Original Article

Global replication of CETSCALE: A study of the Iranian market

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ABSTRACT The effects of socio-cultural factors have been studied in marketing and management for years. After the expansion of globalization in the mid-twentieth century, acceptance of foreign products by customers of targeted markets has become a challenging issue for companies. Therefore, many scholars have focused on studying the impact of those factors, such as customer ethnocentrism and patriotism. This study tested the reliability and validity of CETSCALE as one of the most replicated measurements of customer ethnocentrism by conducting the research among Iranian customers. The findings of this study have supported some of the previous findings in this area that CETSCALE is multi-dimensional variables. However, the results have indicated that measuring ethnocentrism in the Iranian market have higher reliability and validity by using only 14 out of the original 17 questions.

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INTRODUCTION

Expanding economic hubs from West to East has created higher opportunities for companies to access a wider range of markets around the globe. Relaxation of trade policies and raising the new economic blocs (for example, ASEAN, NAFTA

and AFTA) have provided higher variety of products and services for consumers compared with the past. However, there is high resistance from anti-globalization groups as they consider globalization as a new means of colonization by developed and capitalistic countries. Therefore, these groups encourage the citizens of their country to buy and support the local products, rather than imported ones, to protect the society's wealth and keep the job within the nation. Consequently, to overcome these negative perceptions toward

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imported products, researchers have been interested in studying the sensitivity and attitude of consumers toward imported and local products.¹

The essence of marketing within ethnic groups, and the influence of cultural and ethnic factors on marketing strategy, have been investigated in depth in literature.² Studies related to country-of-origin (COO) effects show that consumers usually prefer local over imported merchandise, particularly when they have insufficient information pertaining to the products.^{3–5} The reason for this preference is due to the fact that there is bias in term of risk-reducing toward developing countries' products and sense of patriotic against imported products.^{6–8} One of the variables that can influence these factors is consumer ethnocentrism (CE).^{8,9}

Marketing-related studies have measured ethnocentrism as consumers' preference for local goods in contrast with imported goods because of their values of foreign goods purchase.^{3,8,10} Ethnocentric consumers have a tendency toward local products because of their faith in the quality of those products^{11,12} or as a result of support for their local industries.¹³ This support would become even stronger if imported products are seen as a threat to individual or national interest.^{8,9}

The consumers' ethnocentric tendency leans toward the degree of importance they place on the origin of the products: either it is locally made or not.¹⁴ The level of CE within a given market could constitute the foundation on which several managerial decisions are based on. In particular, if CE increased within a target market, decision makers may abolish the idea of the expansion plan or may adopt specific techniques, such as opt for joint ventures with local businesses or adapt some of the marketing mix elements to appear 'more local' to consumers, to minimize the impact of this phenomenon on the firm.^{15,16} Foreign businesses may decide to enter this market but adjust some of the elements of their products so that the origin country of the products is less obvious. On the other hand, increased CE for domestic firms could suggest potentials of greater profitability if the COO becomes more obvious and visible to consumers.

The notion that a consumer who is highly ethnocentric tends to overestimate domestic

Table 1: Findings of research studies vis-à-vis unidimensionality of the CETSCALE

<i>Name of author</i>	<i>Country</i>	<i>Unidimensionality of CETSCALE</i>
Luque-Martinez <i>et al</i> ¹⁷	Spain	Yes
Mavondo and Tan ¹⁸	Malaysia	No
Lindquist <i>et al</i> ¹⁹	Czech,Hungary, Poland	Yes
Bandyopadhyay ²⁰	Iceland	Yes
Douglas and Nijssen ²¹	Netherland	No
Bawa ²²	India	No
Saffu and Walker ¹⁶	Canada and Russia	No
Bahae and Pisani ¹	Iran	Not measured

products, underestimate imported products, prefer and feel a moral obligation to buy domestic merchandise is generally supported by research from the United States and other developed countries.^{9,15,16} However, a review of the current ethnocentrism literature reveals that the reliability and validity of CETSCALE (see, Table 1) can vary from one nation to another owing to cultural and environmental factors. Therefore, as most of the current studies have been applied in western countries, the results are not applicable in Asian and especially in Middle Eastern countries (for example, Iran, Egypt, Iraq) due to its unique cultural and environmental mixture.

Middle Eastern countries possess around 52 per cent of all oil and gas reserve in the world²³ and are home for around 25 numerous ethnic groups (for example, Arabs, Persians, Turks, Jews/Israelis). These countries have lots of similarity and numerous cultural and historical background differences.²⁴ Iran, which is one of the countries, has a population of 79 million and about 10 per cent of world's oil and gas reserves. Similarly to most developing countries, the Iranian government is actively encouraging private capital investments to make Iran's economy grows faster.²⁵ This policy has created a huge market potential for international companies to invest and export their products and services to Iran.

