

Consumer Ethnocentrism in Generation Z: Alternative Insights Through the Lens of CEESCALE

M. Čvirik^{1,*}, D. Cagánová², M. Ching-Ying YU³

¹Bratislava University of Economics and Business, Faculty of Commerce, Research Institute of Trade and Sustainable Business

²Newton University, Prague, Czech Republic

³Yuan Ze University, College of Management, Taiwan, ROC

Abstract

INTRODUCTION: The paper focuses on the issue of consumer ethnocentrism, bringing a new perspective on possible measurement as well as intervention options.

OBJECTIVES: The aim of the paper is threefold: (1) to point out the possibilities of alternative measurement of consumer ethnocentrism within generation Z, (2) to highlight the possible adaptation and modification of the tool, and (3) to explain the influence of key demographic factors on the measure of consumer ethnocentrism among generation Z.

METHODS: From the point of view of the methodology, we use a range of statistical methods with an emphasis on exploratory methods such as network analysis, exploratory factor analysis, and raincloud plots, but also confirmation methods such as the Mann-Whitney test and Kruskal-Wallis test.

RESULTS: The results indicate that CEESCALE is a suitable instrument for measuring consumer ethnocentrism in the studied cohort with adaptation within dimensionality. It is possible to state a low level of consumer ethnocentrism among Generation Z in Slovakia, while this level is influenced by place of residence but not by gender or region of residence.

CONCLUSION: The results provide a re-management knowledge base for generating marketing, management, and business strategies to support domestic production.

Keywords: Consumer ethnocentrism, generation Z, CEESCALE, home production.

Received on 06 February 2025, accepted on 31 October 2025, published on 13 November 2025

Copyright © M. Čvirik *et al.*, licensed to EAI. This is an open access article distributed under the terms of the [CC BY-NC-SA 4.0](#), which permits copying, redistributing, remixing, transformation, and building upon the material in any medium so long as the original work is properly cited.

doi: 10.4108/_____

1. Introduction

In the scientific community, it is possible to identify the consensus of the founders of consumer ethnocentrism, which are the author collective Shimp and Sharma [1]. The authors understood consumer ethnocentrism as "the beliefs held by American consumers about the appropriateness, indeed morality, of purchasing foreign-made products"[1]. Consumer ethnocentrism was applied to the American consumer in this work, but there is the possibility of international modification. The authors state that it is a matter

of faith, i.e., the inner conviction of individuals in the in-group (national group) about the need to promote the domestic [2].

The study of consumer behaviour is central to marketing management. It makes it possible to understand the motivations, preferences, and decision-making processes of customers, who represent the alpha and omega for strategic decision-making by the management of every successful company [3, 4]. This knowledge is the basis for effective market segmentation, product development, pricing policy, and communication strategy planning[5]. In addition, it helps to identify new market opportunities, solve problems

*Corresponding author. Email: marian.cvirik@euba.sk

associated with satisfied customers, and create long-term relationships, while without a deep understanding of consumer behaviour, marketing activities could be ineffective, leading to underutilisation of resources and low return on investment [6–8].

Consumer ethnocentrism represents the internal conviction of consumers that buying domestic products is morally and ethically correct because they support the domestic economy [9–11].

The importance of measuring consumer ethnocentrism is that it allows businesses and governments to understand consumer preferences, which can influence marketing strategies and support for domestic producers while providing important data on the degree of economic patriotism and its impact on international trade. Consumer ethnocentrism is most often measured with the help of CETSCALE, while this instrument is also subject to considerable criticism [12–14]. In this context, it is advisable to use alternatives such as CEESCALE [15].

The aim of the paper is threefold: (1) to point out the possibilities of alternative measurement of consumer ethnocentrism within Generation Z, (2) to highlight the possible adaptation and modification of the instrument, and (3) to explain the influence of key demographic factors on the measure of consumer ethnocentrism among Generation Z.

2. Literature review

Consumer ethnocentrism expresses the belief that buying domestic products is morally right and supports the national economy, while buying foreign products can be perceived negatively [16, 17]. Shimp and Sharma [1] specify that, in the minds of ethnocentric consumers, the purchase of foreign products can negatively affect the domestic economy and unemployment and appear unpatriotic, which distinguishes it from the concept of the country of origin effect, which is mainly focused on product characteristics and stereotypical ideas about the country of origin [18]. The degree of consumer ethnocentrism changes over time, adapting to the current economic situation but also to other micro and macro indicators. Identifying the degree of consumer ethnocentrism is essential for understanding how strong customers' ties to domestic products are, which is reflected in their purchasing decisions [19, 20]. In the scientific community, CETSCALE (Consumer Ethnocentric Tendencies Scale) is used to identify the measure, which contains seventeen statements to which respondents respond using a Likert scale [12]. However, there are opinions that this tool has several disadvantages and limits [15, 21–28].

The original CETSCALE was applied to the conditions of the American market, while translation and use in other countries may lead to loss of meaning or misinterpretation. Also, this tool is generally referred to as unidimensional [24, 29], which represents a considerable simplification of the understanding of consumer ethnocentrism. The questions contain a reduced degree of variability within the construct and capture effects rather than motives. As a response to these and other limits, CEESCALE was created by [15], which

better explains the willingness to buy domestic/foreign products as well as the motives for this willingness. The tool is relatively little applied in international settings such as Syria [30], Myanmar [31], and in other countries where it achieved acceptable levels of reliability and variability. In European conditions, it was applied relatively rarely.

RQ1: What is the level of consumer ethnocentrism measured on the CEESCALE basis in the studied segment?

In the scientific community, one can find several opinions and perspectives on the dimensionality of consumer ethnocentrism [21, 32–36]. A number of opinions point to multidimensionality, while this finding mainly results from the examination of consumer ethnocentrism with the help of CETSCALE. The authors of CEESCALE themselves [15] point to the existence of multidimensionality of the tool, stating the dimension of prosociality, which is oriented towards love for the homeland and one's own social group, the cognitive dimension is oriented towards knowledge and perception of domestic production, the dimension of uncertainty is oriented towards uncertainty and threats affecting the economic situation of the home country, the dimension of reflexivity represents the perception of information biased (ethnocentrically), which leads to the rejection of foreign products, and the dimension of habituation (habit) focuses on the fact that ethnocentrism is generated by repeated behaviour associated with morality. In this context, it is appropriate to examine the situation in terms of the studied cohort.

RQ2: How can one characterise the latent factors affecting the level of consumer ethnocentrism measured with the CEESCALE?

It is indisputable that the degree of consumer ethnocentrism is influenced by a number of mediators [37–42]. From the point of view of demography, three key ones can be identified, namely gender, residence, and residence in the context of the geographical location [40, 43–49]. However, it is necessary to note that the results differ from country to country, while the influence of individual factors can change over time. Therefore, continuous research is necessary. It is also worth emphasising that the results were not applied to Generation Z but to more generally characterised populations.

RQ3: How do selected demographic characteristics of Generation Z consumers affect the level of consumer ethnocentrism?

H1: Gender has an effect on the level of individual factors of consumer ethnocentrism.

H2: Residence has an effect on the level of individual factors of consumer ethnocentrism.

