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## EXAMINING THE ADAPTABILITY OF CONSUMER ETHNOCENTRISM USING CETSCALE: A COMPARISON OF THE PHILIPPINES, SLOVAKIA, AND THE CZECH REPUBLIC

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### Abstract

*Consumer ethnocentrism is a highly relevant topic as it affects not only the context of consumer behavior, but also the domestic economy and international trade. This article aims to investigate the adaptability of the tool for measuring consumer ethnocentrism – CETSCALE – in the selected countries of the Philippines, Slovakia, and the Czech Republic. Within the framework of adaptability, it was necessary to carry out the measurement of consumer ethnocentrism in the studied countries, subsequently examine the reliability of the research instrument, and finally examine the adaptability of the research instrument in the individual countries. In this paper, we use Cronbach's alpha and item-rest correlation to measure the reliability estimate. We use exploratory factor analysis as part of examining adaptability. The results point to the need to adapt CETSCALE in the context of the countries. The findings of the conducted measurement indicate that the highest rate of consumer ethnocentrism was found in the Philippines, with lower results in Slovakia, and the lowest in the Czech Republic. When examining the dimensionality of the research instrument, the researchers found three dimensions in the Czech and Philippine versions, and two dimensions in the Slovak version. Therefore, it can be concluded that the tool is multidimensional in all these cases.*

**Keywords:** consumer ethnocentrism, CETSCALE, Philippines, Slovakia, Czech Republic

### 1. INTRODUCTION

Consumers are considered the lifeblood of any business. A company's alpha and omega is to know its customers, their characteristics, and their needs. From their brand

preferences, product quality priorities, cultural values, and needs to how they will perceive and react to the company's goods, advertisements, and behaviors, it is crucial to precisely predict and measure the behavior of consumers. In the era of globalization, a consumer's country of origin is becoming an increasingly important factor in determining a data-driven marketing strategy for companies, as marketers consider consumer ethnocentrism as one of the determinants affecting consumer behavior in their purchasing decision process. The concept of ethnocentrism comes from social psychology, and its basis is rooted in the perception, action, and relationship of individuals between two social groups (Sumner, 2007).

American sociologist William Graham Sumner, in his seminal work *Folkways: A Study of the Sociological Importance of Usages, Manners, Customs, Mores, and Morals* (1906), defined ethnocentrism as "the technical name for the view of things in which one's own group is the center of everything, and all others are scaled and rated with reference to it" (Sumner, 1906, 2007). For an individual, the group to which one belongs is referred to as the in-group, and this ideal is used in evaluating other groups, referred to as out-groups. This means that an individual belongs to one group (in-group) and considers it better. This concept was applied within various professional areas, including consumer behavior, which significantly shaped the business macroenvironment, particularly its social and cultural environment. From this, Shimp and Sharma (1987) introduced the concept of consumer ethnocentrism and developed a specific scale known as the CETSCALE (see Appendix) to measure this construct. This instrument was designed to evaluate the propensity of ethnocentric consumers to buy foreign products as opposed to products produced in their country.

Examining and measuring consumer ethnocentrism is vital in the context of the national economy for promoting domestic production and increasing the well-being of the home country. The backdrop of international marketing and trade is also essential; thus, a high degree of consumer ethnocentrism in the country may impede foreign companies from joining the local market (Čvirik, 2021b). We are not aware of any studies that address the measurement of consumer ethnocentrism in the Philippines using the CETSCALE. In Slovakia and the Czech Republic several studies (Čvirik, 2021a; Čvirik 2021b) investigating the degree of consumer ethnocentrism were conducted, but it should be noted that in the context of many factors of consumer ethnocentrism both the degree and effect factors of consumer ethnocentrism can change over time (Gonzalez-Fuentes, 2019; Olšovský et al., 2022), which indicates the need for constant research of this concept. Consequently, this study aims to analyze the adaptability of the adapted CETSCALE in the context of the Philippines, Slovakia, and the Czech Republic.

## 2. LITERATURE REVIEW

### 2.1. Consumer ethnocentrism

As described by Shimp and Sharma (1987), consumer ethnocentrism is the beliefs American consumers hold regarding the appropriateness and morality of buying forei-

gn-made commodities. From an ethnocentric consumer's perspective, buying imported goods may be viewed as undesirable as it harms the local economy, causes job loss, and is unpatriotic; products from other nations (i.e. out-groups) are objects of derision for the ethnocentric consumer. To nonethnocentric consumers, however, foreign products are commodities to be evaluated solely on their own merits, without consideration for where they are made.

The value of consumer ethnocentrism lies based on the nationality of the consumers, and this theory has two significant variables: the in-group and the out-group. The in-group represents consumers from one country or state, where they reject products from the out-group, which is from abroad. Since consumer ethnocentrism theory was introduced, several scholars have attempted to analyze and measure the level of ethnocentrism of each country or state. The research of Adorno et al. (1950) was the first effort to measure consumer ethnocentrism in one state in the United States. The analysis was initiated to measure California ethnocentrism, where the California Ethnocentrism Scale (CES) instrument was developed. The tool consisted of various sub-scales that focused on the dimensions of ethnocentric tendencies, such as but not limited to patriotism, political-economic traditionalism, and fascism.

The primary problem of this tool was its limited application to other nations, as it contained too particular statements that generated numerous responses from the respondents (Shimp and Sharma, 1987). As the scale was primarily concerned with ethnocentrism from a psychological and sociological perspective, the instrument's application for analyzing consumer ethnocentrism was limited. Moreover, many of the claims belonged to the era following World War II and are consequently outdated. However, there were other efforts to develop an instrument for assessing ethnocentrism. The British Ethnocentrism Scale was designed by Warr et al. (1967) and featured 24 statements (12 were formulated in a positive and 12 in a negative manner). The dependability of the scale was statistically excellent, but it was not embraced in scientific circles. Chang and Ritter (1976) developed the Black Ethnocentrism Scale (BES), which was administered to African American college students. The BES consisted of 40 statements to which the respondent indicates their level of agreement or disagreement. The scale showed excellent statistical reliability but was not universally accepted owing to its narrow segment.

