

## **DEVELOPMENT OF MEASUREMENT MODELS FOR GLOBALIZATION, CONSUMPTION PATTERNS AND CULTURE**

### **A Case Study of Three Big Cities of Punjab, Pakistan**

ATIF KHAN JADOON, ABDUL RAUF BUTT AND MUHAMMAD AZMAT HAYAT\*

**Abstract.** Over the course of human history, people all over the world have developed progressively closer contacts. However, in the past few decades, some remarkable developments in the fields of information technology, transportation and communication have provided the process of globalization a new impetus. As a result of this increased global integration, the world has started experiencing its micro level (in addition to macro level effects) effects as well. This has greatly affected the choice of goods and services that people consume in their routine life. In this regard, globalization is considered to have both direct as well as indirect impacts on culture and consumption patterns. The present study is designed to construct measurement variables for globalization, consumption patterns and culture, which can then be used to investigate the nexus between these three variables. For this, primary data has been collected from the three cities (Lahore, Rawalpindi, and Multan) of Punjab, Pakistan. Latent variables has been developed for each three main variables. Statistical techniques such as EFA and CFA were used to endorse that the constructs do actually support the past theories and measure the underlying concepts. The study is an important contribution towards investigating the micro level effects of globalization on consumption patterns and culture.

**Keywords:** Globalization, Consumption, Culture, Exploratory Factor Analysis, Confirmatory Factor Analysis

**JEL classification:** E20, F61, F69

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## I. INTRODUCTION

Over the course of human history, people all over the world have developed progressively closer contacts. However, in the past few decades, some remarkable developments in the fields of information technology, transportation and communication have provided the process of globalization a new impetus. As a result of this increased global integration, the world has started experiencing its effects more intensely than ever. The extensive effects of globalization on different aspects of life have attracted a great deal of attention over the past three decades. Globalization has especially changed the way consumers behave, think, and more importantly, consume. In this regard, globalization is considered to have both direct and indirect impacts on culture as well as consumption patterns. The present study is designed to construct measurement variables for globalization, consumption patterns and culture, which can be used to investigate the nexus between these three variables.

The term “global village” is the core of globalization. It encompasses the idea of bringing societies across the world close together. Trentmann (2009) argues that globalization not only involves financial flows and commodity trade but rather it involves human actors whose thoughts, identities and concerns can influence global exchanges. Therefore, this growing worldwide interconnectedness not only enables cultural differences to recede and influence how people think, act or behave, but it also involves the global flow of goods and services. For Jomo and Khoo (2003), “Globalization is understood as the trans-boundary movements of capital, people, goods, information and culture, burst into intellectual awareness in the late 1980s and the 1990s”.

As countries, particularly the developing countries, have become more open in the recent years, the concern about globalization and its different effects on economic growth, poverty, inequality, environment, consumption patterns and cultural dominance have increased (Bhandari and Heshmati, 2005; Baldwin and Forslid, 2000). In most of the previous studies, trade to GDP ratio, Foreign Direct Investment (FDI) and foreign remittances were used as proxies for measuring globalization. These proxies for globalization were primarily used to determine the macroeconomic effects of globalization. With the deeper penetration of globalization, micro-level effects of globalization became also prominent. With this, the studies that aimed at investigating the effect of globalization also highlighted the role of Multinational Corporations (MNCs) and information technology in making this world a global village. While Rahman (2012) analyzed globalization in

the form of MNCs, who according to him change the socio-economic conditions of the host countries, Shamsheer and Abdullah (2012) considered internet technology as the main source for bringing changes in consumption patterns. The increasing convergence of world economies basically fosters the worldwide pervasion of information technologies (Nayyar, 2006). They, in turn, tend to stimulate societies for a greater exposure to the global world and global mass media. That is why, nowadays, there exists an opinion that these trends of globalization lead to universal homogenization (Ardalan, 2008; Levitt, 1983) of culture and consumption patterns. Therefore, it is immensely important to investigate the micro level effects of globalization on culture and consumption patterns. To comprehensively study these effects, there is a need to construct suitable measurement variable for measuring globalization, culture, and consumption patterns.

These measures will help the researchers to better understand how consumers in Pakistan are responding to globalization and its inevitable effects. Some recommendations to design a public policy to benefit from this changing consumption pattern and culture can then be provided on the basis of the analysis, in order to optimize growth potential and maximize the benefits that Pakistan can achieve from globalization.

## **RESEARCH OBJECTIVES**

Globalization has especially changed the way consumers behave and think. This has greatly affected the choice of goods and services that people consume in their routine life. In this regard, globalization is considered to have both direct and indirect impacts on culture as well as consumption patterns. There is, therefore, a need to closely investigate the nexus that exists between globalization, consumption patterns and culture. For this, it is essential to have variables that comprehensively measure globalization, consumption patterns, and culture. Since none of the past studies have developed suitable indices that in true sense measure globalization, consumption patterns and culture, the present study is an effort to design appropriate constructs for these latent variables. The study focuses on the establishment of measurement models for measuring the three said variables.

## **ORGANIZATION OF THE PAPER**

Following on from this introduction the organization of the rest of the paper is as follows: Section II presents literature review on the topic. Section III specifies the conceptual framework and section IV describes the methodology followed in the analysis. In section V, empirical results are discussed. Lastly, the conclusion is drawn in Section VI.

## II. LITERATURE REVIEW

Globalization, driven by the worldwide flow of media, migration, and technologies; is shaping people's lives and modifying their behavior. Increasingly, people now live in a 'global world', which describes a process of cultural synchronization resulting in the emergence of a global consumer culture. In this regard, Sheth et al. (2009) stated that global consumer culture is affected by the global flow of characteristic cultural resources, capital, currency, financial instruments, global flows of informational and mechanical technologies, commercial media, ideologies of states and other movements that compete for popular legitimacy and authority.

Media is undoubtedly affecting traditions of the people through its diverse platforms such as television and radio. According to Zadeh and Mozaffari (2014), technological advancement is influencing all fields of life, hence changing the social and cultural belief systems in Iran. According to Abdulaheem (2003), 70% of the entertainment programs being viewed by the people in developing countries are originated from the United States of America and they promote the American culture and the American way of life among the majority of the world's population. The author is of the view that globalization has changed the culture of how people eat, drink and dress. Multinational companies such as McDonald's, Coca-Cola, and Denim jeans actually determine how people eat, drink and what they wear.

Furthermore, Suntoo (2012), using both primary and secondary data, examined the impact of globalization on the culture of the people of Mauritius. The author highlighted that the saving rate has been reduced and Mauritius is becoming a more consumption oriented society where people are keen to fulfill their present needs rather than future needs. Irrespective of age and gender, people of Mauritius are under a great influence of western culture. It is fashionable for men of all ages to wear jeans and T-shirts. Imported goods are used in daily life and children are more interested in technological devices rather than traditional toys. The results also suggested that usage of homemade food has been reduced and replaced by the international fast food chains. A similar pattern of savings rate was also observed in America by Warren (2003) where people are now more intended to use branded goods and in Egypt by Amin (1999) where the goods which were considered as a luxury in 1970's have become the need of every "poor". Amin (1999) concluded that the saving rate in Egypt has become consistently lower (around 15%) due to increased economic integration, which has raised the import of consumer goods and has made Egypt a more

consumption oriented society. The culture of private cars, western lifestyle, luxuries dwelling has become common in the society.

Specifically, considering the case of Pakistan, the study conducted by Qamar *et al.* (2012) is of immense importance. This paper analyzed the influence of Indian culture on Pakistani norms and values. Taking a sample of 120 respondents from Faisalabad city, the authors pointed out that many aspects of Pakistani culture such as language, dressing, lifestyle, performing and visual art, values, and norms are highly influenced by Indian culture. The majority of the respondents were of the view that cable TV network is a key factor leading to the spread of Indian culture in Pakistani society. The results above are in line with those presented by Ali *et al.* (2014) who analyzed the impact of Indian media on the language and dressing of females in the village Sehowal (Sialkot district). According to Zia (2007), Pakistan's national language Urdu is increasingly being blended with Hindi. Similar views were presented by Flangan (2005), Qamar *et al.* (2012) and Ali *et al.* (2014).

Music is also playing a role in bringing cultural changes in Pakistan. Rana and Ajmal (2011) analyzed this function of music. On the basis of data collected from 1000 Pakistani postgraduate students (500 boys, 500 girls) between 19 and 25 years of age, the authors report that Pakistani classical music, Western pop music, and Ghazal are the most popular styles of music respectively among Pakistani youth. They infer that this interest in Western pop music points to a potential 'Westernization' of Pakistani musical culture.