H3: The region of origin of the consumer has an influence on the level of individual factors of consumer ethnocentrism.

3. Methodology

The article uses both secondary and primary research. Secondary research was used in the context of literature research, which provided the basis for primary research.

The population for the needs of the primary survey was defined as Slovak consumers of generation Z. In this context, it was necessary to respect certain selection criteria when creating the sample. First of all, it was Slovak nationality. The national context is key in the evaluation of consumer ethnocentrism, as it is orientated towards a national group. It was also necessary to consider the limitation from the point of view of generational affiliation. From the point of view of generational affiliation, the respondents were between the ages of 15 and 29 [50]. Generation Z is currently an important segment that needs to be investigated more closely. It should be noted that Generation Z, which is often overlooked in the study of moral and ethical influences, should be realised that it is a generation that will soon represent the main labour and purchasing power [51]. It is also crucial to know the value-creating elements for this generation [52], which will represent the basis for generating strategies in a dynamic environment [53]. Studies indicate that the effect of the country of origin and consumer ethnocentrism [54–57] affects Generation Z only to a limited extent, and therefore a deeper investigation of these effects is necessary for the economic prosperity of the home country. The survey was conducted in Q1 to Q2 2024. The average age of the respondents was 22 years. The sample had similar, but not identical, characteristics to the population, which brings certain limitations. After cleaning the data, 1370 respondents became the base for the primary survey. From the point of view of the sample size and from the point of view of the population size, it can be expected that at 95% confidence the error rate of the outputs will be approximately $\pm 2.56\%$ (at 99% CI it is $\pm 3.37\%$). To measure consumer ethnocentrism, we use CEESCALE, which has not yet been applied in Slovakia. Of course, the language mutation was ensured, as well as the change of the application from British nationality to Slovak.

In the paper, we use a number of statistical methods chosen for the best possible fulfilment of the goal. We use descriptive and inferential statistics [58]. Terms of descriptive statistics, we focus on the median and average, as well as the minimum and maximum values. In the sense of variability, we use standard deviation. It is necessary to note that even with regard to the ordinality of the data, the average and standard deviation are rather indicative for a simple comparison [59]. In the work, we also use the calculation of the sum index characteristic of the assessment of scale tools. To investigate connections, we use a network map/network plot, which is created on the basis of correlations and thus provides a clear graphic visualisation [60].

We use EFA to identify dimensions (latent factors). We verify its use based on the Kaiser-Meyer-Olkin criterion (KMO is expected above 0.6) and Bartlett's Test (significance is expected) [61, 62]. Considering the nature of the data, it is advisable to use the polychoric correlation matrix [63] as a basis for EFA. Parallel analysis is recommended for learning the number of factors [64]. It is also recommended to verify the quality of the model, whereby the model should explain more than 50% of the variability (Field, 2018), RMSEA should be below 0.06, SRMR below 0.06, and TLC and CFI above 0.9, ideally above 0.95 [65, 66]. For the investigation of differences, it is appropriate to subsequently generate a

regression factor score [67]. This score serves as a variable for examining the influence of the factors. Descriptive analyses using raincloud plots as a modern cross-sectional tool for the variable are recommended for investigating differences [68]. For the possibility of generalisation, the Mann-Whitney test can be used when examining two groups (with the evaluation of effect size using rank-biserial correlation) and the Kruskal-Wallis test for the comparison of more than two groups (by evaluating the effect size using rank η^2) [69].

4. Results

In this part, we focus on answering research questions and verifying hypotheses for the needs of fulfilling the main goal.

RQ1: What is the level of consumer ethnocentrism measured on the basis of CEESCALE among Slovaks of generation Z?

First of all, we examined the individual statements of the CEESCALE tool. In this context, we use elements of descriptive statistics to create a basic overview (Table 1).

Table 1. Results of descriptive statistics for individual CEESCALE statements.

Statement	Valid	Median	Mean	Std. Dev.	Min	Max
CEESCALE_01	1370	3	3.19	1.58	1	7
CEESCALE_02	1370	3	3.07	1.55	1	7
CEESCALE_03	1370	5	4.83	1.43	1	7
CEESCALE_04	1370	4	3.58	1.56	1	7
CEESCALE_05	1370	4	3.99	1.41	1	7
CEESCALE_06	1370	3	3.18	1.59	1	7
CEESCALE_07	1370	4	3.72	1.42	1	7
CEESCALE_08	1370	3	2.98	1.49	1	7
CEESCALE_09	1370	4	3.76	1.42	1	7
CEESCALE_10	1370	4	3.76	1.43	1	7
CEESCALE_11	1370	4	3.56	1.39	1	7
CEESCALE_12	1370	4	4.04	1.49	1	7
CEESCALE_13	1370	4	4.26	1.39	1	7
CEESCALE_14	1370	4	3.90	1.53	1	7
CEESCALE_15	1370	4	3.88	1.39	1	7
CEESCALE_16	1370	4	3.99	1.40	1	7
CEESCALE_17	1370	3	3.42	1.58	1	7

It can be stated that each respondent expressed their attitude to each statement in the form of a degree of agreement. Based on table 1, it can be concluded that the highest agreement was with statement no. 3, and on the contrary, we identified the lowest level of agreement with statement no. 2. Position measures are orientated around the centre value of the scale (around four points). It is worth noting that the statements contain a relatively wide standard error from the mean value and also that the full depth of the Likert scale was used for all statements, which may indicate the influence of determinants. If we understand the tool as a complex measuring tool of consumer ethnocentrism, the sum index (SE_{sum}) can also be evaluated based on the relationship:

$$SE_{sum} = \sum_{i=1}^{17} CEESCALE_i \quad (1)$$

Due to the use of a 7-point Likert scale, the results will be from the interval <17-119>. The median value was at the level of 65 points. The average value was at the level of 63 points with a standard error of 17 points. The minimum and maximum measured values represented the lowest and highest possible values. In general, the measured level of consumer ethnocentrism on the basis of CEESCALE can be evaluated as below average (the average value points to roughly 45% of the level of consumer ethnocentrism), while on the basis of the bootstrap method (95% confidence interval), one can expect an average value of consumer ethnocentrism in the population in the range of 62 to 64 points.

RQ2: How can one characterise the latent factors affecting the level of consumer ethnocentrism measured with the CEESCALE?

The study presenting the CEESCALE concept [15] assumes a five-dimensional model. Since no study has yet been carried out in the conditions of Slovakia, we will use exploratory factor analysis (EFA) in order to unbiasedly search for possible latent factors. In the first step, it was necessary to evaluate the assumptions for the use of EFA. The basic prerequisite for the use of this analysis is the existence of a correlation between the statements, which we recorded in the form of a network map on figure 1.