## *2.2. Consumer ethnocentrism tendencies scale – CETSCALE*

The CETSCALE (Consumer Ethnocentrism Tendencies Scale), proposed by Shimp and Sharma (1987) and based on the need to measure the degree of consumer ethnocentrism, may be called the first universal tool for measuring consumer ethnocentrism. Shimp and Sharma (1987) developed the CETSCALE instrument from an initial 225 proposed statements, which they reduced to a final 17 items after preliminary research (see Appendix). This 17-item version of CETSCALE may be considered as the original. Respondents express their level of agreement with the given statements based on a 7-point Likert scale. The scale has a universal character even though it is directly aimed at the American consumer.

CETSCALE achieved high reliability and validity; therefore, many experts tried to adapt or upgrade the original version for the needs of their research. In total, scholars distinguish three generic types of modifications:

### *1. Country name modification*

Researchers modified the statements in the survey instrument from focusing on American-only consumers to the name of the national group. This change is also related to language modification, which is necessary in order for respondents to understand the statements. CETSCALE was modified, for example, in Spain (Luque-Martínez et al., 2000), Australia (Acharya and Elliot, 2003), France (Javalgi et al., 2005), Canada (Saffu and Walker, 2005), Cyprus (Nadiri and Tümer, 2010), Malaysia (Teo et al., 2011), Brasil (Strehlau et al., 2012), Iceland (Bandyopadhyay, 2012), Columbia (Correa and Parente-Laverde, 2017), Oman (Mbage et al., 2018), India (Joshi and Joshi, 2021), Poland (Bryła, 2021) and many other countries.

### *2. Likert scale modification*

The modification for the Likert scale is relatively frequent as researchers attempted to change the intensity of the scale. The Likert scale contains agreement and disagreement at its two poles. The original tool uses a 7-point Likert scale (Shimp and Sharma, 1987), but a 5-point one also appeared (e.g., Čvirik, 2021b). Of course, from the point of view of the methodology procedure, an even number of statements can also be used. We consider using an even number of degrees in the Likert scale to be interesting, as it eliminates the possibility of a neutral answer, which prevents consumers from choosing a neutral position. However, the drawback of this variant relies on forcing a response in case the consumer does not have a clear opinion on the statement.

### *3. Quantity of CETSCALE statement modification*

Researchers were able to create modifications effectively that retained all the dimensions, similar to the original. The creators themselves (Shimp and Sharma, 1987) used the version with 10 claims due to limited space in the questionnaire of the marketing company that mediated the research. Lindquist et al. (2001) use various modifications of CETSCALE in their research for different countries. For the Czech Republic, they used seven statements, five statements for Hungary, and five statements for Poland. The quantity of statements is often reduced for practical reasons – a higher level of reliability estimation (Čvirik, 2021a).

In addition to these basic modifications in professional practice, specific CETSCALE adjustments can also be found. An example is a study by Hakan Altıntaş and Tokol (2007), where the authors examine the animosity of Turkish consumers towards European products. The CETSCALE used is a selection of six statements from the original 17, while the phrase “foreign product” is replaced by a European product.

Many studies indicate the need for future research to investigate the validity and reliability of CETSCALE in other countries, which requires their modification and adaptation

(e.g., Shimp and Sharma, 1987; Netemeyer et al., 1991; Lindquist et al., 2001; Stepcenkova, 2023; Miguel et al., 2023). Hamin and Elliott (2006) examined the influence of consumer ethnocentrism and the effect of a country of origin in Indonesia. Authors Hulland et al. (1996) examined the impact of the country-of-origin effect in the case of the Philippines. However, no study is known to have measured the degree of consumer ethnocentrism with the help of CETSCALE in the Philippines.

### *2.3. Dimensions of consumer ethnocentrism*

There are several studies examining the dimensionality of the CETSCALE instrument. The authors of the tool themselves (Shimp and Sharma, 1987) state that the instrument is unidimensional, which is also the case with other studies (e.g., Supphellen and Rittenburg, 2001; Kaynak and Kara, 2002; Supphellen and Grønhaug, 2003; Yoo and Donthu, 2005; Kucukemiroglu et al., 2007; Nadiri and Tümer, 2010; Bandyopadhyay, 2012). However, some studies point out that CETSCALE can also be multidimensional, even though most scholars have only talked about two significant factors (Lindquist et al., 2001; Nijssen and Douglas, 2004; Hsu and Nien, 2008, Teo et al., 2011; Jiménez-Guerrero et al., 2014; Joshi and Joshi, 2021), three factors (Mavondo and Tan, 1999; Strehlau et al., 2012; Marcoux et al., 1997), or four (Khan and Rizvi, 2008; Singh and Dhiman, 2012; Upadhyay and Singh, 2006; Wanninayake and Chovancova, 2012). As a result, researchers studying consumer ethnocentrism do not often agree on the general version of the individual statements in the instruments due to the differences in the countries (and cultures) where the research is conducted. This statement is also proven by the research of Saffu and Walker (2005), who demonstrated unidimensionality in only one country (Canada) and found multidimensionality (two-factor) in the second country (Russia). The study by Yu and Albaum (2002) discussed the dimensionality difference in the context of the CETSCALE versions. They mentioned that CETSCALE17 confirmed the multidimensionality of the instrument, while CETSCALE10 confirmed its unidimensionality. Of course, the influence of demographic and psychological factors (Čvirik, 2019; Čvirik, 2021a; Alam et al., 2022; Charulakshmit and Chandran, 2022), or country factors such as economic and political factors (Gera et al., 2022), can have a significant impact on the CETSCALE's need for adaptability.

## **3. METHODOLOGY AND MATERIALS**

The main objective of this research is (1) to measure consumer ethnocentrism with the help of a reliable (adapted/modified) CETSCALE tool, and (2) investigate the dimensionality of this tool in selected countries. Specifically, the researchers aimed to measure consumer ethnocentrism in the Philippines, Slovakia, and the Czech Republic and to evaluate the dimensionality of the CETSCALE in the context of the individual countries. The selected countries are the Philippines, Slovakia and the Czech Republic. It can be concluded that these countries have significant differences in the context of their loca-

tion (geography), demography, economic situation and culture. We compiled a generic overview of the selected countries in Table 1.

