Cultural Relativism in Earnings Management

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ABSTRACT: The purpose of this study is to examine the possible impact of value systems on earnings management in France, Tunisia and Canada. Cultural values include power distance, uncertainty avoidance, individualism, masculinity and long-term orientation. The cross-cultural study uses the method of structural equations trough LISREL approach. The examination covers the period between 2003 and 2009. Findings show first of all, that ecological factors are able to determine cultural dimensions in the sample countries. Secondly, we found that all studied cultural dimensions are able to define national culture in the sample countries. Yet, results indicate that only three of cultural dimensions are significant in explaining differences in earnings management in the studied context. In fact earnings management seems to be positively related to uncertainty avoidance and negatively related to power distance and individualism.

Keywords: *Accounting practices, Discretionary accruals, Cultural dimensions, Structural equations method*

INTRODUCTION

Earnings management determinants have taken a great deal in academic research. Prior studies show systematic differences in earnings management internationally (Leuz et al., 2003). It has been argued that these differences are related either to legal system and the level of investor protection (Leuz et al., 2003; Burgstahler et al., 2006) or to other factors such as economic incentives (Cheng and Warfield, 2005). Even so, a few studies have focused on cultural factors' impact on earnings management.

The theory of cultural relativism argues that differences in attitudes and beliefs are justified by differences in cultural backgrounds. This theory therefore recommends analyzing these differences in behaviors and beliefs in terms of cultures. Thus, Hofstede (1980) considers individuals perceptions and actions as a result of their beliefs. It has been hypothesized that national culture influences economic behavior (Kuran, 2009), especially, decision making in accounting practices (Gray, 1988).

The main purpose of the paper is to identify cultural impact on earnings management practice across France, Canada and Tunisia over the period between 2003 and 2009. The cognitive dimension in accounting is considered of particular importance because it contributes at reducing harmonization efforts and diversity of accounting practices among the countries (Belkaoui, 1995). In addition, some prior research suggests that culture influences financial and operational strategies of the company (Schuler and Rogovsky, 1998). It must therefore have a significant impact on accounting choice and governance mechanisms (Nabar and Boonlert-U-Thai, 2007). Indeed, societal values affect accounting practices through the institutional

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consequences that include legal systems, ownership structure and stock markets (Gray, 1988).

Studying the given countries is interesting because they are different in terms of culture and accounting. Indeed, in continental cultures such as France, accounting practices are characterized by statutory control, uniformity, conservatism and discretion (Gray, 1988). Under this context, attention is turned to creditors. Companies are mainly financed from banks. However, in Anglo-Saxon cultures, such as Canada, accounting practices are characterized by professionalism, flexibility, optimism and transparency (Gray, 1988). In such countries interest is focused on investors' protection and firms are mainly financed through capital markets. Finally, Tunisia is a developing country whose culture may have different sources because it is influenced by several cultures: French, African and Arab-Muslim ones. Moreover, Tunisia has several features similar to France such as financing ways, governance system and priorities in accounting practices. However, Tunisia has undergone several reforms (transition from a centrally planned to a market economy, GATT agreement, passage to an accounting system with a conceptual framework, launch of the first guide to good governance practices of Tunisian companies and the guide for annual reports of Tunisian companies, etc.).

This study gives several contributions to the existing literature on earnings management. First, our findings contribute to understand cross-national differences in earnings management and help clarifying the role of national culture in determining this practice over studied sample countries. Second, our results may be of practical interest for the accounting profession in term of normalization and development of accounting in these countries. Finally, the study may also serve as a model for studying the relationship between national culture and earnings management in other contexts.

The remainder of the paper is organized as follows. The next section reviews relevant literature and outlines formulation of hypotheses development. The third section describes research methodology and data measurement. Empirical results are provided in section 4 and discussed in section 5. The final section contains conclusion of the paper.

Literature Review and Hypotheses Development
Dimensions of Culture

Hofstede (2001) defines culture as "*the collective programming of the mind which distinguishes one group from another*" (Hofstede, 2001). He identifies culture through five values which are, *power distance*, *uncertainty avoidance*, *individualism vs. collectivism*, *masculinity vs. femininity* and *long-term orientation vs. short-term orientation*. Although critics that have been addressed to Hofstede (1980; 2001) dimensions (see McSweeny, 2002; Baskerville, 2003), it has been argued that these dimensions had not lost their validity and that Hofstede's model remains the basis for most researches in accounting and psychology (Kelley et al., 2006; Beckmann et al., 2008; Doupnik, 2008; Han et al., 2010). Thus, a broad compromise is established on the fact that Hofstede's (1980; 2001) cultural model has provided considerable operational framework and has revolutionized researches studying the relationship between culture and management practices (Leung et al., 2005).