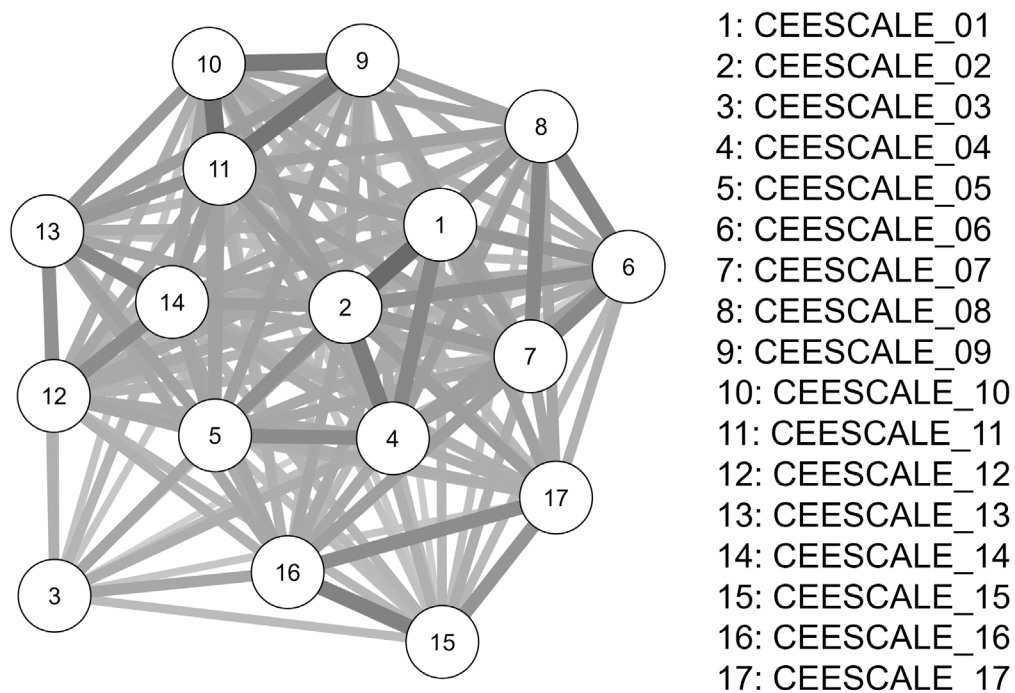


Figure 1. Network map for CEESCALE items

Figure 1 points to the existence of a link between the statements. It is also possible to observe some strong connections between some statements, such as between CEESCALE_01 and CEESCALE_02, or CEESCALE_09, CEESCALE_10, and CEESCALE_11. The image thus indicates not only the existence of relationships but also possible latent groupings. On the basis of the above, we expect the appropriateness and substantive meaningfulness of the EFA. We also verified the assumptions based on statistical indicators such as the Kaiser-Meyer-Olkin (KMO) criterion and Bartlett's Test, while the results of the KMO (0.938) and

Bartlett's Test ($\chi^2=14126.5$; $df=136$) indicate the appropriateness of using EFA.

Within EFA, we use principal axis factoring as a factoring method. We perform the analysis on the basis of the polychoric correlation matrix due to the ordinality of the data. We use parallel analysis to determine the number of factors. It is necessary to note that the initial results did not clearly classify the statements into latent factors; therefore, we used rotation. Considering the expected correlation between latent factors, we chose oblique rotation, specifically promax. We recorded factor loadings for individual statements in the context of their factor affiliation in Table 2.

Table 2. Factor loading and Uniqueness from EFA.

Factor Loadings	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Uniqueness
CEESCALE_11	0.861						0.232
CEESCALE_09	0.85						0.293
CEESCALE_10	0.84						0.287
CEESCALE_02		0.883					0.188
CEESCALE_01		0.841					0.272
CEESCALE_04		0.566					0.362
CEESCALE_07			0.765				0.337
CEESCALE_08			0.757				0.312
CEESCALE_06			0.714				0.39
CEESCALE_16				0.788			0.263
CEESCALE_15				0.772			0.405
CEESCALE_17				0.617			0.436
CEESCALE_14					0.748		0.357
CEESCALE_12					0.729		0.426
CEESCALE_13					0.611		0.391
CEESCALE_03						0.636	0.506
CEESCALE_05						0.405	0.428

Note: For the clarity of the results, only factor loadings higher than 0.4 are shown.

As we can see (Table 2), after the rotations, we got a clear idea of the classification of the statements. In total, we identified six factors. The factors were generated according to the assumptions made during their creation, except for factor 1 (prosociality), which in our case is divided into two (factor 2 and factor 6). Based on semantic analysis and heuristics, factor 2 can be labelled as "patriotism," and factor 6 can be called "altruism," while their intersection is related to prosociality. It is important to comment more closely on the quality of the presented six-factor model. It can be concluded that the model explains 65.4% of the variability. From the point of view of additional fit indices, the model reaches acceptable values, with RMSEA = 0.038, RMSEA 90% CI = (0.031-0.045), SRMR = 0.009, TLI = 0.98, and CFI = 0.99. Based on the above, we consider the model to be a reliable image of reality and will continue to work with this model. We examined more closely the correlations between individual factors and recorded the results in Table 3.

Table 3. Factor Correlations.

Factor	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1					
Factor 2	0.641				
Factor 3	0.645	0.744			
Factor 4	0.478	0.581	0.599		
Factor 5	0.684	0.644	0.614	0.619	
Factor 6	0.536	0.58	0.471	0.537	0.605

Our assumption of the existence of correlations between factors was correct, as can be seen in Table 3. In all cases, a positive correlation was identified, which supports the logic of the construct. The strongest connection can be identified in the case of factor 2 and factor 3. However, it is worth

mentioning that all correlations were moderately strong to strong, which indicates a considerable intensity of the connection between the individual factors.

RQ3: How do selected demographic characteristics of Generation Z consumers affect the level of consumer ethnocentrism?

To answer the research question (RQ3), we will follow the formulated hypotheses that reflect the investigated demographic characteristics of consumers. For further work with factors, we generated factor scores (regression factor scores) for individual factors. Hypotheses have the character of a theoretical hypothesis, so we will subsequently modify them into statistical hypotheses for the needs of testing.

H1: Gender has an effect on the level of individual factors of consumer ethnocentrism.

Hypothesis 1 operates with gender as a possible factor. In the first step, it is advisable to examine the hypothesis descriptively, with the help of visualisation, while we will use raincloud plots, which offer an overview and summary of the distribution, central tendencies, and spread of values. We recorded the results for individual factors in figure 2.

The visualisation (Figure 2) indicates that there are probably no differences within the studied groups, which would indicate that gender does not affect the level of individual factors. Since the results are ambiguous, we will subject the formulated theoretical hypothesis to statistical testing. In view of the above, it is necessary to transform it into a statistical hypothesis and then choose a suitable statistical test. It is necessary to state that due to the existence of six factors, it will be necessary to formulate six statistical hypotheses. For this type of hypothesis and due to the nature of the data and pre-documents, we will use the Mann-Whitney test. We recorded the results in Table 4.