Table 1. *General profile of the selected countries*

	Philippines	Slovakia	Czechia	
<b>Geography</b>				
Location	East Asia/ Southeast Asia	Central Europe	Central Europe	
Area	300,000 sq km <sup>1</sup>	49,035 sq km <sup>2</sup>	78 867 sq km <sup>3</sup>	
<b>Demography</b>				
Population (July 2021 est.)	110,818,325 <sup>1</sup>	5,436 066 <sup>2</sup>	10,702,596 <sup>3</sup>	
Major cities (by population)	Manila (14.159 million) <sup>1</sup>	Bratislava (0.437 million) <sup>2</sup>	Prague (1.312 million) <sup>3</sup>	
Median age (est. 2021)	24.1 years <sup>1</sup>	41.8 years <sup>2</sup>	43.3 years <sup>3</sup>	
Population growth rate (est. 2021)	1.49% <sup>1</sup>	-0.08% <sup>2</sup>	0.04% <sup>3</sup>	
Age structure (2020 est.)	0-14 years	32.42% <sup>1</sup>	15.13% <sup>2</sup>	15.17% <sup>3</sup>
	15-24 years	19.16% <sup>1</sup>	10.06% <sup>2</sup>	9.2% <sup>3</sup>
	25-54 years	37.37% <sup>1</sup>	44.61% <sup>2</sup>	43.29% <sup>3</sup>
	55-64 years	6.18% <sup>1</sup>	13.15% <sup>2</sup>	12.12% <sup>3</sup>
	65 years and over	4.86% <sup>1</sup>	17.05% <sup>2</sup>	20.23% <sup>3</sup>
<b>Economic overview</b>				
GDP	\$871.6 billion <sup>1</sup>	\$165.6 billion <sup>2</sup>	\$410 billion <sup>3</sup>	
GDP per capita	\$8,000 <sup>1</sup>	\$30,300 <sup>2</sup>	\$38,300 <sup>3</sup>	
Export (2020 est.)	\$78.82 billion <sup>1</sup>	\$89.92 billion <sup>2</sup>	\$174.9 billion <sup>3</sup>	
Import (2020 est.)	\$97.58 billion <sup>1</sup>	\$87.95 billion <sup>2</sup>	\$158 billion <sup>3</sup>	
<b>Cultural dimensions</b>				
Power Distance	94 <sup>4</sup>	100 <sup>4</sup>	57 <sup>4</sup>	
Individualism	32 <sup>4</sup>	52 <sup>4</sup>	58 <sup>4</sup>	
Masculinity	64 <sup>4</sup>	100 <sup>4</sup>	57 <sup>4</sup>	
Uncertainty Avoidance	44 <sup>4</sup>	51 <sup>4</sup>	74 <sup>4</sup>	
Long Term Orientation	27 <sup>4</sup>	77 <sup>4</sup>	70 <sup>4</sup>	
Indulgence	42 <sup>4</sup>	28 <sup>4</sup>	29 <sup>4</sup>	

Source: own processing based on <sup>1</sup>CIA (2022a); <sup>2</sup>CIA (2022b); <sup>3</sup>CIA (2022c) and <sup>4</sup>Hofstede-insights (2022)

Table 1 summarizes the general profile of the selected countries. The results show significant differences in the investigated factors, while some parameters can be similar in individual countries (e.g., demographic composition in the Czech Republic and Slova-

kia). In terms of the variables such as demography and geography, the Czech Republic and Slovakia are similar, but differences can be found in cultural dimensions. In addition, considerable disharmony can be observed in comparison with the Philippines. As stated by several scholars, the degree of consumer ethnocentrism is highly influenced by culture (Sharma et al., 1995), the demography of the country (Josiassen et al., 2011; Bryła, 2022; Yim, 2020), its economic situation, (Festervand and Sokoya, 1994; Čvirik, 2019), and the political environment (Klein and Etnenoe, 1999; Good and Huddleston, 1995). Hence, it is crucial to consider these presented parameters for the study.

### 3.1. Sample size and data gathering procedures

This study was undertaken in three selected countries: the Philippines, Slovakia, and the Czech Republic. The researchers qualified the respondents according to their nationality since this is considered the core aspect of consumer ethnocentrism. Cluster sampling was utilized to segment the respondents according to their nationality, which comprised 418 Filipino, 867 Slovak, and 193 Czech, with a total of 1478 respondents. The researchers used a combination of online and printed survey questionnaires to gather all the data needed for the study.

### 3.2. Research instrument, validation, and reliability

Firstly, we examined the validity and reliability of the questionnaire with its items in order to examine and determine if and how to adapt the questionnaire for each country. The survey questionnaire includes a 5-point Likert scale level of agreement as a scale to answer all the individual statements included in the questionnaire.

The researchers utilized the reliability estimation coefficient (Cronbach's alpha) to determine the validity of the questionnaire. The coefficient should range from 0.700 to 0.950 to be considered reliable. The researchers also utilized the "if item dropped" method, which examines how the estimate of the reliability value will change if the statement / item is excluded from the research tool. The researchers examined the item-rest correlation to achieve an item-rest correlation above 0.500 as part of the connection of individual statements and recorded the results of the reliability estimation (final solution) for all investigated countries in Table 2.