Cultural Relativism in Accounting

Accounting is a discipline affected by individuals' interpretations and judgments when applying accounting principles. This human aspect that affects accounting practices is due to culture. Thus, interpretations and judgments in accounting differ from one cultural group to another. To understand this diversity, the inclusion of cultural relativism in accounting is recommended (Gray, 1988; Belkaoui, 1995; Doupnik and Salter, 1995; Hofstede, 2001).

Cultural relativism in accounting is defined by Belkaoui (1995) as influence of culture on judgment and decision making. The author asserts that,

"*culture in essence determines the judgment/ decision process in accounting… culture, through its components, elements and dimensions, dictates the organizational structure adopted, the micro-organizational behavior, and the cognitive functioning of individuals, in such a way as to ultimately affect their judgment/ decision process when they are faced with an*

accounting and/or auditing phenomenon" (Belkaoui, 1995).

Consistently, Hofstede (2001) notes that accounting is a discipline that offers discretionary spaces and promotes the judgments. According to him, it is logical that this practice is guided by values influenced by culture. Cultural relativism in accounting was firstly identified by Gray (1988) who considers that accounting is a subculture within the social system. His work has been inspired from Hofstede (1980) and has been the basis for most research studying cultural effects in several ways such as international accounting (Doupnik and Salter, 1995; Belkaoui, 1995), disclosure practices (Tsakumis, 2007), audit practices (Cohen et al., 1995).

Gray (1988) identifies accounting practices through accounting values which are defined as follows:

✓ Professionalism (vs statuary control): it refers to preference of professional judgment and the maintenance of professional self-regulation.

✓ Uniformity (vs flexibility): this value distinguish countries preferring uniformity from those preferring flexibility in accounting practices in order to align with the circumstances and environment.

✓ Conservatism (vs optimism): this value opposes conservative countries which averse to uncertainty to optimistic countries which adopt a "*laissez faire*" and risk taking approach. According to Gray, this value is influenced by the capital markets development, the needs of different users and the tax rules.

✓ Secrecy (vs transparency): this value refers to disclosure practices in a given country. It distinguish countries that prefer confidentiality and restriction of information only to those directly involved in managing and financing from countries that adopt a transparency, openness and public disclosure approach. This value is influenced by capital markets development.

Gray (1988) assumes that the ecological environment which is influenced by external forces affect societal values. These values influence the institutional structure and contribute to its maintenance and development. The components of the institutional structure reflect and reinforce societal values. Subsequently, this structure is stable. Changes at the national level are due either to external influences or to human nature. National cultural values are reflected in the occupational subcultures that vary in their degrees of integration.

Systems and accounting practices are influenced by societal values and help reinforcing these values. Societal values affect the accounting values. Therefore, value systems of accountants are guided by their social values with reference to values related to work. Then, accounting values influence accounting systems. Accounting values develop and vary according to ecological factors and reflect and reinforce societal values. Thus, the central hypothesis developed by Gray (1988) is that, through different societal values, external influences and ecological factors contribute in establishing different accounting systems and values (see figure 1 below).
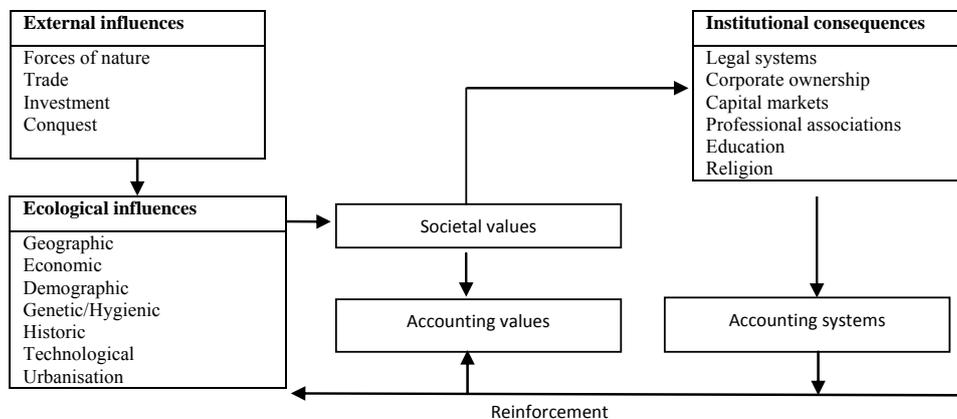

Figure 1: Culture, societal values and accounting subculture, Source: Gray (1988, p. 7)

The relationship between cultural dimensions and accounting values is presented in table1.

