

# MEASURING CULTURAL DIMENSIONS FOR CROSS-CULTURAL MANAGEMENT: CORPORATE GOVERNANCE OUTLOOK

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## Abstract

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The unobservable nature of the national culture is one of the main limits of research studying the impact of values systems' in management sciences. This is why we aim in this study to identify a measure to three cultural dimensions namely, individualism (IND), masculinity (MASC) and long-term orientation (LTO). Our methodology is based on structural equation modeling (SEM) under LISREL approach, where latent variables are economic and demographic characteristics. Findings for the cross-national study over a period of 7 years including Tunisia, France, and Canada show that ecological indicators are able to determine studied cultural dimensions. However, due to the dynamic character of culture, some studied indicators are no longer the same as identified in prior studies.

**Keywords:** Individualism, Masculinity, Long-Term Orientation, Cultural Changes, SEM Method, Cross-Cultural Management

**Authors' individual contribution:** Conceptualization - R.R.; Methodology - R.R.; Resources - F.H. and T.X.; Investigation - R.R.; Writing - Original Draft - R.R. and J.E.H; Writing - Review & Editing - R.R.; Visualization - R.R.; Funding Acquisition - R.R.

## 1. INTRODUCTION

Cultural research covers several disciplines such as anthropology, psychology, and management. Indeed, in its modern sense, this concept was born in ethnology after the colonial meeting. Later, it was increasingly used in several areas. Consequently, many studies try to identify a definition that fits this concept. Most of the definitions identified assert that cultural environment influences members' values of any society.

Cultural relativism assumes that differences in behavior and beliefs of individuals are justified by their cultural affiliations diversity. This theory recommends analyzing these differences in behavior and beliefs through analyzing cultures. This depends not only on individuals' personality but also on the cultural influences to which individuals have been exposed throughout their lives (Herskovits, 1950).

Despite the fact that Hofstede's cultural dimensions have been criticized (McSweeney, 2002; Baskerville, 2003), it has been hypothesized that these dimensions are one of the best-studied and

recognized frameworks in the culture field. Moreover, many researches show that these dimensions have not lost their validity (The Chinese Culture Connection, 1987; Fernandez, Carlson, Stepina, & Nicholson, 1997). Thus, Hofstede cultural dimensions model remains the most relevant for measuring cultural proximity and is the most widely used in human science researches (Tocar, 2019; Riahi, 2017; Kaur & Noman, 2015; Sudarwan & Fogarty, 1996; Ding, Jeanjean, & Stolowy, 2005; Kelley, MacNab, & Worthley, 2006; Tsakumis, Curatola, & Porcano, 2007; Beckmann, Menkhoff, & Suto, 2008; Yang, Wang, & Wang-Drewry, 2009; Magnini, 2009).

Otherwise, the culture change theory (Steward, 1955) developed by a number of researchers (Groysberg, Lee, Price, & Cheng, 2018; Descola & Palsson, 1996; Davidson-Hunt & Berkes, 2003; Sutton & Anderson 2004) supposes that cultural ecology represents the "ways in which culture change is induced by adaptation to the environment". Thus, Robbins (2004), Bennett (2005), and Zimmerer (2007) envision a dynamic relationship between individual and his environment. Hofstede (1980) considers that

cultural dimensions of a given country have their origins in the economic and demographic conditions. Hence, the nature of society and the environment is a resultant of human behavior that follows a dynamic of that environment in order to achieve goals and meet specific needs (Bennet, 2005). Steward (1955) concludes that cultural diversity is a result of “ecological” diversity, which justifies the fact that different cultures employ different technologies and livelihood practices.

Hence, by reference to the theory of cultural ecology, we determine cultural dimensions through economic and demographic characteristics using the structural equations model (SEM)<sup>1</sup> method under LISREL (Linear Structural Relationship).

The interest of this study lies in the fact that the determinants of cultural dimensions hypothesize that human behavior is largely influenced by beliefs. Indeed, the sociological model of human behavior (Jensen & Meckling, 1994) considers that individuals’ behavior and decision-making are conditioned by their values and beliefs and, therefore, by the cultural influences of the society in which they evolved.

