

CULTURAL DIFFERENCES AFFECTING DECISION-MAKING STYLE: A COMPARATIVE STUDY BETWEEN 4 COUNTRIES

Marina Dabić¹, Darko Tipurić², Najla Podrug³

¹*Faculty of Economics and Business, University of Zagreb, Zagreb, Croatia,
Nottingham Business School, Nottingham Trent University, Nottingham, UK*

^{2,3}*Faculty of Economics and Business, University of Zagreb, Zagreb, Croatia
E-mail ¹mdabic@efzg.hr (corresponding author)*

Received 24 March 2012; accepted 22 October 2013

Abstract. The aim of this paper was to identify the impact of national culture on decision-making styles in selected countries: Croatia, Slovenia, Bosnia and Herzegovina and Hungary. The estimation of Hofstede's dimensions of national cultures and comparative analyses was carried out by using a narrow-sample strategy. The estimated positions on each dimension confirmed the Hofstede's original research ranking. The result with significant value was the confirmation of the global trend of decreasing power distance and significant movement towards the individualism. Besides the standardization procedure of comparative cross-cultural analyses, variance analyses were used to identify cultural differences in decision-making styles related to complex decisions. The proposition is that complex decisions are, above and beyond all others, the consequence of social and cultural values installed in every individual. Statistically significant dependency was identified for hyper-vigilant and vigilant decision-making style and national culture's dimensions. A beneficial goal was to identify the differences and the similarities in value orientation and those in the decision-making style which should not be mistreated as they may influence future business cooperation and political and economic integrations within the CEE context.

Keywords: cultural differences, decision-making styles, Croatia, Slovenia, Bosnia and Herzegovina, Hungary.

JEL Classification: M10, M16.

Introduction

In the context of globalization processes and the growth of economic interdependence among countries, the national culture is becoming more and more important (Adler 1991; Harvey, Miceli 1999; Harvey, Moeller 2009; Stah *et al.* 2010; Minkov, Hofstede 2011; Schwartz 2014). Understanding culture can equip a person for the challenges of contemporary international business even within the national context. Nevertheless, recognizing the importance of cultural differences helps managers understand their international partners and competitors and ultimately helps to improve their managerial skills (Cullen, Praveen Parboteeah 2011). The objective of this research was to identify the

cultural distinction between Croatia, Slovenia, Bosnia and Herzegovina and Hungary using the methodology introduced by Hofstede. Countries positioning by the Hofstede's dimensions do not expose all differences among cultures or countries, but do sum up the greater part (MacNab, Worthley 2013). These dimensions representing cultural differences have confirmed empirically on many occasions that they are related with numerous aspects from the management and organizational domains (Iglehart 1997; Trompenaars, Hampden-Turner 2000; House *et al.* 2002).

The additional interest of this research is to determine cultural differences in decision-making styles. The decision-making process depends on cultural background and choice of “the right way” – the decision-making style is dependent on values and beliefs of people involved in the decision-making process (Mann *et al.* 1998). According to Yousef (1998) empirical research in cultural differences in the decision-making style is marginalized in comparison to other aspects in management research. So, those were the arguments for identifying cultural differences in decision-making style.

2. National culture: definitions and dimensions

Various authors from completely different scientific fields have attempted to analyse and define culture by observing it at different levels and in different forms (Fisher, Poortinga 2012). On the one hand Weber and Hsee (2000) used the psychological approach and revealed encouraging trends in cross-cultural judgment and decision-making research with an emphasis on a shift from merely describing national differences in overt behaviour to exploring the underlying processes that explain these differences.

On the other hand Bazerman and Tenbrunsel (2011) and Wright and Drewery (2006) bring into focus the importance of national cultures linking cultures and systems of thought through holistic versus analytic cognition.

Hofstede (1980) deserves credit for the most popular definition of culture that also refers to the sources and the important characteristics of culture seen as “the collective programming of the mind which distinguishes the members of one human group from another... the interactive aggregate of common characteristics that influences a group's response to its environment”. The *mind* stands for the head, the heart and hands, i.e. for thinking, feeling and acting resulting in beliefs, attitudes and skills. The concept of a *collective programming of the mind* resembles the concept of *habitus* proposed by the French sociologist Bourdieu (Hofstede 2001).

In 1961 Kluckhohn and Strodtbeck came up with a multidimensional classification of culture while in 1976 Hall developed a unidimensional culture model according to the ways of communicating. Inkeles and Levinson developed the following dimensions of national culture in terms of standard analytic issues: (1) the relation to authority, (2) the concept of self, including an individual's concepts of masculinity and femininity and (3) primary dilemmas of conflicts and the ways of dealing with them, including the control of aggression and the expression versus inhibition of affect (G. Hofstede, J. G. Hofstede 2005).