Modern societies appear to consume large amounts of convenience and fast food, and its growing popularity is clear. Baig and Saeed (2012) undertook a survey-based study to check the trends of fast food consumption in two major cities (Lahore, Faisalabad) of Pakistan by taking a sample of 100 respondents. The results of the study showed that youngsters consume more fast food than the adults. Women participation in the labor force has led to an increase in the consumption of ready to cook food. The study conducted by Yahya *et al.* (2013) also revealed similar results for Pakistan. Moreover, with reference to the study of Baig and Saeed (2012), Ukonu (2016) examined how the fast food choices of students are affected by globalization. The findings of the study suggested that globalization has made fast food more popular, particularly among students.

Apart from an increasing trend towards the consumption of fast food, people are nowadays also becoming more brand conscious. By collecting data from 341 respondents from Peshawar, Ghani *et al.* (2007) examined how the purchasing decision of consumers was affected by the country of

origin of durable goods. Furthermore, until about a few decades ago, no one would have thought of buying bottled water but now the trend of using 'mineral water' purified and bottled by companies like Nestle and Kinley (Coca Cola) is common in restaurants and households alike (Altaf et al., 1992; Haq et al., 2008).

Researchers attach great importance to the role of MNCs in changing the consumption patterns of people. Rahman (2012) analyzed the role of globalization in form of MNCs, who according to him change the socio-economic conditions of the host countries. MNCs employ the media for their campaign and introduce the culture of research and development in developing countries with the injection of new technology, innovations and expertise. Moreover, MNCs also change the eating habits of people, increasing consumption of fast and junk food.

From the past literature, it is evident that globalization affects consumption patterns and culture directly. However, in literature, all of the studies have focused on any one component of consumption. A plethora of studies only shed light on the impact of globalization on the consumption of fast food specifically; there are no studies which, in relation to globalization, collectively consider various components of consumption of basic goods and services (food, clothing, education etc.) and culture. To facilitate researchers in investigating the nexus between globalization, consumption pattern and culture, the present study aims to design appropriate suitable constructs for these latent variables. Hence the current research gap requires the establishment of measurement models for measuring globalization, consumption patterns, and culture.

### **III. CONCEPTUAL FRAMEWORK**

From the past literature, it is evident that globalization plays a significant role in transforming an individual to be a part of the global village. In this regard, different channels were discussed through which globalization is changing the culture of societies and is bringing them towards a common culture, dominantly the western culture. Furthermore, the role of globalization in changing the consumption patterns of the individual was also discussed. Based on the past literature, a conceptual framework is designed that is then used to construct the three measurement variables. The construction details are discussed as follows:

#### **CONSTRUCTION OF THE GLOBALIZATION CONSTRUCT**

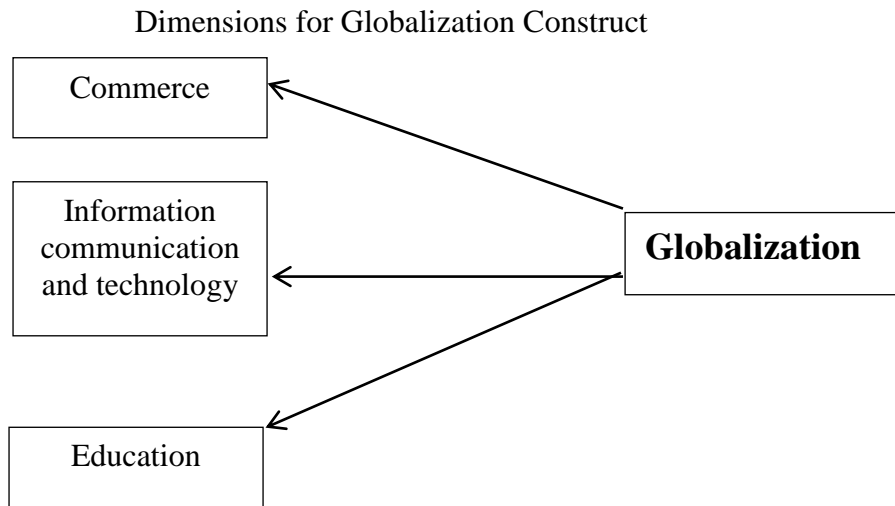
The globalization construct is developed with the help of previous studies which point out a number of channels through which globalization is

affecting consumption patterns and culture. According to Alli et al. (2007) the main areas of and by which globalization is penetrating are trade, business in general, information and communication technology, politics and education. The present study has used all these factors (excluding politics) for the measurement of the globalization construct.

Today, we see almost all kinds of goods and services available in Pakistan due to trade openness with rest of the world since late 1990's. The business dynamics have changed since the concept of McDonaldization has emerged and for the maximization of profits, the production firms like to operate in multiple countries. The role of MNCs has become very prominent in the course of globalization. The globalization of science, information, and technology along with trade and business is helping to make the world as a global village. The global education system is also contributing in bringing societies of the world closer. The students are going to other countries for getting education and with them; they bring back foreign cultures to their home countries.

For the present study, the concept of globalization is constructed with the help of three broad dimensions namely commerce, information and communication technology (ICT) and education, as depicted in figure 1 below:

FIGURE: 1



### CONSTRUCTION OF THE CULTURE CONSTRUCT

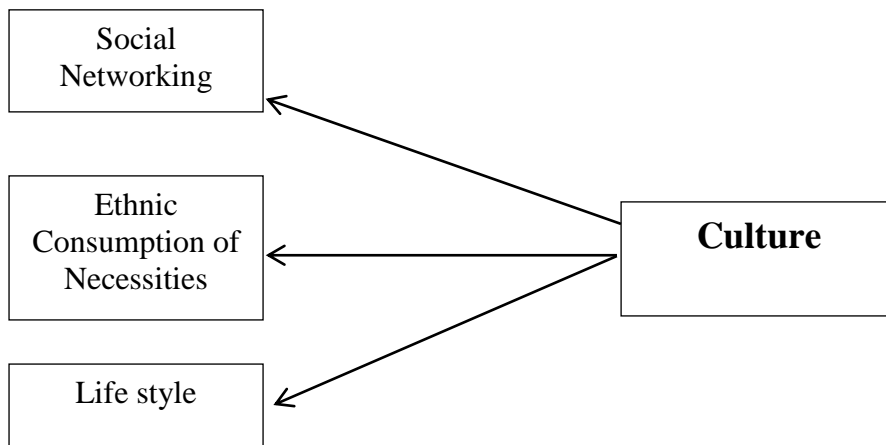
The concept of culture has been defined by hundreds of times by sociologists and most of them describe it in terms of way of dressing, food, language,

values, family life, social life, education etc. ‘Theories of global culture’ primarily focus on the globalizing cultural forms and flows, belief systems and ideologies. The role of mass media has been vital in a free flow of ideas, images, norms etc. and bringing forward the idea of global village. Furthermore, in the theory of ‘The Network Society’<sup>1</sup>, the significance of the role of IT is highlighted. This is in line with the idea of Qamar et al. (2012) who pointed out that media and advertisements are affecting the eating habits of the people in Pakistan. Castells (1996) pointed out that the social networking of the individuals has changed and the human society has moved from verbal order to alphabetic order and audiovisual system of symbols.

The province Punjab of Pakistan is also experiencing cultural changes in terms of food intake, apparels, language, social networking sources, and lifestyle. People these days are forming close network ties which comprise of people belonging to heterogeneous cultural groups (Rycker et al., 2015). These social networks, in turn, affect the culture of the societies. For the present study, the cultural changes are constructed with the help of three broad dimensions namely the ethnic consumption of necessities, social networking, and lifestyle as illustrated in figure 2.

FIGURE: 2

## Dimensions for Culture Construct




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<sup>1</sup> The concept of Network Society, brought forth in 1981, encompasses social, political, economic and cultural changes that societies experience as a result of strong social networks and advanced information and communication technologies.



