NATIONAL CULTURE AND INTELLECTUAL CAPITAL: 
COMPARATIVE ANALYSIS ROMANIA - SLOVENIA

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Abstract:
The purpose of this scientific endeavour is to identify the possible relationships between the dimensions of national culture and intellectual capital. As such, we have directed our research towards making an analysis at the level of EU countries, on six dimensions of the national culture based on Geert Hofstede’s approach, as well as towards the analysis of the performance of the three dimensions of intellectual capital, namely: structural, human and relational capital. We also aimed at conducting a comparative analysis of the national culture and intellectual capital between Romania and Slovenia. To meet the purpose of the paper we used the following research techniques: investigating secondary data, content analysis, as well as statistical methods for data analysis and interpretation of results. For our research resources we also considered chief models and methodologies of national culture and intellectual capital, publications and reports of international organisations. The main results of the research highlight the influence of national culture on intellectual capital. We demonstrated that some dimensions of national culture, such as Individualism versus collectivism and Indulgence versus restraint positively influence intellectual capital, while other dimensions, namely Distance versus power and Uncertainty avoidance negatively influence intellectual capital.

Keywords: national culture, dimensions of national culture, intellectual capital: structural, relational and human capital, comparative analysis Romania – Slovenia.

JEL classification: M16, O11, O32

1. Introduction

Broadly speaking, the notion of culture covers the spiritual, material, intellectual whole and that of emotional features of society or of a social group (Moldoveanu, Ioan-Franc, 2011, p.76), as mentioned in The Declaration of Cultural Policies (Mexico, 1995), thus: culture includes “not only arts and literature, but also ways of living, systems of values, traditions and beliefs”. Identifying its applicability, since the ‘79s and at organisational level (Pettigrew, 1979), organisational culture represents “a structured set of the organisation’s material and spiritual results, integrating a system of values and beliefs that is cultivated and sent systematically among its members and outside the respective unit” (Puiu, 2004). The studies and researches undertaken have demonstrated the importance of studying organisational culture because of the practical valences it presents and because it contributes to increasing the organisation’s performance (Mărăcine, 2012, pp.99-106).

Given that the purpose of this study is to identify the possible relationships between the dimensions of national culture and intellectual capital, we shall present in the following, the six dimensions of national culture based on Geert Hofstede’s approach.

These are:

• Power distance (PDI). This dimension expresses the degree to which the less powerful people in a society accept that power is distributed unequally. People from the societies in which there is a high distance versus power accept hierarchical order, in which everybody has a place of his/her own, without asking for and needing justifications or explanations. In the societies with a low distance versus power, people try to equalise the distribution of power and demand justifications for the power inequalities (Hofstede, 1980, pp. 65-109).

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• *Individualism versus collectivism* (IDV). The high level of this dimension called individualism expresses the extent to which society encourages interpersonal relationships and personal achievement, as well as the individuals’ tendency to take care only of themselves and their families. In contrast, collectivism expresses the preference for the tightly-knit framework in society, being very close ties between the members (Hofstede, 1980, pp. 148-175).

• *Masculinity versus femininity* (MAS). Societies that are characterised by a high degree of masculinity focus on outputs, on achieving goals, they can be defined by heroism, assertiveness, self-affirmation and prefer material rewards for success. Masculinity does not mean disadvantaging women; it means inequality, regardless of its meaning (Mihuș, Lungescu, 2006, pp. 5-26). Conversely, femininity is the preference for cooperation, modesty and it is concerned with the life quality of the weak (Hofstede, 1996, p. 99).

• *Uncertainty avoidance* (UAI). This dimension expresses the degree to which the members of a society feel uncomfortable under conditions of uncertainty and ambiguity. The high values of this dimension mean that the society does not tolerate uncertainty and ambiguity and that is why it is oriented towards rules, laws and control measures which are designed to reduce the degree of uncertainty. The societies with a weak dimension of uncertainty avoidance maintain a more relaxed attitude in which the practices count more than the principles (Hofstede, 1980, pp. 110-147).