Culture and Earnings Management

Power distance means the extent to which subordinates accept that power in institutions and organizations is unequally distributed. Societies with high power distance are characterized by the centralization of power (Hofstede, 2001). Such societies are characterized by a lack of participatory management and the centralization of decision to only managers (House et al. 1999) who consider inequality as a natural outcome, and exercise their authority under a pyramidal structure. Thus, Holt (1998) considers that power is essential to authority and control within hierarchical systems. He notes that managers hold to power and maintain power distance within the organization, which facilitates earnings management. That's why earnings management is more prevalent in firms where the CEO is himself the Chairman of the Board or founder of the firm (Dechow et al., 1996). In those cases, power distance is generally important and facilitates managing earnings in their favor.

In addition, Gray (1988) argues that the level of disclosure is low in societies where power distance is high. In such societies, relationships are characterized by lack of communication between managers and subordinates (Offerman and Hellmann, 1997). This promotes asymmetric information and facilitates accounting manipulation to managers.

Similarly, Hofstede and Hofstede (2005) provide that in countries characterized by high power distance, accounting systems are used as a tool to validate executive decisions and provide information that reflects their desire. Then we expect that earnings management is more prevalent in societies characterized by high power distance. Thus the following hypothesis:

Hypothesis 1: Earnings management is positively related to the degree of power distance.

Uncertainty avoidance means extent to which individuals feel threatened by uncertain and unusual situations. This implies a preference for unambiguous situations, safety in life and the need to control the environment (Hofstede, 1980). Therefore, earnings management seems to be a way to control the future of the company (Callen et al., 2011). As provided in table 1, uncertainty avoidance negatively influences flexibility, transparency and professionalism, which leads to a decrease in the practice of earnings management (Guan et al., 2006; Nabar and Boonlert-U-Thai, 2007). Moreover, Gray (1988) argues that conservatism is positively related to uncertainty avoidance. This leads to conservative accounting practices and an increasing in earnings management. Similarly, uncertain situations may require earnings management through the smoothing and signaling earnings (Healy and Wahlen, 1999). Thus Doupnik (2008) argue that earnings management can be a way to control the future performance of the company through earnings smoothing. It also allows avoiding the impact of negative events such as the violation of debt covenants, In addition, prior researches show that in United States, investors reward companies showing consistently growing earnings (Barth et al., 1999) and that firms displaying bad surprises incur large costs of capital (Mikhail et al., 2004). This can be a motivation for the practice of earnings management.

Geiger et al. (2006) argues that earnings management is related to managers' perception of this practice. They argue that if managers perceive earnings management as a means to manage uncertainty, therefore the relationship between uncertainty avoidance and earnings management will be positive. In contrast, if managers perceive earnings management as a practice reducing future opportunities, uncertainty avoidance will limit earnings management.

Giving that earnings management aims to reduce uncertainty by controlling future revenues and creating a safety margin, we expect a positive relationship between uncertainty avoidance and earnings management, hence the following hypothesis:

Hypothesis 2: Earnings management is positively related to uncertainty avoidance.

Table 1: Gray (1988) hypothesis

	High degree of Professionnalism	High degree of Uniformity	High degree of Conservatism	High degree of Secrecy
Individualism	High	Low	Low	Low
Power distance	Low	High	N.I*	High
Uncertainty avoidance	Low	High	High	High
Masculinity	N.I*	N.I*	Low	Low

*Non identified relationships.

Individualism means autonomy and the degree of independence and freedom that may require members of a society. Gray (1988) hypothesizes a positive relationship between individualism and optimism, flexibility, transparency and professionalism. Guan et al. (2006) suggest that optimism and flexibility imply the existence of earnings management. However, Hofstede (1980) notes that in societies characterized by a low degree of individualism, the values adopted within a group are different from those adopted outside the group. He argues that managers of such companies behave as family heads and aim to defend organization interests. Thus, Licht et al. (2007) show that individualistic countries place great emphasis on law enforcement, which implies a negative relationship between individualism and earnings management.

In addition, in collectivist societies, accounting manipulation would be a way for managers to meet their expectations by reducing the variability of earnings and to align to the covenants of debt contracts and analysts' forecasts (Doupnik, 2008). Consequently, in such societies, rules and procedures are characterized by greater flexibility which promotes accounting manipulation. This lets us expect a negative relationship between individualism and earnings management:

Hypothesis 3: Earnings management is negatively related to individualistic behavior.

Masculinity implies the need for achievement and the preference for material success. Managers belonging to masculine

societies give more interest to performance and competitiveness (Hofstede, 1980). This encourages them to provide earnings that prove their competitiveness and give a good image of their companies. Conversely, in feminine societies, managers give less importance to competition. Moreover, in masculine societies, managers are motivated by salaries and individuals give more importance to appearances. Consequently, they publish important earnings in order to protect themselves against competition (De Mooij, 2010). This implies a preference to managing earnings in order to demonstrate firm's good performance.