Iran had imported goods and consumer products worth US\$ 77 billion in 2011.²⁴ However, despite the high volume of imports by Iran and the high potential of demand growth,

there are a few number of studies in this area that focused on the Iranian market.²⁴ However, current studies have not tested the validity of CETSCALE for the Iranian market (for example, Bahae and Pisani¹), and there is no clear evidence of the validity of this measurement for the Iranian market. Therefore, to bridge this gap in the current literature, the study will test the validity and reliability of CETSCALE in the Iranian market in order to provide a better perspective for future research in terms of CETSCALE's validity and reliability.

LITERATURE REVIEW

The CE concept

According to Webster's dictionary's, ethnocentrism is an attitude that is collectively superior. In 1906, Sumner had introduced and used descriptively the general concept of 'ethnocentrism',²⁶ which had become a well-known concept in the fields of anthropology, sociology and social psychology. The concept was based on the formation of 'we-group' feelings, whereby the focus is on the in-group and all other groups are viewed based on it.

The concept of ethnocentrism is purely based on sociological ideas that differentiate between in-groups and out-groups in early literature. For example, Levine and Campbell²⁷ identified ethnocentrism as a psycho-social phenomenon, which is specifically relevant to individual-level personality systems and generally to cultural and social analytic frameworks. Balabanis and Diamantopoulos,²⁸ on the other hand, referred to ethnocentrism as one's own group's reflection on the view of things as the center of everything, and all others are judged based on it.

Marketing and consumer behavior literature has operationalized ethnocentrism as a consumer's decision to choose local products over imports.²⁸ In a society where the level of ethnocentrism is high, purchasing imported products is not accepted by people because it potentially can affect the domestic economy, loss of jobs, and it is not patriotic. They considered local products as far better products and that it is patriotic behavior to consume local products.⁸

Ethnocentrism categorized people in terms of their nationality or ethnic origin. Ethnocentric individuals look upon their in-group members as more positive,²⁹ honest,²⁷ better, stronger and as having the highest standard compared with an out-group member. They also consider out-group members' ideas and tradition as bizarre, inferior, immoral and inadequate. Suh and Kwon³⁰ mentioned that despite being exposed to the great wave of the globalization consumers in different cultures with differences in their behaviors and views, tastes, preferences and values continue to remain different.

The CE scale

A 17-item scale termed the CETSCALE (CE tendency scale) was designed by Shimp and Sharma⁸ to measure CE. The scale was developed from 180 items that were derived from over 800 consumers in the United States and was then divided into two successive studies on large samples. The CETSCALE has been extensively and repeatedly duplicated among western literature, and has showed high levels of internal and discriminate validity.^{16,28,19}

However, according to Douglas and Nijssen²¹ a number of considerations should be made when applying scales developed in a different country and culture. Looking at the dimensionality of the CETSCALE, Bandyopadhyay²⁰ and Luque-Martinez *et al*¹⁷ found that CETSCALE was unidimensional in Iceland and Spain. The study in Greece is also found to be unidimensional as all 17 variables of the principal component are higher than 0.6, in measuring the same concept of CE, as described in relevant literature. However, Douglas and Nijssen²¹ did not find the CETSCALE to be unidimensional in the Netherlands just as Mavondo and Tan¹⁸ did in Malaysia and Bawa²² did in India (see Table 1).

These inconsistencies between research findings about CETSCALE in different countries^{22,31–33} showed that the reliability and validity of CETSCALE has to be tested before applying it in any particular society. As the reliability and validity of CETSCALE has not been tested in the Iranian market and among Iranian consumers,

it is a valuable study to test the reliability and validity of the ethnocentrism measurement in Iran. Therefore, the main objective of this study is to test the validity and reliability of this scale in Iran and among Iranian consumers.

To achieve the objective of this study, the following hypotheses will be tested in the Iranian market, and the results of these tests will be compared with current studies to analyze the consistency and inconsistency.

Hypothesis 1: The internal consistency estimates for the CETSCALE in Iran will be high and comparable to earlier studies of the CETSCALE.

Hypothesis 2: The CETSCALE will have a uni-dimensional factor structure in Iran.

Hypothesis 3: The CETSCALE's pattern of factor loadings will be invariant across the Iranian data set.