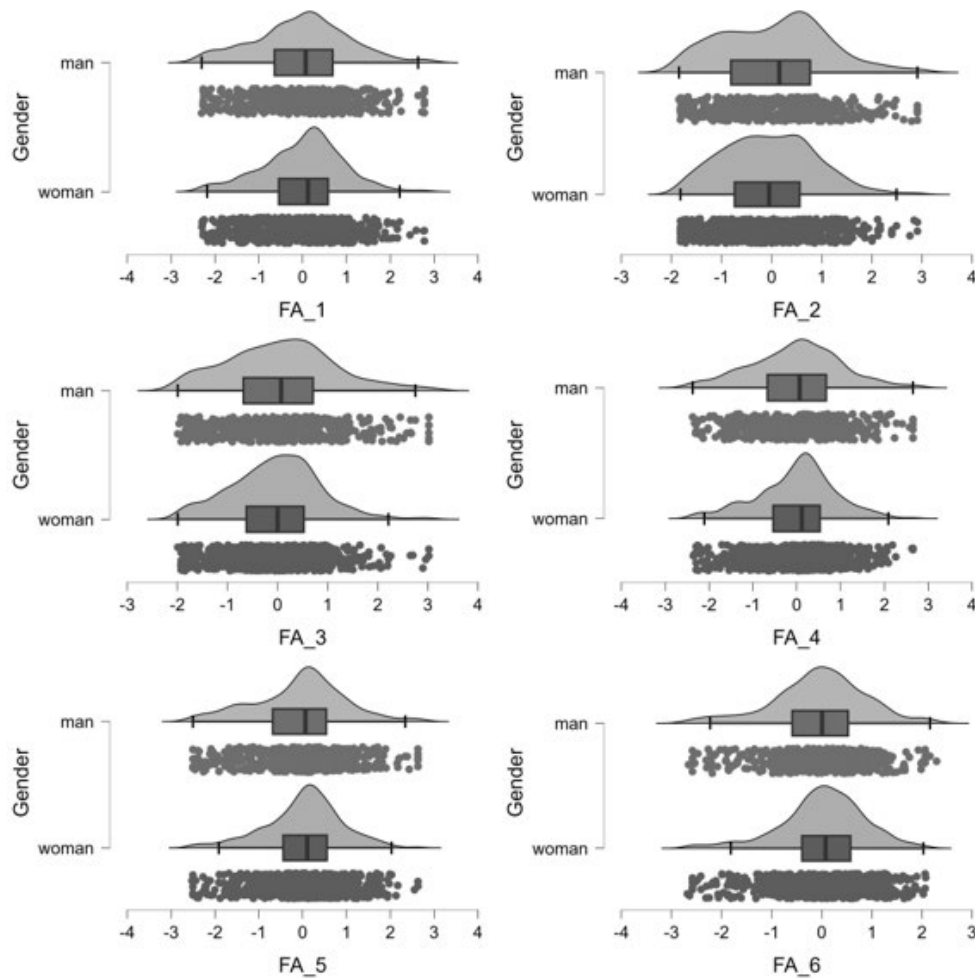


Figure 2. Raincloud plots for identifying differences within gender for individual factors.

Table 4. Mann-Whitney test results for gender.

Factor	Hypothesis	p-value	Rank-Biserial Correlation
FA_1	H1a	0.396	0.027
FA_2	H1b	0.045	-0.064
FA_3	H1c	0.122	-0.049
FA_4	H1d	0.642	0.015
FA_5	H1e	0.111	0.051
FA_6	H1f	0.114	0.05

Through the prism of alpha (0.05) and p-value comparison, it can be concluded that the statistically significant difference between men and women in the studied population shows statistical significance within factor 2. For a better understanding of the intensity (effect size) of this relationship, we used rank-biserial correlation, which indicates that this effect is materially negligible. It can therefore be expected that there are no differences in the perception of the identified factors by men and women, and

therefore that gender in the studied population will not be a significant determinant.

H2: Residence has an effect on the level of individual factors of consumer ethnocentrism.

Hypothesis 2 focuses on a possible determinant of consumer ethnocentrism — residence. When choosing a place of residence, respondents had a choice between the city or the countryside. We examined these two groups from the point of view of description with the help of raincloud plots (Figure 3).

The results are slightly unclear, although certain differences in central tendencies can be noted. For a better understanding of possible differences as well as specifications for generalisation, we used statistical testing. In view of the above, it is necessary to transform it into a statistical hypothesis and then choose a suitable statistical test. It is necessary to state that due to the existence of six factors, it will be necessary to formulate six statistical hypotheses. For this type of hypothesis and due to the nature of the data and assumptions, we will use the Mann-Whitney test. We recorded the results in Table 5.

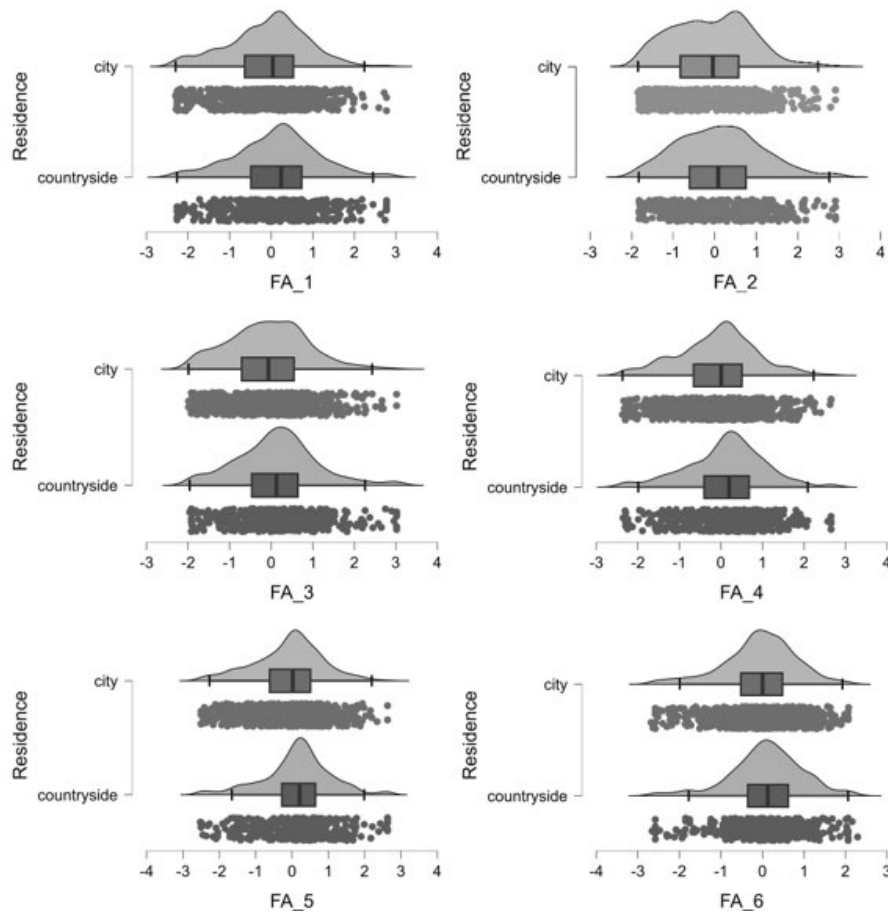


Figure 3. Raincloud plots for identifying differences within residence for individual factors.

Table 5. Mann-Whitney test results for gender.