Otherwise, Hofstede and Hofstede (2005) points out that in masculine societies, accounting systems focus on the achievement of purely financial objectives. This involves the use of managerial discretion to meet recommended thresholds (Doupnik, 2008). Thus, we expect a positive relationship between masculinity and earnings management.

Hypothesis 4: Earnings management is positively related to masculinity.

Long-term orientation promotes the values associated with the future such as sense of economy and savings, the classification of relationships by status, compliance with this order, perseverance,... Conversely, the orientation short term favors values associated with this such as the preference of individuals to the rigor and personal stability, protection of personal image and respect for traditions.

Companies from countries with short-term orientation generally give importance to current

earnings (Hofstede, 2001), and reward management systems support short-term economic goals (Hofstede and Hofstede, 2005). Thus, countries with short-term orientation are more likely to engage in earnings management in order to accelerate the positive impact of management decisions on current earnings (Callen et al., 2011). This implies that that short-term orientation encourages earnings management since managers want to ensure their good reputation.

In addition, Guan et al. (2006) argue that countries with long-term orientation adopt accounting practices involving less flexibility, transparency and professionalism. According to Doupnik (2008), this means that earnings management is not a motivation in companies with long-term orientation. Thus the following hypothesis:

Hypothesis 5: Earnings management is negatively related to long-term orientation.

RESEARCH METHOD

The study includes a sample of 219 French, Tunisian and Canadian listed companies over a period of seven years between 2003 and 2009. This sample is then composed of socio-economically different backgrounds. In this study, the method of structural equation models (SEM) is preferred over regression for two reasons. Firstly, cultural dimensions are unobservable. Secondly, we are testing the relationship between variables that are approximations of constructs. Obviously, the measure of these constructs may contain measurement errors. Hence, it is more appropriate to use a method that takes into account these measurement errors. The methods of SEM are the best methods that take into account measurement errors of constructs.

Data analysis was conducted on LISREL (*Linear Structural Relationship*). LISREL reduces the arbitrariness of selecting items that determine latent variables. It also provides confirmatory factor analysis aiming to test the validity of theoretical constructs.

Measuring Cultural Dimensions

We use Hofstede's (1980; 2001) cultural model to identify cultural dimensions of our sample. In fact, it has been theoretically and empirically proved that these dimensions explain cross-national differences in accounting practices (Doupnik and Tsakumis, 2004). However, cultural indexes of Hofstede have some disadvantages based on the time they have been constructed. In fact, culture can be dynamic through inventions or borrowings from the outside, which can cause a change in the attitude of individuals toward their environment. Thus, Ogliastri (2004) shows that the extent of uncertainty avoidance in Colombia has decreased after disturbances occurred in the country making people more tolerant for ambiguity. Similarly, Tang and Koveos (2008) find that several countries have experienced a change in GDP, which is likely to influence the cultural tendencies of these countries. Consequently, national culture is adaptable over time in response to changes that the country is confronting (Stulz and Williamson, 2003). Obviously, prior studies using Hofstede's indexes in determining cultural impact on earnings management had provided conflicting findings (Guan et al., 2006; Nabar and Boonlert-U-Thai, 2007; Doupnik, 2008; Han et al., 2010). In addition, Hofstede's study does not attribute indexes to all countries. For example, Tunisia is not included in countries studied by Hofstede.

According to Hofstede (1980), national culture is derived from ecological factors in a given country (see figure 2). Thus the theory of cultural ecology suggests a dynamic relationship between the individual and his environment. Hence, the nature of society and environment is a result of human behavior that follows a dynamic of this environment to achieve objectives and meet specific needs. The theory of cultural ecology then suppose that cultural diversity is a result of ecological diversity, which justifies the fact that different cultures employ technologies and subsistence practices differently. Empirically, identifying national culture through ecological factors was employed by Noravesh et al. (2007).

According to Hofstede (1980), power distance can be determined by the country's wealth and population size. The author notes that national wealth can be determined by contribution of traditional agriculture, urbanization, use of modern technologies and interest given to education. In addition, Hofstede (1980) links uncertainty avoidance to the degree
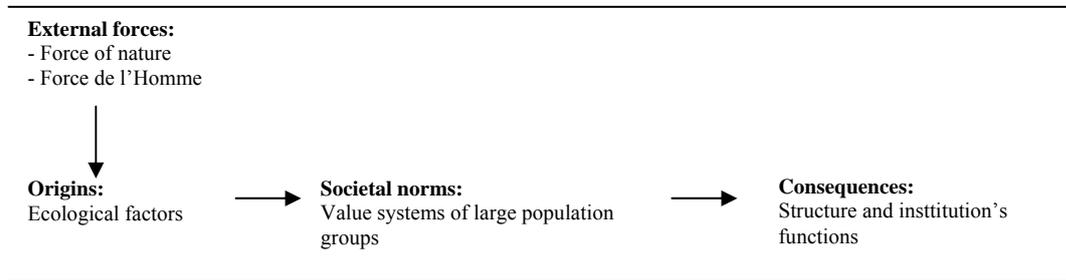
External forces:
- Force of nature
- Force de l'Homme