The above-mentioned authors (and the authors indicated in Table 1) have determined their dimensions primarily starting from theoretical postulations. In continuation the conclusions of the empirical research are presented. Besides classifying the values on the individual level, Schwartz (1999) outlined the classification of values on the national level, such as conservatism, hierarchy, mastery, affective autonomy, intellectual autonomy, egalitarian commitment and harmony. Schwartz's map facilitates mutual comparison of national cultures on each orientation discovering eight discrete world cultural regions that depict the influence of geographic proximity, history, language, and other factors. Schwartz (2014) also discussed the distinctive cultural profiles of each world cultural region to illustrate the meaningfulness of the cultural map. According to Schwartz (2014) culture in Hungary, Bosnia and Herzegovina and Slovenia emphasizes harmony, intellectual autonomy, and egalitarianism, and moderately emphasizes affective autonomy. The cultural emphasis on embeddedness is low, and very low with respect to mastery and hierarchy. In contrast, in Croatia, mastery, embeddedness, and hierarchy are highly emphasized, affective autonomy is moderately emphasized, and egalitarianism, intellectual autonomy, and harmony receive little cultural emphasis.

Hofstede's dimensions of national culture, determined for 53 countries and regions of the world, lead by the number of quotes and by the importance in the field of cross-cultural management (Søndergaard 1994; Taras *et al.* 2012). In terms of factor analysis Hofstede defined four factors or four dimensions of national culture: (1) power distance, (2) uncertainty avoidance, (3) individualism/collectivism and (4) masculinity/femininity; the fifth dimension was added later – long-term versus short-term orientation – as a result of Hofstede and Bond's joint effort.

The *Power Distance* dimension measures “the extent to which less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally” (Hofstede 2001).

The *Uncertainty Avoidance* dimension measures “the extent to which the members of a culture feel threatened by uncertain and unknown situations” (Hofstede 1980).

Individualism/Collectivism is the third dimension where, according to Hofstede, individualism stands for “a society in which the ties between individuals are loose – everybody is expected to look after him/herself and his/her immediate family only” while collectivism stands for “a society in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty”.

Masculinity/Femininity represents the fourth dimension where masculinity stands for a society in which social gender roles are clearly distinct: men are supposed to be assertive, tough and focused on material success, and women are supposed to be modest, tender, and concerned with the quality of life while femininity stands for a society in which social gender roles overlap: both men and women are supposed to be modest, tender and concerned with the quality of life (Hofstede 2001).

These four national culture's dimensions were later extended by the fifth, which was not part of the original Hofstede's study and is called *Long-term versus Short-term Orientation* – originally, called Confucian dynamism (Hofstede, Bond 1984). “Long-term ori-

Table 1. Overview of national culture's dimensions: theory and empirical based

Author	Year	Dimensions
Theory approach		
Aberle, Cohen, Davis, Levy and Sutton	1950	adequate physical and social relationships with the environment, (2) role differentiation according to age, gender and hierarchy, (3) communication, (4) shared knowledge, beliefs, and rules of logic thinking, (5) shared goals, (6) normative regulation of means towards these goals, (7) regulation of affective expression; (8) socialization of new members, (9) effective control of disruptive forms of behaviour
Parsons and Shils	1951	affectivity versus affective neutrality, (2) self-orientation versus collectivity-orientation, (3) universalism versus particularism, (4) ascription versus achievement, (5) specificity versus diffuseness
Inkeles and Levinson	1954	relation to authority, (2) conception of self, including individual's concept of masculinity and femininity, (3) primary dilemmas or conflicts and ways of dealing with them, including control of aggression and the expression versus inhibition of affect
Kluckhohn and Strodtbeck	1961	(1) an evaluation of human nature, (2) the relationship of man to the surrounding natural environment, (3) the orientation in time, (4) the orientation toward activity and (5) relationship among people
Douglas	1973	two-dimensional ordering of "cosmologies": (1) "group" or inclusion and (2) "grid" or classification
Hall		(1) way of communication
Fiske	1992	communal sharing, (2) authority ranking, (3) equality matching, (4) market pricing
Empirical based		
Hofstede	1980	(1) power distance, (2) uncertainty avoidance, (3) individualism/collectivism, (4) masculinity/femininity, (5) long-term versus short-term orientation
Lynn and Hampson	1975	neuroticism, (2) "extraversion"
Inglehart	1997	"well-being versus survival", (2) "secular-rational versus traditional authority"
Schwartz	1999	(1) conservatism, (2) hierarchy, (3) mastery, (4) affective autonomy, (5) intellectual autonomy, (6) egalitarian commitment, (7) harmony
Trompenaars and Hampden-Turner	2000	universalism versus particularism, (2) individualism versus collectivism, (3) affectivity versus neutrality, (4) specificity versus diffuseness, (5) achievement versus ascription, (6) time orientation and (7) relation to nature
House, Javidan, Hanges, and Dorfman	2002	power distance, (2) uncertainty avoidance, (3) social collectivism, (4) in-group collectivism, (5) gender egalitarianism, (6) assertiveness, (7) future orientation, (8) performance orientation and (9) humane orientation
Nisbett, Peng, Choi and Norenzayan	2001	holistic versus analytic cognition

entation stands for the fostering of virtues oriented towards future rewards, in particular, perseverance and thrift. Short-term stands for the fostering of virtues related to the past and present, in particular, respect for tradition, preservation of face and fulfilling social obligations” (G. Hofstede, J. G. Hofstede 2005).