Factor	Hypothesis	p-value	Rank-Biserial Correlation
FA_1	H2a	9.607×10^{-5}	0.125
FA_2	H2b	0.001	0.104
FA_3	H2c	1.052×10^{-4}	0.124
FA_4	H2d	9.281×10^{-6}	0.142
FA_5	H2e	2.894×10^{-6}	0.15
FA_6	H2f	7.868×10^{-4}	0.108

As can be seen from Table 5, at the 95% confidence level, differences between the studied groups in the population can be expected in all identified factors of consumer ethnocentrism. In other words, residence represents a significant determinant of consumer ethnocentrism at all levels of its manifestations. Rank-Biserial Correlation indicates that the effect of residence is relatively low, but higher values can be expected for countryside residents.

H3: The country of origin of the consumer has an influence on the level of individual factors of consumer ethnocentrism.

When investigating the influence of the region of origin, we focused on eight regions of Slovakia. To investigate the hypothesis, we therefore examined eight groups and the differences between them. We again used statistical testing, but due to the number of groups and the nature of the data, we used the Kruskal-Wallis Test. We recorded the results of the Kruskal-Wallis Test in Table 6.

The results (Table 6) show that no significant difference between the two regions can be expected in any factor. In other words, the region where people come from within the studied country does not appear to be a significant determinant of consumer ethnocentrism.

Table 6. Kruskal-Wallis Test for the region.

Factor	Hypothesis	p-value	Rank η^2
FA_1	H3a	0.144	0.003
FA_2	H3b	0.268	0.001
FA_3	H3c	0.345	6.396×10^{-4}
FA_4	H3d	0.543	0.0001
FA_5	H3e	0.248	0.002
FA_6	H3f	0.157	0.003

5. Discussion

The greatest agreement was with the statement, "It always makes me feel good to support our products," which indicates the emotional bond of respondents in supporting domestic production. From the point of view of Generation Z, it can be a feeling of belonging and support of the local community [70, 71] or the influence of marketing orientated towards domestic and traditional products [72–74]. We recorded the lowest agreement with the statement "I believe that purchasing Slovak goods should be a moral duty of every Slovak citizen," which may be due to the low level of patriotism in the studied cohort [11, 75, 76].

Overall, a below-average level of consumer ethnocentrism was measured among Generation Z in Slovakia, which is also identified with other research, while a low level of consumer ethnocentrism is expected within Generation Z [54, 77] as well as among the national groups — Slovaks [78, 79].

The results show the need to adapt the tool in terms of its dimensionality, while six dimensions are expected. The investigation of the influence of the determinants was carried out within individual dimensions for their better understanding. Gender does not appear to be a significant factor in the dimensions of consumer ethnocentrism in the studied cohort, as [40] point out, while the reason may be that both segments have the same access to information and gender differences are also blurred [80, 81]. On the contrary, residence appears to be a significant factor in every identified dimension of consumer ethnocentrism measured on the basis of CEESCALE. Consumers living in an urbanised part may have more access to foreign products, and on the contrary, consumers living in villages have better access to local products, and a stronger adherence to traditions can also be identified in the village [82, 83]. The effect of the region where the consumers came from did not prove to be a significant factor. It can be speculated that national identity is stronger than regional identity, with emphasis on the strong influence of globalisation, but national identity is also declining [84–88].

Smart business integrates modern technologies such as artificial intelligence, IoT, and big data to optimize processes and improve customer experience [89, 90]. It uses automation and digitalization to reduce costs and increase efficiency. Flexibility and adaptability are key, allowing companies to quickly respond to changing market

conditions, where smart solutions support sustainability, for example, through energy efficiency and waste minimization, while these approaches improve competitiveness and create new opportunities for innovation and growth [91–94]. Consumer ethnocentrism supports the preference for domestic products, which creates opportunities for smart businesses focused on locality and sustainability [95–97]. Companies using modern technologies can effectively promote local products and reach ethnocentric consumers through personalized marketing. Digitalization and smart solutions enable transparency of product origin, thereby strengthening customer trust. At the same time, the connection with the local economy reduces logistics costs and carbon footprint, which further strengthens the positive perception of the brand. Consumer ethnocentrism can thus be a key element in the strategy of sustainable and innovative business. From the above, it is obvious that the issue concerns both domestic companies and those interested in entering a given market, or foreign companies already operating in a given market [43, 98].

Paper also has certain limits. The first may be to examine only one generation, which represents strong concentration. In the future, it would be advisable to examine other generations as well and thus obtain broader knowledge. It would also be appropriate to complete the measurement with the help of CETSCALE and then identify the differences for a better understanding of the limits and benefits of the tools of thwarting consumer ethnocentrism.

6. Conclusion

The literature review pointed to key aspects of consumer ethnocentrism. Based on the conducted research, it can be concluded that consumer ethnocentrism among the Slovak generation Z shows a below-average level, which is in line with the results of other studies. Identified differences in the influence of factors such as residence, with urbanisation and access to products playing a significant role. On the contrary, factors such as gender or country of origin of consumers did not prove to be significant.

Demonstrating the appropriateness of using CEESCALE for measuring consumer ethnocentrism in the conditions of Generation Z in Slovakia is also key. However, it is necessary to note that the dimensionality is different compared to the original scale. The difference is only in one dimension, which in the conditions of the studied cohort brings a more detailed segmentation.

For marketing management, measuring the phenomenon of consumer ethnocentrism is important, especially when determining the potential for foreign products in specific markets, as well as when building the image of domestic products. The measurement also makes it possible to identify market segments with a higher probability of preference for house brands, which is crucial for optimising distribution, price, and communication. Moreover, understanding the level of ethnocentrism helps to avoid

possible marketing mistakes that could provoke negative reactions from local consumers.

The results highlight the need for further research focusing on different generations and comparing different instruments for measuring consumer ethnocentrism, such as CEESCALE and CETSCALE, to better understand their limits and uses. For practice, these findings are valuable, especially in the creation of marketing strategies, optimisation of distribution, and identification of segments that prefer domestic products, which can be crucial for successful penetration of local and international markets.

Acknowledgements.

This study was funded by project A-24-102/0025-00 “Strategic, intervention, and adaptation possibilities of consumer ethnocentrism in the context of digital and international marketing management”. Paper is the output of project A-24-102/0025-00 and follow-up project A-25-102/3020-15.

