

## SECTION 1. Macroeconomic processes and regional economies management

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### Values in institutional context

#### Abstract

The current article is based on data from two phases of the Global Leadership and Organizational Behavior (GLOBE) cross-cultural study. The research questions that this paper attempts to explore look at how cultural dimensions and institutional context are connected with values held by top managers.

The paper begins with a theoretical overview of the institutional context and values in organizations and cultures. After that a short overview of empirical study and theoretical approach to metrics is given. Finally, the data collected from empirical studies of four countries (Estonia, Germany, Greece and Romania) compared to each other using the metric approach.

**Keywords:** values, institutions, Estonia, Germany, Greece, Romania.

**JEL Classification:** M10, M14.

#### Introduction

The modern world can be described by three major global trends – reinforcing technological development, globalization and the heterogenization of lifestyles. It has been stated that it would be more precise not to speak about globalization in general and universal terms, but rather about a specific wave of globalization, which started in the first half or the middle of the 1980s. This wave of globalization, which is mainly based on two propelling forces (economic liberalization, especially in the sphere of the capital movement, and the development of information technology and transport networks) has resulted, besides positive outcomes, in a rising gap between countries and the increased vulnerability of different types of systems, and consequently threats to the sustainability of development (Terk, 2002).

As stated by social scientists, organizations, whatever kind they are (family, school, religious, economic, non-economic and political institutions), do have structure and the structure usually means that there are leaders and followers. Kanungo & Mendonca (1996) state that organizations need leadership. Without leadership the organization is like a rudderless ship adrift in a turbulent environment. Especially when an organization or society is in a change process, leadership and leaders are needed.

During the last decades Estonia has passed through the change from a hierarchical, centralized system of state ownership and command planning, to a decentralized, market-driven economy founded on private property and based on different values. This transformation could be described as social transience, in which a complex set of normative and operating principles, embodied in historical structures, systems and practices, becomes replaced by another unknown set mak-

ing this period for actors very ambiguous and uncertain. Fifty years of Soviet occupation left Estonia with a divergent workforce with differing attitudes toward change both in society and organizations. There are people who have had work experience in vastly different economic systems (Alas, 2004).

#### 1. Institutional context

The eastward enlargement of the EU posed a major challenge for both member countries and candidate countries. The transition from command to market economy is a special case of economic, social and political development, and economic structures and institutions in the accession country must be brought in line with the requirements of full EU membership. The process of reintegration into the European economic and political system has two interrelated aspects, internal domestic transformation and the external relationship between the regional and global economic system (Paas, 2003).

The post-communist transformation provides settings, which are in the process of being demolished, that are very different in their characteristics and within which discontinuities are more fundamental and change is less constrained by institutional frameworks (Clark and Soulsby, 1999).

North (1990) defined institutions as humanly designed formal and informal rules of the game. Institutional development is a learning process in which shared individual beliefs form collective attitudes and turn into a kind of culture. In order to structure these collective attitudes and their interactions, human beings develop institutions (Rajasalu, 2003).

Societies are institutionalized contexts, so any explanation of the processes of economic organization and change must start from an understanding of the nature of institutions and the ways in which institutionalization influences concrete economic structures and activities (Clark & Soulsby, 1999).

Institutional theory initially focused upon explaining how institutionalized structures of meaning affect organizational processes (Greenwood & Suddaby, 2006). Attention was given to the conforming behavior of organizations, the adoption of a limited range of socially approved organisational templates and the resilience of institutional prescriptions (Tolbert & Zucker, 1996; Scott, 2000).

According to the institutional perspective, the functioning of organizations can be described using the open-system approach, in which the organization may be seen as answering the challenges of a new environment. Institutions find expression in society through social constructions: formal institutions at the macro level in a market economy include private property and the free market; formal institutions at the micro level are organizations (Alas, 2003).