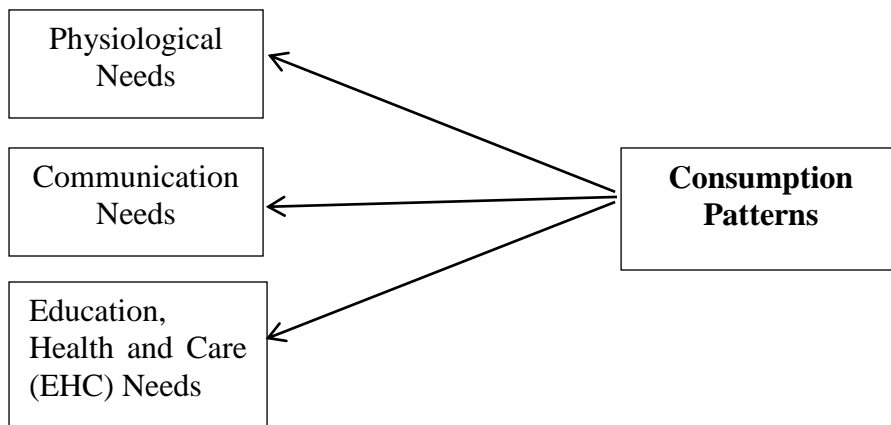
**CONSUMPTION PATTERNS**

Consumption patterns of a society largely depend on the thinking and needs of the individuals who are part of the society. The economic conditions and market structures, which have been created in the course of globalization, revolutionize with the introduction of MNCs. The trend of consuming fast food provided by international fast food chains like McDonald, KFC, Pizza hut etc. is increasing in Pakistan. Similar is the case with clothing. According to Ali et al. (2014), the use of branded clothes has become common and nowadays people like to buy western clothes. The role of technology is immense in changing the consumption patterns of the individuals in Pakistan. Due to the advancement in technology, the online purchase of goods has changed the dynamics of consumption.

With an increase in female labor force participation in Pakistan, the need for helpers (maids) to assist in household chores has increased (Lone and Mohyuddin, 2013). In Pakistan, people are now more willing to send their children to costly English medium schools rather than Madrasas or Urdu medium schools. For the present study, the variable for consumption patterns of basic goods and services is constructed with the help of three broad dimensions namely physiological needs, communication needs and education, health and care (EHC) needs, as depicted in figure 3.

Figure: 3

Dimensions for Consumption Patterns Construct



## **IV. METHODOLOGY**

### **METHODOLOGICAL APPROACH**

The literature review presented in section II of the present study, suggests that a well-established relationship exists between globalization, consumption patterns and culture (Amin, 1999; De Mooij, 2003; Paek and Pan, 2004; Suntoo, 2012). However, in exploring these relationships, past studies have only focused on any one component of consumption patterns or culture. For example, in the case of consumption, a plethora of studies only shed light on the impact of globalization on the consumption of fast food specifically; there are no studies which, in relation to globalization, collectively consider various components of consumption of basic goods and services (food, clothing, education etc.). Similar is the case for culture. Therefore, to facilitate researchers in investigating the nexus between globalization, consumption pattern and culture it is essential to develop suitable constructs for measuring globalization, consumption patterns, and culture. An empirical setting is therefore required in this regard. For this purpose, quantitative research tools and technique such as Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) have been used in the present study.

### **POPULATION**

The present study is a rare initiative regarding the study of consumers at the micro level and focuses on primary data collected from the most developed province, i.e., Punjab of Pakistan. The rationale for selecting only one province is to create a fairly homogenous environment which can help to control the significant impact of uncontrolled external variables. Further, the data have been taken from the three big cities (Lahore, Multan, and Rawalpindi) of the province Punjab. The rationale for selecting these three big cities is to cover the whole of Punjab. The province Punjab is divided into three regions namely Central, Southern and Northern Punjab and the biggest city from each region is selected. The size of a city is determined on the basis of its population, radio transmission hours, no. of television sets and no. of cinemas<sup>2</sup>. These determinants were considered specifically because these mediums play a vital role in facilitating globalization to penetrate in the societies. Moreover, exposure to cinemas and television is important with reference to transformation in culture and consumption patterns.

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<sup>2</sup> Pakistan Statistical Year Book 2011, page no. 326,489,490 and 445.

## **SAMPLING AND SAMPLE SIZE**

For the present study, the targeted population is the employed people of the three cities under consideration. The reason for selecting only employed people is that the questionnaire has been designed only for the people who are earning money so to ensure valid responses only employed people are selected. A disproportionate stratified random sampling technique with equal allocation has been used for the data collection.

The three cities have been divided into different strata (town wise) and then the respondents are selected from each stratum (town) by simple random sampling. Equal allocation or balanced allocation has been made for selecting respondents from each stratum. The city Lahore has been divided into ten towns namely: Aziz Bhatti, Data Gunj Bakhsh, Gulberg, Iqbal, Mughalpura, Nishtar, Ravi, Samanabad, Shalimar, and Wagah. Multan has been divided into four towns which include: Bosan, Mumtazaabad, Shahrkealam and Shershah. Rawalpindi has been divided into two major towns which are: Rawal and Pothar.

When the size of the population for any study becomes large then the sample size become almost irrelevant and a sample size of 400 become appropriate (Gay *et al.*, 2009). In the context of the present study, to get more precise estimates, a sample of 1000 from each city has been selected.

## **RELIABILITY AND VALIDITY OF THE SURVEY INSTRUMENT**

Instrument development is an important part of the researchers that use primary data. Reliability depicts the consistency of the measurement of a variable (Bollen, 1989). The reliability of the constructs is judged by Cronbach's alpha coefficient (0.60 for the pilot study and 0.70 for the whole sample). The validity of the survey instruments must be checked before applying any statistical technique for obtaining the results. Validity is primarily concerned with whether the findings are really about what they appear to be (Saunders *et al.*, 2007). For the present study content, convergent, and discriminant validity were checked before the model fitness.

## **MEASUREMENT OF THE CONSTRUCTS**

This section discusses the way in which the variables of interest are measured. The questionnaire (attached in appendix A) for the present study has been designed in very simple language and unfamiliar terms are avoided. A self-reporting scale was used and close ended questions were created and ranked on Likert scale ranging from Strongly Disagree (1) to Strongly Agree (5). EFA was used to explore the items which measure the latent variables

considered in the study. The measurement variables used in the proposed model are briefly discussed below:

### **GLOBALIZATION**

The variable 'globalization' for the present study has been measured through three broad dimensions namely commerce, ICT, and education. The items that were taken to measure these dimensions are given in the questionnaire attached under the heading Globalization. Questions ranging from 2.1-2.4, 2.5-2.8 and 2.9-2.12 are used for commerce, ICT, and education respectively.

### **CONSUMPTION PATTERNS**

The variable consumption patterns for the present study has been measured through three broad dimensions i.e. physiological needs, communication needs, and education, health, and care (EHC) needs. The items that were taken to measure these dimensions are given in the questionnaire attached under the heading Consumption Patterns. Questions ranging from 2.13-2.19, 2.20-2.24 and 2.25-2.28 are used for Physiological Needs, Communication Needs and EHC needs respectively.

### **CULTURE**

In the present study, culture has been measured through three broad measures i.e. ethnic consumption of necessities, social networking, and lifestyle. The items that were taken to measure these dimensions are given in the questionnaire attached under the heading Culture. Questions ranging from 2.29-2.35, 2.36-2.39 and 2.40-2.45 are used for Ethnic consumption of necessities, social networking, and lifestyle respectively.

### **DATA COLLECTION PROCEDURE AND RESPONSE RATE**

Data collection is an important and significant phase of any research. Inappropriate data collection procedure can be a cause of invalid results (Sufian, 2015). Two most widely used methods of data collection include paper-pencil based surveys and web-based surveys. Although the response rate in developing countries is generally low (Leedy and Ormrod, 2001) but in the present study due to personal references and active follow-ups the response rate was quite high. The response rate after cleaning, screening and removing outliers was 46.4 % (464 out of 1000), 43.1% (431 out of 1000) and 42.6% (426 out of 1000) for Lahore, Multan, and Rawalpindi respectively.

## **V. EMPIRICAL RESULTS AND DISCUSSION**

### **EXPLORATORY FACTOR ANALYSIS**

EFA is the first step towards building scales for any quantitative study. Researchers apply EFA at early stages of research because its primary objective is to determine the number of factors which are influencing variables and scrutinize which variables go together (DeCoster, 1998; Tabachnick and Fidell, 2007). So, in order to determine the factors of latent variables, EFA is performed on data collected during the pilot study (257 questionnaires).