The contributions of this study to the existing literature can be identified as follows. Firstly, this study is an extension of researches taking into account cultural relativism in understanding individual’s beliefs and behaviors. In addition, we propose in our study a framework for measuring national culture. This framework will be used for future researches on cultural influences. Finally, this framework is based on the SEM method which includes quantitative measures of cultural dimensions suggesting an objective and up-to-date results and taking into account measurement errors.

The remainder of this paper is organized as follows. In the next section, we review the literature background and hypotheses. In Section 3, we describe the research methodology used to estimate cultural dimensions. Section 4 provides our empirical findings and discussions followed by concluding remarks in Section 5.

## 2. LITERATURE REVIEW

Previous literature shows that ecological factors of a given country can serve as a measure of its cultural dimensions. The study of Riahi and Hamouda (2018) identifies the link between ecological factors and the cultural dimensions uncertainty avoidance and power distance. Hence, we aim in this study to identify the origins of the cultural dimensions, individualism (IND), masculinity (MASC) and long-term orientation (LTO).

### 2.1. Origins of IND dimension

IND means autonomy, freedom, and independence degree that may require members of a given society. It deals with the preference of individuals for material success and materialism. In individualistic societies, individuals pay attention only to themselves and their immediate family, whereas in community societies individuals act as cohesive

groups. Hofstede (1980) argues that the degree of IND is related to the level of technical and economic development.

According to Hofstede (1980), there is a significant relation between IND and national wealth. He argues that the wealthier the country, the more the individual has access to resources facilitating his personal goals. Moreover, Hofstede (1980) links IND to economic growth. He argues that in very rich countries, the higher the individualism, the lower is the economic growth. Indeed, the excess of IND leads to the destruction of social relations that are necessary for economic growth. Finally, the author argues that IND is linked to population growth, that is, the more individualistic the country, the more individuals prefer independence Hofstede Insights (2018, April 15). Hence, the following hypothesis:

*H1: IND is positively related to the level of wealth, material success, and materialism. It is negatively related to economic growth and population growth.*

### 2.2. Origins of MASC dimension

MASC implies the need for achievement and the preference for material success. In Hofstede’s (1980) study, MASC deals with the values of success and possession, while femininity deals with the social environment and mutual aid. In masculine societies, men are authoritarian, tough, and concerned only with material success, while women are more modest, tender, and caring about the quality of life (Hofstede, 2011). In those societies, the first objective of individuals is to make a career. Whereas in feminine societies, men and women are both concerned about the life quality and cooperation between workers is more valued than material success (Hofstede Insights, 2018). Finally, in feminine societies, the field is more open to the discussion while in masculine societies conflicts take more shares.

According to Hofstede’s (1980), the origins of this dimension are a professional success, lack of interest in education and materialism. While Sudarwan and Fogarty (1996) consider that MASC is related to the predominance of the male gender in roles distribution. Materialism is measured through resolution of problems by fighting and the lack of attention given to the health sector. Hence, the following hypothesis:

*H2: MASC is positively related to the level of professional success, the predominance of the male gender in society, and materialism. It is negatively related to the interest given to education.*

### 2.3. Origins of LTO dimension

According to Hofstede (2001), LTO refers to the values of virtue. The values associated with LTO are economy, respect of everyone’s rank in social relations and perseverance. Whereas the values associated with short-term orientation are respect for tradition, the fulfillment of social commitments, personal stability and protection of one’s own image (Zotzmann, Linden, & Wyrwa, 2019). Hofstede (2001) identifies the origins of this dimension as the economic use of resources and the importance of the budget allowed to education. Hence, the following hypothesis:

<sup>1</sup> The LISREL approach is based on the covariance structure analysis. It uses estimation methods through maximum likelihood where each latent variable is a function of the manifest variables which determine it (Jöreskog & Sörbom, 1982).

H3: LTO is positively related to the level of economy in using resources and the importance devoted to education.