• *Long-term versus short-term orientation* (ITOWVS). Added by Bond M. in 1991 and extended on a sample of 93 countries by Minkov M., this dimension deals with seeking social virtues. The societies with a short-term orientation do not seem to value the concepts of long-term and traditional orientation, they have a relatively low tendency for saving for the future and focus on getting quick results. In the societies with long-term orientation, people believe that truth depends heavily on context and time. In these cultures people are characterised by perseverance, thrift and having the feeling of shame.

• *Indulgence versus restraint* (IVR). A recently added dimension, based on the empirical analysis performed by Minkov M., respectively of the survey conducted in 93 countries, indulgence, according to this dimension, expresses that society in which people are having fun and enjoy life. Constraint is specific to the society that suppresses the meeting of needs and regulates them through strict social norms.

Given that we aimed in this research to analyse the interrelation between national culture – intellectual capital, we find it necessary to briefly present the determinants and the variables of intellectual capital, as well as the state of knowledge of research in this area. The analysis of intellectual capital and of knowledge society used to appear mainly within private companies in the recent decades, currently there is a strong interest in all fields of activity (Parpandel, 2013, pp. 53-58). The continuous development of intellectual capital, of the knowledge basis will generate success to any organisation in the knowledge economy. The intangible assets such as education, technological knowledge, innovations, information etc. are the main drivers of growth in the knowledge economy (Parpandel, Voiculeț and Belu, 2012). Special attention should be paid in this context to the phenomenon of brain drain which is very present today (Voicu and Talmaci, 2011, pp. 2084).

Reporting and measurement of intellectual capital are controversial issues on which there are not generally accepted views by the scientific theory and practice, probably precisely because of the fact that reporting is rather voluntary than mandatory. After a review of the various methods and models for assessing, reporting and measuring intellectual capital (Dumbravă, Dindire, 2012, pp. 160-171), we consider that the most important are: The Intangible Assets Monitor, which assesses the internal structure, the external structure of the company and the employees’ skills (Sveby, 1997), Balanced Scorecard which assesses the financial perspectives, the customer relationship, the business processes, learning and development (Kaplan, Norton, 1996), Edvinsson and Malone’s
intellectual capital approach (1997): Scandia Business Navigator that integrates financial matters, renewal and development, customer, process and human resources, Intellectual Capital Index (the IC – Index) (Roos et al, 1997), the Performance Prism model (Neely, Adams and Kennerley, 2003), the Meritum guidelines method (Canibano et al. 2002), as well as the Danish guideline (Mouritsen et al., 2003).

However, although measurement and assessment are difficult, the state of knowledge of research in this area has enabled us to identify the main component variables of intellectual capital. After an analysis of the most important conceptualisations of intellectual capital and of its variables, Suciu, M.C. (2008, pp. 25-26) identifies the following dimensions and variables. Human Capital includes: competence, qualifications and intellectual agility of the employees; Structural Capital includes: the processes, systems, structures, trademarks, intellectual property and other intangible assets owned by the company but which are not in the balance sheet and Relational capital reflects the relationships with the customers, with the suppliers and other key partners.

2. Scientific research methodology, operationalisation of variables and data collection

The objectives of this work are:

O1: making an analysis in the EU countries, on the six dimensions of national culture, namely: Power distance, Individualism versus collectivism, Masculinity versus femininity, Uncertainty avoidance, Long-term versus short-term orientation, Indulgence versus restraint, as well as between the three dimensions of intellectual capital, namely: structural capital, relational capital and human capital.

O2: developing a comparative analysis: Romania-Slovenia, based on the dimensions of the national culture, namely of the intellectual capital performance indices.

For the data corresponding to the six dimensions of national culture we had as a landmark the work Cultures and Organisations (Hofstede, Hofstede and Minkov, 2010). To complete this research we collected the data from the data matrix of the 6 dimensions, respectively Dimensions Data Matrix (Hofstede and Hofstede, 2012). The matrix includes the scores corresponding to the dimensions of the national culture for 110 countries worldwide. From this matrix, we selected the values corresponding to the EU countries. Since for Cyprus the data are available only for the Indulgence versus Constraint dimension (IVR), so, because of the lack of data, we proceeded to its elimination from the matrix.