Table 2. Reliability results (final solution for each country)

CETSCALE	Philippines		Slovakia		Czech Republic	
	Cronbach's $\alpha^*$	Item-rest correlation	Cronbach's $\alpha^*$	Item-rest correlation	Cronbach's $\alpha^*$	Item-rest correlation
CET01	0.910	0.615	0.918	0.592	0.923	0.691
CET02	0.913	0.508	0.920	0.555	0.925	0.631
CET03	-	-	-	-	0.928	0.519
CET04	0.912	0.546	-	-	0.927	0.557

CET05	0.910	0.618	0.916	0.656	0.926	0.577
CET06	0.908	0.689	0.914	0.715	0.923	0.720
CET07	0.910	0.612	0.915	0.682	0.925	0.644
CET08	0.908	0.681	0.916	0.652	0.922	0.739
CET09	0.911	0.589	0.918	0.589	0.923	0.708
CET10	0.911	0.602	0.914	0.705	0.923	0.717
CET11	0.907	0.699	0.914	0.726	0.923	0.730
CET12	0.914	0.509	0.916	0.647	0.926	0.602
CET13	0.911	0.584	-	-	0.927	0.540
CET14	0.909	0.648	0.918	0.623	0.927	0.533
CET15	0.912	0.570	0.916	0.645	0.927	0.533
CET16	0.910	0.623	0.916	0.665	0.922	0.752
CET17	0.909	0.649	0.916	0.668	0.925	0.626
TOTAL	0.916	0.407	0.922	0.463	0.929	0.437

Source: own processing

Table 2 presents the reliability analysis for the CETSCALE in the Philippines, Slovakia, and the Czech Republic. We reached the results with the help of the above-mentioned recommendations and with the help of the “if item dropped” method. From this we determined that it is appropriate to use the 16-item CETSCALE for the Philippines. For this reason, we will continue to work with this modification/adaptation of the research tool. In the case of Slovakia, the results of the reliability estimation indicated a reliability fluctuation in statements 3, 4 and 13. In other words, if we eliminate these statements and adapt the instrument in this way, we will obtain a more reliable instrument for measuring consumer ethnocentrism in this country. Based on the above, we will continue to work with the adapted tool, which contains just 14 items (without items 3, 4, and 13). Based on Table 2, we can conclude that in the Czech Republic, the tool achieves an acceptable degree of reliability estimation (based on the rules of using Cronbach’s  $\alpha$  and item-rest correlation). In the context of the “if item dropped” method, we can say that all items are correctly set, and it achieves high-quality internal consistency. We will therefore continue to work with the research tool in its standardized form, i.e. with 17 items.

### 3.3. Statistical treatment

The researchers utilized descriptive and inferential statistics to determine the level of adaptability and dimensionality of the CETSCALE in the selected countries of the study. For descriptive statistics, the researchers utilized standard deviation and central tendencies such as mean and mode to analyze the central value of the results. An advanced inferential statistic through exploratory factor analysis (EFA) was used to examine the dimensionality of the CETSCALE for the individual countries. The researchers verified the assumptions of using EFA based on the Kaiser-Meyer-Olkin (KMO) mea-



sure of sampling adequacy and Bartlett's test of sphericity. For the KMO, as a rule, the minimum value is above 0.500 and the recommended value is above 0.700. Bartlett's test of sphericity tests the hypothesis of zero correlation within the variables. Table 3 illustrates the KMO and Bartlett's test.

Table 3. *KMO and Bartlett's test*

		Philippines	Slovakia	Czech Republic
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.931	0.940	0.927
Bartlett's Test of Sphericity	Approx. Chi-Square	3204.673	6260.561	1885.408
	df	120	91	136
	Sig.	<0.0001	<0.0001	2.2E-305

Source: own processing

Based on the KMO (see Table 3), the results revealed that all tools are suitable for the EFA application. This is also confirmed by Bartlett's test of sphericity, which is significant in all cases (we reject the null hypothesis of zero correlation). After the EFA was tested and validated, the researchers used the extraction method – principal component analysis and the rotation method – oblimin ( $\Delta=0$ ) with Kaiser Normalization as a final solution (due to the nature of the data and the examination of several options, a connection between latent factors was found). The researchers also examined the number of factors that represent dimensionality (latent variables) within the framework of graphic visualization with the help of scree plot factor analysis.

#### 4. RESULTS

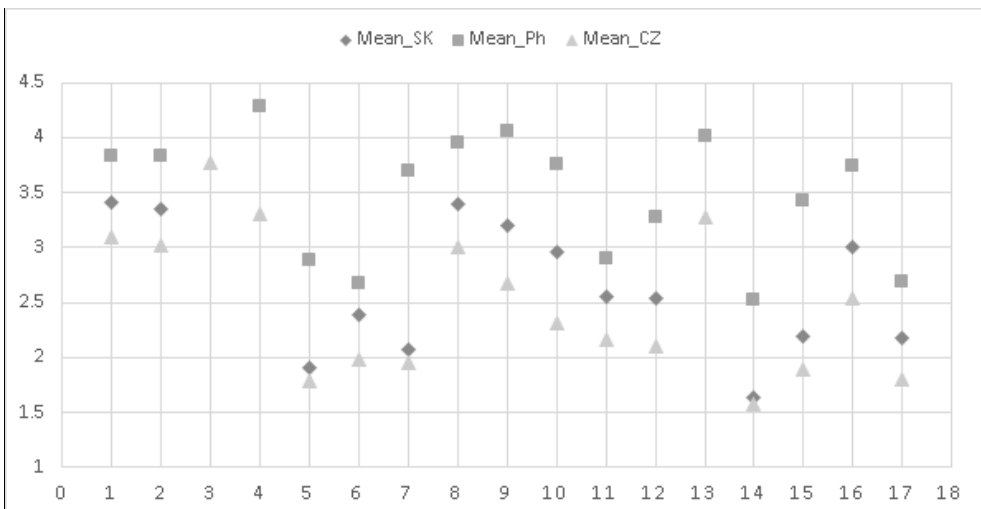
The researchers were able to conclude that consumer ethnocentrism based on the individual statements of the tool is reliable. Table 4 and Figure 1 show the comparative results for the individual statements' average values and standard deviation in the selected countries.