Institutions could be seen from both the structural and social perspective. From the structural viewpoint, institutions exist as institutionalized forms of *external social constraints*. From the social perspective, institutions can be understood as operating to enforce behavioral definition, which may take the form of either *cultural accounts* or *cultural rules*. Institutions are accounts of how the social world works and embody normative principles and social values (Mayer et al., 1994).

According to Denison (2001), the most important changes that occur during the transition/transformation process take place at the organizational level and these still remain unexamined. An organization is a complex system that produces outputs in the context of an environment, an available set of resources and history (Nadler & Tushman, 1989). The transition/transformation process may well begin with macro level political economic reforms, but can never be completed until dramatic change has occurred in each individual organization.

The transition process begins with macro level political and institutional changes that create a new environment in which firms must operate (Denison, 2001). According to Edwards and Lawrence (2000), the consequent change in processes in transforming countries can only be truly understood by examining the constituent practices of individuals and groups at the local micro levels of the economic system.

Alas (2004) argues that there are connections between the institutionalization stage and changes in organizations. According to her, in stable institutions the change can be described using the idea of developmental change and during the de-institutionalization/re-institutionalization phase, transformational change is needed. In addition, there is also a need for people who will carry out the

change and keep the changing organizations on track. The change needed is transformational.

Management and organization are influenced by many of the same institutional factors and processes, because in accepted modern usage, management as an activity, a function and a group is oriented to the rational (i.e., technical and economic) achievement of organizational ends, and includes the adoption and application of practices directly intended to design and mould the organization (Clarck & Soulsby, 1999).

Organization and management must be understood as parts of the institutional system, they do not exist or operate independently, but reflect, reveal and reinforce cultural rules and accounts about the nature of rational economic behavior in particular and social conduct in general. Organizing and managing are subject to the same process of institutional inertia and change as other formal structures and social practices, and abide by the same technical criteria (rationality) and normative criteria (legitimacy) as other elements of the system (Clark & Soulsby, 1999).

In institutional terms, management can be understood in similar ways, comprising, first, the cognitive ideas and beliefs which serve to define the technically effective and socially accepted range of methods and procedures that constitute its rationality; and, second, the normative rules and associated sanctions that prescribe 'good' management and justify derived management practices in terms of their formal and social legitimacy (Clarck & Soulsby, 1999).

As with other institutions, management is expressed both formally and socially. First, management as an institutionalized form consists of a set of formal rights to act and decide, which are grounded in the higher level institutions that prescribe the social, political, legal and economic existence of business enterprise (Clarck & Soulsby, 1999).

Managing is to a large extent presupposed by its cultural (Globokar, 1994) and institutional (Willmott, 1987) context. Second, the conduct of management is a set of socially sanctioned practices, which are in part derived from the institutional descriptions and prescriptions accepted more widely, but also in part emergent from the real problems faced by typical managers in their complex, ongoing struggle to manage in local conditions.

It is the interplay between these systemic and social processes which constitutes the actual nature of management at any time (Willmott, 1987). The institutional stability of management is directly related to the stability of the institutional order in which it is embedded, and to the extent that the formal structures and social processes of management are mutually reinforcing.

Development is all about overcoming barriers to catching-up: at the national, the firm and individual level (Forbes & Wield, 2002). The development during the last decades has brought a more international orientation and global challenges for East European countries, i.e., increasing integration into an international division of labor, massive foreign direct investments, joint ventures, and last but not least, massive transfer of management knowledge into East European countries. This should arguably lead to changes in the leadership behaviors and styles (Steyrer et al., 2006).

In this paper transformation has been seen as a social process of fundamental political, economic and cultural change to structures and values at all levels of society. Therefore the authors apply institutionalism in order to understand the behavior of organizations.