Origins:
Ecological factors

→

Societal norms:
Value systems of large population groups

→

Consequences:
Structure and insttitution's functions

Figure 2: Cultural model, Source: Hofstede (1980, p. 27)

of adoption of new technologies and to attention paid to education. Moreover, uncertainty avoidance can be identified through economic stability and volume of investment in financial markets (Noravesh et al., 2007). Hofstede (1980) also states that individualism deals with national wealth, economic growth, population growth and materialism. Masculinity is according to Hofstede (1980) related to professional success and interest to education. This can be measured by the predominance of male gender in society. Moreover, Noravesh et al. (2007) consider that this dimension is related to problem solving by struggle and litigation. Finally, Hofstede (2001) links long-term orientation to the economy, respect for each rank in the social relations and perseverance. He identifies the origins of this dimension as the economic use of resources and the importance of the budget allowed to education. Thus, cultural dimension proxies are detailed in table 2.

Measuring Earnings Management

Earnings management is estimated through discretionary accruals. It is recommend using more than one model in estimating discretionary accruals because the quality of models varies according to the nature of earnings management practice and bias that can affect the estimation (Peasnell et al., 2000). Thus, we use Dechow et al. (1995), Kothari et al. (2005) and Raman and Shahrur (2008) models to estimate earnings management. Thus, Earnings management proxies are detailed in table 3.

RESULTS AND DISCUSSION
Confirmatory Factor Analysis (CFA)

Assessments of fit indexes are reported in table 4. These indexes are acceptable (*Chi-square/degree of freedom*<5; *GFI*>0.9; *AGFI*>0.8; *RMSEA*<0.08; *CFI*>0.9) and show that unobservable variables are adequate to the theoretical model. In addition, CFA provides evidence of cultural dimensions indicators. Findings show that almost all selected proxies significantly determine latent constructs of the study. However, some of proxies contribute in determining cultural dimensions contradictorily to the expected sign. For instance, we found that national wealth positively influences power distance. We also found that adopting modern technologies and interest to education are negatively related to uncertainty avoidance, with a week contributions of the indicators *LITTER* (λ=-0.0166; *t*-value=-23.052; ε=0.00072) and *INVEST* (λ=0.00519; *t*-value=16.079; ε=0.000323). Moreover, findings show that *SAVING* doesn't significantly determine individualism (*P*>5%) with a negligible effect of *PGROW* (λ=0.00878) and *FEC* (λ=-0.00673) in determining this dimension. Findings also show that contributions of male gender and literacy rate are negligible in determining masculinity. Materialism however, has no significant relationship with this cultural dimension (*P*>5%). Finally, we found that *interest to education* is negatively related to long-term orientation (λ=-0.486).

Table 2: Cultural dimension measurement

Proxy	Measure	Expected sign with cultural dimension
Power distance		
Traditional agriculture	*AGRI* =Ratio of agriculture sector to GDP	+
Urbanization	*URBA* =Urbanization rate	-
Modern technologies	*INTE* =Internet users per 100 persons *BROAD*=Broadband Internet subscriptions per 100 persons *GSM*=GSM subscriptions per 100 persons	-
Educational system	*LITER*=Literacy rate *SCHO*=Average years of schooling	-
Population size	*POPU*=Naperian logarithm of total population	+
Uncertainty avoidance		
Modern technologies	*INTE* =Internet users per 100 persons *BROAD*=Broadband Internet subscriptions per 100 persons *GSM*=GSM subscriptions per 100 persons	+
Educational system	*LITER*=Literacy rate *SCHO*=Average years of schooling	+
Economic stability	*CURR*=Fluctuations of foreign currency rate *FGDP*=Fluctuation rate in GDP *SAVING*=Gross Domestic Saving	+
Interest to investment on financial markets	*INVEST*= Volume of investment in stock market	-
Individualism		
Traditional agriculture	*AGRI* =Ratio of agriculture sector to GDP	-
Urbanization	*URBA* =Urbanization rate	+
Modern technologies	*INTE* =Internet users per 100 persons *BROAD*=Broadband Internet subscriptions per 100 persons *GSM*=GSM subscriptions per 100 persons	+
Educational system	*LITER*=Literacy rate *SCHO*=Average years of schooling	+
Material success	*GNP*=GNP per capita	+
Materialism	*HEALTH*=Ratio of health sector to GPD	-
Economic growth	*SAVING*=Gross Domestic Saving	-
Population growth	*PGROW*=Population growth rate *FEC* =Fecundity rate	-
Masculinity		