Table 4. *Comparative summary of descriptive results of the selected countries*

Items	CETSCALE_ SK		CETSCALE_ PH		CETSCALE_ CZ	
	x	SD	x	SD	x	SD
CET01	3.41	1.20	3.84	0.99	3.09	1.27
CET02	3.35	1.26	3.83	1.11	3.02	1.30
CET03	-	-	-	-	3.77	1.11
CET04	-	-	4.29	0.87	3.30	1.21
CET05	1.91	1.03	2.88	1.14	1.79	1.08

CET06	2.39	1.11	2.67	1.12	1.99	1.07
CET07	2.08	1.11	3.70	1.03	1.95	1.13
CET08	3.39	1.18	3.96	1.01	3.00	1.30
CET09	3.20	1.12	4.06	0.95	2.68	1.19
CET10	2.96	1.15	3.76	1.03	2.31	1.02
CET11	2.56	1.10	2.90	1.11	2.17	0.99
CET12	2.54	1.19	3.28	1.13	2.10	1.12
CET13	-	-	4.02	0.93	3.27	1.15
CET14	1.64	0.84	2.53	1.10	1.58	0.96
CET15	2.20	1.11	3.43	1.15	1.89	1.03
CET16	3.00	1.28	3.75	1.07	2.54	1.26
CET17	2.18	1.03	2.69	1.34	1.81	0.96

Source: own processing



Note: The x-axis represents individual CETSCALE statements, the y-axis represents the average measured values.

Source: own processing

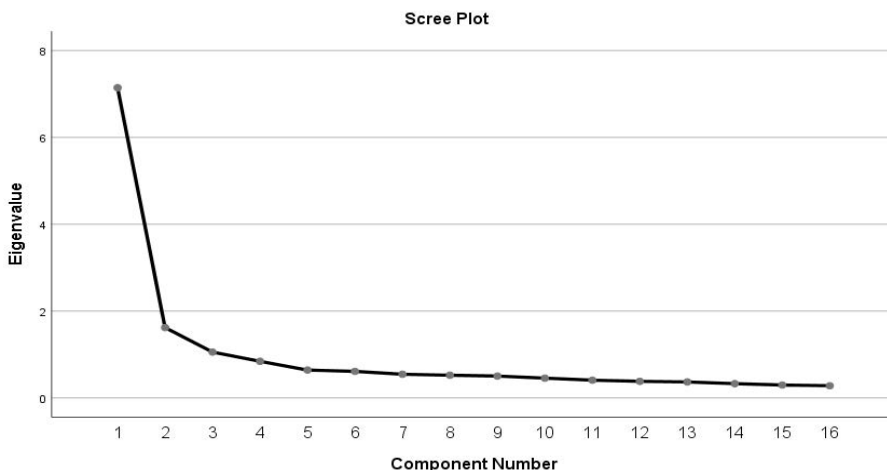
Figure 1: Visualization of average values for individual statements and individual countries

As is shown in Table 4 and Graph 1, the highest average values were measured in the Philippines in the cases of all statements. There are also indications of higher values in Slovakia compared to the Czech Republic. Regarding the standard deviation, the respondents' answers were consistent. The average value per statement in the Philippines was 3.47 points (SD= 0.57), in Slovakia it was 2.63 points (SD= 0.59), and in the Czech Republic it was 2.48 points (SD= 0.65).

In the sample from the Philippines, the instrument was modified to include 16 statements. It follows from the information presented above that the findings will fall between 16-80. The average degree of ethnocentrism among consumers was 55.6 points (SD= 11.4). The median was 56 points, while the mean was 58 points. The minimum value measured is 25 points. The maximum measured value corresponds to the highest value of the scale (80 points). Overall, the findings revealed that consumer ethnocentrism is above average (roughly 62% of consumers are ethnocentric).

For Slovakia, the results illustrated a reliable version of the CETSCALE containing 14 statements. Hence, the results range from 14 to 70 points. The average measured value was at the level of 36.81 points with a standard deviation of 11.1. The mode was at 33, and the median at 36. Both the minimum and maximum measured values represented the scale's extreme values (min=14, max=70). Overall, we assessed consumer ethnocentrism as average to below average (roughly 41%) here.

For the Czech Republic, the researchers utilized an adapted tool that contained 17 statements (original version). Based on the findings, the CETSCALE results are from 17 to 85 points. The average measured value was at the level of 42.2 points (SD=13.2). The median was at 42, and the mode at 39. The maximum value was 75, and the minimum measured value was at the level of 17 points, which represents the lowest possible value. Overall, these results showed that the rate of consumer ethnocentrism in the Czech Republic is significantly below average (roughly 37% rate of consumer ethnocentrism). Next, we focused on the second part of the main goal – the dimensionality of the CETSCALE in the individual countries. We used EFA to investigate the dimensionality as it appears to be the right analytical tool and the data meet the requirements of EFA (see methodology). Figure 2 illustrates the scree plot factor analysis for the Philippines.



Source: own processing in SPSS

Figure 2. Scree plot factor analysis for the Philippines

Figure 2 shows that there are roughly three dimensions within the research tool. For verification, we will use the Kaiser normalization rule, where it is true that eigenvalues  $>1$ . This rule confirmed the existence of the three dimensions. We recorded the modified pattern matrix in Table 5.

Table 5. *Pattern matrix: the Philippines*

Items	Dimensions		
	Dimension 1	Dimension 2	Dimension 3
CET01_Ph		0.671	
CET02_Ph			0.683
CET04_Ph		0.763	
CET05_Ph	0.697		
CET06_Ph	0.741		
CET07_Ph		0.739	
CET08_Ph		0.488	
CET09_Ph		0.718	
CET10_Ph			0.667
CET11_Ph	0.783		
CET12_Ph	0.571		
CET13_Ph		0.630	
CET14_Ph	0.856		
CET15_Ph	0.515		
CET16_Ph			0.708
CET17_Ph	0.723		
Variance (%)	44.646	10.128	6.589

*Extraction Method:* Principal Component Analysis

*Rotation Method:* Oblimin with Kaiser Normalization

Source: own processing

Based on Table 5, the results showed that the tool has three dimensions. The first dimension explains roughly 45% of the variance and contains seven statements (statements 5, 6, 11, 12, 14, 15, and 17). The second dimension explains roughly 10% of the variance and contains six statements (statements 1, 4, 7, 8, 9, and 13). The last significant dimension (based on Kaiser normalization) explains roughly 7% of the variance and contains three statements (statements 2, 10, and 16). With consideration of the nature of the individual statements (without the semiotics of the words), dimension 1 can be characterized as the “patrio-economic dimension”, dimension 2 as the “dimen-

sion of domestic protection”, while dimension 3 is characterized as the “restriction of foreign substitution”. In Table 6 we examine the relationship (correlation) between the dimensions.