References

- [1] Shimp TA, Sharma S. Consumer Ethnocentrism: Construction and Validation of the CETSCALE. *Journal of Marketing Research*. 1987; 24(3):280–9.
- [2] Čvirik M. WHICH FACTORS INFLUENCE CONSUMER ETHNOCENTRISM? THE CASE OF SLOVAKIA. In: DOKBAT 2019 - 15th International Bata Conference for PhD Students and Young Researchers [Internet]. Tomas Bata University in Zlín; 2019. p. 208–16. Available from: http://dokbat.utb.cz/wp-content/uploads/2020/01/DOKBAT_2019_Conference_Proceedings.pdf
- [3] Trembošová M, Dubcová A, Nagyová Ľ, Cagáňová D. The Specifics of the Retail Network and Consumer Shopping Behaviour in Selected Regional Towns of West Slovakia. In: Cagáňová D, Horňáková N, Pusca A, Cunha PF, editors. *Advances in Industrial Internet of Things, Engineering and Management*. Cham: Springer International Publishing; 2021. p. 39–74. (EAI/Springer Innovations in Communication and Computing). Available from: https://link.springer.com/10.1007/978-3-030-69705-1_3
- [4] Trembošová M, Dubcová A, Nagyová Ľ, Cagáňová D. Development of retail network on the example of three regional towns comparison in West Slovakia. *Wireless Netw*. 2022; 28(2):903–13.
- [5] Gubiniová K, Štarchoň P, Vilčeková L, Bartáková GP, Brtková J. Marketing Communication and Its Role in the Process of Creating Rational Awareness of Generation Z Representatives. In: Kryvinska N, Poniszewska-Marańda A, editors. *Developments in Information & Knowledge Management for Business Applications* [Internet]. Cham: Springer International Publishing; 2021. p. 203–21. (Studies in Systems, Decision and Control; vol. 376). Available from: https://link.springer.com/10.1007/978-3-030-76632-0_6
- [6] Clemons EK. How Information Changes Consumer Behavior and How Consumer Behavior Determines Corporate Strategy. *Journal of Management Information Systems*. 2008; 25(2):13–40.
- [7] Sima V, Gheorghe IG, Subić J, Nancu D. Influences of the Industry 4.0 Revolution on the Human Capital Development and Consumer Behavior: A Systematic Review. *Sustainability*. 2020; 12(10):4035.
- [8] Stareček A, Gyurák Babel'ová Z, Makýšová H, Cagáňová D. SUSTAINABLE HUMAN RESOURCE MANAGEMENT AND GENERATIONS OF EMPLOYEES IN INDUSTRIAL ENTERPRISES. *AL*. 2021; 8(1):45–53.
- [9] Yoo B, Donthu N. The Effect of Personal Cultural Orientation on Consumer Ethnocentrism: Evaluations and Behaviors of U.S. Consumers Toward Japanese Products. *Journal of International Consumer Marketing*. 2005; 18(1–2):7–44.
- [10] Prince M, Yaprak AN, Palihawadana D. The moral bases of consumer ethnocentrism and consumer cosmopolitanism as purchase dispositions. *JCM*. 2019; 36(3):429–38.
- [11] Čvirik M. The Impact of Consumer Ethnocentrism and the Patriotism on Judgement for Selected Domestic Products: The Case of Slovakia. *CEBR*. 2021; 10(3):1–17.
- [12] Bawa A. Consumer Ethnocentrism: CETSCALE Validation and Measurement of Extent. *Vikalpa*. 2004; 29(3):43–58.
- [13] Sepehr S, Kaffashpoor A. Measuring the Ethnocentric Tendencies of Iranian Consumers: An Assessment of Validity and Reliability of the CETSCALE. *Journal of International Consumer Marketing*. 2012; 24(4):263–74.
- [14] Makanyeza C, Du Toit F. Measuring Consumer Ethnocentrism: An Assessment of Reliability, Validity and Dimensionality of the CETSCALE in a Developing Market. *Journal of African Business*. 2016; 17(2):188–208.
- [15] Siamagka NT, Balabanis G. Revisiting Consumer Ethnocentrism: Review, Reconceptualization, and Empirical Testing. *Journal of International Marketing*. 2015; 23(3):66–86.
- [16] Danilwan Y, Dirhamsyah D, Pratama I. THE IMPACT OF CONSUMER ETHNOCENTRISM, ANIMOSITY AND PRODUCT JUDGMENT ON THE WILLINGNESS TO BUY. *PJMS*. 2020; 22(2):65–81.
- [17] Ortega-Egea JM, García-de-Frutos N. Mapping the influence of COUNTRY-OF-ORIGIN knowledge, consumer ethnocentrism, and perceived risk on consumer action against foreign products. *J of Consumer Behaviour*. 2021; 20(5):1164–78.
- [18] Čvirik M, Burzová S. The battle of the home vs. the foreign: Analysis of consumer ethnocentrism in the context of the country of origin effect. *Studia commercialia Bratislavensia*. 2024; 17(2/2024):108–18.
- [19] Teng W. Importance of corporate image for domestic brands moderated by consumer ethnocentrism. *JPBm*. 2020; 29(3):257–72.
- [20] Casado-Aranda LA, Sánchez-Fernández J, Ibáñez-Zapata JA, Liébana-Cabanillas FJ. How consumer ethnocentrism modulates neural processing of domestic and foreign products: A neuroimaging study. *Journal of Retailing and Consumer Services*. 2020; 53:101961.
- [21] Čvirik M, Dotong E. Examining the adaptability of consumer ethnocentrism using CETSCALE: a comparison of the Philippines, Slovakia, and the Czech Republic. *SE*. 2024; 33(1):33–58.
- [22] Kibret AT, Shukla A. Is Consumer ethnocentrism scale, CETSCALE, applicable in Africa? *Journal of Global Marketing*. 2021; 34(5):353–71.
- [23] Jiménez-Guerrero JF, Gázquez-Abad JC, Linares-Agüera E del C. Using standard CETSCALE and other adapted versions of the scale for measuring consumers' ethnocentric tendencies: An analysis of dimensionality. *BRQ Business Research Quarterly*. 2014; 17(3):174–90.