To achieve the analysis concerning the intellectual capital performance, we used an assessment model of intellectual capital for the companies in the EU countries that we proposed and tested in a previous research (Dindire, 2012, pp. 33-39). Thus, we used the results of the assessment of the companies’ performance in the EU countries on the determinants of an organisational behaviour oriented towards knowledge intensive development and identification of critical items with values below the average of the performance index for each dimension of the intellectual capital, respectively structural, human and relational capital.

The performance index was calculated using the formula:

$$I_{pi} = \frac{V_i - V_{i_{\text{min}}}}{V_{i_{\text{max}}}-V_{i_{\text{min}}}},$$

where:

$V_i$ – the value of the criterion $pi$. In our case, the value of the score per item;

$V_{i_{\text{min}}}$ – the minimum value of the criterion “$i$”. In our case, the minimum value of the score per item;

$V_{i_{\text{max}}}$ – the maximum value of the criterion “$i$”. In our case, the maximum value of the score per item.
3. **Research results**

- Analysing the **Power distance** dimension, in the EU countries, we can draw the following conclusions. The highest values of the dimension of the national culture are recorded, in descending order of the scores, by Slovakia (104), Romania (90), Slovenia (71), Bulgaria (70), France (68), Poland (68) which expresses the fact that in these countries individuals accept hierarchical order in which everybody has a place of his/her own, without asking for and needing justifications or explanations. At the opposite pole, with the lowest scores, in ascending order, are the following countries: Austria (11), Denmark (18), Ireland (28), Sweden (31), Finland (33) and Germany (35). This means that in those countries, which have a low power distance, people try to equalise the distribution of power and demand justifications for the power inequalities. Based on the data, we can see that both Romania and Slovenia recorded high values of this dimension, so they are characterised by a high power distance (Fig. no. 1).

**Figure no. 1. The scores corresponding to the power distance dimension, in EU countries**

![Power Distance (PDI) chart](http://www.geerthofstede.com/dimension-data-matrix)

- Concerning the **Individualism versus collectivism** dimension, one notices the supremacy of the following countries: The United Kingdom (89), The Netherlands (80), Hungary (80), Italy (76), Belgium (75) Denmark (74), Sweden (71), and France (71). The high scores of this dimension mean a high degree of individualism, so, in these cultures one notices the individuals’ preference of taking care only of themselves and their families, people being very little united. On the other hand, the small values of this dimension express a high level of collectivism. The countries that fall into this category are: Slovenia (27), Portugal (27), Romania (30), Bulgaria (30), and Greece (35). The intermediate values of this dimension, reflecting a state of equilibrium, are shown in the following figure (Figure no. 2). Related to this dimension too we can notice a similarity between Romania and Slovenia, in the sense that both countries have a high level of collectivism.

**Figure no. 2 Values corresponding to the Individualism versus collectivism dimension, in the EU countries**

![Individualism versus Collectivism (IDV) chart](http://www.geerthofstede.com/dimension-data-matrix)
Masculinity versus femininity dimension polarises at the two extreme the countries with a high degree of masculinity, namely: Slovakia (110), Hungary (88), Austria (79), Italy (70), Ireland (68), the United Kingdom (66) and, at the other extreme, countries with a high degree of femininity, namely: Sweden (5), Latvia (9), The Netherlands (14), Denmark (16), Lithuania (19), Slovenia (19). Romania, with a score of (42), is situated approximately halfway between the two extremes. In a comparative analysis of Romania and Slovenia, we can say that this dimension differentiates the two countries, in the sense that, while in Romania there is a situation of equilibrium, Slovenia has a high degree of femininity, the society being, as a whole, more oriented towards consensus, prevailing the preference for cooperation, modesty and being largely preoccupied with the life quality of the weak (Figure no. 3).