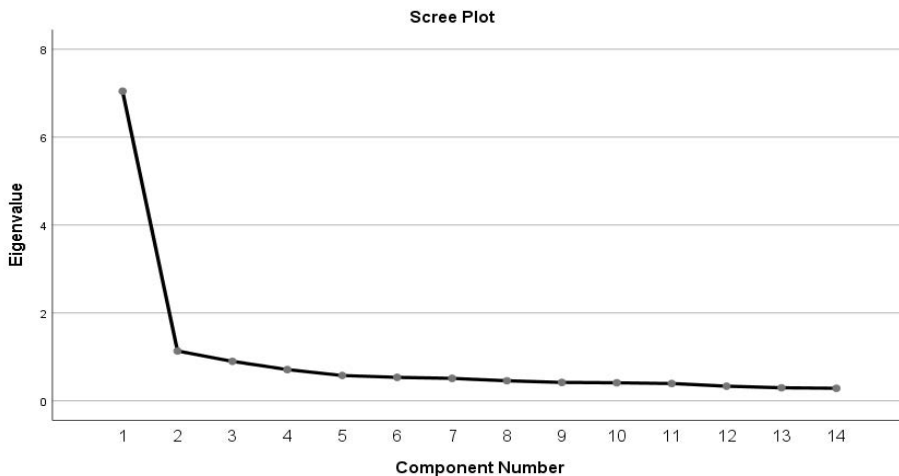
Table 6. *Dimension correlation matrix: the Philippines*

Dimensions	Dimension 1	Dimension 2	Dimension 3
Dimension 1	1.000		
Dimension 2	0.410	1.000	
Dimension 3	0.419	0.371	1.000

Source: own processing

These correlations can be interpreted as positive, moderately strong correlations. As shown in Table 6, the correlation between dimensions 1 and 2 reaches 0.410; between dimensions 1 and 3, it reaches a correlation of 0.419; and between dimensions 2 and 3, it reaches a value of 0.371. These values point to the correct choice of oblimin rotation, which takes this correlation into account.

Figure 3 illustrates the scree plot factor analysis for Slovakia. The illustration portrays the number of possible components (dimensions) on the x-axis and eigenvalues on the y-axis.



Source: own processing in SPSS

Figure 3. *Scree plot factor analysis for Slovakia*

Figure 3 indicates that tool two conceals latent variables; that is, it contains two dimensions. Subsequently, we examined several factors, such as the affiliation of the statements to the dimensions and their cumulative explained variance within the pattern matrix (see Table 7).

Table 7. *Pattern matrix: Slovakia*

Items	Dimensions	
	Dimension 1	Dimension 2
CET01_SK		0.734
CET02_SK		0.909
CET05_SK	0.736	
CET06_SK	0.668	
CET07_SK	0.714	
CET08_SK		0.503
CET09_SK		0.610
CET10_SK		0.478
CET11_SK	0.737	
CET12_SK	0.646	
CET14_SK	0.904	
CET15_SK	0.679	
CET16_SK		0.677
CET17_SK	0.800	
Variance (%)	50.328	8.097

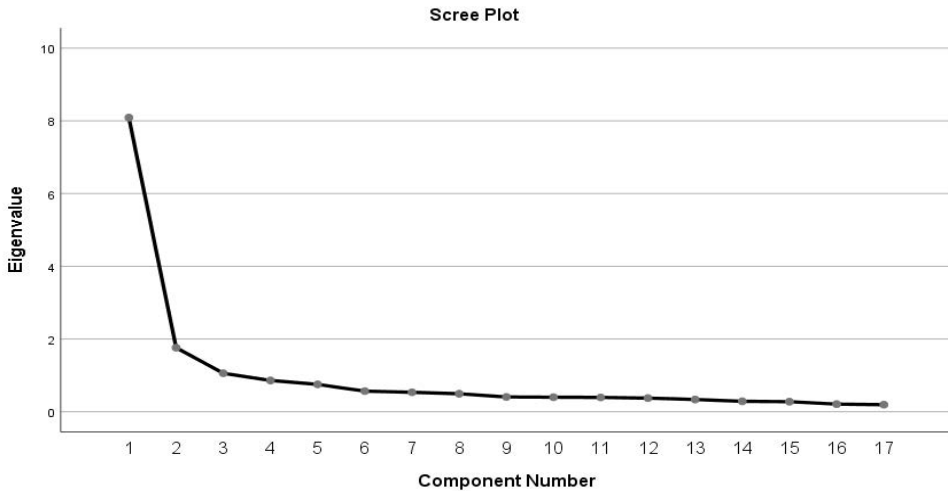
*Extraction Method:* Principal Component Analysis

*Rotation Method:* Oblimin with Kaiser Normalization

Source: own processing

Based on Table 7, the findings show that the tool has two dimensions. The first dimension explains roughly 50% of the variance and contains eight statements (statements 5, 6, 7, 11, 12, 14, 15, and 17). The second dimension explains roughly 8% of the variance and contains six statements (statements 1, 2, 8, 9, 10, and 16). With consideration of the nature of the statements (without the semiotics of the words), dimension 1 can be

labeled as the “patrio-economic dimension”, and dimension 2 as the “dimension of domestic protection”. The correlation between the dimensions reaches a value of 0.609, representing a strong positive correlation. This correlation clearly points to the correct choice of oblimin type rotation (varimax would distort the information). Figure 4 presents the scree plot factor analysis for the Czech Republic.