- [24] Tang HL, Liu X, Fu Q. Assessing measurement invariance of the CETSCALE in Guangxi, China. *APJML*. 2022; 34(10):2269–84.
- [25] Vongkulluksn VW, Lu L, Nelson MJ, Xie K. Cognitive engagement with technology scale: a validation study. *Education Tech Research Dev*. 2022; 70(2):419–45.
- [26] Wachning N, Filieri R. Consumer motives for buying regional products: the REGIOSCALE. *Mark Lett*. 2022; 33(2):215–36.
- [27] Miguel LP, Marques SH, Duarte AP. Characterising the fruit and vegetables consumer ethnocentrism in a southern European Country: An assessment of the reliability and validity of the “CETSCALE” in Portugal. *Food Quality and Preference*. 2023; 105:104770.
- [28] Gao S, Grebitus C, DeLong KL. Explaining consumer willingness to pay for country-of-origin labeling with ethnocentrism, country image, and product image: Examples from China’s beef market. *Canadian J Agri Economics*. 2024; 72(2):149–66.
- [29] Stepchenkova S. Comparative analysis and applicability of GENE, CETSCALE, and TE ethnocentrism scales in tourism context. *Current Issues in Tourism*. 2023; 26(9):1409–26.
- [30] Paylan MA, ÇetiNkaya C, Özceylan E, Dabbaa A. Consumer Ethnocentrism: An Application of CEESCALE on Syrian Refugees. *Gaziantep University Journal of Social Sciences*. 2017; 16(4):937–49.
- [31] Htet AT. Effect of consumer ethnocentrism on purchase intention of consumers in Myanmar. *Pressacademia*. 2022; 3.
- [32] Bizumic B. Effects of the dimensions of ethnocentrism on consumer ethnocentrism: An examination of multiple mediators. *IMR*. 2019; 36(5):748–70.
- [33] Farah MF, Mehdi NI. Consumer ethnocentrism and consumer animosity: A literature review. *Strategic Change*. 2021; 30(1):19–28.
- [34] Akbarov S. Consumer ethnocentrism and purchasing behavior: moderating effect of demographics. *JIMA*. 2022; 13(4):898–932.
- [35] Dang VH, Doan TV. Consumer preferences for country of origin of foreign fruit: does consumer animosity matter? *Cogent Business & Management*. 2024; 11(1):2330715.
- [36] Ferrales C, Grunert KG. Multilevel food ethnocentrism: Cross-national scale development. *Food Quality and Preference*. 2024; 118:105164.
- [37] Čvirik M, Dotong E. Consumer Ethnocentrism and the Influence of Selected Demographic Factors: A Comparative Study Among the Countries of Slovakia, the Czech Republic, and the Philippines. 2023; 35(2):165–81.
- [38] Kilders V, Caputo V, Liverpool-Tasie LSO. Consumer ethnocentric behavior and food choices in developing countries: The case of Nigeria. *Food Policy*. 2021; 99:101973.
- [39] Rambocas M, Mahabir JM. The effects of consumers’ cultural sensitivity, ethnocentrism and demographical characteristics on attitude toward luxury fashion brands in Trinidad and Tobago. *JFMM*. 2021 ;25(4):644–64.
- [40] Alam MdA, Roy D, Akther R, Hoque R. Consumer ethnocentrism and buying intentions on electronic products: moderating effects of demographics. *SAJM*. 2022; 3(2):82–96.
- [41] Tsougkou E, Karampela M, Balabanis G. Drivers and mechanisms of consumer attitudes toward global brand activists: a mediated approach. *IMR*. 2024; 41(6):1330–57.
- [42] Zdravković S, Gašević D. Conservatism, consumer ethnocentrism, variety seeking, consumer cosmopolitanism, and cultural intelligence as determinants of purchasing foreign luxury brands. *EurJ Appl Econ*. 2024; 21(2):19–30.
- [43] Aljukhadar M, Boeuf B, Senecal S. Does consumer ethnocentrism impact international shopping? A theory of social class divide. *Psychology and Marketing*. 2021; 38(5):735–44.
- [44] Bryła P. Selected Predictors of Consumer Ethnocentrism in the Food Market (Gender Differences). *Energies*. 2021; 14(22):7667.
- [45] Camacho LJ, Ramírez-Correa PE, Salazar-Concha C. Consumer Ethnocentrism and Country of Origin: Effects on Online Consumer Purchase Behavior in Times of a Pandemic. *Sustainability*. 2021;14(1):348.
- [46] Charulakshmit T, Chandran M. Role of consumer demographics on ethnocentrism in Chennai city. *ijhs*. 2022; 9094–104.
- [47] Wojciechowska-Solis J. CONSUMER ETHNOCENTRISM ON THE MARKET FOR LOCAL PRODUCTS: DETERMINANTS OF CONSUMER BEHAVIORS. *Zagadnienia Ekonomiki Rolnej / Problems of Agricultural Economics*. 2022; 373(4):75–92.
- [48] Baber R, Sankpal S, Baber P, Gulati C. Consumer ethnocentrism: What we learned and what we need to know? – A systematic literature review. *Cogent Business & Management*. 2024; 11(1):2321800.
- [49] Madinga NW, Lazo S, Schulz S, Lewis A. The Impact of Socio-Psychological Factors on Consumer Ethnocentrism and Purchase Intentions Among South African Consumers. *Journal of African Business*. 2024; 1–25.
- [50] Naďová Krošláková M, Čvirik M, Manuel Guaita Martínez J. Intervention and adaptation options for measuring brand trust in the context of its dimensionality with an emphasis on the generational context. *esicm*. 2024; 55(2):e328.
- [51] Benítez-Márquez MD, Sánchez-Teba EM, Bermúdez-González G, Núñez-Rydman ES. Generation Z Within the Workforce and in the Workplace: A Bibliometric Analysis. *Front Psychol*. 2022; 12:736820.
- [52] Ismail AR, Nguyen B, Chen J, Melewar TC, Mohamad B. Brand engagement in self-concept (BESC), value consciousness and brand loyalty: a study of generation Z consumers in Malaysia. *YC*. 2021; 22(1):112–30.
- [53] Thangavel P, Pathak P, Chandra B. Consumer Decision-making Style of Gen Z: A Generational Cohort Analysis. *Global Business Review*. 2022; 23(3):710–28.
- [54] Potluri RM, Johnson S, Koppalakrishnan P. An exploratory treatise on the ethnocentric tendencies of Emirati Gen Z consumers. *JIMA*. 2022; 13(3):763–80.
- [55] Yunitasari E, Parahiyanti CR. Investigating the Effect of Consumer Ethnocentrism, Cosmopolitanism, and Relative Product Quality to Brand Preferences: An Insight from Generation Z in Indonesia. *Binus Business Review*. 2022; 13(3):259–72.
- [56] Pušić A, Mandić M, Vranešević T. Advancing brand origin concept through the reverse country of origin effect: the case of generation Z. *Ekon pregl*. 2024; 75(1):32–61.
- [57] Garai Fodor M, Vasa L, Faculty of Economics, Széchenyi István University, Győr, Hungary, Popovics A, Keleti Károly Faculty of Business and Management, Óbuda University, Budapest, Hungary. Sustainable consumption from a domestic food purchasing perspective among Generation Z. *Decis Mak Appl Manag Eng*. 2024 ;7(2):401–17.
- [58] Ravid R. Practical statistics for educators. Seventh edition. Lanham, Maryland: Rowman & Littlefield; 2025.
- [59] Selvamuthu D, Das D. Descriptive Statistics. In: Introduction to Probability, Statistical Methods, Design of