### 3. RESEARCH METHODOLOGY

The study aims to construct a conceptual model for identifying cultural dimensions based on cultural ecology theory. This objective has been achieved by using SEM method under LISREL (Linear Structural Relationship) approach. This methodology was preferred to others because cultural dimensions are unobservable and need to be measured approximately by observable variables. Hence, the chosen constructs may contain measurement errors. The LISREL approach is preferred because it is more suitable for taking into account these measurement errors.

The sample is composed of different socio-economic backgrounds (France, Canada, and Tunisia) studied over a seven-year period. Different socio-economic environments were chosen to better provide the impact of cultural dimensions determinants. Indeed, France is representative of the continental culture while Canada is representative of the Anglo-Saxon culture and Tunisia includes different cultures, namely, European, Arab, and Muslim.

In continental cultures such as France, attention is turned to creditors. The main source of funding is the banks. In Anglo-Saxon cultures, such as Canada, the interest is oriented towards the protection of investors and the main source of financing is the financial market. Furthermore, Tunisia is a developing country whose culture can have different sources. Moreover, it is influenced by a diversity of cultures, namely, European, French, African, and Arab-Muslim. Tunisia has several characteristics similar to France such as the financing mode, the governance system, and the priorities in terms of accounting practices. However, Tunisia has undergone several reforms (transition

from a planned economy to a market economy, GATT agreement, the launch of the first guide to good practices of Tunisian corporate governance including international standards of good conduct and business management). Tunisian culture brings together different characteristics of the continental, Arab and French-speaking world.

The use of the LISREL approach requires the reliability and the validity of the measurement scales which are tested through principal component analysis (PCA) and confirmatory factor analysis (CFA). The model takes the following form:  $Data = Model + measurement\ error$ . Therefore, the smaller the measurement error, the more the model adapts to the data.

Individuals' material success is measured by GNP per capita while economic growth is measured through the level of gross domestic savings. The population growth is measured through the population growth rate. Materialism is operationalized through the level of health expenditure relative to GDP while the fertility rate is used to measure the preference for independence. Finally, country's wealth is identified through the more modern technology, the less traditional agriculture, the development of urbanism and the better education system.

In order to identify the extent of male contribution in society, we selected the male employment rate and the number of male students divided by the total number of students. The importance of military spending relative to GDP is used to determine the extent of problem solving across the struggle. The degree of interest given to education is measured by the literacy rate.

In order to measure the type of orientation in our sample countries, we consider the gross fixed capital formation and the ratio budget for education relative to GDP, to which we add the indicator gross domestic savings.

Cultural dimension indicators are summarized as follows:

Table 1. Cultural dimensions proxies

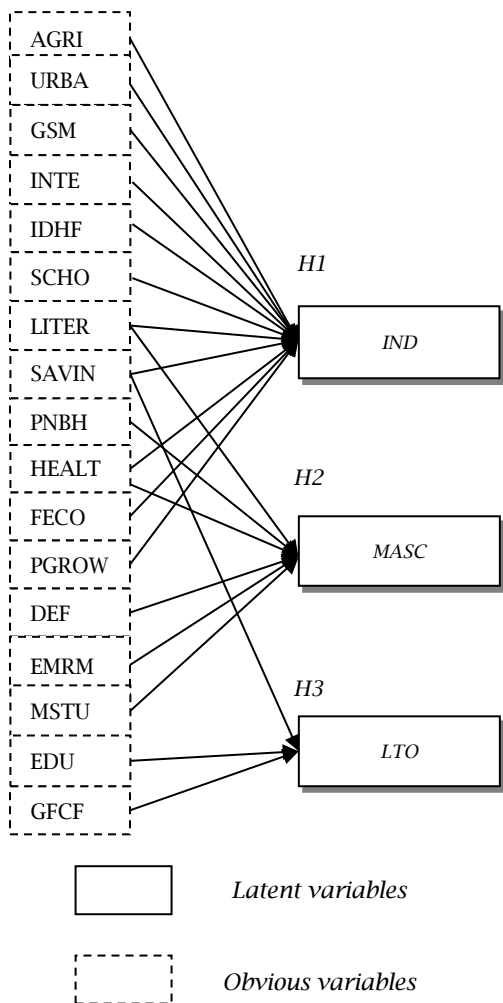
Proxies	Variables	Measures	Expected signs
<i>INDIV indicators</i>			
Material success	GNP	GNP per capita	+
Materialism	HEALTH	Ratio health sector/GDP	-
Economic growth	SAVING	Gross Domestic Saving	-
Population growth	PGROW	Population growth rate	-
Wealth	AGRI	Ratio agriculture sector to GDP	-
	URBA	Urbanization rate	+
	INTE	Internet users per 100 persons	+
	BROAD	Broadband Internet subscriptions per 100 persons	+
	GSM	GSM subscriptions per 100 persons	+
	LITER	Literacy rate	+
	SCHO	Average years of schooling	+
	FECO	Fecundity rate	-
<i>MASC indicators</i>			
Professional success	GNP	GNP per capita	+
Predominance of male gender in society	EMRM	Employment rate of male gender	+
	MSTU	Ratio of male students/total of students	+
Materialism	DEF	Ratio of national defensive budget/GDP	+
	HEALTH	Ratio health sector/GDP	-
Educational system	LITER	Literacy rate	-
<i>LTO indicators</i>			
Economy	GFCF	Gross fixed capital formation	+
	SAVING	Gross Domestic Saving	+
Interest to education	EDU	Ratio of educational sector/GDP	+