The third dimension of the national culture, namely Uncertainty avoidance creates significant differences between some of the EU countries, respectively between Greece (112), Portugal (104), Malta (96), Belgium (94), Romania (90), on the one hand, countries in which people feel uncomfortable under uncertainty and ambiguity condition, in which rigid codes of faith and behaviour are maintained and, on the other hand: Denmark (23), Sweden (29), Ireland (35), the United Kingdom (35), countries in which a more relaxed attitude is maintained, in which practices matter more than principles (Figure no. 4).

Slovenia recorded a higher value of this dimension, namely a score of 88, which make it fall, just as Romania, in the category of countries that prefer to avoid uncertainty.

Regarding the national culture dimension: Long-term versus short-term orientation, we can extract the following remarks: the highest scores of this dimension, which means long-term orientation, were recorded by: Germany (83), Belgium (82), Estonia (82), and Lithuania (82). These countries have a strong propensity to save and
invest and have the perseverance to achieve these results. The countries with short-term orientation, such as Ireland (24) and Portugal (28), in addition to having a relatively small tendency to save for the future and focus on getting quick results, also have normative thinking and have a great respect for traditions. Romania recorded a score of 52, close to that of Slovenia (49). Both countries, therefore, are approximately halfway the ranking, which shows an equilibrium situation related to this dimension (Figure no. 5).

**Figure no. 5 The scores corresponding to the Long-term versus short-term orientation dimension, in EU countries**

![Graph showing Long-term versus Short-term orientation (ITOWVS)](source)


- **Indulgence versus restraint.** According to this dimension, indulgence, seen as a relaxation of the rules and constraints, records the highest values in countries like Sweden (78), Denmark (70), the United Kingdom (69), the Netherlands (68), Malta (66), Ireland (65), and Austria (63). The constraint specific to those societies that suppress the meeting of needs and regulate them through strict social norms, is best represented in: Latvia (13), Bulgaria (16), Lithuania (16), Estonia (16), Romania (20). Making a comparative analysis between Romania and Slovenia, based on this dimension, we can notice the following difference: while Romania falls in the category of countries in which constraint is predominant, Slovenia, with a score of 48, is in the upper half of the ranking, characterised rather by a higher level of indulgence than by coercion (Figure no. 6).

**Figure no. 6 The scores corresponding to the Indulgence versus restraint dimension, in the EU countries**

![Graph showing Indulgence versus Restraint (IVR)](source)


Next, we direct our analysis towards the three dimensions of intellectual capital, namely the performance indexes of structural capital, relational capital and human capital. Europe 2020 once again demonstrates the constant concerns manifested in the development of human capital in the EU. (Savu M., Chirilă A.C., 2012)
For this analysis, we used an assessment model of intellectual capital in the companies from the EU countries that we proposed and tested in a previous research (Dindire, 2012, pp.33-39). The indices range from 0, the minimum value, undesirable, and 1, the maximum value. The support data for this analysis are summarized in the following figure (Figure no. 7).

**Figure no. 7 Performance indices of structural, relational and human capital in the EU countries**


### 4. Conclusions and future research directions

The data analysis allows us to conclude the following:

- The countries characterised by the best performance of structural capital are: Sweden (1), Finland (0.91), Denmark (0.89), Germany (0.85), and the Netherlands (0.82). At the opposite pole, the worst performance is recorded in: Bulgaria (0), Romania (0.02), Greece (0.03), Hungary (0.13), Slovakia (0.13), Latvia (0.16), and Poland (0.17). Slovenia records a relatively small performance index of 0.25 of the structural capital. Nevertheless, compared with Romania, which has one of the lowest values, Slovenia is in a superior position.