Material success	*GNP*=GNP per capita	+
Predominance of male gender in society	*EMPM* =Employment rate of male gender *ETUM*=Ratio of male students to total of students	+
problem solving by struggle and litigation	*DEF*= Ratio of national defensive budget to GDP	+
Materialism	*HEALTH*=Ratio of health sector to GPD	-
Educational system	*LITER*=Literacy rate *SCHO*=Average years of schooling	-
Long-term orientation		
Sense of economy	*FBCF*= Formation brute de capital fixe *GFI* =Gross fixed investment	+
Interest given to education	*EDU* =Ratio of educational sector to GDP	+

Table 3: Earnings management measurement

Proxy	Mesures
Residu of Dechow and al. (1995) model	JONES_MOD= $$\frac{TA_{it}}{A_{it-1}} - \alpha_1 \left[\frac{1}{A_{it-1}} \right] - \alpha_2 \left[\frac{(\Delta REV_{it} - \Delta AR_{it})}{A_{it-1}} \right] - \alpha_3 \left[\frac{PPE_{it}}{A_{it-1}} \right]$$
Residu of Kothari and al. (2005) model	KOTH_al= $$\frac{TA_{it}}{A_{it-1}} - \alpha_1 \left[\frac{1}{A_{it-1}} \right] - \alpha_2 \left[\frac{(\Delta REV_{it} - \Delta AR_{it})}{A_{it-1}} \right] - \alpha_3 \left[\frac{PPE_{it}}{A_{it-1}} \right]$$ $$- \alpha_4 ROA_{it-1}$$
Residu of Raman and Shahrur (2008) model	RAM_SHAH= $$\frac{TA_{it}}{A_{it-1}} - \alpha_1 \left[\frac{1}{A_{it-1}} \right] - \alpha_2 \left[\frac{(\Delta REV_{it} - \Delta AR_{it})}{A_{it-1}} \right] - \alpha_3 \left[\frac{PPE_{it}}{A_{it-1}} \right]$$ $$- \alpha_4 ROA_{it-1} - BTM_{it}$$

Where for sample firm *i* at time *t*,

TA_{it} = Total accruals; A_{it-1} = Total assets; $\Delta REV_{it} - \Delta AR_{it}$ = Change in cash-basis revenue; PPE_{it} = Gross property, plant, and equipment; ROA_{it-1} = Return on assets ratio; BTM_{it} = Book-to-market ratio and α_1, α_2, α_3 and α_4 = Parameters to be estimated.

Table 4: Goodness of fit statistics

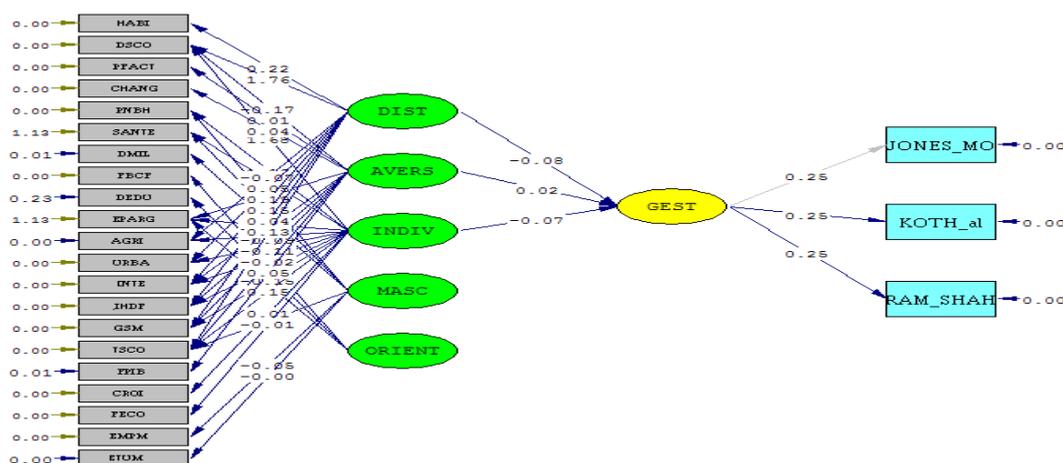| Statistics	Cultural dimensions measurement model	Earnings management measurement model	Global model
Chi-square/degree of freedom	2.49	3.41	0.92
GFI	0.99	0.99	0.92
AGFI	0.98	0.97	0.89
RMSEA	0.05	0.06	0.00
CFI	0.98	0.99	1.00