## 2. Values in organizations

*Leadership is the ability of an individual to “influence, motivate, and enable others to contribute toward the effectiveness and success of the organization to which they belong.*

*Values have been defined as the principles or standards that people use, individually or collectively, to make judgments about what is important or valuable in their lives (McEwan, 2001). Moreover, they are described as “constructs representing generalised behaviors or states of affairs that are considered by the individual to be important (Yukl, 2002). They are broad feelings, often unconscious and not discussible about what is good and what is bad, beautiful or ugly, rational or irrational, normal or abnormal, natural or paradoxical, decent or indecent. These feelings are present in most members of a culture, or at least in those persons who occupy pivotal positions (Pucik et al., 1993, p. 141). Rokeach (1973) defines an individual value system as an “enduring organisation of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance.*

Eventually, values affect attitudes and behavior (Bowditch, & Buono, 2001). An environment of justice and fair treatment in the workplace has a strong impact on employees' self-esteem and helps them to cope with change, stay committed and take risks (Gratton, 2000).

Ashkanasy (2000) writes that one issue of major concentration in the values literature has to do with the distinction between values (in the general sense) and work values – a concept that implies the existence of particular sets of values that govern employee work behavior, in all of its forms. Most con-

ceptions and definitions of work values, are consistent with most general definitions of values in the broader sense, but they focus on work, work behavior and work related outcomes.

## 3. Values and culture

Values represent the deepest level of culture (McEwan, 2001). There is no universally agreed-upon definition among social scientists for the term culture. For the GLOBE Project, which has been considered as one of the most comprehensive studies on national cultures, culture is defined as the shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives that are transmitted across generations (House, & Javidan, 2004, p. 15). The most parsimonious operationalizations of societal culture consist of commonly experienced language, ideological belief systems (including religion and political belief systems), ethnic heritage and history.

Culture matters because it is a powerful, latent, and often unconscious set of forces that determine both our individual and collective behavior, perception, thought patterns and values. Globalization opens up many opportunities for business, but it also creates many challenges. One of the most important challenges is acknowledging and appreciating cultural values, practices, and subtleties in different parts of the world. All experts in international business agree that to succeed in global business, managers need the flexibility to respond positively and effectively to practices and values that may be drastically different from what they are accustomed to (House et al., 2004). Paul Gooderham and Odd Nordhaug claim that national cultural differences are diminishing much more quickly than Greet Hofstede assumed, due to of European integration. According to them, every day the cultural variety of mankind becomes more and more impoverished and homogenized, hundreds of natural languages are becoming extinct (Magala, 2005).

The GLOBE Project has studied diverse dimensions of societal and organizational cultures. To address this issue, 735 questionnaire items have been developed on the basis of prior literature and the theories of the GLOBE Project. Responses to these questions by middle managers in two pilot studies were analyzed by conventional psychometric procedures. These analyses resulted in the identification of nine major attributes of culture (House, & Javidan, 2004, p. 11). There are two sets of questions for each dimension, one measuring actual practices in societies and for the other measuring values – the way people would like things to be.

#### 4. Research questions

The connections have been found between institutional context and society level values (Alas, 2006 (JBE)), also between institutional context and leadership (Alt et al., 2004; Tuulik, 2007; Tuulik and Alas, 2009).

According to institutional theory countries under investigation are in the following order: Estonia, Romania, Germany (including East part), Greece.

The hypothesis is that values are more similar in former Eastern block – Estonia and Romania and in Greece and Germany because of their Western experience.

Based on the above literature review the following research question was formulated: Does institutional context influence values held by top managers?

#### 4. Empirical study

The empirical study was done by authors as a part of the GLOBE study. Global Leadership and Organizational Behavior Effectiveness Research Program (GLOBE) is a worldwide, multiphase, multi-method project, where 170 social scientists and management scholars from 62 cultures representing all major regions of the world are currently engaged in a long-term programmatic series of cross-cultural studies (House & Javidan, 2004).

The Globe Project consisted of two phases: Phase 1 concentrated on culturally endorsed leadership perceptions and organizational, societal cultural values, and practices. Phase 2 was a CEO study, investigating practiced leadership behaviors, work related values, subordinate motivation, commitment, and the self-perception of managers and their work related values and motives.