Source: own processing

Figure 4. Scree plot factor analysis for the Czech Republic

Based on Figure 4, it is possible to estimate the existence of three dimensions within the research tool. We used the Kaiser Normalization rule (which considers only factors with eigenvalues  $>1$ ) for verification. This rule confirmed the existence of the three dimensions. The modified pattern matrix is found in Table 8.

Table 8. Pattern matrix: Czech Republic

Items	Dimensions		
	Dimension 1	Dimension 2	Dimension 3
CET01_CZ		0.730	
CET02_CZ		0.610	
CET03_CZ		0.723	
CET04_CZ		0.813	
CET05_CZ	0.699		
CET06_CZ	0.898		
CET07_CZ	0.890		

CET08_CZ		0.554	
CET09_CZ		0.524	
CET10_CZ		0.331	
CET11_CZ	0.663		
CET12_CZ			0.779
CET13_CZ		0.845	
CET14_CZ			0.744
CET15_CZ			0.891
CET16_CZ		0.469	
CET17_CZ	0.622		
Variance (%)	47.585	10.363	6.220

*Extraction Method:* Principal Component Analysis

*Rotation Method:* Oblimin with Kaiser Normalization

Source: own processing

Based on Table 8, it is possible to state the existence of the three dimensions. The first dimension explains roughly 48% of the variance and contains five statements (statements 5, 6, 7, 11, and 17). The second dimension explains roughly 10% of the variance and contains nine statements (statements 1, 2, 3, 4, 8, 9, 10, 13, and 16). The last significant dimension (based on Kaiser Normalization) explains roughly 6% of the variance and contains three statements (statements 12, 14, and 15). Based on the results, dimension 1 can be labeled as the “patrio-economic dimension”, dimension 2 as the “dimension of domestic protection”, and dimension 3 as the “restriction of imports.” The correlation between the dimensions is illustrated in Table 9.

Table 9. *Dimension correlation matrix: Czech Republic*

Dimensions	Dimension 1	Dimension 2	Dimension 3
Dimension 1	1.000		
Dimension 2	0.487	1.000	
Dimension 3	0.531	0.354	1.000

Source: own processing

Due to the correlation between the indicated direction and intensity, it can be stated that the oblimin rotation is correct. As shown in Table 9, the correlation between dimensions 1 and 2 reaches 0.487, while dimensions 1 and 3 reach a correlation of 0.531. In addition, the correlation between dimensions 2 and 3 reaches a value of 0.354. These correlations can be interpreted as positive, moderately strong correlations.



## 5. DISCUSSION

Considerable differences can be observed in the context of the selected countries, with the highest level of consumer ethnocentrism measured in the Philippines, a lower level in Slovakia, and the lowest among the selected countries in the Czech Republic. These differences can be caused by various factors, as indicated in Table 1. It should be noted that international studies investigating consumer ethnocentrism are rare and offer only limited interpretations in terms of comparison. However, it follows from the concept of consumer ethnocentrism that the core of this concept is based on national identity. Therefore, it is logical that we may find such disparities. There can be several influencing factors here. Some studies point to the influence of factors operating within the state (nation, ethnicity), whereby the first group can be referred to as economic-political factors. This group can include patriotism, which has a positive effect on the level of consumer ethnocentrism (Sharma et al., 1995; Han, 1988; Čvirik, 2021b), the economic system and the state of the national economy (Durvasula et al., 1997; Klein and Ettensoe, 1999; Čvirik, 2019), or the influence of political history in the context of dominance or subjugation of the given nation (Good and Huddleston, 1995). The second group can be described as a group of cultural factors (Weber et al., 2018) that include culture itself (Sharma et al., 1995), cultural openness (Suh and Kwon, 2002), and the cultural dimension of individualism (Ettenson et al., 1988). The consumers themselves and their characteristics are also important, whether we are talking about demographic factors such as age (Shimp and Sharma, 1987; Grundey and Bakowska, 2008; Čvirik, 2021a), gender (Balabanis et al., 2001; Čvirik, 2021a), education (Kaynak and Kara, 2002), income (Sharma et al., 1995), or psychological factors such as worldmindedness (Čvirik, 2019) and dogmatism (Caruana and Magri, 1996). However, it is important to state that these factors can influence the level of consumer ethnocentrism in a different direction (negative/positive) and intensity (Čvirik, 2021a).

## 6. CONCLUSION

This article focuses on the measurement of consumer ethnocentrism using the CETSCALE tool, which was modified to the conditions of individual countries (translation, country itself) and, at the same time, adapted in the context of maximizing the reliability estimate of the research tool. Based on the primary research in the selected countries, we concluded that it is appropriate to use CETSCALE with 16 statements (except statement 3) for the Philippines, 14 statements (except statements 3, 4, and 13) for Slovakia, and the original 17-statement version was verified in the case of the Czech Republic. The results of the measurement indicate that the highest rate of consumer ethnocentrism was in the Philippines (62%), lower in Slovakia (41%), and the lowest in the Czech Republic (37%). These differences can be caused by demographic factors, the country's situation, culture, and other factors. When examining the dimensions of the research instrument, the researchers found three dimensions in the Czech and Philippine versions, and two dimensions in the Slovak version. Therefore, it can be concluded

that the tool is multidimensional in all cases. We characterized the identified dimensions according to the semantic analysis in the context of individual statements. It is also important to note that individual dimensions are positively correlated.

This article also contains certain limitations. One of the limitations is the sample selection, which does not correspond directly to the population in terms of quotas, and which may have caused some distortion. However, the researchers attempted to remove these limits by working thoroughly with the reliability of the research tool. Another limitation is that the tool does not directly measure consumer ethnocentrism but rather evaluates it on the basis of identified latent factors. In this context, it is necessary to state that these are the statements of the respondents, and therefore we only evaluate the degree of consumer ethnocentrism with the help of the self-reflection of the respondents, which may cause a certain deviation from reality.

For future reference, conducting research in other countries and creating an international comparison would be appropriate. It would also be appropriate to search for factors that influence the degree of consumer ethnocentrism and determine their direction and intensity for specific countries. Furthermore, it is also essential to investigate the dimensionality of the tool, while there are indications that some dimensions may also have a universal character.