Figure 3: Structural model equation for the relationship between cultural dimensions and earnings management

Hypothesis Tests

SEM of cultural dimensions and earnings management is presented in figure 3 and table 5. Results show that power distance has a negative coefficient regression (γ=-0.0801). This relationship is significant (*t*-value=-2.494; ε=0.0321). This finding suggests that societies with high power distance opt for less earnings management and hypothesis 1 is not supported. We also found that uncertainty avoidance positively and significantly influence earnings management (γ=0.0230; *t*-value=2.079; ε=0.0262) suggesting that societies with a high degree of uncertainty avoidance are more likely to manage earnings. Thus, hypothesis 2 is supported. Moreover, results provide a negative coefficient regression of individualism (γ=-0.0697). This finding is significant (*t*-value=-2.159; ε=0.0323) and implies that individualistic societies are less likely to practice earnings management. Thus hypothesis 3 is supported. However, contrary to our expectations, we did not find a significant relationship between earnings management and the two cultural dimensions masculinity and long-term orientation. Thus, hypotheses 4 and 5 are not supported.

Table 5: Cultural dimensions and earnings management

	t-value	Coefficient regression	Error
Power distance	-2.494	- 0.0801	0.0321
Uncertainty avoidance	2.079	0.0230	0.0262
Individualism	-2.159	- 0.0697	0.0323

DISCUSSION

First of all, finding have informed about indicators that significantly contribute in determining cultural dimensions within the sample countries. Indeed, we found that these indicators are no longer exactly the same identified by Hofstede (1980; 2001). In fact, we found that national wealth positively influences power distance what can be explained by the fact that wealth encourages behavior of superiority and promotes power distance. Findings also show that adopting modern technologies and interest to education are negatively related to uncertainty avoidance. This can be explained by the theory of cultural ecology through its adaptive dynamic perspective. Indeed, this theory indicates firstly, that technologies and strategic actions are implemented voluntarily by individuals according to their cultural needs. Secondly, the theory of cultural ecology suggests that, after the creation of means necessary for subsistence, new cultural needs are born according to the new environment. In addition, the unexpected effect of interest to education in determining cultural dimensions is due to the fact that previously, the level of education was seen as a means of determination and distinction. Today, access to employment is becoming increasingly difficult. Education is no longer related to only culture. Rather, it is perceived by individuals as a means to achieve professional integration. Results also provide a negligible effect of interest to investment in financial markets in determining uncertainty avoidance. Obviously, with financial markets liberalization, companies are increasingly interested in investment in financial markets. This is due to the decreasing of barriers to trade in financial services and the flexibility of rules governing access to foreign financial markets. In addition, we found that predominance of gender male in society doesn't promote masculinity. This finding seems to be logic since the development of the women's role in society and public recognition of this role became a natural outcome, so that the contribution of the male gender in society is no longer a very crucial index of masculinity.

Second, findings allow identifying relationship between cultural dimensions and earnings management. Relationship between power distance and earnings management was intended to be positive. Prior studies have shown conflicting results. For example, Guan et al. (2006), Nabar and Boonlert-U-Thai (2007), Doupnik (2008), Han et al. (2010) and Callen et al. (2011) find no significant relationship between power distance and earnings management. However, Nikoomaram et al. (2010) show that this relationship is weakly positive. Furthermore, our results are consistent with Guan and Pourjalali (2010) and Goodwin et al. (2000) who find that societies with low power distance opt for less earnings management. This is because the inequality in power is more accepted in these societies. Managers are not, therefore, motivated to show that their firms are more competent than others (Geiger et al., 2006). Moreover, Gray (1988) hypothesizes that power distance is negatively related to professionalism. This means that in societies characterized by a high power distance, people apply the codes and laws and prefer statutory control. In fact, statutory control which is by definition the alignment with the recommendations of government agencies may reduce earnings management practice. Thus, Braun and Rodriguez (2008) find a positive

relationship between professionalism and earnings management.

As we have expected, we found a positive relation between uncertainty avoidance and earnings management. This relationship remained ambiguous for a long time. Some empirical studies show that this relationship is negative (Guan et al., 2006; Nikoomaram et al., 2010, Han et al., 2010). Guan et al. (2006) explain this finding by the fact that uncertainty avoidance negatively influences the flexibility, transparency and professionalism, which lead to a decrease in earnings management. However, our results are consistent with Nabar and Boonlert-U-Thai (2007), Doupnik (2008), Guan and Pourjalali (2010) and Callen et al. (2011). From this perspective, earnings management is seen as a mechanism which helps compensate for the uncertainty. Thus, Callen et al. (2011) argue that when revenues are uncertain, earnings management becomes a means to serve managers' interests. Similarly, Gray (1988) suggests a significant relationship between uncertainty avoidance and conservatism. This relationship was tested by Kang et al. (2004) who show that managers from conservative cultural backgrounds adopt more conservative accounting choices. Obviously, Braun and Rodriguez (2008) show that conservatism is positively related to earnings management. Thus, it has been proved that uncertainty avoidance is positively related to corruption (Husted, 1999) and tax evasion (Richardson, 2008).