The study measurement model is the following:

$$V_i = \lambda_i * F_a + \varepsilon_i$$

where,  
 $V_i$  = obvious variables  $i$  which are ecological determinants;  
 $F_a$  = latent variables  $a$  which are cultural dimensions;  
 $\lambda_i$  = factor contributions of manifest variables in the determination of latent variables and  
 $\varepsilon_i$  = measurement error of  $i$ .  
 Conceptual framework is represented as follows:

Figure 1. Conceptual framework



## 4. RESULTS AND DISCUSSION

### 4.1. The PCA results

Table 2 provides the correlation coefficients between the manifest variables related to INDIV dimension, most of which are greater than 0.5. The table also shows a *KMO* coefficient of about 0.753 with a significant *Bartlett sphericity*. This means that items relating to the determination of INDIV dimension are factorizable. In addition, findings show community indices that vary between 0.882 and 0.986, which proves the importance of including items selected in determining INDIV dimension. *Cronbach's alpha* for these items shows a value of 0.819. This confirms the internal consistency of this block of manifest variables and its ability to define the construct.

Results of PCA of MASC dimension are provided in Table 3. These results show correlation coefficients, most of which are greater than 0.5. In addition, the *KMO* coefficient is 0.536 with significant *Bartlett sphericity*. This proves that these data are factorizable. The item extraction indices are greater than 0.6, except for the item DEF. This shows the importance of including these variables in the study. *Cronbach's alpha* is of about 0.795 which proves the internal consistency of this measurement scale.

Table 4 shows correlation coefficients between manifest variables related to LTO dimension which vary between 0.591 and 0.823. Findings also show a *KMO* index of 0.687 and a significant *Bartlett sphericity index*, which proves that these data are factorizable. Results indicate item extraction coefficients related to LTO dimension which range from 0.688 to 0.870, which justifies the importance of these items in determining LTO dimension. LTO determining items show a *Cronbach's alpha* value of 0.757. These results attest to the reliability of this block of manifest variables.

### 4.2. Confirmatory factor analysis (CFA)

Validity is measured by the *Rh  of convergent validity*. Testing validity results are reported in Table 5.