### **EFA FOR GLOBALIZATION**

Along with the significant value of Bartlett's Test of Sphericity, a high value of KMO (0.866) provides the basis to apply EFA for data analysis. Eigenvalues suggest a three-factor solution as only three components have values that are greater than one (4.224, 1.165, 1.118), which explain 55.02% of the variance. The three factors generated by EFA are found to be moderately correlated as correlation values are 0.461 and 0.356.

The results of EFA also show that the factor loadings of the variables are between 0.359 and 0.87. Three factors generated in this analysis have Cronbach's alpha values of 0.619, 0.601 and 0.746 which are acceptable at this stage of the study (for details, refer to Appendix B, Table 1).

### **EFA FOR CONSUMPTION PATTERN**

The significant value of Bartlett's Test of Sphericity and a high value of KMO (0.777) provide the basis to apply EFA for data analysis. Eigenvalues suggest a three-factor solution as only three components have recorded values that are greater than one (4.363, 2.237, 1.289), which are explaining 60.68% of the variance.

Two of sixteen statements (2.19 and 2.24) are deleted at EFA stage and the rest of the fourteen statements have loadings ranging from 0.501-0.891. These fourteen statements are considered to measure changing consumption patterns. The Cronbach's alpha values of the three factors are 0.823, 0.708 and 0.803 which are quite high for pilot study (for details, refer to Appendix B, Table 2).

### **EFA FOR CULTURE**

Eigenvalue test recommends a three-factor solution as only three components have recorded values that are greater than one (3.823, 2.015, 1.174), which explain 53.9% of the variance. The results of EFA show that factor loadings

of the fifteen statements range from 0.373-0.802. Seventeen items were taken to measure culture and two items (2.35 and 2.45) are deleted due to their low loadings. Therefore, fifteen statements are retained for CFA. The Cronbach's alpha values of three factors are 0.787, 0.68 and 0.701 which are appropriate for pilot study (for details, refer to Appendix B, Table 3).

### CONSOLIDATED DETAILS OF THE EFA RESULTS

Initially, there were 45 items, out of which four items are deleted and the remaining 41 were retained for further analysis. The details are presented in Table 1.

TABLE: 1  
Summary of Constructs

Construct	Original Statements	Deleted during EFA	Reliability
Globalization (Three Factors)	12	Nil	$\alpha_1 = 0.619$ $\alpha_2 = 0.601$ $\alpha_3 = 0.764$
Consumption pattern (Three factors)	16	2	$\alpha_1 = 0.823$ $\alpha_2 = 0.708$ $\alpha_3 = 0.803$
Culture changes Three factors	17	2	$\alpha_1 = 0.787$ $\alpha_2 = 0.680$ $\alpha_3 = 0.701$

### MEASUREMENT MODEL FIT INDICES

Model fit indices such as Normed Chi-square (CMIN/DF), CFI, GFI, IFI, TLI, and RMSEA are repeatedly used and reported in the literature. The fit indices used in the present study along with their threshold levels are reported in Table 2.

TABLE: 2  
Fit Indices for the Present Study

Level of Model Fit	Overall Model Fit					
Fit Measures	CMIN/DF	RMSEA	CFI	GFI	IFI	TLI
Recommended for Further Analysis if	>5	>0.08	<0.90	<0.90	<0.90	<0.90
Acceptable Scale for good as well as Adequate Fit	≤5	≤ 0.08	>0.95 sometimes even > 0.90	>0.95 sometimes even > 0.90	>0.95 sometimes even > 0.90	>0.95 sometimes even > 0.90

**THE RESULTS OF CFA**

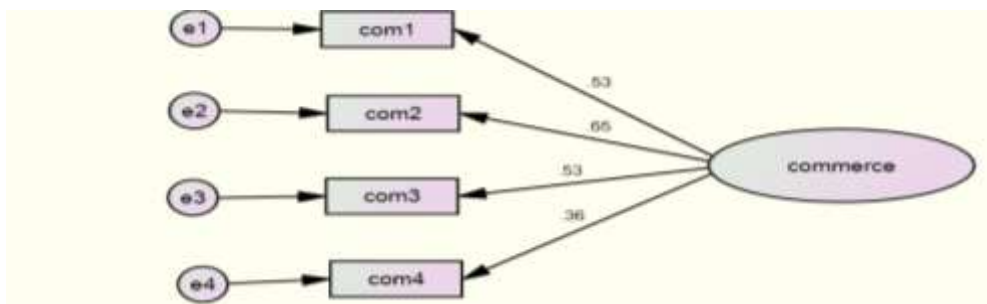
CFA is a multivariate statistical method which is used to evaluate the proposed theory of the researcher to test the relationship between latent variables with the observed variables or may be other latent variables (Bartholomew and Knott, 1999). Standardized regression weights are used to check the dimensionality of the measurement model and to verify the model fit. Details for the CFA performed on each variable are given below:

**GLOBALIZATION**

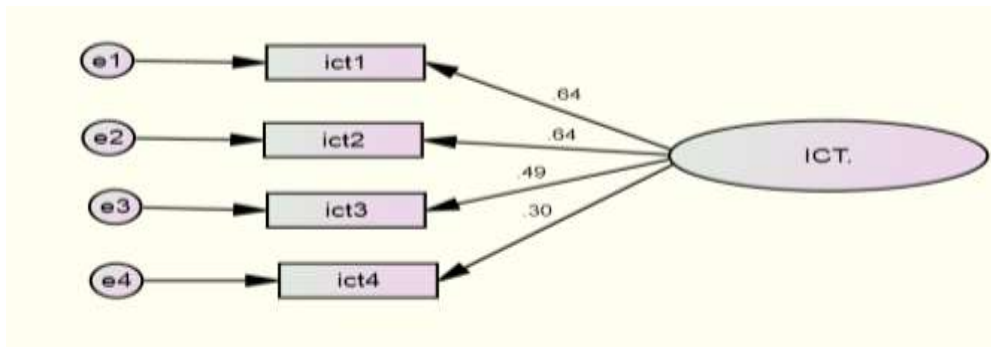
CFA is performed on each dimension of the globalization to see whether the constructs which were identified during EFA are really measuring the underlying concepts. Therefore, each dimension of globalization is subjected to CFA and details are presented in Figure 4.

FIGURE: 4

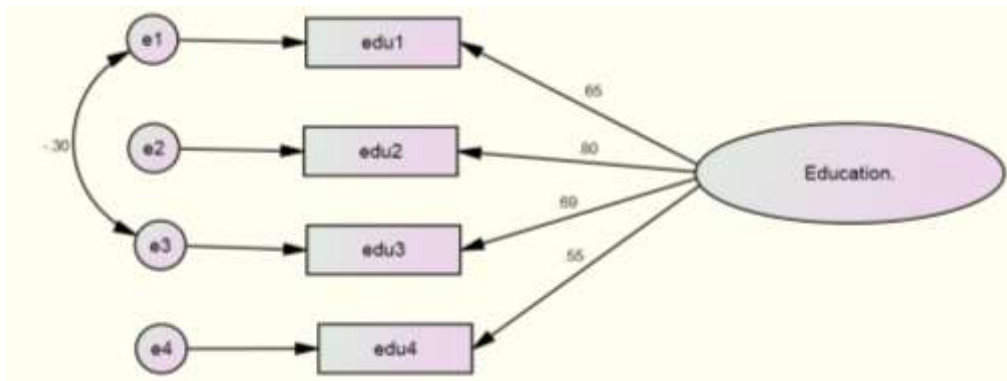
Final CFA for Commerce, ICT and Education Construct



Chi-square=6.886, df= 2, p-value= 0.032, CMIN/DF= 3.443, CFI=0.990, GFI=0.997, IFI= 0.999, TLI=0.970, RMSEA=.043



Chi-square=3.014, df=2, p-value= 0.222, CMIN/DF=1.507, CFI= 0.998, GFI=0.999, IFI= 0.998, TLI=0.994, RMSEA=0.020



Chi-square=2.147, df =1, p-value= 0.143, CMIN/DF=2.147, CFI= 0.999, GFI=0.999, IFI= 0.999, TLI=0.995, RMSEA=0.029

The results show that the values of CMIN/DF are less than 5 for all the measurement models. This is an indication of the good fit of the models. The values of CFI, GFI, IFI, and TLI fit indices are also more than 0.99 which shows that the models are perfectly fit. The values of RMSEA are also less than 0.08.