- Experiments and Statistical Quality Control [Internet]. Singapore: Springer Nature Singapore; 2024. p. 201–40.
- [60] Zhang X, Wen H, Shao X. Understanding consumers' acceptance of edible food packaging: The role of consumer innovativeness. *Journal of Retailing and Consumer Services*. 2024; 80:103903.
- [61] Hair JF, editor. *Multivariate data analysis*. 7th ed. Upper Saddle River, NJ: Prentice Hall; 2010. 785 p.
- [62] Čvirik M. The importance of music as a mood regulator: Adaptation of Music in Mood Regulation Scale in the conditions of Slovakia. *CESK PSYCHOL*. 2024; 68(3):255–72.
- [63] Kyriazos T, Poga-Kyriazou M. Applied Psychometrics: Estimator Considerations in Commonly Encountered Conditions in CFA, SEM, and EFA Practice. *PSYCH*. 2023; 14(05):799–828.
- [64] Beauducel A, Hilger N. On the Detection of the Correct Number of Factors in Two-Facet Models by Means of Parallel Analysis. *Educational and Psychological Measurement*. 2021; 81(5):872–903.
- [65] Mohammadi M, Abbasian GR, Siyyari M. Adaptation and validation of a critical thinking scale to measure the 3D critical thinking ability of EFL readers. *Lang Test Asia*. 2022; 12(1):24.
- [66] Oh S. Cultural tightness, neuroticism, belief in a just world for self, gender, and subjective well-being: A moderated mediation model. *Curr Psychol*. 2022; 41(12):8300–11.
- [67] Sürücü L, Yıkılmaz İ, Maşlakçı A. Exploratory Factor Analysis (EFA) in Quantitative Researches and Practical Considerations. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*. 2024; 13(2):947–65.
- [68] Allen M, Poggiali D, Whitaker K, Marshall TR, van Langen J, Kievit RA. Raincloud plots: a multi-platform tool for robust data visualization. *Wellcome Open Res*. 2019; 4:63.
- [69] Field A. *Discovering statistics using IBM SPSS statistics*. 5th edition. Thousand Oaks, CA: SAGE Publications; 2018.
- [70] Waworuntu EC, Mandagi DW, Pangemanan AS. 'I See It, I Want It, I Buy It': The Role of Social Media Marketing in Shaping Brand Image and Gen Z's Intention to Purchase Local Product. *Society*. 2022; 10(2):351–69.
- [71] Barsallo G, Ortiz V, Yanis-Orobio R, Mendoza E. Generational Identity, Values, and Sense of Belonging. *Social Sciences*. 2024; 13(12):641.
- [72] Hoang DP, Nguyen Hai D, Nguyen VTN, Nong HT, Pham PT, Tran TM. Factors affecting restaurant choices for traditional foods among Gen Y and Gen Z: a multigenerational study on Vietnamese "Pho". *JHTI*. 2024; 7(2):868–88.
- [73] Salam KN, Singkeruang AWTF, Husni MF, Baharuddin B, A.R DP. Gen-Z Marketing Strategies: Understanding Consumer Preferences and Building Sustainable Relationships. *GRMILF*. 2024; 4(1):53–77.
- [74] Čvirik M. Perceived Price and Quality of Food of European Union Countries of Origin by Slovaks: The Influence of Ethnocentric Tendencies. *CEBR*. 2023;12(1):97–114.
- [75] Nugraha YD, Permana RMT, Harahap DA, Shaikh M, Fauziah HI. The interaction effect of consumer affinity and patriotism among millennial Muslim women consumers. *JIMA*. 2023; 14(10):2502–30.
- [76] Inoni OR, Okorie C. Consumer ethnocentrism and the purchase decision of electrical wires and cables. *Terra Econ*. 2024; 22(3):75–95.
- [77] Rašković M, Ding Z, Hirose M, Žabkar V, Fam KS. Segmenting young-adult consumers in East Asia and Central and Eastern Europe – The role of consumer ethnocentrism and decision-making styles. *Journal of Business Research*. 2020; 108:496–507.
- [78] Čvirik M. Consumer Ethnocentrism: Comparison of Slovakia and the Czech Republic. *Acta Univ Agric Silvicae Mendelianae Brun*. 2021; 69(2):259–66.
- [79] Olsavsky F, Starchon P, Mitkova L, Dudic B. DYNAMICS OF THE SLOVAK CONSUMER BEHAVIOUR IN THE CONTEXT OF ETHNOCENTRISM: MANAGERIAL IMPLICATIONS. *AgricuiltForest*. 2022;68(3).
- [80] Biswas A, Harbin S, Irvin E, Johnston H, Begum M, Tiong M, et al. Sex and Gender Differences in Occupational Hazard Exposures: a Scoping Review of the Recent Literature. *Curr Envir Health Rpt*. 2021;8(4):267–80.
- [81] Johnson I, Lemmerich F, Sáez-Trumper D, West R, Strohmaier M, Zia L. Global Gender Differences in Wikipedia Readership. *ICWSM*. 2021; 15:254–65.
- [82] Chen X, Xie W, Li H. The spatial evolution process, characteristics and driving factors of traditional villages from the perspective of the cultural ecosystem: A case study of Chengkan Village. *Habitat International*. 2020; 104:102250.
- [83] Qin RJ, Leung HH. Becoming a Traditional Village: Heritage Protection and Livelihood Transformation of a Chinese Village. *Sustainability*. 2021; 13(4):2331.
- [84] Flew T. Globalization, neo-globalization and post-globalization: The challenge of populism and the return of the national. *Global Media and Communication*. 2020; 16(1):19–39.
- [85] Ranta R, Ichijo A. *Food, National Identity and Nationalism: From Everyday to Global Politics*. Cham: Springer International Publishing; 2022.
- [86] Nie X, Yang Z, Zhang Y, Janakiraman N. How Does Global–Local Identity Affect Consumer Preference for Access-Based Consumption? Investigating the Mediating Role of Consumption Openness. *Journal of Marketing Research*. 2022; 59(3):555–77.
- [87] Čvirik M, Naďová Krošláková M, Milić Beran I, Capor Hrosik R, Drábik P. Influence of health-conscious consumer behaviour on consumer ethnocentrism during the COVID-19 pandemic. *Economic Research-Ekonomska Istraživanja*. 2023; 36(1):1510–26.
- [88] Vraňáková N, Koltnerová K, Chlpekova A, Cagaňová D. Application of Exact Methods in Employee Selection in Accordance with the Age Management Concept. *Mobile Netw Appl*. 2019; 24(6):2038–42.
- [89] Rane N. Enhancing Customer Loyalty through Artificial Intelligence (AI), Internet of Things (IoT), and Big Data Technologies: Improving Customer Satisfaction, Engagement, Relationship, and Experience. *SSRN Journal*. 2023.
- [90] Paramesha M, Rane N, Rane J. Big data analytics, artificial intelligence, machine learning, internet of things, and blockchain for enhanced business intelligence. *SSRN Journal*. 2024.
- [91] Sobrino DRD, Moravčík O, Caganová D, Kostal P. Hybrid Iterative Local Search Heuristic with a Multiple Criteria Approach for the Vehicle Routing Problem. *AMR*. 2011; 383–390:4560–7.
- [92] Čamaj J, Bulková Z, Gašparík J. Material Flow Optimization as a Tool for Improving Logistics Processes in the Company. *Applied Sciences*. 2025; 15(6):3116.
- [93] Kita P, Čvirik M. Retailer processes centred on the food market as the main determinate of business models in the context of retail size. *Journal of Retailing and Consumer Services*. 2024; 81:103937.

- [94] Kita P, Cvirik M, Maciejewski G. The Business Model of a Retailer Based on the Consumer-Centric Approach in Building the Value of a Loyalty Programme on the Food Market. *Forum Scientiae Oeconomia*. 2024; 12(4):47–65.
- [95] Fernández-Ferrín P, Calvo-Turrientes A, Bande B, Artaraz-Miñón M, Galán-Ladero MM. The valuation and purchase of food products that combine local, regional and traditional features: The influence of consumer ethnocentrism. *Food Quality and Preference*. 2018; 64:138–47.
- [96] Bryła P. Regional Ethnocentrism on the Food Market as a Pattern of Sustainable Consumption. *Sustainability*. 2019; 11(22):6408.
- [97] Park G, Park HS. Communicating Sustainability to Ethnocentric Consumers in China: Focusing on Social Distance from Foreign Corporations. *Sustainability*. 2020; 13(1):47.
- [98] Bose TK, Chew TC, Purohit S, Moser R. International business entry modes and consumer ethnocentrism: A multi country perspective. *Thunderbird Intl Bus Rev*. 2024; 66(3):233–49.