Table 2. PCA for INDIV scale

	<i>GSM</i>	<i>INTE</i>	<i>BROAD</i>	<i>SCHO</i>	<i>LITER</i>	<i>SAVING</i>	<i>GNP</i>	<i>FECO</i>	<i>PGROW</i>	<i>AGRI</i>	<i>URBA</i>	<i>HEALTH</i>
<i>GSM</i>	1,000											
<i>INTE</i>	0,305	1,000										
<i>BROAD</i>	0,319	0,936	1,000									
<i>SCHO</i>	0,394	0,913	0,814	1,000								
<i>LITER</i>	0,571	0,740	0,625	0,923	1,000							
<i>SAVING</i>	0,399	0,453	0,249	0,647	0,824	1,000						
<i>GNP</i>	0,629	0,752	0,685	0,870	0,953	0,805	1,000					
<i>FECO</i>	0,803	0,082	0,034	0,336	0,657	0,661	0,663	1,000				
<i>PGROW</i>	0,233	0,315	0,128	0,458	0,624	0,819	0,633	0,515	1,000			
<i>AGRI</i>	0,075	-0,669	-0,692	-0,534	-0,191	0,217	-0,137	0,471	0,327	1,000		
<i>URBA</i>	0,614	0,676	0,550	0,878	0,993	0,855	0,948	0,728	0,664	-0,092	1,000	
<i>HEALTH</i>	0,466	0,803	0,775	0,936	0,867	0,470	0,794	0,381	0,245	-0,584	0,818	1,000
community	0,920	0,942	0,882	0,986	0,979	0,929	0,945	0,980	0,959	0,986	0,897	0,908
<i>Bartlett sphericity = 556,357 sign. 0,000</i>												
<i>KMO = 0,753</i>												
<i>Cronbach's alpha = 0,819</i>												

Table 3. PCA for MASC scale

	<i>LITER</i>	<i>GNP</i>	<i>HEALTH</i>	<i>DEF</i>	<i>EMRM</i>	<i>MSTU</i>
<i>LITER</i>	1,000					
<i>GNP</i>	0,953	1,000				
<i>HEALTH</i>	0,867	0,794	1,000			
<i>DEF</i>	0,559	0,498	0,663	1,000		
<i>EMRM</i>	0,836	0,812	0,461	0,327	1,000	
<i>MSTU</i>	0,895	0,867	0,601	0,575	0,959	1,000
community	0,966	0,903	0,691	0,439	0,732	0,886
<i>Bartlett sphericity = 273,731 sign. 0,000</i>						
<i>KMO = 0,536</i>						
<i>Cronbach's alpha = 0,795</i>						

Table 4. PCA for LTO scale

	<i>GFCF</i>	<i>EDU</i>	<i>SAVING</i>
<i>GFCF</i>	1,000		
<i>EDU</i>	0,591	1,000	
<i>SAVING</i>	0,823	0,656	1,000
community	0,825	0,688	0,870
<i>Bartlett sphericity = 30,994 sign. 0,000</i>			
<i>KMO = 0,687</i>			
<i>Cronbach's alpha = 0,757</i>			

Table 5. Constructs validity

	<i>POWD</i>	<i>UAV</i>	<i>INDIV</i>	<i>MASC</i>	<i>LTO</i>
Rh� of convergent validity	0,98	0,82	0,99	0,99	0,89

### 4.3. Hypothesis tests

Results reported in Table 6 show that *AGRI* is negatively related to *INDIV* dimension ( $\lambda = -0.0398$ ,  $T = -50.681$ ,  $\varepsilon = 0.000785$ ). Moreover, results reveal a positive relationship of the *INDIV* degree with *URBA* ( $\lambda = 0.0482$ ,  $T = 48.474$ ,  $\varepsilon = 0.000995$ ), *INTE* ( $\lambda = 0.184$ ,  $T = 40.506$ ,  $\varepsilon = 0.00454$ ) and *BROAD* ( $\lambda = 0.0974$ ,  $T = 33.430$ ,  $\varepsilon = 0.00291$ ). In addition, a positive relationship was identified between *INDIV* and *SCHO* ( $\lambda = 1.678$ ,  $T = 52.207$ ,  $\varepsilon = 0.0321$ ), and *LITER* ( $\lambda = 0.149$ ,  $T = 26.449$ ,  $\varepsilon = 0.00564$ ). This implies that the richest countries are the most individualistic ones. However,

the *GSM* variable shows a negative relationship with the level of *INDIV* ( $\lambda = -0.150$ ,  $T = -34.600$ ,  $\varepsilon = 0.00434$ ), which means that the degree of mobile phone use is a way to moderation of individualistic behavior.