- Correlating the scores of the six dimensions of national culture with the performance indicators of the structural capital, we work out the following:
  - the countries that are characterised by a high level of the power distance such as Slovakia, Romania, Slovenia, Bulgaria, Poland, recorded low performance of the structural capital. On the other hand, the countries with a low power distance, such as Sweden, Finland, Denmark, Germany, the Netherlands, benefit from the best performance of the structural capital;
  - the countries with a high degree of individualism, such as the Netherlands, Denmark, Sweden also have the best performance of the structural capital. On the other hand, Slovenia, Romania, Bulgaria, Greece, countries characterised by a higher level of collectivism, recorded the weakest performance of the structural capital;
  - the countries characterised by a high level of uncertainty avoidance, such as Greece, Romania and so on, have poor performance of the structural capital, unlike countries with poor scores of this dimension;
  - the countries with high levels of indulgence, seen as a relaxation of the rules and constraints, such as Sweden, Denmark and so on, also have the best performance of the structural capital. On the other hand, the societies in which constraint is predominant, for example: Latvia, Bulgaria and Romania have poor performance of the structural capital.

- Regarding the relational capital, the best performance is achieved by the United Kingdom (1), Ireland (0.91), Sweden (0.90), Belgium (0.86), Denmark (0.78), Finland (0.71),
while the lowest performances are found in Greece (0), Malta (0.09), Romania (0.21), Slovakia (0.21), Bulgaria (0.22), and Hungary (0.28). Slovenia, with an index of 0.49 of the relational capital, is halfway the ranking. So, it also has a much better position than Romania.

- Comparing the performances of relational capital with the dimensions of national culture, we can say the following:
  - countries with high values of the power distance, such as Romania and Bulgaria have recorded low performances of relational capital. At the opposite pole, countries with low power distance: Sweden, Finland, Denmark have the best performances of relational capital;
  - societies characterised by individualism, such as the Netherlands, Denmark, Sweden are in the top of the performance of relational capital, unlike mainly countries characterised by collectivism: Romania, Bulgaria, Greece which recorded low values of relational capital;
  - the uncertainty avoidance tendency in countries like Greece and Romania, is associated with low performance of relational capital. In contrast, Denmark, Sweden, the UK, are countries performing on relational capital, recording low uncertainty avoidance scores.
  - the relaxation of the rules and constraints, respectively the indulgence in countries like Sweden, Denmark, the Netherlands, is associated with good performance of relational capital. On the contrary, an excessive constraint in countries such as Latvia, Bulgaria, Romania, leads to poor scores of relational capital.

- The best performances of the human capital are found in Sweden (1), the Netherlands (0.86), Denmark (0.86), Finland (0.85), Luxembourg (0.84), the United Kingdom (0.82), and the lowest in Greece (0), Bulgaria (0.01), Romania (0.05), and Italy (0.08). Slovenia, although records a higher value than Romania, namely 0.20, concerning this dimension, has the worst performance compared to the other two, namely with the structural and relational capital.

- The association of the human capital with the dimensions of the national culture reflected the following aspects:
  - a high power distance in countries such as Romania and Bulgaria is associated with low human capital performance. Conversely, Sweden, Denmark, Finland, countries with low power distance, have very good performances of the human capital;
  - Great Britain, Holland, Denmark, Sweden, countries characterised by individualism, have higher performances of the human capital. Greece, Bulgaria, Romania, countries characterised by collectivism, have poor performances of the human capital;
  - countries with low levels of the uncertainty avoidance dimension, such as Denmark, Sweden, the UK, recorded good performances of the human capital. At the opposite pole, Greece and Romania are countries in which individuals prefer to avoid uncertainty and whose scores are associated with a low performance of the human capital;
  - the relaxation of the rules and constraints from societies such as Sweden, Denmark, the UK, the Netherlands, is associated with higher performances of the human capital, while the constraints from Bulgaria and Romania are associated with low human capital performances.

The main results of the research highlight the influence of national culture on intellectual capital. We demonstrated that some dimensions of national culture, such as Individualism versus collectivism and Indulgence versus restraint positively influence intellectual capital, while other dimensions, namely Distance versus power and Uncertainty avoidance negatively influence intellectual capital.
The future research directions are considering extending the analysis, its further study by identifying the correlations between variables and the conceptualisation of a model of the interrelation between national culture – intellectual capital.

References:


