organisations to a lesser extent.					.524

Note: *Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation. Rotation converged in eight iterations.

Source: own elaboration

Jakubowska and Radzymińska (2019) stated that consumer choices play a leading role in orienting production because consumers can also exert a strong influence by means of food purchasing, transporting, cooking, and consumption (Jakubowska and Radzymińska, 2019). Therefore, according to factor saturations, individual common factors can be interpreted as the following hidden dimensions that represent new target markets:

Factor 1 – Consumers considering the environmental aspect of the consumption of goods when buying.
Factor 2 – Consumers focused on community and self-help procurement of goods.
Factor 3 – Price-conscious consumers.
Factor 4 – Consumers focused on online shopping.
Factor 5 – Consumers considering the health aspect of consumer consumption when buying.

Marked factor saturations indicate the correlation between a given factor and a given variable. All highlighted factor saturations are positive, i.e. it is the direct orientation of the consumer to a given higher level of value of the offer of goods and services. The respondents perceive each orientation towards important aspects of supply for a given factor differently, which corresponds to the individual values of factor saturations. As a result, consumers will behave even more rationally and focus significantly on the price-benefit ratio and, to a lesser extent, on their health. Based on these factors, new business models will have to adapt their marketing activities and value creation of the presented offer of goods and services respectively. These five new markets influence consumer choice with a new concept of value incorporating sustainability. All these may play an important role in guiding the offerings of retailers through the creation of new business models. Based on this, it can be concluded that the article has fulfilled its objective.

4. Discussion

All observers of social life – sociologists, economists, politicians – acknowledge that, without precisely defining their orientation, significant changes are currently taking place and that our world is changing "globally", quickly, and massively. The negative consequences of the coronavirus pandemic since 2020 have accelerated the adoption of involuntary behaviour by consumers and impacted their thinking and activities. The changes in behaviour and habits are directly linked to the relatively long period of exposure to the new environment created by the pandemic. Research shows that developing a new habit can take 18 to 254 days (Lally et al., 2009); on average, it takes about 66 days (Gardner et al., 2012). Given the duration of the pandemic, consumers have had time to question their consumption and find alternative ways of consuming, behaving, and shopping (Gadeikienė et al., 2019; Sheth, 2020).

4.1. Theoretical contributions

Consumption, as a central factor in social life, is also subject to a fundamental change: the consumer matures, behaves like an expert, and can thwart retailers' market strategies in times of uncertainty. This means that retailers must adapt to the development of increasingly sophisticated mining weapons (geo-marketing, profiling, promotions, marketing of loyalty), the effectiveness of which is proving increasingly limited. From the point of view of the effectiveness of deploying marketing efforts, according to Bradlow et al. (2017), this means that retailers, on the one hand, will have to introduce Big Data, allowing them to create a more complete picture of the typical customer path to purchase (Bradlow et al., 2017). On the other hand, they will be forced to define the content of the store-customer relationship by embracing equality with their suppliers, thus going beyond the traditional logic of market relations based on dominance and winning-losing (Tisovski, 2014).