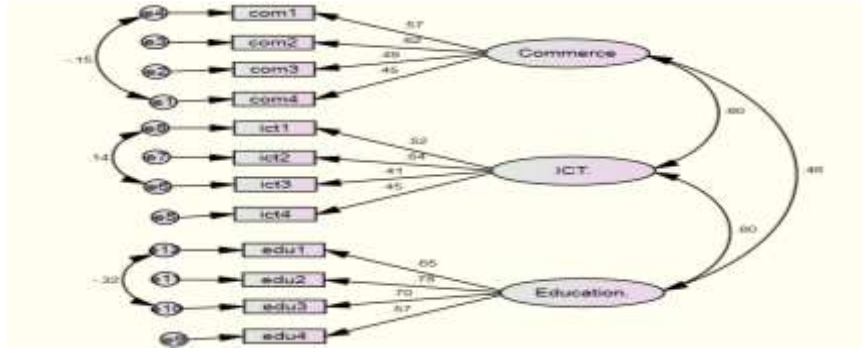
### THREE FACTORS CFA FOR THE GLOBALIZATION

After the individual CFA analysis of each of the three factors (dimensions) of globalization, three factors namely commerce, ICT, and education are linked to form a three-factor CFA measurement model as represented in Figure 5.



FIGURE: 5

Final Three Factors CFA for Globalization Construct

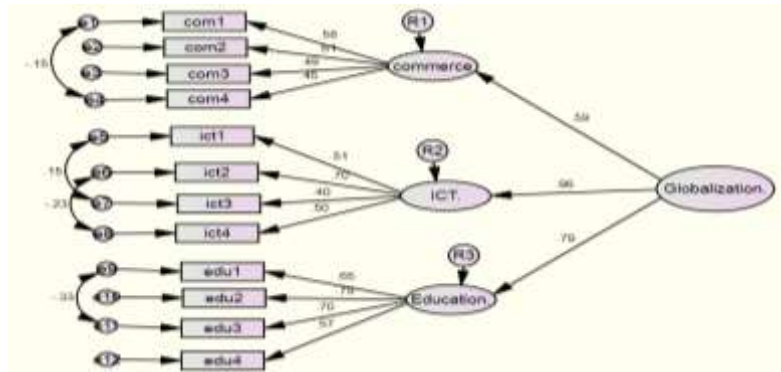


Chi-square= 224.368, df=48, p-value= 0.000, CMIN/DF=4.674, CFI= 0.934, GFI=0.966, IFI= 0.934, TLI=0.909, RMSEA=0.057

The results show that the model is well fitted. The values of the fit indices: CFI, GFI and TLI are more than 0.90. The value of RMSEA is also less than 0.08. In CFA, if a correlation exists amongst the lower order factors (latent variables), then higher order factors can be hypothesized (Cunningham, 2008). The results depict that three factors (commerce, ICT, and education) are highly correlated. Since the literature on globalization theories suggests that all the three factors are determining the process of globalization, a higher order CFA model can be hypothesized. The higher order CFA model must have at least three first order latent variables and each latent variable must comprise of at least two items (Kline, 2005). Since the globalization construct meets all the requirements of higher order CFA models, a higher order CFA model is applied and the results are represented in figure 6.

FIGURE: 6

## Final Higher Order CFA for Globalization Construct



Chi-square=197.687, df=47, p-value= 0.000, CMIN/DF=4.206, CFI= 0.944, GFI=0.971, IFI=0.944, TLI=0.921, RMSEA=0.053

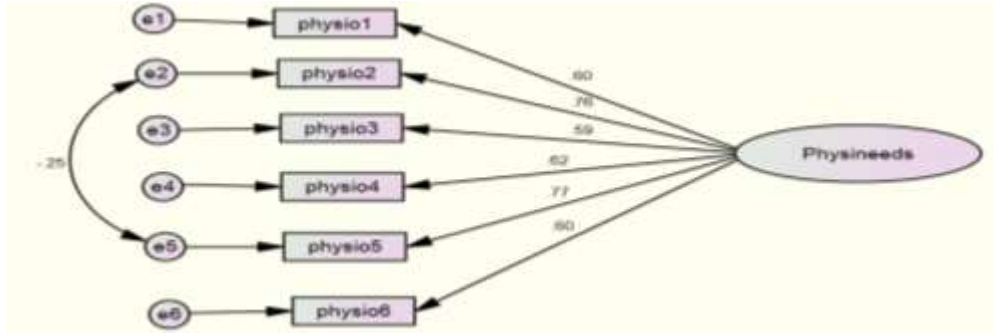
The value of CMIN/DF is less than the threshold level of 5 which indicates that the model is a good fit. According to Cunningham (2008), higher order and lower order models are equivalent but in order to apply higher order model, the researcher must have theoretical links among the latent variables. The loadings of the sub-constructs namely, commerce, ICT, and education validate the theory that globalization consists of these three variables. The reliability scores of the three factors of globalization show that globalization construct is reliable. Overall, the higher order CFA results show that the model is a perfect fit.

### CONSUMPTION PATTERNS

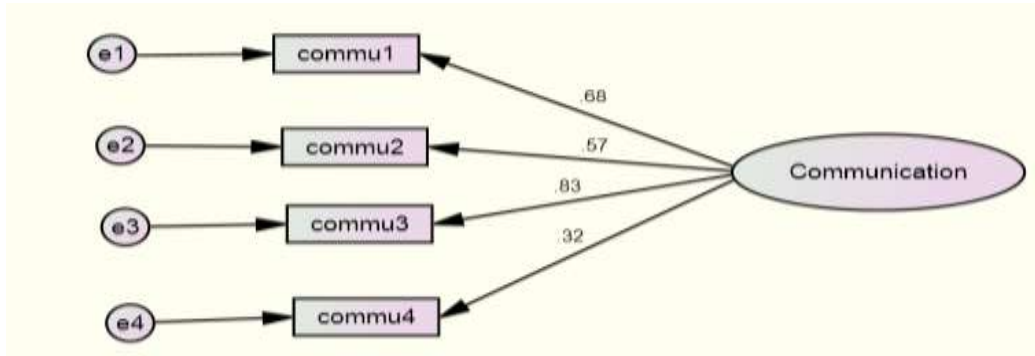
CFA is performed on the latent variables used to measure changes in consumption patterns of the individuals to check whether the constructs which were identified during EFA are really measuring the underlying concepts. Therefore, all the three latent variables are subjected to CFA and the results are presented in Figure 7.

FIGURE: 7

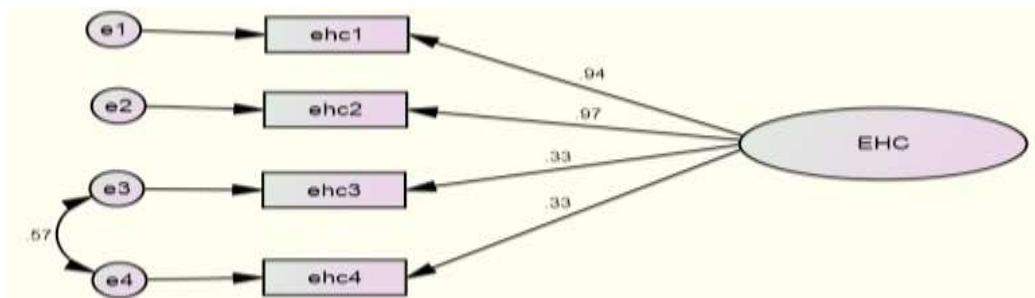
Final CFA for Physiological Needs, Communication and EHC



Chi-square=25.269, df=8, p-value= 0.001, CMIN/DF= 3.159, CFI= 0.992, GFI=0.994, IFI=0.992, TLI=0.985, RMSEA=0.040



Chi-square=5.612, df=2, p-value= 0.001, CMIN/DF=2.806, CFI=0.996, GFI=0.998, IFI=0.996, TLI=0.989, RMSEA=0.037



Chi-square=0.174, df=1, p-value= 0.677, CMIN/DF=0.174, CFI= 1.000, GFI=1.000, IFI= 1.000, TLI=1.002, RMSEA=0.000

The results show that the values of CMIN/DF are less than 5 in all measurement models. The values of CFI, GFI, IFI, and TLI fit indices are