The authors of the current article collected GLOBE data during Phase 1 and Phase 2 from Estonia. They subsequently got permission to use data from Greece, Romania and Germany by the respective members of the GLOBE society from these countries. In the current article the data of work related values is used and this was a part of GLOBE Phase 2. The data from Phase 1 about cultural dimensions have already been published (House et al., 2004; Alas, 2006; Papalexandris, 2006; Tuulik, 2007).

Phase 2 of the Globe Study, or the Cross-Cultural CEO project involved, in each country, 20 CEOs from entrepreneurial firms and 20 CEOs from non-entrepreneurial firms or larger organizations. Heads of divisions in domestic companies were not considered as CEOs and did not qualify for inclusion in the sample.

Interviews, CEO questionnaires and questionnaires from subordinates in positions immediately below the chief executives were developed at the international level and then collected by national members of the Globe community in each country. More than 240 questionnaires were completed by subordinates in addition to the 40 questionnaires completed by the CEOs in each country. The results presented in the current paper are based on the analysis of 40 complete sets of answers from Estonia, 40 from Germany, 40 from Romania and 51 from Greece.

The values were measured on a 7-point scale, where 7 means that the statement/question asked is the most important of all the factors, and 1 means it is not important at all. The mean result of all managerial values in the four countries under investigation are presented in Appendix A.

#### 5. Theoretical approach – choices and applications of metrics

**5.1. Character of study results and choice of metric.** Study results of value judgements compose of the list of estimated things and their corresponding numeric estimations as a rule. It is possible to compose orders that express importance, priority etc., of characteristic things for different respondents (or groups of respondents) originated from the values of numeric estimations.

Thereat often arises the following question among investigators: how similar or dissimilar are “pictures” formed by estimations of study results? Specification of following circumstances is needed to answer to this question (Lorents 2006, pp. 43-46, pp. 93-100, pp. 245-250):

1. How are these objects (for example, aggregations composed of some elements in certain way) determined that similarity or dissimilarity should be identified?
2. How is determined identified similarity or dissimilarity?
3. How is similarity or dissimilarity estimated (including: what is used as estimations and how are estimations attributed to estimated things)?

In this article the answers to the first question could be the following:

- ◆ In one case observed as objects, which similarity or on the contrary – dissimilarity should be identified, aggregations of *fixed number* and *located in the fixed way* elements which elements are real numbers (representing some values). Thereat it is *assumed*, that the number and location of elements is fixed in the same way concerning all compara-

ble aggregations (for example the third element is in all cases for the ethical values, but the fifth element is for the social values).

- ◆ In the second case aggregations of fixed location elements are observed. Thereat *it is not assumed* that the location of elements is the same concerning all comparable aggregations (for example, Chinese youngsters' third element is ethical value, social values are on the contrary the seventh element; Turkish youngsters ethical values are a bit higher – namely the second element, third element for them is value related to lifestyle, social values are on the contrary the fifth element).

Subsequently we explain, how we could (originated from the answers given to the first question) determine similarity or dissimilarity.

Concerning these kind of aggregations, which elements' number and location is fixed and the same for all observed aggregations which elements are real numbers, it is not reasonable to use morfisms (for example homomorphism or isomorphism) term, which is usually used for relational systems or for the identification of algebra similarity (Grätzer, 2008; Lorents, 2006). Rather it is reasonable to rely on *n-dimensional real space Euclidean metric* when we estimate the similarity (Deza, 2009). In this case we could handle comparable aggregations – for example  $x$  and  $y$  – according to  $n$ -dimensional real space points. In this case we could use expressed number  $d(x,y)$  of closeness or distance of corresponding points as the estimation of similarity or dissimilarity of the named aggregations, where:

$$d(x,y) = ((x_1 - y_1)^2 + (x_2 - y_2)^2 + (x_3 - y_3)^2 + \dots + (x_n - y_n)^2)^{1/2}$$

whereby: *smaller* is the number  $d(x,y)$ , more similar are the comparable aggregations  $x$  and  $y$  and on the contrary – *bigger* is the number  $d(x,y)$ , less dissimilar are  $x$  and  $y$  in this study.