Only a small number of countries do not have the dimensions of their national culture calculated according to Hofstede’s methodology and their estimated values have been added afterwards. The primary aim of this paper was to check the accuracy of the projected value dimensions for Croatia and Slovenia Hofstede based on the original data for the former Yugoslavia before it fell apart in 1991, and to determine additionally the fifth dimension long-term/short-term orientation. Bosnia and Herzegovina is quite curious as it was never included in any cross-cultural research up until now. There are estimated values for Hungary, while Finland is the *only* country from Hofstede’s original research used for methodology purposes (Table 2).

Table 2. The projected positions of Croatia and Slovenia, estimated values for Hungary and original values for Finland’s dimensions

	Croatia	Slovenia	Bosnia and Herzegovina	Hungary	FINLAND
Power distance index (PDI)	71	73	unknown	46	33
Uncertainty avoidance index (UAI)	80	88	unknown	82	59
Individualism/collectivism index (IND)	33	27	unknown	80	63
Masculinity/femininity index (MAS)	40	19	unknown	88	26
Long-term/short-term orientation index (LTO)	unknown	unknown	unknown	50	41

Source: Hofstede, G.; Hofstede, J. G. 2005. *Culture and organizations: software of the mind*. 2nd Ed. New York: McGraw-Hill, 43–44, 78–79, 120–121, 168–169, 210–211.

3. Decision-making style: definitions, typologies and cultural differences

Determining the relative position of the observed countries in particular dimensions aims at better understanding of the managerial practice in a given cultural context, as well as at identifying the sources and the consequences of different principles and managerial practices (Taras *et al.* 2012). Unlike other aspects of management and organization which were analyzed on numerous occasions in connection with cultural contexts and Hofstede’s dimensions, this is not the case for decision-making styles.

Taylor, Tannerbaum and Schmidt were pioneers in academic discussions on decision-making styles although these were also closely connected to leadership styles. With Simon and some other authors, 1960s were characterized as the years of revolutionary turnaround towards decision-making and decisions. In general, researchers and practitioners are generally in agreement on the definition of decision-making styles but not so in terms of the types of decision-making styles (Bik 2010). Vroom and Yetton, Muna, Ali, Janis and Mann, etc. defined different typologies of decision-making styles.

The leading assumption of this paper is following: decision-making is culturally contingent, depending on the values, beliefs, attitudes and behavioural patterns of the people involved. Therefore, cultural contingency becomes yet another contingency in the fit-models of decision-making. At each step in decision-making, as illustrated on table 3, the culture influences the ways managers and others make decisions and solve problems.

Figure 1 illustrates different variables that influence the adoption of certain decision-making style. Many empirical studies (Ali 1989, 1993; Tayeb 1995; Mann *et al.* 1998; Gupta 2012) have confirmed the role of the cultural background choosing a decision-

Table 3. The cultural contingencies of decision-making

Five steps in decision-making	Cultural variations	
1. Problem recognition	<i>Problem solving</i>	<i>Situation acceptance</i>
2. Information search	<i>Gathering "Facts"</i>	<i>Gathering ideas and possibilities</i>
3. Construction of alternatives	<i>New, future-oriented alternatives</i> Adults can learn and change.	<i>Past-, present-, future-oriented alternatives</i> Adults cannot change substantially.
4. Choice	<i>Individual decision-making</i> Decision-making responsibility is delegated. Decisions are made quickly.	<i>Group decision-making</i> Only senior management makes decisions. Decisions are made slowly.
5. Implementation	<i>Slow</i> Managed from the top. Responsibility of one person.	<i>Fast</i> Involves participation of all level. Responsibility of group.

Source: Adler, N. 1991. *International dimensions of organizational behavior*. 2nd ed. Belmont: Wadsworth Publishing Company, 163.