Furthermore, findings show that individualism is positively related to *GNP* ( $\lambda = 1.101$ ,  $T = 23.194$ ,  $\varepsilon = 0.0475$ ). This implies that material success promotes individualism in the sample countries. Moreover, we found that *HEALTH* positively influences the *INDIV* degree ( $\lambda = 7.526$ ,  $T = 22.187$ ,  $\varepsilon = 0.339$ ). However, this relationship does not show an important significance level ( $p > 5\%$ ), which leads us to disregard

this indicator as determining the INDIV level in the sample countries.

Nevertheless, results do not reveal any significant relationship between INDIV and SAVING ( $\lambda = 2,380$ ,  $T = 45,122$ ,  $\varepsilon = 0,0527$ ) showing that economic growth has no effect on individualistic behavior. Indeed, according to Hofstede (1980), this relation must be negative at the level of the very rich countries because the excess of individualism generates the destruction of the social relations which are necessary for the economic growth. In fact, according to the 2011 ranking of the International Monetary Fund (IMF) and the World Bank, countries in our sample are not among the richest countries in the world. According to this ranking, France is fifth with a GDP of \$2,808,265, Canada is eleventh with a GDP of \$1,758,680 and Tunisia is seventy-eighth with a GDP of \$48,932. Furthermore, findings show that country wealth is positively related to the INDIV level. This means that the degree of individualism in our sample countries is

not too important to affect these countries' wealth and therefore to destroy social relations necessary for economic growth. Finally, findings show that FEKO is negatively related to INDIV ( $\lambda = -0.00673$ ,  $T = -34.085$ ,  $\varepsilon = 0.000197$ ). This means that the more the country is individualistic, the more individuals within that country prefer independence. However, we found that the INDIV level is positively related to PGROW ( $\lambda = 0.00878$ ,  $T = 39.513$ ,  $\varepsilon = 0.000222$ ). The correlation of these last two variables with INDIV remains negligible.

Findings show that the most important determinants of individualism are economic growth, attention to education and the degree of new technologies adoption. A weaker correlation is identified between INDIV and population growth on the one hand, and between INDIV and the contribution of agriculture to the country wealth and the urbanization rate on the other hand.

**Table 6.** INDIV indicators

Indicators	Items	Expected signs	t-Test	Factor contributions	Error
Country wealth	AGRI	-	-50,681	-0,0398	0,000785
	URBA	+	48,474	0,0482	0,000995
	INTE	+	40,506	0,184	0,00454
	BROAD	+	33,430	0,0974	0,00291
	GSM	+	-34,600	-0,150	0,00434
	SCHO	+	52,207	1,678	0,0321
	LITER	+	26,449	0,149	0,00564
Material success	GNP	+	23,194	1,101	0,0475
Materialism	HEALTH	-	22,187	7,526	0,339
Economic growth	SAVING	-	45,122	2,380	0,0527
Population growth	FEKO	-	-34,085	-0,00673	0,000197
	PGROW	-	39,513	0,00878	0,000222

Findings in Table 7 show significant factor contributions for all indicators with the exception of the LITER item which shows a t-test less than 1.96. We found that GNP is positively related to MASC ( $\lambda = 1.102$ ,  $T = 22.909$ ,  $\varepsilon = 0.0481$ ). This means that within the studied sample country, the more individuals show male behaviors, the more these individuals reach professional success. Results also assume that MASC is negatively linked to EMRM ( $\lambda = -0.0524$ ;  $T = -54.622$ ;  $\varepsilon = 0.000960$ ) and MSTU ( $\lambda = -0.000898$ ;  $T = -43.762$ ;  $\varepsilon = 0.000$ ), which means that male gender predominance does not promote masculine behavior. However, this contribution remains very low. This can be explained by the fact that today, the development of the women's role in society and the public recognition of this role has led to the fact that the contribution of the male gender to society is no longer a very decisive indicator of masculinity. In addition, findings show