In case of such aggregations, where the number of elements is final, but the location of elements may be not similar according to comparable aggregations, we should precise more to evaluate the similarity in order to make sure what is it, what similarity we wish to estimate. At this point we agree upon that in this case we wish to estimate the similarity of the order of the location of elements in comparable aggregations.

$$d(Germany, Romania) = \frac{136 + 136 - 2 \times 122}{136 + 136 - 122} = 0.18666667 .$$

Thereat we mean elements *order* when we are talking about the order of elements location. Order is represented by the order connection between (binary) the elements. From the number theory (which rely on ordered aggregations or mathematical systems theory) it is known that whatever binary connection is one certain amount is composed by sorted pairs (Kuratowski, Mostowski 1967). Thereafter if we wish to evaluate how similar or dissimilar are some (final) orders, then in turn we have to evaluate how similar or dissimilar are the amounts of corresponding ordered pairs. Last task is again reduced to the application of differentiations metrics of final aggregations (Marczewski, Steinhaus, 1958; Lorents, 2002; Jents, 2004; Lorents, 2007).

More precisely – if we mark some amounts  $A$  and  $B$  intersection or these common elements aggregation with the symbol  $A \cap B$ , we mark amounts  $A$ ,  $B$  and  $A \cap B$  elements numbers with corresponding symbols  $E(A)$ ,  $E(B)$  and  $E(A \cap B)$ , then we can find the number  $d(A,B)$  that expresses relative differentiation of these amounts by means of following formula:

$$d(A,B) = [E(A) + E(B) - 2E(A \cap B)] : [E(A) + E(B) - E(A \cap B)].$$

At this point to explain the logic of metrics please see Appendix B where an explanatory example is given.

## Results and discussion

Next we compare the priorities of counties using Lorents metric (equation 1):

$$d(A,B) = \frac{E(A) + E(B) - 2 \times E(A \cap B)}{E(A) + E(B) - E(A \cap B)} . \tag{1}$$

It is possible to create 136 ordered pairs of priorities inside each country. The results show, that such countries as Germany and Romania have most similar priorities. These countries have 122 equal priorities pairs. The biggest difference between answers appeared in the next questions: 7 – pleasing respecting, not offending a devine being – a god or an idol for example (where means: Germany 2.2214, Romania 4.7137), 4 – contribution to the economic welfare of the nation (where means: Germany 3.8165, Romania 4.5899), respecting, 9 – ethical considerations (where means: Germany 4.7009, Romania 3.6541), 5 – the welfare of the community (where means: Germany 4.7520, Romania 4.5578) (see Table 1<sup>1</sup>).

<sup>1</sup> Not colored cells with “\*” and “x” indicate the different priorities. If the question 7 has 5 not colored cells, then we can explore bigger difference, than in question 14 with 2 not colored cells.

Table 1. Germany-Romania priorities

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1		*x															
2																	
3	*x	*x								*x	*	*x				*x	*x
4	*x	*x	*x		*	*x	x	*x	*	*x	*x	*x		*		*x	*x
5	*x	*x	*x	x		*x	x	x		*x	*x	*x				*x	*x
6	*x	*x	*x							*x	*x	*x				*x	*x
7	*x	*x	*x	*	*	*x		*x	*	*x	*x	*x	*	*		*x	*x
8	*x	*x	*x		*	*x			*	*x	*x	*x				*x	*x
9	*x	*x	*x	x	*x	*x	x	x		*x	*x	*x				*x	*x
10	*x	*x										x					x
11	*x	*x	x							*x		*x				*x	*x
12	*x	*x								*							
13	*x	*x	*x	*x	*x	*x	x	*x	*x	*x	*x	*x		*x		*x	*x
14	*x	*x	*x	x	*x	*x	x	*x	*x	*x	*x	*x				*x	*x
15	*x	*x	*x	*x	*x	*x	*x	*x	*x	*x	*x	*x	*x	*x		*x	*x
16	*x	*x								*x		*x					x
17	*x	*x								*		*x				*	