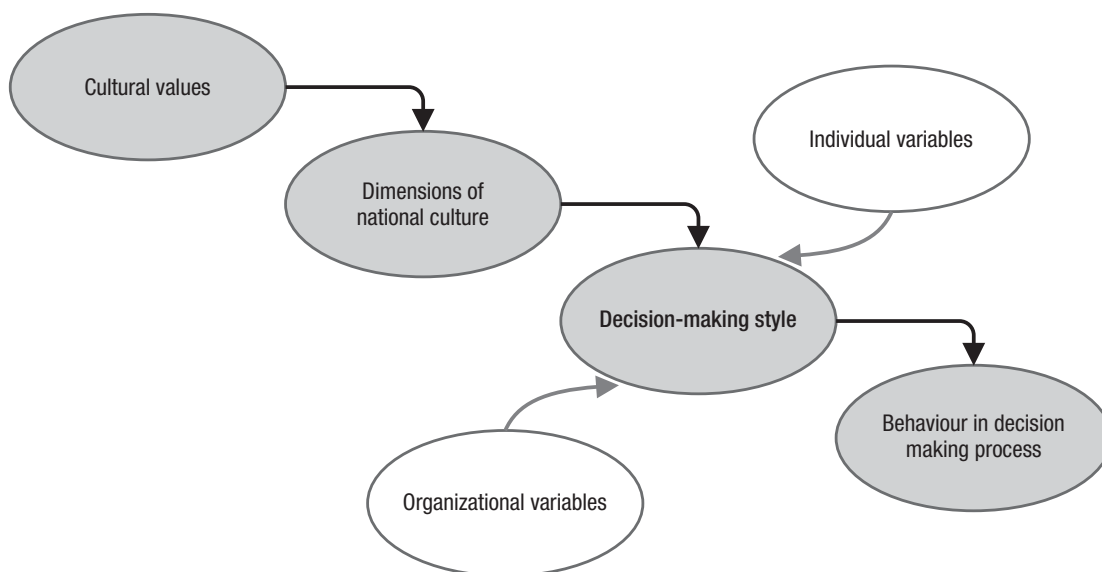


Fig. 1. Model of the variables influencing decision-making style

making style. Cultural background is the variable whose influence on the decision-making style will be discussed in this paper.

Since, modern business conditions frequently result in situations in which complex decisions have to be made with long-term consequences, and complex decisions are widely accepted to be the consequence of social and cultural values that are, above and beyond all others, installed in every individual (Festing *et al.* 2011).

4. Methodological issues

Designs in international and cross-cultural management research are understandably complex (Usunier 1998). Replications are a very popular type of study that offers the ease of having a preset design (for example, original Hofstede's research) and require only a new round of research implementation including the collection of new data (Harkness *et al.* 2010).

The instrument VSM 1994 used in the study was the was defined by Hofstede and developed for the purpose of recurrence of the original research on national cultures' dimensions and for comparison with the results of the original research. Furthermore, the questionnaire contained general information about the respondents and questions regarding decision-making styles (Janis and Mann's typology). Janis and Mann (1977) have defined the styles in the decision-making process associated with complex decisions as (1) vigilance decision-making, then styles of avoidance in decision-making which include (2) liability avoidance and (3) procrastination and as the last one (4) hyper-vigilance decision-making. Janis and Mann's typology of decision-making styles was simply analyzed in the aspect of practised decision-making style.

Four questions were needed to calculate each national culture's dimension score. The index formulas are presented in Table 4.

The VSM is a test designed for comparing mean scores for matched samples of respondents across two or more countries, regions, or ethnic groups. It is not a personality test for comparing individuals within countries. Therefore, the Cronbach alpha reliability coefficients across individuals are irrelevant (Hofstede 2001). An unreliable test cannot produce valid results, so if validity is proven, reliability can be assumed. Validity is shown through significant correlations of test results with the outside criteria related to the test scores by some kind of theory or logic. In his way the reliability of the VSM, even for smaller number of countries, can be proven indirectly (G. Hofstede, J. G. Hofstede 2005).

There are three different kinds of research possibilities: 1. survey studies of other narrow but matched samples of populations, 2. representative sample polls of entire national populations and 3. the features of countries directly measured at the country level (Hofstede 2001). A narrow sample was chosen as optimal research option for this cross-cultural analysis. The empirical research was carried out on postgraduate students of business administration meaning MBA and Ph.D. students. The size of the sample in a particular country is satisfactory according to Hofstede (2001) who suggests that a sample includes at least 20 subjects, and that the optimal size is 50.

Table 4. Dimensions' formulas

$PDI = -35 \times m(03) + 35 \times m(06) + 25 \times m(14) - 20 \times m(17) - 20$
$UAI = 25 \times m(13) + 20 \times m(16) - 50 \times m(18) - 15 \times m(19) + 120$
$INV = -50 \times m(01) + 30 \times m(02) + 20 \times m(04) - 25 \times m(08) + 130$
$MAS = 60 \times m(05) - 20 \times m(07) + 20 \times m(15) - 70 \times m(20) + 100$
$LTO = -20 \times m(10) + 20 \times m(12) + 4$
$m = \text{mean}$
<i>for example, $m(03)$ = mean score for question 03 and so on</i>

Source: Hofstede, G. 2001. *Culture's consequences: comparing values, behaviours, institutions and organizations across nations*. 2nd ed. Thousand Oaks, CA: Sage Publications, 494–497.

Table 5. Sample description

		Number of respondents	Number of respondents in %
Gender	male	69	46
	female	81	54
Age	under 25 years	15	10
	between 25–30 years	70	46,7
	between 31–40 years	45	30
	between 41–50 years	19	12.7
	more than 50 years	1	0.6
Educa- tional level	M.A., B.A.	90	60
	M.Sc.	55	36.6
	PhD	5	3.3
	other	0	0
Work position	non-managerial positions	58	38.6
	lower level management	21	14
	middle level management	23	15.3
	top management	14	9.3
	others	34	22.6
Country	Croatia	30	20
	Slovenia	30	20
	Bosnia and Herzegovina	30	20
	Hungary	30	20
	Finland	30	20
Total		150	100

Absolute scores do not mean anything at all, only the differences between the scores from at least two countries can be interpreted and compared to the original database (G. Hofstede, J. G. Hofstede 2005). As presented in table 5 all of the methodological prerequisites were fulfilled.