These new behavioural factors suggest the development of new consumption related to greening, dematerialisation, customer service development, and inclination to rational dimensions of consumption, the logical consequence of which is the emergence of new business models (Crudu, 2019; Matuszewska-Pierzynka, 2021). The health and economic crisis also became one of the most frequently discussed topics in 2020-2021. There, individual concerns pertaining to health, current needs, and financial stability come to the forefront as the most significant issues (Waliszewski & Warchlewska, 2021). Furthermore, the outbreak of the global crisis has forced consumers to change their behaviour. The event of this dimension influenced the formation of consumer opinions on the possibility of a crisis and the implementation of selected socially responsible activities related to the transition to sustainable consumption, in terms of three aspects: social (1st and 2nd factors), economic (3rd and 4th factors) and environmental (factor 1), as well as changes in shopping behaviour and habits. According to Gordon-Wilson (2021), UK consumers have changed their habits in terms of both the place and frequency of shopping during the week. S. Gordon-Wilson's findings correspond to our considerations of deteriorating health during the pandemic crisis brought about by consumers starting to drink more and consume more unhealthy food at home. This change to an unhealthy eating style is also supported by research by Mazalán et al., (2021). Buying behaviour is an attitude oriented only to the hedonistic characteristics of food, which is a carefree search and the quick availability of food, along with fast food preparation. Consequently, current health and economic problems require a change in consumption habits. Pacios-Gonzáles and Chamorro-Mera (2020) suggested that there is a need for a socially responsible consumer who is aware that their activities are part of the causes of these problems, but also part of the solution (Pacios-Gonzáles and Chamorro-Mera, 2020). Promoting this new consumption pattern is also one of the key elements of the European Union's economic policy, which presupposes not only a change in the behaviour of producers and traders, but also consumers. In this context, for example, Jánská et al., (2020) indicated that one of the reasons for the development of environmentally friendly agriculture was the gradual industrialisation of the sector and the increased negative impact on the environment due to industrialisation (Jánská et al., 2020). This means that the socially responsible consumer transforms their concerns about the negative impact of consumption on society and social and environmental issues into changes in their consumer behaviour and purchasing decisions. Consumers can show their social commitment in different ways and not attach equal importance to all types of activities that allow them to prove themselves when making a purchase decision. In other words, according to Šimberová et al., (2020), the issue of new concepts of the business model and value, and our analysis of available expert sources, have revealed that the issue of new business models, with a focus on sustainable creation of multiple values for the customer, is a developing area (Šimberová and Kita, 2020). In addition, Loan et al. (2021) found out that the role of an individual's perception, attitude, and intention is associated with the creation of a final business organisation (Loan et al., 2021).

From a social point of view, socially conscious consumers are consumers who consider not only their own satisfaction when making a purchase decision, but also social responsibility. According to our research findings, the crisis has negatively affected various forms of civic engagement, such as involvement in social assistance campaigns (14.23% of respondents are actively committed to them), volunteering (18.16% of respondents are involved in voluntary services), and environmental protection.

4.2. Practical contributions

Some changes that provide a positive experience are likely to take longer, given the long-term nature of the pandemic, especially in terms of purchasing and communication comfort and well-being, diversification of purchasing channels, increased health awareness, the trend of purchasing products from local producers, and purchasing environmentally friendly products which offer businesses the opportunity to move toward more authentic social responsibility in retailing. In the post-pandemic period, successful retailers will be those who can adapt to dynamic changes in consumer behaviour in the future and will respond by: i) considering new consumer practices and the increased role of digital technologies; ii) fostering health-oriented marketing communication; iii) reassessing crisis marketing plans and product plans in light of new situations and new aspects of the image of a product; iv) offering innovative products that meet customer needs; v) developing individualised marketing strategies at the expense of mass marketing strategies because of the diversity of purchasing sources; vi) reassessing the suppliers' portfolio; vii) redefining business models towards data-based models; viii) promoting self-sufficiency in food production and the development of organic farming.

The results can benefit businesses and consumer actors, as well as policymakers in terms of their informative and practical focus on the issue under study (see also Gancarczyk et al., 2021). In addition to these activities, companies need to formulate new marketing strategies and consider their impact on the marketing mix, in a way that ensures business continuity and guarantees that their employees effectively manage the ongoing crisis and build lasting customer loyalty in the post-COVID-19 era.

Conclusions

The methodological approach of the article based on quantitative data allowed us to present facts about changes in consumer attitudes during the COVID-19 era, which may lead to a turnaround from the previous period. Factor analysis allowed us to reveal new segments of consumers, indicating their new ways of thinking toward consumption. It is possible to formulate development trends and recommendations for marketers, given that companies understand the reaction of consumers and develop appropriate marketing strategies. Every business needs to know the views and attitudes of consumers during the COVID-19 pandemic, which would foster sustainable consumption by households and individual consumers.

The theoretical framework of the article explains some aspects of consumer household behaviour during a health and economic crisis. The results of the research provide information on changes in consumer attitudes with respect to their current consumption, and the values espoused in their lifestyles, as well as illustrating some trends for the post-COVID-19 period. Overall, the data were analysed to confirm that the outbreak of the pandemic affected consumer behaviour and changed the frequency of significant consumption practices and shopping habits. Some consumers have attempted to find alternative ways of consuming, while others wish to return to their previous consumption and shopping habits. These changes are reflected in the varying intensity of participation in socially responsible activities, and in the purchase of certain categories of products, the exclusion from consumption of which was related to the temporary closure of sports grounds, fitness centres, cinemas, theatres, hairdressers, body and beauty care establishments, and so on.