Notes: Colored cells represent common priorities, “\*” – Germany, “x” – Romania. 1 – Cost control. 2 – Customer satisfaction. 3 – Employee relations issues such as employee well-being, safety, working conditions. 4 – Contribution to the economic welfare of the nation. 5 – The welfare of the community. 6 – Employee professional growth and development. 7 – Pleasing, respecting, not offending a devine being - a god or an idol for example. 8 – Effect on the environment. 9 – Ethical considerations. 10 – Effect on the long term compentitive ability of the organization. 11 – Effect on relationship with other organizations with which you do serious business, for example suppliers, govern, agencies etc. 12 – Effect on firm profitability. 13 – Effect on of minority employees. 14 – Effect on female employees. 15 – Effect of supernatural forces such as auspicious days, forecasts by truth sayers, and the like. 16 – Effect on product quality. 17 – Effect on sales volume.

At the second place of priority similarity stay Estonia and Greece with 121 common pairs and Germany and Greece with 121 common pairs also.

$$d(Estonia, Greece) = \frac{136 + 136 - 2 \times 121}{136 + 136 - 121} = 0.1986755.$$

The biggest difference here is related to the question 6 – employee professional growth and development (where means: Estonia 5.4701, Greece 6.0723). However the biggest distinction between calculated means appeared in the question 7 – pleasing, re-

specting, not offending a devine being (where means: Estonia 2.3544, Greece 4.8775), but this variation gives only one diverse priority in answers associated to 13 – effect on of minority employees (see Table 2).

Table 2. Estonia-Greece priorities

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1		x*	*			x				x*		x*				*	x*
2																	
3	x	x*				x				x*		x*				x*	x
4	x*	x*	x*		x	x*		*	x*	x*	x*	x*		*		x*	x*
5	x*	x*	x*	*		x*		*	x*	x*	x*	x*		*		x*	x*
6	*	x*	*							*		x*				*	x*
7	x*	x*	x*	x*	x*	x*		x*	x*	x*	x*	x*	x	x*		x*	x*
8	x*	x*	x*	x	x	x*			x*	x*	x*	x*				x*	x*
9	x*	x*	x*			x*				x*		x*				x*	x*
10		x*				x						x*					x
11	x*	x*	x*			x*			x*	x*		x*				x*	x*
12		x*															
13	x*	x*	x*	x*	x*	x*	*	x*	x*	x*	x*	x*		x*		x*	x*
14	x*	x*	x*	x	x	x*		x*	x*	x*	x*	x*				x*	x*
15	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*		x*	x*
16	x	x*				x				x*		x*					x
17		x*	*							*		x*				*	

Notes: Colored cells represent common priorities, “x” – Estonia, “\*” – Greece.

$$d(\text{Germany}, \text{Greece}) = \frac{136 + 136 - 2 \times 121}{136 + 136 - 121} = 0.1986755.$$

In these countries the biggest priority difference is related to question 1 – cost control (where difference between means is small: Germany 6.0505, Greece 6.2831) and to question 5 – the welfare of the community (where difference between means is

small: Germany 4.752, Greece 4.8897). Like as previous countries couple here also the biggest difference between means appeared in question 7 and also it is associated to the one question 13 – effect on of minority employees (see Table 3).