METHODOLOGY

Instrument

The 17-item Likert-type CETSCALE developed and tested by Shimp and Sharma⁸ was used to measure the CE (see Table 2) as high reliabilities have been reported in studies using the scale.⁹ A 7-point scale is used to measure all items, with 1 being Strongly Disagree and 7 being Strongly Agree. Additional questions addressing demographic information on gender, age group and education level were included in the questionnaire containing the 17-item CETSCALE. The back-translation method was used to translate the questionnaire from English to Farsi. For this purpose, first, a translator was hired to translate the original text to Farsi and a second independent translator was asked to translate the text back to English. Both versions were sent to people who were native speakers of the target languages; they were asked to judge the translated text.³⁴ After translation, a focus group of 10 participants were asked to share their ideas about the understandability and ambiguity of the questions. The final

Table 2: Analysis of CETSCALE items (for Iranian consumers)

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

version of the questionnaire was distributed by the self-administration method among participants.

Sample and scope of study

Iran, with over 78 million citizens, has one of the youngest populations in the region. About 24 per cent of the Iranian population is under 14 years and only 5.4 per cent are over 65 years, with a median age of 26.4 years.³⁵ According the official statistics, around four million Iranian citizens were studying in universities in 2011.³⁶ Most people in this group have high accessibility to the Internet and other media such as satellite TVs, and tend to be trendier and more fashion oriented. With a high level of influence in purchasing products of the family, university students can be considered as the most influential group in the Iranian market. Moreover, these groups can be considered as potential customers in a short period of time, as they will graduate and join the job market usually within 3–4 years.

As a result, for the purpose of this study, the universities' students have been chosen to test the reliability and validity of the CETSCALE in Iran.

RESULTS AND DISCUSSION

The initial sample consisted of 450 respondents. However, 123 respondents did not answer the questionnaire properly, and thus only 328 (almost 73 per cent) of the returned questionnaires were suitable for analysis. Collected data indicated that 202 (61.6 per cent) of the participants were male and that 126 (38.4 per cent) were female (Table 3).

Factor analysis

Initially, the validity of the CETSCALE items factor analysis was tested. First, all 17 items were included in the exploratory factor analysis. Sixteen of the 17 items met the threshold requirement (factor loading > 0.5). To measure the overall validity of the scale, the Kaiser–Meyer–Olkin measure was executed and the outcome met the minimum threshold of Bartlett's test ($KOM = 0.905$, $\chi^2/df = 2295.78/136$, P -value = 0.00).

The result of exploratory factor analysis revealed that CETSCALE is a multi-dimensional scale. Therefore, to test the power of each dimension, Principle Components Analysis was employed. The result showed that the current measurement is not unidirectional and has three components (see Table 4). This finding supports some recent research in other countries as well (see Table 1). The initial Eigenvalues indicate that the first component is able to explain the variance of ethnocentrism in the Iranian market up to almost 42 per cent, the second factor 8 per cent and third factor almost 7 per cent. The results also indicate that other factors are not very significant, as the power to explain the total variance of ethnocentrism is between 1 and 2 per cent. The three-factor solution has been chosen, as they explained 56.36 per cent of the variance.

For the second step, to test the total validity of the new measurement, Amos was employed to run the Confirmatory Factor Analysis (CFA). The modified model was first subjected to CFA using Amos 16. The result from structural equation

Table 3: Demography of participants

Gender	(%)	Age	(%)	Monthly income (US \$)	(%)
Female	38.4	Below 20	2.4	Below 1500	29.5
		20–25	18.9	1501–2500	24.7
Male	61.6	26–30	48.8	2501–3500	28.7
		31–40	23.2	3501–4500	12.8
		Above 40	6.7	Above 4500	4.0

Table 4: Rotated component matrix

	Component		
	1	2	3
cetscale17	0.708	—	—
cetscale12	0.691	—	—
cetscale6	0.671	—	—
cetscale11	0.652	—	—
cetscale5	0.608	—	—
cetscale7	0.601	—	—
cetscale14	0.553	—	—
cetscale10	0.36	—	—
cetscale16	0.20	—	—
cetscale2	—	0.769	—
cerscale3	—	0.743	—
cetscale1	—	0.684	—
cetscale8	—	0.512	—
cetscale13	—	—	0.748
cetscale9	—	—	0.747
cetscale4	—	—	0.657
cetscale15	—	—	0.542

Table 5: Standardized regression weights

			Estimate
Cetscale5	<—	F1	0.71
Cetscale6	<—	F1	0.79
Cetscale7	<—	F1	0.79
Cetscale11	<—	F1	0.80
Cetscale14	<—	F1	0.52
Cetscale4	<—	F2	0.80
Cetscale9	<—	F2	0.68
Cetscale13	<—	F2	0.65
Cetscale15	<—	F2	0.50
Cetscale1	<—	F3	0.70
Cetscale2	<—	F3	0.63
Cerscale3	<—	F3	0.58
Cetscale17	<—	F1	0.74
Cetscale12	<—	F1	0.39
Cetscale8	<—	F3	0.73

model (SEM) (Table 5) shows that one of the items does not have a high contribution ($r^2 = 0.39$) to measure its variable (Question Number 12). Consequently, Question 12 has been removed from the initial measurement, and the final model has been tested in terms of goodness of fit and reliability (Figure 1).