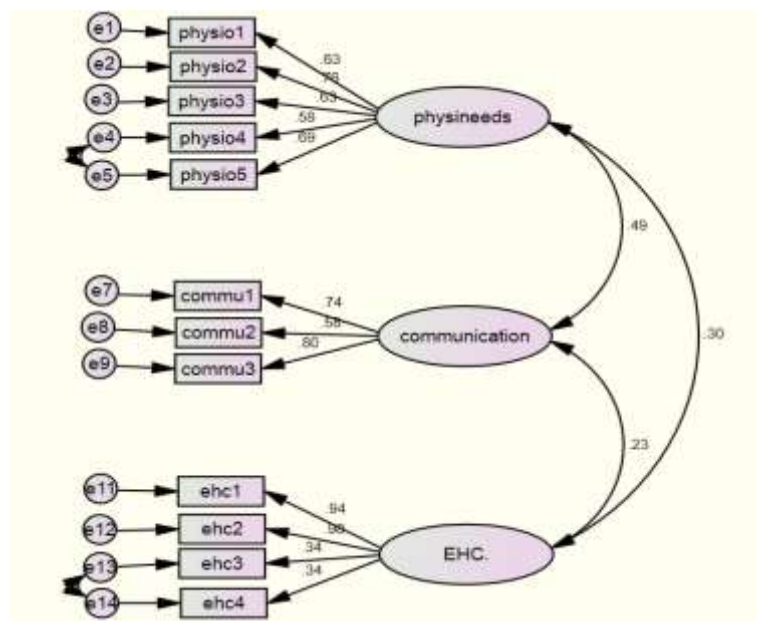
also more than 0.98 which show that the models are perfectly fit. The values of RMSEA are also less than 0.08.

### FINAL THREE FACTORS CFA FOR CONSUMPTION PATTERN CONSTRUCT

Three factors of consumption pattern construct namely physiological needs, communication needs, and EHC needs are linked to form the three factor CFA model. The graphical representation of the estimated model is given in Figure 8.

FIGURE: 8

Final Three Factors CFA for Consumption Pattern Construct

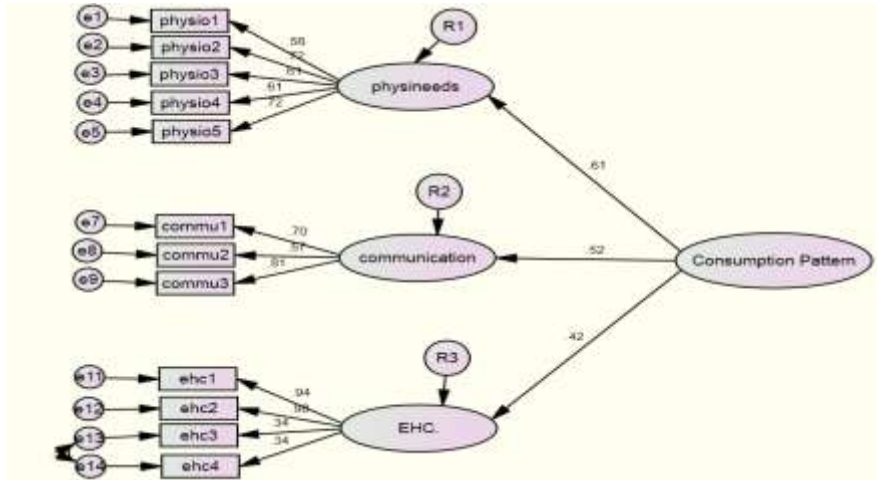


Chi-square= 208.208, df=50, p-value= 0.000, CMIN/DF=4.16416, CFI= 0.959, GFI=0.961, IFI=0.959, TLI=0.946, RMSEA=0.062

The value of CMIN/DF is 4.1641 which show that the model is a perfect fit. The values of other fit indices are also in accordance with the threshold levels. The literature presented in section II of the present study suggests that physiological needs, communication needs, and EHC needs are the main determinants of changes in consumption patterns of the basic goods and services. Moreover, the basic requirements of higher order CFA are also fulfilled so a high order model is also applied.

FIGURE: 9

Final Higher Order CFA for Consumption Pattern Construct



Chi-square=193.971, df=51, p-value= 0.000, CMIN/DF=3.8033, CFI=0.955, GFI=0.954, IFI=0.955, TLI=0.941, RMSEA=0.065

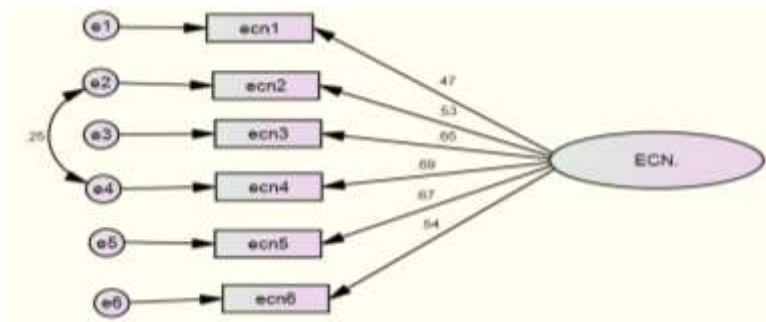
The results show that the value of CMIN/DF is 3.8033 which is an indication of the good fit of the model. The values of CFI, GFI, IFI and TLI are around 0.95. Overall, the results of the higher order CFA show that the model is a perfect fit.

**CULTURE**

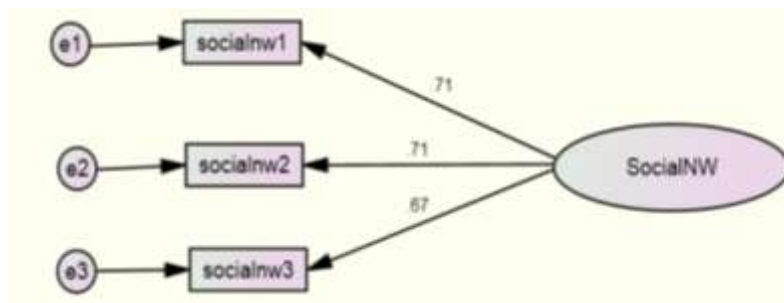
CFA is performed on the three latent variables (ethnic consumption of necessities, social networking, and lifestyle) to check whether the constructs which were identified during EFA are really measuring the underlying concepts. So, all the three latent variables are subjected to CFA and the results are presented in Figure 9.

FIGURE: 9

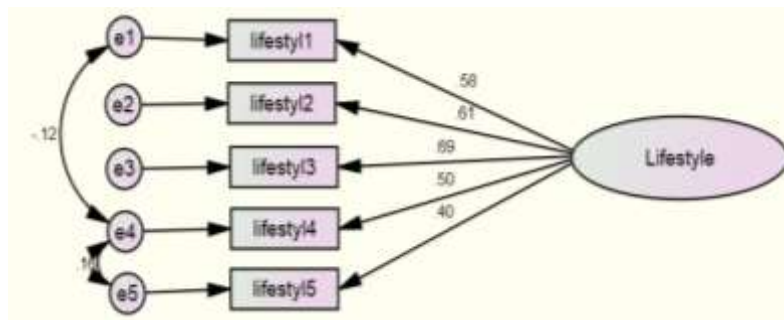
Final CFA for ECN Construct, Social Networking and lifestyle



Chi-square=25.327, df=8, p-value= 0.001, CMIN/DF=3.1658, CFI=0.990, GFI=0.994, IFI=0.99, TLI=0.982, RMSEA=.041



Chi-square=0.00, df=0, p-value= 0.00 CMIN/DF=0.00, CFI= 1.000, GFI=1.000, IFI=1.000, TLI=1.000, RMSEA=0.00



Chi-square=11.406, df=3, p-value= 0.010, CMIN/DF=3.802, CFI= 0.992, GFI=0.997, IFI=0.992, TLI=0.972, RMSEA=0.046

The results of fit indices show that the values of CMIN/DF are less than 5 in all measurement models. The values of CFI, GFI, IFI, and TLI fit

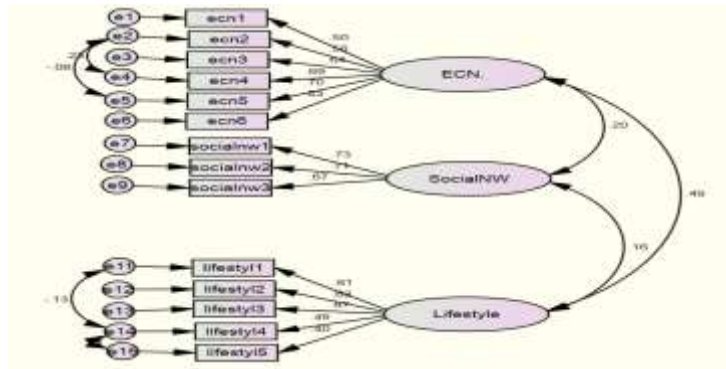
indices are also more than 0.97 and the values of RMSEA are also less than 0.08.