5. Discussion

“Standardization” is the strategic requirement for interpreting and comparing comparative cultural research (Kolman *et al.* 2003; Nasierowski, Mikula 1998). The country used for standardization purposes must be one of the countries from the original research so that the original values for each dimension can be compared to the calculated values in this research.

Therefore, the unstandardized values for Croatia, Slovenia, Bosnia and Herzegovina, and Hungary (shown in brackets in table 6) cannot be compared to the results of other investigations or other countries. Consequently, to meet the requirement of value standardization research was carried out in Finland, the country that participated in the original research carried out in 1971.

Calculated dimensions for Finland are:

- power distance index 30.88,
- uncertainty avoidance index 24.27,
- individualism/collectivism index 101.51,
- masculinity/femininity index 14,
- long-term versus short-term orientation index 56.6.

The results for Finland are comparable to those of Hofstede’s original research. For every dimension the correction factor is determined by determining the difference between power distance for Finland and the original value of power distance in the same country from table 2 (for example, the calculated value for power distance is 30.88 and the value from the original research is 33 – so the correction factor is 2.12). The calculated correction factor is then applied to the values of the same dimension for other countries. For example, the uncalibrated value of power distance for Croatia is 34.08 and after standardization the calibrated position of power distance index for Croatia is 36.2.

The calculated correction factors are:

1. correction factor for power distance index + 2.12,
2. correction factor for uncertainty avoidance index + 34.73,
3. correction factor for individualism/collectivism index 38.5,
4. correction factor for masculinity/femininity index + 40,
5. correction factor for long-term versus short-term orientation index 15.6.

The standardized values of national culture’s dimensions are shown in table 6 and the uncalibrated positions are given in brackets.

From tables 6 and 7 it is obvious that the total cultural distance (by methodology taken from Zagorsek *et al.* 2004) is the greatest between Croatia and Slovenia, while the differences between Croatia and Bosnia and Herzegovina are almost negligible.

Analysing the recent cross-cultural research, Hofstede (2001) pointed to a trend towards decreasing power distance, which has also been confirmed by this research. The explanation is connected to the growth of GDP which negatively correlates with the power distance index. The highest uncertainty avoidance has been recorded in Slovenia, then in Hungary and Bosnia and Herzegovina while the lowest was in Croatia. The rank

Table 6. Calibrated (uncalibrated) positions of the countries on five Hofstede's dimensions

	Croatia	Slovenia	Bosnia and Herzegovina	Hungary
Power distance index (PDI)	36.2 (34.08)	34.07 (31.95)	40.78 (38.66)	25.71 (23.59)
Uncertainty avoidance index (UAI)	57.68 (22.95)	87.86 (53.13)	63.39 (28.66)	77.62 (42.89)
Individualism/collectivism index (IND)	73.92 (112.42)	60.49 (98.99)	73.35 (111.85)	72.83 (111.33)
Masculinity/femininity index (MAS)	91.62 (51.62)	87.31 (47.31)	83 (43)	90 (50)
Long-term/short-term orientation index (LTO)	30.37 (45.97)	43.74 (59.34)	29.73 (45.33)	40.31 (55.92)

Table 7. Total cultural distance, calculation for Croatia, Slovenia, Bosnia and Herzegovina and Hungary

	Croatia	Slovenia	Bosnia and Herzegovina	Hungary
Total cultural distance	289.8	313.5	290.3	306.5

corresponds to the estimated values of Hofstede's original research from table 2 and the explanation of the values of uncertainty avoidance dimension lies in both religious and historical contexts (Hofstede 2001). The high uncertainty avoidance values in these countries can be related to the communist heritage which is characterized by emphasis on equality and safety. Hofstede points out that "young democracies" always show the highest uncertainty avoidance values – the fact that has been confirmed by this research as well.

The results of the individualism/collectivism dimension show a significant move towards individualism, which confirms Hofstede's assumption about the process of convergence and the influence of global economic growth on the shift towards individualism. The calculated values of the masculinity/femininity dimension for Croatia, Slovenia and Hungary confirm that in these cultures masculine values dominate, i.e. the emphasis is on assertiveness, competitiveness, success, acknowledgment, achievements and challenges, and less on collaboration, the quality of life, and the care for others, so-called feminine values. In conclusion it is worth mentioning that the countries in the sample are characterized by the importance of tradition, conservatism and the importance of religion, which Hofstede (1980) considers to be the fundamental characteristics of a masculine society.

The values for long-term/short-term orientation are especially significant because they do not confirm or deny Hofstede's estimated values, as in the case of other national culture's dimensions. This dimension was determined for Croatia, Slovenia, and Bosnia and Herzegovina for the first time. In Croatia and in Bosnia and Herzegovina short-term

orientation dominates evenly while in Slovenia and Hungary the values are different to so some level.