Figure 1: Measurement model

Table 6: Regression weights\standardized regression weights\squared multiple correlation

	Regression weights				Standardized regression weights		Squared multiple correlation	
	Estimate	S.E.	C.R.	P	Estimate	Estimate		
Cetscale5	<—	F1	1.00	—	—	—	0.71	0.50
Cetscale6	<—	F1	1.12	0.08	13.30	***	0.79	0.62
Cetscale7	<—	F1	1.11	0.08	13.48	***	0.80	0.64
Cetscale11	<—	F1	1.12	0.08	13.49	***	0.80	64
Cetscale14	<—	F1	0.62	0.07	8.80	***	0.52	0.27
Cetscale4	<—	F2	1.00	—	—	—	0.80	65
Cetscale9	<—	F2	0.87	0.07	11.95	***	0.68	0.46
Cetscale13	<—	F2	0.82	0.07	11.33	***	0.65	0.42
Cetscale15	<—	F2	0.62	0.07	8.56	***	0.50	0.25
Cetscale1	<—	F3	1.00	—	—	—	0.71	0.50
Cetscale2	<—	F3	1.00	0.10	10.01	***	0.63	0.40
Cerscale3	<—	F3	0.73	0.08	9.23	***	0.71	0.50
Cetscale17	<—	F1	0.96	0.08	12.50	***	0.79	0.62
Cetscale8	<—	F3	0.97	0.09	11.25	***	0.80	0.64

The structure defined by the model obtained a poor fit in our sample (P -value = 0.001). As the SEM is so sensitive toward the large sample size, we considered other factors such as the

Tucker–Lewis Index (TLI) and Comparative Fit Index (CIF). The results show that the proposed structural model can meet the requirement and can be considered as a fit model. For this model,

RMSEA = 0.078, CFI = 0.92 and TLI = 0.90 met the minimum fit requirement (RMSEA < 0.08 and CFI, TLI > 0.90).^{37–39}

The unstandardized regression weights are all significant ($> \pm 1.96$, $P < 0.05$) (see Table 6). The standardized regression weights from this study range from 0.54 to 0.83. These results indicate that a measurement by 14 items can be significantly representing the latent construct, which in this case is ethnocentrism. The percentage of variance explained ranges from 0.27 or 27 per cent (Question 14) to 0.64 or 64 per cent (Questions 7 and 7). The residual (unexplained) variances are calculated by subtracting each explained variance from 1. Thus, for the 14 measurement variables, the residual variances range from 44 to 73 per cent.

CONCLUSION

The concept of CE has been the center of scholar inquiry for more than two decades. The original dimensional and operation of CETSCALE was introduced in 1987. Since then, researchers considered CETSCALE as a powerful tool in predicting consumer preferences and evaluating product accurately. It also has enhanced predictive validity in providing solid explanation of consumer behavior, which made CETSCALE a reliable tool to use to study the Iranian market. The results are consistent with some of the previous studies and show that the CETSCALE is a multidimensional measurement. However, the analyses indicate that the number of questions can be reduced from 17 to 14 and still fit and have a high level of internal inconsistency.

The results of this study can be used by managers to gain better insights into consumers' attitudes toward imported and local products and their reasons for buying either the imported or local products in the Iranian market. However, as the behavior of customers in a market can be affected by several environmental (for example, political, economical and so on), psychological and demographical factors, it is important that managers use CETSCALE as a complimentary source of market information rather than as a sole decision-making tool.

Our findings offer support for the validity of the CETSCALE on the Iranian market. However, we must acknowledge a number of limitations in our study, which point to future research directions. Our study is somewhat exploratory because of the utilization of a convenience sample, which may not represent all consumers. Moreover, we only tested the validity and reliability of CETSCALE in the Iranian market. Thus, in the future study, it is suggested that investigation can be done on factors that may influence customer ethnocentrism and its role in acceptance or rejection of imported products in the Iranian market. This would provide strategic and practical insights for companies to develop and maintain their market shares and develop effective marketing strategies.

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