These results partially confirm the findings of other surveys on the impact of the pandemic on consumers, which highlight the prioritisation of e-commerce, changing consumption patterns, and changing marketing strategies (Hongwei et al., 2020; Cambefort, 2020; see also: Ali Taha et al., 2021; Liu et al., 2021).

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Appendix

Table A1. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.780
Bartlett's Test of Sphericity	Approx. Chi-Square	1513.769
	df	120
	Sig.	.000

Source: own elaboration

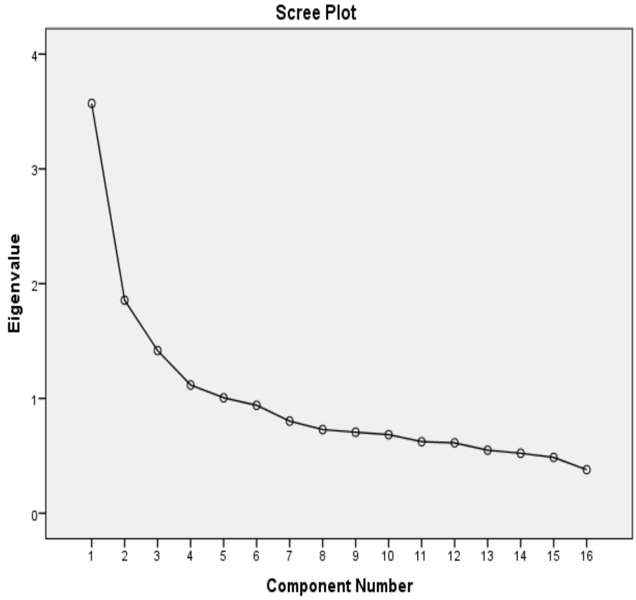
Table A2. Communalities

Specification	Initial	Extraction
1. We care more about health and hygiene.	1.000	.587
2. We pay more attention to environmental protection.	1.000	.678
3. We use payment cards more often.	1.000	.595
4. We shop online more often.	1.000	.636
5. We feel less secure.	1.000	.554
6. We have cut back on large expenses (e.g. furniture, large household appliances, and electronics).	1.000	.644
7. We limit visits to cultural institutions (cinemas, theatres, concerts, etc.).	1.000	.547
8. We limit loans and credits.	1.000	.426
9. We borrow the necessary items more often than we buy them (e.g. drill, sewing machine, clothes, etc.).	1.000	.595
10. We use the services of catering facilities less often.	1.000	.440
11. We shop less often.	1.000	.436
12. We support charities and aid organisations to a lesser extent.	1.000	.526
13. We do more things remotely, whether by phone or computer.	1.000	.661
14. We do more on our own (e.g. painting a room, cutting hair, beauty treatments, etc.).	1.000	.543
15. We throw less food away.	1.000	.585
16. We feel more tired and depressed.	1.000	.512

Note: Extraction Method: Principal Component Analysis.

Source: own elaboration

Figure A1. Scree plot



Source: own elaboration

Table A3. Component Matrixa

Specification	Component				
	1	2	3	4	5
Q.15	.650				
Q.2	.638			-.425	
Q.6	.585	-.403			
Q.9	.539				
Q.3	.536	.512			
Q.14	.522				.482
Q.1	.506			-.430	
Q.12	.407				
Q.4		.729			
Q.13		.606			
Q.8		-.416			
Q.10			.537		
Q.7	.423		.512		
Q.11	.452		.510		
Q.16				.401	
Q.5	.516				-.538

Note: Extraction Method: Principal Component Analysis.
a – five components extracted.

Source: own elaboration

Table A4. Component Transformation Matrix

Component	1	2	3	4	5
1	.563	.548	.405	.215	.414
2	.272	-.436	-.255	.818	.033
3	-.255	-.151	.821	.277	-.401
4	-.717	.155	.004	.297	.611
5	-.173	.680	-.310	.345	-.541

Note: Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalisation.

Source: own elaboration