that DEF is positively related to MASC ( $\lambda = 0.570$ ,  $T = 53.428$ ,  $\varepsilon = 0.0107$ ). This implies that the more countries are masculine, the more they spend significant budgets on national defense. We also found that HEALTH has no longer a significant effect on MASC ( $\lambda = 8,179$ ,  $T = 23,528$ ,  $\varepsilon = 0,348$ ). Indeed, it shows a threshold of significance  $< 5\%$ . Finally, results assume that LETTER has no significant effect on MASC ( $\lambda = 0.00327$ ,  $T = 0.579$ ,  $\varepsilon = 0.00565$ ). Indeed, t-test  $< 1.96$ , which implies in our sample countries, the degree of MASC is not related to the interest attributed to education. This can be explained by the fact that education's level had been seen as a means of determination and distinction. Nowadays, access to employment becomes more difficult. Thus education is no longer connected with only the culture. It is perceived by individuals as a means for their professional integration.

**Table 7.** MASC indicators

Indicators	Items	Expected signs	t-Test	Factor contributions	Error
Professional success	GNP	+	22,909	1,102	0,0481
Predominance of male gender in society	EMP	+	-54,622	-0,0524	0,000960
	MSTU	+	-43,762	-0,000898	0,000
Materialism	DEF	+	53,428	0,570	0,0107
	HEALTH	-	23,528	8,179	0,348
Educational system	LITER	-	0,579	0,00327	0,00565

Table 8 shows that SAVING has not a significant relation with LTO (t-test  $< 1.96$ ). Nevertheless, we found that the GFCF variable is positively and significantly related to LTO ( $\lambda = 0.501$ ,  $T = 55.322$ ,  $\varepsilon = 0.00906$ ). This shows that the more people are interested in the long term, the more their countries have large amounts of

fixed investment assets. In addition, results show that EDU is negatively related to LTO ( $\lambda = -0.486$ ,  $T = -32.423$ ,  $\varepsilon = 0.0150$ ), which implies that the more the countries are moving towards the long-term, the less they spend significant budgets for education.

Table 8. LTO indicators

Indicators	Items	Expected signs	t-Test	Factor contributions	Error
Economy in using resources	SAVING	+	-0,452	-0,0158	0,0350
	GFCF	+	55,322	0,501	0,00906
Importance devoted to education	EDU	+	-32,423	-0,486	0,0150

## 5. CONCLUSION

This study aimed to build a conceptual framework to measure the cultural dimensions IND, MASC, and LTO through ecological indicators. The results inform about the indicators contributing significantly to the determination of cultural dimensions for the sample countries.

Surprisingly, we found that these indicators have evolved and no longer have the same impact identified in prior studies. Referring to the theory of cultural ecology under its adaptive dynamics, this change in cultural dimension origins is justified by the environment's evolution. In fact, according to this theory, technologies and strategic actions are voluntarily implemented by individuals following the identification of their cultural needs. Then, new cultural needs arise according to the new means of subsistence. Findings show that INDIV can be determined by economic growth, attention to education and degree of new technologies adoption. A weaker correlation is identified between INDIV and the indicators population growth, contribution of

agriculture to the country wealth and the urbanization rate. We also found that the degree of MASC is not related to the interest attributed to education. We explained that education is no longer connected with only the culture. It is perceived by individuals as a means for their professional integration. Finally, the results provide that LTO can be determined through the amounts of fixed investment assets and the budget allowed to education.

Our study developed a theoretical background to cultural dimensions. Indeed, researches in this field encounter some difficulties related to the unobservable characteristic of national culture. On the empirical level, our study develops quantitative measures of cultural dimensions. In fact, previous studies have been limited to the use of scores assigned prior researches to different countries. These scores have been the subject of several criticisms because of the dynamic nature of the culture. Moreover, in recent decades, research in management sciences and more particularly, in corporate governance, has tended to study the impact of the cognitive component on decision-making. Thus, our findings may be of practical interest to corporate governance in terms of decision-making in these countries. This study can also serve as a model for studying the relationship between national culture and corporate governance in other contexts.

Nevertheless, our study has some limitations. Firstly, we used in this study only development indicators that were identified in previous research. Otherwise, future research can design a conceptual model that includes other development indicators.

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