### THREE FACTORS CFA FOR THE CULTURE

After the individual CFA of each of the three factors (ECN, social networking, and lifestyle) of culture construct is performed, these factors are linked to form a three-factor CFA. The graphical representation of the estimated model is given in Figure 10.

FIGURE: 10

Final Three Factors CFA for Culture Construct

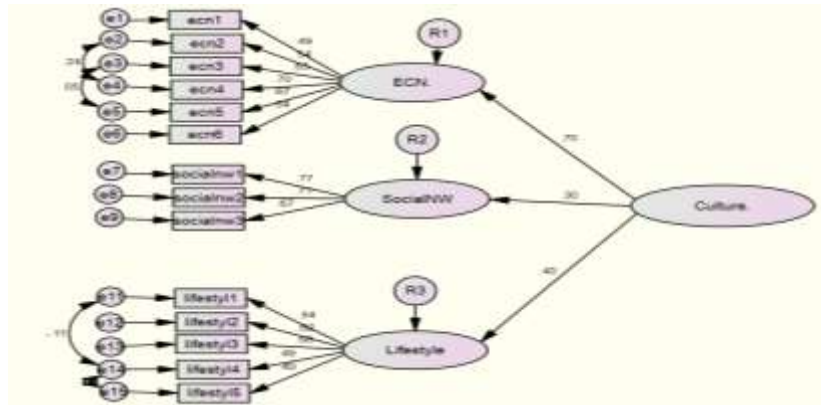


Chi-square= 180.642, df=72, p-value= 0.000, CMIN/DF= 2.509, CFI=0.960  
 GFI=0.973, IFI=0.960, TLI=0.949, RMSEA=0.040

The results of the model show that the value of CMIN/DF is less than 5 and the values of fit indices namely, CFI, GFI, IFI and TLI are also more than 0.90. The value of RMSEA is also less than 0.08. Since there are three first order latent variables for culture construct and each has at least two indicators so a higher order model can be hypothesized following the lines of Kline (2005).

FIGURE: 11

## Final Higher Order CFA for Culture Construct



Chi-square=312.887, df=74, p-value= 0.000, CMIN/DF=4.228, CFI= 0.939  
GFI=0.968, IFI= 0.939, TLI=0.925, RMSEA=0.049

The value of CMIN/DF for the model is 4.298 which is less than 5. All the other fit indices of the model have values greater than the limit of 0.90 which indicates that the model is a perfect fit.

**SUMMARY OF THE CFA RESULTS**

The factors obtained during EFA are validated by using CFA. By correlating the error terms of the same constructs, some modifications were made to get the best fit models. The summary of measurement model fit indices, along with the reliabilities (higher order models) of the three main variables of the study, is given in Table 3.

TABLE: 3

## Summary of the Fit Indices for Final Models

Measurement Models	Overall Model Fit						Composite Reliability
	Fit Measures						
	CMIN/DF	CFI	GFI	IFI	TLI	RMSEA	
Globalization	4.206	0.944	0.971	0.944	0.921	0.053	0.825
Consumption patterns	3.8033	0.955	0.954	0.955	0.941	0.065	0.850
Culture	4.228	0.939	0.968	0.939	0.925	0.049	0.769

Table 3 shows that the measurement models developed in the conceptual framework of the study fit the data very well and the models are reliable. Each higher order model for the three variables, namely globalization,



consumption patterns, and culture is good fitted because the values of all of the fit indices are according to the defined limits (mentioned in Table 2). These results show that the globalization, consumption patterns, and culture can be measured by various indicators that are used in the present study.

### **CONVERGENT AND DISCRIMINANT VALIDITY**

The results of CFA confirm the convergent validity because the factor loadings of all the items are above 0.30 and the items also load in the relevant construct specified in the theoretical framework of the present study. Higher order models are applied because of the fact that first order latent variables of all three main latent variables were correlated. Since the higher order models are applied, it is unnecessary to check discriminant validity.

## **VI. CONCLUSION**

The dawn of the twenty-first century brought forth the idea of making this world an integrated village. The uniformity of consumption patterns and culture, as a result of globalization, has become a common characteristic of every society as every society is experiencing the effects of globalization although the intensity of this effect may vary across societies (Bigman, 2002). In the literature related to the effects of globalization, much of the focus has been on the effects of globalization on macroeconomic indicators both for a single-country and multi-country analysis. On the micro level, the literature demonstrates that there is a relationship between globalization, culture and consumption patterns of the people. However, in literature, all of the studies have focused on any one component of consumption. A plethora of studies only shed light on the impact of globalization on the consumption of fast food specifically; there are no studies which, in relation to globalization, collectively consider various components of consumption of basic goods and services (food, clothing, education etc.). Similar is the case for culture, where the past studies have only considered specific aspects of culture.

Therefore, the researchers who want to investigate the micro level (specifically culture and consumption patterns) impacts of globalization do not have suitable proxies for the variables such as globalization, consumption pattern, and culture. The present study is an effort towards measuring the concept of globalization for the analysis of its impact on consumption patterns and culture. The present study has used: twelve observed variables to measure the concept of globalization; fourteen observed variables to measure the concept of consumption pattern and fifteen observed variables to measure the concept of culture. Moreover, on the statistical ground, the

theoretical models of globalization, consumption pattern, and culture, developed under a new empirical research setting strained from past studies and theories, satisfy all the conditions of the good fit of the models. The present study is an important contribution towards designing appropriate measures for investigating the micro level effects of globalization on the individuals.

Here it is important to note that the scope of the present study is limited to developing the measurement models for the three variables: globalization, consumption patterns, and culture. In doing so, we have used a number of constructs (along with the sub-constructs of each) to measure the three latent variables. In this regard, a limitation of this study is that, apart from the dimensions and sub-constructs that the present study has considered while measuring the three latent variables, there can be other possible dimensions and sub-constructs that can be incorporated while measuring the three said variables.

Although the variables used in the construction of latent variables are reliable and valid but the present study has only considered non-durable goods and services. Furthermore, since the constructs developed by this study are based on the data collected from the three big cities of the province Punjab, Pakistan. The variables may not be nationally representative and their applicability to the rural population is a question that future researchers can answer.

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APPENDIX-A

**Note: Please answers all questions and provide the best-suited response according to your opinion and practice.**

**Please choose one response for each question.**

- 1.1 Gender:  Male  Female
- 1.2 Age:  16-25 years  26-45 years  46-60 years  Above 60 years
- 1.3 Marital status:  Single  Married
- 1.4 Income (per month on rupees):  10,000- 24,999  25,000- 49,999  50,000- 74,999  
 75000-99,999  More than 100,000
- 1.5 Highest degree completed:  Matric  Intermediate  Bachelor  Masters  Others.

	<b>Globalization</b>	SD	D	N	A	SA
2.1	There is an increasing trend of online (via internet) buying and selling.					
2.2	Nowadays, many companies take online services (data entry, Ads posting etc.) from the people living in other countries.					
2.3	Companies like Nike, McDonald's, Pizza Hut, KFC etc. are seen in almost all areas in your city.					
2.4	Nowadays, countries are more dependent on each other for getting different goods and services because they cannot produce everything in their own country.					
2.5	The number of internet users has been increased over time.					
2.6	Mobile phones and internet are easy ways to contact people within and outside Pakistan.					
2.7	Social networking sites such as Facebook and Twitter are increasingly used to keep in touch with people all over the world.					
2.8	You spend money to have more than one television set at your home.					
2.9	The number of Pakistani students going abroad for studies has increased over time.					
2.10	The use of advanced and modern facilities such as multimedia and projectors in educational institutions has improved the learning process of the students.					
2.11	Global news and entertainment channels are a source of spreading knowledge and awareness among people.					
2.12	You prefer to send your family members to English medium schools rather than Urdu medium schools.					
	<b>Consumption Patterns</b>	SD	D	N	A	SA
2.13	The use of credit cards has led to an increase in your expenditure on clothing.					
2.14	Media and advertisements often influence you to increase your spending on western clothes (pants, shirts etc.).					
2.15	Considering western clothes (pants, shirts etc.) as a status symbol, you spend more money on them.					
2.16	Media and advertisements often influence you to increase your spending on fast food (burgers, pizzas etc.).					
2.17	Considering fast food (burgers, pizzas etc.) as a status symbol, you spend more money on it.					
	<b>Consumption Patterns</b>	SD	D	N	A	SA