Table 3. Germany-Greece priorities

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1		*x	x							x		x				x	x
2																	
3	*	*x								*x	*	*x				*x	*
4	*x	*x	*x		*	*x		*x	*x	*x	*x	*x		*x		*x	*x
5	*x	*x	*x	x		*x		x	x	*x	*x	*x		x		*x	*x
6	*x	*x	*x							*x	*	*x				*x	*x
7	*x	*x	*x	*x	*x	*x		*x	*x	*x	*x	*x	*	*x		*x	*x
8	*x	*x	*x		*	*x			*x	*x	*x	*x				*x	*x
9	*x	*x	*x		*	*x				*x	*	*x				*x	*x
10	*	*x										x					
11	*x	*x	x			x			x	*x		*x				*x	*x
12	*	*x								*							
13	*x	*x	*x	*x	*x	*x	x	*x	*x	*x	*x	*x		*x		*x	*x
14	*x	*x	*x		*	*x		*x	*x	*x	*x	*x				*x	*x
15	*x	*x	*x	*x	*x	*x	*x	*x	*x	*x	*x	*x	*x	*x		*x	*x
16	*	*x								*x		*x					
17	*	*x	x							*x		*x				*x	

Notes: Colored cells represent common priorities, "\*" – Germany, "x" – Greece.

At the third place is the similarity of Estonia and Germany priorities. They have 120 common pairs.

$$d(\text{Germany}, \text{Estonia}) = \frac{136 + 136 - 2 \times 120}{136 + 136 - 120} = 0.21052632.$$

We see the biggest distinction on priorities in the question 6 – employee professional growth and development (where means: Germany 5.4041, Estonia 5.4701). The variation of means in these countries is small in other questions also. The priorities

difference is remarkable big in questions 1 – cost control (where means: Germany 6.0505, Estonia 5.3871) and 10 – effect on the long-term competitive ability of the organization (where means: Germany 5.919, Estonia 5.4697) (see Table 4)

Table 4. Germany-Estonia priorities

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1		x*				x				x		x					x
2																	
3	x*	x*				x				x*	*	x*				x*	x*
4	x*	x*	x*		x*	x*		*	x*	x*	x*	x*		*		x*	x*
5	x*	x*	x*			x*			x	x*	x*	x*				x*	x*
6	*	x*	*							*	*	x*				*	x*
7	x*	x*	x*	x*	x*	x*		x*	x*	x*	x*	x*	x*	x*		x*	x*
8	x*	x*	x*	x	x*	x*			x*	x*	x*	x*				x*	x*
9	x*	x*	x*		*	x*				x*	*	x*				x*	x*
10	*	x*				x						x					x
11	x*	x*	x			x			x	x*		x*				x*	x*
12	*	x*								*							
13	x*	x*	x*	x*	x*	x*		x*	x*	x*	x*	x*		x*		x*	x*
14	x*	x*	x*	x	x*	x*		x*	x*	x*	x*	x*				x*	x*
15	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*		x*	x*
16	x*	x*				x				x*		x*					x
17	*	x*								*		x*				*	

Notes: Colored cells represent common priorities, "\*" – Germany, "x" – Estonia.

The priorities of Greece and Romania are positioned at the fourth order place with 117 common pairs.

$$d(Greece, Romania) = \frac{136 + 136 - 2 \times 117}{136 + 136 - 117} = 0.2451613.$$

The notable difference appeared in the question 1 – cost control (where means: Greece 6.2831, Romania 3.6541) and 7 – pleasing, respecting, not offending a devine being (where means: Greece 4.8775, Romania 5.9067), 9 – ethical considerations (where means have the biggest variation: Greece 6.0453, Romania 4.7137) (see Table 5).

Table 5. Greece-Romania priorities

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1		x*	x							x		x				x	x
2																	
3	*	x*								x*		x*				x*	*
4	x*	x*	x*			x*	*	x*	x	x*	x*	x*		x		x*	x*
5	x*	x*	x*	x*		x*	*	x*	x	x*	x*	x*		x		x*	x*
6	x*	x*	x*							x*	*	x*				x*	x*
7	x*	x*	x*	x	x	x*		x*	x	x*	x*	x*		x		x*	x*
8	x*	x*	x*			x*			x	x*	x*	x*				x*	x*
9	x*	x*	x*	*	*	x*	*	*		x*	*	x*				x*	x*
10	*	x*										x*					*
11	x*	x*	x*			x			x	x*		x*				x*	x*
12	*	x*															
13	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*		x*		x*	x*
14	x*	x*	x*	*	*	x*	*	x*	x*	x*	x*	x*				x*	x*
15	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*		x*	x*
16	*	x*								x*		x*					*
17	*	x*	x							x		x*				x	

Notes: Grey cells represent common priorities, “\*” – Romania, “x” – Greece.