The results are applicable in several scientific disciplines as well as business areas (international trade, national economy, marketing, support of domestic production, support of the purchase of domestic production and others). The high levels of consumer ethnocentrism in single countries point to the possibility of using consumer ethnocentrism to support the sale of domestic products, which ultimately leads to an increase in the country's economic indicators and thus its prosperity. With low levels of consumer ethnocentrism, there is a possibility of promoting domestic production based on other methods, such as the country-of-origin effect (Čvirik, 2021b). In the context of the identified dimensionality of the tool, it is possible to determine the directions in which marketing communication aimed at supporting the prosperity of the country should be directed.

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## **APPENDIX: ORIGINAL 17-ITEM CETSCALE VERSION (SHIMP AND SHARMA, 1987)**

1. American people should always buy American-made products instead of imports.
2. Only those products that are unavailable in the U.S. should be imported.
3. Buy American-made products. Keep America working.
4. American products, first, last, and foremost.
5. Purchasing foreign-made products is un-American.
6. It is not right to purchase foreign products, because it puts Americans out of jobs.
7. A real American should always buy American-made products.
8. We should purchase products manufactured in America instead of letting other countries get rich off us.
9. It is always best to purchase American products.
10. There should be very little trading or purchasing of goods from other countries unless out of necessity.
11. Americans should not buy foreign products, because this hurts American business and causes unemployment.
12. Curbs should be put on all imports.
13. It may cost me in the long-run but I prefer to support American products.
14. Foreigners should not be allowed to put their products on our markets.
15. Foreign products should be taxed heavily to reduce their entry into the U.S.
16. We should buy from foreign countries only those products that we cannot obtain within our own country.
17. American consumers who purchase products made in other countries are responsible for putting their fellow Americans out of work.

## ISPITIVANJE PRILAGODLJIVOSTI POTROŠAČKOG ETNOCENTRIZMA POMOĆU CETSCALE-A: USPOREDBA FILIPINA, SLOVAČKE I ČEŠKE

Marián Čvirik i Emmanuel Dotong

### Sažetak

*Potrošački etnocentrizam relevantna je tema jer se ne tiče samo konteksta ponašanja potrošača, već i domaćeg gospodarstva i međunarodne trgovine. Ovaj članak ima za cilj istražiti prilagodljivost instrumenta za mjerenje potrošačkog etnocentrizma, tzv. CETSCALE, u odabranim zemljama kao što su Filipini, Slovačka i Češka. Kako bi se ispitala prilagodljivost, bilo je potrebno provesti mjerenje potrošačkog etnocentrizma u proučavanim zemljama, zatim ispitati pouzdanost istraživačkog instrumenta, te konačno ispitati prilagodljivost istraživačkog instrumenta u pojedinim zemljama. Za mjerenje procjene pouzdanosti, u radu se koristi Cronbachov alfa koeficijent pouzdanosti i item-rest korelacija. Za ispitivanje prilagodljivosti koristi se eksplorativna faktorska analiza. Rezultati ukazuju na potrebu prilagodbe CETSCALE-a kontekstu istraženih zemalja. Nalazi pokazuju da je najveća stopa potrošačkog etnocentrizma utvrđena na Filipinima, niži rezultati pronađeni su u Slovačkoj, a najniži u Češkoj. Pri ispitivanju dimenzionalnosti istraživačkog instrumenta, istraživači su pronašli tri dimenzije u češkoj i filipinskoj verziji te dvije dimenzije u slovačkoj verziji. Stoga se može zaključiti da je u svim ovim slučajevima korišten instrument višedimenzionalan.*

**Ključne riječi:** *potrošački etnocentrizam, CETSCALE, Filipini, Slovačka, Češka*

## UNTERSUCHUNG DER ANPASSUNGSFÄHIGKEIT DES KONSUMENTEN - ETHNOZENTRISMUS MITHILFE VON CETSCALE: DIE PHILIPPINEN, DIE SLOWAKEI UND TSCHECHIEN IM VERGLEICH

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### Zusammenfassung

*Der Konsumenten-Ethnozentrismus ist ein relevantes Thema, denn er betrifft nicht nur das Verhalten von Verbrauchern, sondern auch die inländische Wirtschaft und den internationalen Handel. Das Ziel dieses Artikels ist, die Anpassungsfähigkeit des Instruments zum Messen des Konsumenten-Ethnozentrismus, sog. CETSCALE, in ausgewählten Ländern wie auf den Philippinen, in der Slowakei und in Tschechien zu erforschen. Um die Anpassungsfähigkeit zu prüfen, war es nötig, eine Messung des Konsumenten-Ethnozentrismus in den genannten Ländern durchzuführen, dann die Verlässlichkeit des Forschungsinstruments zu prüfen und schließlich die Anpassungsfähigkeit des Forschungsinstruments in einzelnen Ländern zu prüfen. Zur Messung der Reliabilität wird in der Arbeit der Reliabilitätskoeffizient Cronbachs Alpha verwendet, sowie die Item-Rest-Korrelation. Zur Prüfung der Anpassungsfähigkeit wird die explorative Faktoranalyse angewendet. Die Ergebnisse weisen auf die Notwendigkeit hin, dass CETSCALE dem Kontext der erforschten Länder angepasst wird. Die Ergebnisse zeigen, dass die höchste Rate des Konsumenten-Ethnozentrismus auf den Philippinen festgestellt wurde, niedrigere Raten fanden sich in der Slowakei und die niedrigsten in Tschechien. Bei der Prüfung der Zweidimensionalität des Forschungsinstruments fanden die Forscher drei Dimensionen in der tschechischen und philippinischen Version und zwei Dimensionen in der slowakischen. Deshalb kann man daraus schließen, dass das in allen diesen Fällen angewendete Instrument mehrdimensional war.*

**Schlüsselwörter:** *Konsumenten-Ethnozentrismus, CETSCALE, die Philippinen, die Slowakei, Tschechien*