Decision-making styles were a supplementary objective of the analysis with the aim of identifying the dominant style in Croatia, Slovenia, Bosnia and Herzegovina and Hungary. In all countries as presented in table 8 decision-making may be characterized as vigilant. Liability avoidance, procrastination or hyper-vigilance decision-making styles are used infrequently which may be connected to the sample characteristics to a degree. The similarities in complex decision-making are evident in Croatia and Bosnia and Herzegovina while Hungary and Slovenia generated very similar results.

Table 8. Results on complex decision-making for Croatia, Slovenia, Bosnia and Herzegovina, Hungary

	Vigilance		Liability avoidance		Procrastination		Hyper-vigilance	
	average	stand. deviation	average	stand. deviation	average	stand. deviation	average	stand. deviation
Croatia	1.77	0.10	.99	0.08	3.79	0.07	3.92	0.07
Slovenia	1.99	0.15	4.19	0.12	3.84	0.10	4.10	0.10
Bosnia and Herzegovina	1.88	0.15	3.97	0.12	3.91	0.10	3.94	0.10
Hungary	2.17	0.12	4.12	0.09	4.07	0.08	4.18	0.08

According to results from table 8, it is clear that the respondents from Croatia and Bosnia and Herzegovina have a more vigilant approach to decision-making when compared to their Hungarian and Slovenian counterparts. They typically almost always consider all versions of the decisions and their possible shortcomings. Afterwards, they try to gather as much reliable information as they can and set as clear goals as possible.

Variance analysis was used to identify statistical dependency between vigilance decision-making and national culture's dimensions. Dependency was confirmed (table 9) and it is statistically significant with 5% probability (p-value = 0.013).

Table 9. Variance analysis results
(Vigilance decision-making and national culture's dimensions)

Univariate results for each DV Sigma-restricted parameterization effective hypothesis decomposition					
	Degr. of	Vigilance decision-making	Vigilance decision-making	Vigilance decision-making	Vigilance decision-making
Intercept	1	757.6301	757.6301	1171.886	0.000000
“Q26” – culture	4	8.4027	2.1007	3.249	0.013083
Error	101	129.9475	0.6465		
Total	105	138.3502			

Identical analysis was conducted for liability avoidance and procrastination and the national culture's dimensions, but it did not identify statistical dependency. However, the results presented in table 10 determine statistical dependency between hyper-vigilant decision-making style and the national culture's dimensions and it is statistically significant with 10% probability ($p\text{-value} = 0.095$).

Table 10. Variance analysis results
(Hyper-vigilance decision-making and national culture's dimensions)

Univariate results for each DV Sigma-restricted parameterization effective hypothesis decomposition					
	Degr. of	Hyper-vigilance	Hyper-vigilance	Hyper-vigilance	Hyper-vigilance
Intercept	1	3030.776	3030.776	10084.06	0.000000
“Q26” – culture	4	2.410	0.603	2.00	0.095220
Error	102	60.711	0.301		
Total	106	63.121			

Cross-cultural analysis of complex decision-making offered interesting conclusions. As for similar styles (vigilance and hyper-vigilance decision-making styles), the conclusions are also similar – statistically significant dependency between these styles and the national culture dimensions. In contrast to procrastination and liability avoidance, which are also similar decision-making styles and actually represent ways of avoiding decision-making, statistical dependency to national culture's dimensions was not identified.

Conclusions

Countries are rarely homogeneous societies with a unified culture. Inferences about national culture may depend on the subgroups studied (Schwartz 2014). Value differences between nations described by authors centuries ago are still present today. Research on the development of cultural values has shown repeatedly that there is little evidence of international convergence over time, apart from individualism in the countries that become wealthier. The conclusions from this paper may facilitate better understanding of managerial activities and identifying the sources and consequences of different practices and principles in the analyzed countries.

Evidently, there are significant cultural differences in decision-making styles and especially in complex decision-making since they are beyond all others the consequence of social and cultural values installed in every individual. Therefore, the gains from this research include the relevant replication component that needs to be recognized as well as the identified cultural variations, convergence processes and influences in decision-making style.

Data collection is a limitation for cross-cultural research as there is no ideal method and it is probably impossible to describe the phenomena in their full complexity. Optimal international management research should involve the combination of quantitative and

qualitative research methods while embracing the confrontation of different sorts of biases and prejudices rather than insisting on language-free, prejudice-free, context-free and supposedly bias-free research.

Cross-cultural research in management serves the purpose of creating unique and new insights and of generating broader concepts, rather than simple comparisons. Therefore, some topics would also deserve better coverage such as research on cross-cultural interactions, cultural intermediation, cultural mediation, intercultural competence in broader perspective than basic adjustment. Cross-cultural research should also focus on unlearning as well as learning processes. Cross-cultural research should also focus on extreme rather than average situations because these central tendencies may only be the result of people not daring to do what other people allow themselves. There are many other interesting research topics, for example the study of cultural distance in foreign entries, affecting both the choice of entry mode and the rate of success. Yet, there are no simple and uniform rules that can be generalized across countries, industries and points in time.