2.18	Due to convenience, you spend money on ready to eat/cooked meals (nuggets, kabab, etc.) offered by companies such as K&Ns and Menu foods.					
2.19	The use of credit cards has led to an increase in your expenditure on food.					
2.20	Online buying (via internet) has led to an increase in your expenditure on goods and services.					
2.21	You spend money on using mobile phone for contacting people living near your home.					
2.22	You spend money on getting internet service for contacting people outside Pakistan.					
2.23	You spend money on getting internet service for contacting your immediate family members (parents, brothers, sisters etc.)					
2.24	Online buying (via internet) has led to an increase in your expenditure on goods and services					
2.25	You spend money on hiring someone for managing household work					
2.26	The use of technology in the field of medicine has reduced the cost of medical treatments.					
2.27	You have to pay more money to send your family member to English medium school rather than Urdu medium schools.					
2.28	You prefer to use gym and fitness clubs for maintaining your health.					
	<b>Culture</b>	SD	D	N	A	SA
2.29	You prefer to dine out (eating at restaurants) rather than having food at home.					
2.30	Media and advertisements are compelling you to wear western dresses (pants, shirts etc.).					
2.31	You prefer using mineral water rather than tap water.					
2.32	Media and advertisements are changing your food habits (consumption of fast food and ready to eat/cook food, dining out etc.)					
2.33	You prefer to wear western dresses (pants, shirts etc.) over traditional dresses (shalwar kameez etc.).					
2.34	You prefer to use branded clothes					
2.35	You prefer fast food (burgers, pizzas etc.) over traditional food					
2.36	You use mobile or internet to contact even those of your friends who live nearby					
2.37	In your free time, you prefer to spend time on computer or internet rather than visiting a friend.					
2.38	You use internet to communicate with friends and family members living abroad (outside Pakistan).					
2.39	You use internet to access online reading materials such as newspaper					
2.40	You prefer to use laundry services instead of washing clothes on your own.					
2.41	You prefer using housekeeping services (hiring helpers) rather than managing all household chores (work) on your own.					
2.42	There is an increasing trend of using online libraries.					
2.43	Internet has replaced books as the primary (main) source of knowledge					
2.44	Good command over English language provides you with more opportunities for professional development (more job opportunities, promotions, higher salaries etc.)					
2.45	Women are working and earning money equally with men in every field of life.					



APPENDIX-B

TABLE: 1

EFA Results for Globalization Construct and Associated Measures

Factor	Survey statement number	Statement name	Content of statement	Pattern matrix	Structure matrix	Cronbach's alpha
Factor 1	2.1	com1	There is an increasing trend of online (via internet) buying and selling.	0.572	0.66	0.619
	2.2	com2	Nowadays, many companies take online services (data entry, Ads posting etc.) from the people living in other countries	0.659	0.709	
	2.3	com3	Companies like Nike, McDonald's, Pizza Hut, KFC etc. are seen in almost all areas in your city.	0.869	0.792	
	2.4	com4	Nowadays, countries are more dependent on each other for getting different goods and services because they cannot produce everything in their own country	0.452	0.505	
Factor 2	2.5	ict1	The number of internet users has been increased over time.	0.553	0.656	0.601
	2.6	ict2	Mobile phones and internet are easy ways to contact people within and outside Pakistan.	0.542	0.666	
	2.7	ict3	Social networking sites such as Facebook and Twitter are increasingly used to keep in touch with people all over the world.	0.822	0.788	
	2.8	ict4	You spend money to have more than one television set at your home.	0.359	0.482	
Factor 3	2.9	edu1	The number of Pakistani students going abroad for studies has increased over time	0.760	0.743	0.764
	2.10	edu2	The use of advanced and modern facilities such as multimedia and projectors in educational institutions has improved the learning process of the students	0.788	0.800	
	2.11	edu3	Global news and entertainment channels are a source of spreading knowledge and awareness among people	0.502	0.623	
	2.12	edu4	You prefer to send your family members to English medium schools rather than Urdu medium schools.	0.793	0.753	
Total Variance Explained: 55.02%						
KMO: 0.866      Bartlett's Test of Sphericity: 0.000						

Table: 2

## EFA Results for Consumption Patterns Construct and Associated Measures

Factors	Survey statement number	Statement name	Content of statement	Pattern matrix	Structure matrix	Cronbach's alpha
Factor 1	2.13	physio1	The use of credit cards has led to an increase in your expenditure on clothing.	0.618	0.686	0.823
	2.14	physio2	Media and advertisements often influence you to increase your spending on western clothes (pants, shirts etc.).	0.693	0.763	
	2.15	physio3	Considering western clothes (pants, shirts etc.) as a status symbol, you spend more money on them.	0.706	0.711	
	2.16	physio4	Media and advertisements often influence you to increase your spending on fast food (burgers, pizzas etc.).	0.759	0.713	
	2.17	physio5	Considering fast food (burgers, pizzas etc.) as a status symbol, you spend more money on it.	0.795	0.791	
	2.18	physio6	Due to convenience, you spend money on ready to eat/cooked meals (nuggets, kabab, etc.) offered by companies such as K&Ns and Menu foods.	0.501	0.630	
Factor 2	2.20	commu1	Online buying (via internet) has led to an increase in your expenditure on goods and services.	0.572	0.676	0.708
	2.21	commu2	You spend money on using mobile phone for contacting people living near your home.	0.763	0.751	
	2.22	commu3	You spend money on getting internet service for contacting people outside Pakistan.	0.776	0.797	
	2.23	commu4	You spend money on getting internet service for contacting your immediate family members (parents, brothers, sisters etc.)	0.549	0.579	
Factor 3	2.25	ehc1	You spend money on hiring someone for managing household work	0.874	0.884	0.803
	2.26	ehc2	The use of technology in the field of medicine has reduced the cost of medical treatments.	0.891	0.891	
	2.27	ehc3	You have to pay more money to send your family member to English medium school rather than Urdu medium schools.	0.705	0.711	
	2.28	ehc4	You prefer to use gym and fitness clubs for maintaining your health.	0.699	0.683	
Total Variance Explained: 60.68%						
KMO: 0.777 Bartlett's Test of Sphericity: 0.000						

**TABLE: 3**

**EFA Results for Cultural Changes Construct and Associated Measures**

Factors	Survey statement number	Statement name	Content of statement	Pattern matrix	Structure matrix	Cronbach's alpha
Factor 1	2.29	ecn1	You prefer to dine out (eating at restaurants) rather than having food at home.	0.63	0.658	0.787
	2.30	ecn2	Media and advertisements are compelling you to wear western dresses (pants, shirts etc.).	0.50	0.646	
	2.31	ecn3	You prefer using mineral water rather than tap water.	0.782	0.778	
	2.32	ecn4	Media and advertisements are changing your food habits (consumption of fast food and ready to eat/cook food, dining out etc.)	0.776	0.836	
	2.33	ecn5	You prefer to wear western dresses (pants, shirts etc.) over traditional dresses (shalwar kameez etc.).	0.802	0.702	
	2.34	ecn6	You prefer to use branded clothes	0.441	0.501	
Factor 2	2.36	socialnw1	You use mobile or internet to contact even those of your friends who live nearby	0.691	0.700	0.68
	2.37	socialnw2	In your free time, you prefer to spend time on computer or internet rather than visiting a friend.	0.742	0.741	
	2.38	socialnw3	You use internet to communicate with friends and family members living abroad (outside Pakistan).	0.796	0.792	
	2.39	socialnw4	You use internet to access online reading materials such as newspaper	0.481	0.459	
Factor 3	2.40	lifestyle1	You prefer to use laundry services instead of washing clothes on your own.	0.623	0.697	0.701
	2.41	lifestyle2	You prefer using housekeeping services (hiring helpers) rather than managing all household chores (work) on your own.	0.591	0.664	
	2.42	lifestyle3	There is an increasing trend of using online libraries.	0.80	0.784	
	2.43	lifestyle4	Internet has replaced books as the primary (main) source of knowledge	0.373	0.438	
	2.44	lifestyle5	Good command over English language provides you with more opportunities for professional development (more job opportunities, promotions, higher salaries etc.)	0.699	0.612	
Total Variance Explained: 0.539 %						
KMO: 0.790 Bartlett's Test of Sphericity: 0.000						