Consistently with our prediction, we found that individualism is negatively related to earnings management. The studies of Guan et al. (2006), Nikoomaram et al. (2010) and Han et al. (2010) suggest diverging results. In fact they show that managers of individualistic societies are motivated by the achievement of personal gain. Furthermore, our results converge with Nabar and Boonlert-U-Thai (2007), Doupnik (2008), Guan and Pourjalali (2010), Callen et al. (2011) and Desender et al. (2011). This can be explained by the fact that managers of individualistic societies are interested in their personal success and therefore feel more enforcement for practicing existing laws (Licht et al., 2007). Thus, Gray (1988) suggests a negative relationship between individualism and discretion. According to Braun and Rodriguez

(2008), this accounting value is positively related to the practice of earnings management.

Surprisingly, our findings show no significant relationship between masculinity and earnings management. Again, studies in this area find different results. Indeed, while Nikoomaram et al. (2010) show a positive relationship between masculinity and earnings management, Guan and Pourjalali (2010) show that this relationship is negative. Otherwise, Nabar and Boonlert-U-Thai (2007), Doupnik (2008), Han et al. (2010) and Callen et al. (2011) found that this relationship is not significant. This seems logical since Gray (1988) argues that masculinity is not correlated with uniformity (vs. flexibility) and professionalism (vs. statutory control). In fact, Gray (1988), Kinnunen and Koskela (2003) and Braun and Rodriguez (2008) find that professionalism and flexibility in accounting practices are due to the latitude in accounting standards which generally allows practicing earnings management.

Similarly, findings show no significant relationship between long-term orientation and earnings management. This cultural dimension has not found acceptance as other Hofstede's (1980) cultural dimensions, especially in accounting (Akman, 2011). Therefore, this dimension has not been extensively tested in studies addressing the impact of culture on management practice results. Only Guan et al. (2006), Doupnik (2008) and Callen et al. (2011) include this dimension in their studies. Our findings are in contrast with Guan et al. (2006). However, these findings are consistent with Doupnik (2008) and Callen et al. (2011).

CONCLUSION

The study aims to determine whether cultural values explain cross-national differences in earnings management in France, Tunisia and Canada. SEM method was used to test this relationship. Findings show that the five Hofstede's (1980; 2001) cultural dimensions are able to define national culture in our sample countries. We also determined indicators that are able to determine these cultural dimensions. Indeed, the study shows that national culture origins have changed and are no longer the same as identified by Hofstede (1980; 2001). We explained this finding through the theory of

cultural ecology under an adaptive dynamics which suggest that individuals' needs change according to environment. For instance, the adoption of modern technologies may reduce perplexity. Moreover, some indicators can no longer serve as determinants of some dimensions of national culture. For example, interest attributed to education no longer issues only from culture of the individual, but also from needs to integrate into society.

Findings also show that three of Hofstede's (1980; 2001) cultural dimensions are significant in explaining differences in earnings management internationally. These cultural dimensions are power distance, uncertainty avoidance and individualism. We found a negative relationship between power distance and earnings management suggesting that in studied context, power distance let people accept the unequal power distribution. Hence, managers become less motivated to show that their firms are more competent than others and are therefore less motivated to manage earnings. Furthermore, our results show a significant positive relationship between uncertainty avoidance and earnings management. This means that societies with high uncertainty avoidance are more likely to manage earnings and can be explained by the fact that earnings management is seen as a mechanism that helps to reduce uncertainty. We also found a significant negative relationship between individualism and earnings management. This can be explained by the fact that managers of individualistic societies are more rigid in the application of laws and promote uniformity in accounting practices which help mitigating earnings management. Finally, we did not found a significant relationship between the two cultural dimensions masculinity and long-term orientation and earnings management.

This study was limited to testing cultural dimensions without including other variables related to specific sectors or to capital structure. Considering these factors can enhance the study by including the impact of corporate culture on earnings management. In addition, the lack of database pushed us to ignore some other development indicators that can reflect cultural dimensions of our sample countries and limited the number of years of the study. However, a search covering a larger period of study may be

of particular importance due to the slow change in environmental conditions resulting in the development of national culture.

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