References

- Aberle, D. F.; Cohen, A. K.; Davis, A. K.; Levy, Jr. M. J.; Sutton, F. X. 1950. The functional prerequisites of a society, *Ethics* 60: 100–111. <http://dx.doi.org/10.1086/290705>
- Adler, N. 1991. *International dimensions of organizational behavior*. 2nd ed. Belmont: Wadsworth Publishing Company.
- Ali, A. J. 1989. Decision style and worksatisfaction of Arab Gulf executives: a cross-national study, *International Studies of Management and Organization* 19(2): 22–37.
- Ali, A. J. 1993. Decision-making style, individualism, and attitudes toward risk of arab executives, *International Studies of Management and Organization* 23(3): 53–73.
- Bazerman, M. H.; Tenbrunsel, A. E. 2011. Der ethische manager, *Harvard Business Manager* Juni: 49–58.
- Bik, O. P. G. 2010. *The behavior of assurance professionals: A cross-cultural perspective*. Eburon: Delft.
- Cullen, J. B.; Praveen Parboteeah, K. 2011. *Multinational management: a strategic approach*. 5th ed. Mason: Thomson South-Western.
- Douglas, M. 1973. *Natural symbols*. Harmondsworth: Penguin.
- Festing, M.; Dowling, P. J.; Weber, W.; Engle, A. D. 2011. *Internationales personalmanagement*. Wiesbaden: Gabler Verlag. <http://dx.doi.org/10.1007/978-3-8349-6421-2>
- Fisher, R.; Poortinga, Y. H. 2012. Are cultural values the same as the values of individuals? An examination of similarities in personal, social and cultural value structure, *International Journal of Cross Cultural Management* 12(2): 157–170. <http://dx.doi.org/10.1177/1470595812439867>
- Fiske, A. P. 1992. The four elementary forms of sociality: framework for a unified theory of social relations, *Psychological Review* 99(4): 689–723. <http://dx.doi.org/10.1037/0033-295X.99.4.689>
- Gupta, S. F. 2012. Integrating national culture measures in the context of business decision making: An initial measurement development test of a mid level model, *Cross Cultural Management: an International Journal* 19(4): 455–506. <http://dx.doi.org/10.1108/13527601211269987>
- Hall, E. T. 1976. *Beyond culture*. New York: Anchor Books.
- Harkness, J. A.; Braun, M.; Edwards, B.; Johnson, T. P.; Lyberg, L. E.; Mohler, P. Ph.; Pennell, B.; Smith, T. W. (Eds.). 2010. *Survey: methods in multinational, multiregional, and multicultural contexts*. New York: John Wiley and Sons. <http://dx.doi.org/10.1002/9780470609927>

- Harvey, M. G.; Miceli, N. 1999. Exploring inpatriate manager issues: an exploratory empirical study, *International Journal of Intercultural Relations* 23(3): 339–371. [http://dx.doi.org/10.1016/S0147-1767\(99\)00001-2](http://dx.doi.org/10.1016/S0147-1767(99)00001-2)
- Harvey, M. G.; Moeller, M. 2009. Expatriate managers: a historical review, *International Journal of Management Reviews* 11(3): 275–296. <http://dx.doi.org/10.1111/j.1468-2370.2009.00261.x>
- Hofstede, G. 1980. *Culture's consequences: international differences in work-related values*. Abridged Edition. Newbury Park, CA: Sage Publications.
- Hofstede, G. 2001. *Culture's consequences: comparing values, behaviours, institutions and organizations across nations*. 2nd ed. Thousand Oaks, CA: Sage Publications.
- Hofstede, G.; Bond, M. H. 1984. Hofstede's culture dimensions: an independent validation using Rokeach's value survey, *Journal of Cross-Cultural Psychology* 15: 417–433. <http://dx.doi.org/10.1177/0022002184015004003>
- Hofstede, G.; Hofstede, J. G. 2005. *Cultures and organizations: software of the mind*. 2nd ed. New York: McGraw-Hill.
- House, R. J.; Javidan, M.; Hanges, P.; Dorfman, P. 2002. Understanding cultures and implicit leadership theories across the globe: An introduction to project GLOBE, *Journal of World Business* 37: 3–10. [http://dx.doi.org/10.1016/S1090-9516\(01\)00069-4](http://dx.doi.org/10.1016/S1090-9516(01)00069-4)
- Inglehart, R. 1997. *Modernization and postmodernization: cultural, economic and political change in 43 societies*. Princeton, NJ: Princeton University Press.
- Inkeles, A.; Levinson, D. J. 1954. National character: The study of modal personality and socio-cultural systems, in G. Lindzey (Ed.). *Handbook of social psychology*. Reading, MA: Addison-Wesley.
- Janis, I. L.; Mann, L. 1977. *Decision making: a psychological analysis of conflict, choice and commitment*. New York: Free Press.
- Kluckhohn, F.; Strodtbeck, F. 1961. *Variations in value orientations*. Evanston, IL: Row, Peterson.
- Kolman, L.; Noorderhaven, N. G.; Hofstede, G.; Dienes, E. 2003. Cross-cultural differences in Central Europe, *Journal of Managerial Psychology* 18(1): 76–88. <http://dx.doi.org/10.1108/02683940310459600>
- Lynn, R.; Hampson, S. L. 1975. National differences in extraversion and neuroticism, *British Journal of Social and Clinical Psychology* 14: 223–240. <http://dx.doi.org/10.1111/j.2044-8260.1975.tb00175.x>
- MacNab, B. R.; Worthley, R. 2013. Stereotype awareness development and effective cross-cultural management – An experiential approach, *International Journal of Cross Cultural Management* 13(1): 67–87. <http://dx.doi.org/10.1177/1470595812452635>
- Mann, L.; Radford, M.; Burnett, P.; Ford, S.; Bond, M.; Leung, K.; Nakamura, H.; Voughan, G.; Yang, K. 1998. Cross-Cultural Differences in Self-reported Decision-making Style and Confidence, *International Journal of Psychology* 33: 325–335. <http://dx.doi.org/10.1080/002075998400213>
- Minkov, M.; Hofstede, G. 2011. The evolution of Hofstede's doctrine, *Cross Cultural Management: An International Journal* 18(1): 10–20.
- Nasierowski, W.; Mikula, B. 1998. Culture dimensions of Polish managers: Hofstede's indices, *Organization Studies* 19(3): 495–509. <http://dx.doi.org/10.1177/017084069801900306>
- Nisbett, R. E.; Peng, K.; Choi, I.; Norenzayan, A. 2001. Culture and Systems of Thought: Holistic Versus Analytic Cognition, *Psychological Review* 108(2): 291–310.
- Parsons, T.; Shils, E. A. (Eds.). 1951. *Toward a general theory of action*. Cambridge, MA: Harvard University Press.

- Schwartz, S. H. 1999. A theory of cultural values and some implications for work, *Applied Psychology: an International Review* 48(1): 23–47.
<http://dx.doi.org/10.1111/j.1464-0597.1999.tb00047.x>
- Schwartz, S. H. 2014. Chapter 20 – National culture as value orientations: consequences of value differences and cultural distance, in: Ginsburgh, V. A.; Throsby, D. (Eds.). *Handbook of the economics of art and culture*. Elsevier, 2: 547–586.
- Søndergaard, M. 1994. Hofstede's consequences: a study of reviews, citations and replications, *Organization Studies* 15(3): 447–456.
- Stah, G. K.; Maznevsky, M.; Voigt, A.; Jonsen, K. 2010. Unraveling the effects of cultural diversity in teams: a meta-analysis of research on multicultural work group, *Journal of International Business Studies* 41(4): 690–709. <http://dx.doi.org/10.1057/jibs.2009.85>
- Tayeb, M. 1995. Supervisory style and cultural context: a comparative study, *International Business Review* 4(1): 75–89. [http://dx.doi.org/10.1016/0969-5931\(94\)00032-H](http://dx.doi.org/10.1016/0969-5931(94)00032-H)
- Taras, V.; Steel, P.; Kirkman, B. L. 2012. Improving national cultural indices using a longitudinal meta-analysis of Hofstede's dimensions, *Journal of World Business* 47(3): 329–341.
<http://dx.doi.org/10.1016/j.jwb.2011.05.001>
- Trompenaars, F.; Hampden-Turner, C. 2000. *Riding the waves of culture: understanding cultural diversity in business*. 2nd ed. London: Nicholas Brealey Publishing.
- Usunier, J.-C. 1998. *International and cross-cultural management research*. London: Sage Publication.
- Yousef, D. A. 1998. Predictors of decision-making styles in a non-western country, *Leadership & Organization Development Journal* 19(7): 366–373. <http://dx.doi.org/10.1108/01437739810242522>
- Weber, E.; Hsee, C. 2000. Culture and individual judgment and decision making, *Applied Psychology: an International Review* 49: 32–61. <http://dx.doi.org/10.1111/1464-0597.00005>
- Wright, N.; Drewery, G. P. 2006. Forming cohesion in culturally heterogeneous teams, *Cross Cultural Management: an International Journal* 13(1): 43–53.
<http://dx.doi.org/10.1108/13527600610643475>
- Zagorsek, H.; Jaklic, M.; Stough, S. J. 2004. Comparing leadership practices between the United States, Nigeria, and Slovenia: does culture matter?, *Cross Cultural Management* 11(2): 16–34.
<http://dx.doi.org/10.1108/13527600410797774>

Professor Marina DABIĆ, Ph.D. Department of International Economics, Faculty of Economics and Business, University of Zagreb, Croatia and Nottingham Business School, Nottingham Trent University the UK . Research interests: international business, entrepreneurship, expatriates, knowledge transfer.

Professor Darko TIPURIĆ, Ph.D. Department of Organization and Management, Faculty of Economics and Business, University of Zagreb, Croatia. Research interests: corporate governance, strategic management and decision making.

Najla PODRUG, Ph.D. Department of Organization and Management, Faculty of Economics and Business, University of Zagreb, Croatia. Research interests: international management, cross-cultural management, strategic management and corporate governance.