At last position of priority similarity we can see the couple of countries: Estonia and Romania with only 116 common pairs.

$$d(Estonia, Romania) = \frac{136 + 136 - 2 \times 116}{136 + 136 - 116} = 0.25641027.$$

The biggest difference in questions 6 – employee professional growth and development (where means have the biggest variation: Estonia 2.3544, Romania 4.7137), 9 – ethical considerations (where means: Estonia 5.4701, Romania 5.3492) and 7 – pleasing, respecting, not offending a devine being (where means: Estonia 5.1936, Romania 3.6541) (see Table 6).

Table 6. Estonia-Romania priorities

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1		x*				x				x		x					x
2																	
3	x*	x*				x				x*		x*				x*	x*
4	x*	x*	x*		x	x*	*	*	x	x*	x*	x*				x*	x*
5	x*	x*	x*	*		x*	*	*	x	x*	x*	x*				x*	x*
6	*	x*	*							*	*	x*				*	x*
7	x*	x*	x*	x	x	x*		x*	x	x*	x*	x*	x	x		x*	x*
8	x*	x*	x*	x	x	x*			x	x*	x*	x*				x*	x*
9	x*	x*	x*	*	*	x*	*	*		x*	*	x*				x*	x*
10	*	x*				x						x*					x*
11	x*	x*	x*			x			x	x*		x*				x*	x*
12	*	x*															
13	x*	x*	x*	x*	x*	x*	*	x*	x*	x*	x*	x*		x*		x*	x*
14	x*	x*	x*	x*	x*	x*	*	x*	x*	x*	x*	x*				x*	x*
15	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*	x*		x*	x*
16	x*	x*				x				x*		x*					x*
17	*	x*										x*					

Notes: Grey cells represent common priorities, “\*” – Romania, “x” – Estonia.



If we compare all countries at ones, than we can see what kind of priorities have the same order in all (109 common pairs). And as Table 7 shows the biggest

difference in answers gives the question 7 – pleasing, respecting, not offending a devine being, most countries have variation in this concrete question.

Table 7. All countries comparison

All	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
1		X <sup>+</sup>	-			X				X-		X-				-	X-	
2																		
3	X <sup>+</sup>	X <sup>+</sup>				X				X <sup>+</sup>	*	X <sup>+</sup>				X <sup>+</sup>	X <sup>+</sup>	
4	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>		X <sup>*</sup>	X <sup>+</sup>	+	X <sup>+</sup>	X <sup>-</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>		X <sup>-</sup>		X <sup>+</sup>	X <sup>+</sup>	
5	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	++		X <sup>+</sup>	+	++	X-	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>		-		X <sup>+</sup>	X <sup>+</sup>	
6	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>							X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>				X <sup>+</sup>	X <sup>+</sup>	
7	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>-</sup>	X <sup>-</sup>	X <sup>+</sup>		X <sup>+</sup>	X <sup>-</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>*</sup>	X <sup>-</sup>		X <sup>+</sup>	X <sup>+</sup>	
8	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X	X <sup>*</sup>	X <sup>+</sup>			X <sup>-</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>				X <sup>+</sup>	X <sup>+</sup>	
9	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	+	X <sup>+</sup>	X <sup>+</sup>	+	+		X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>				X <sup>+</sup>	X <sup>+</sup>	
10	X <sup>+</sup>	X <sup>+</sup>				X						X+					X+	
11	X <sup>+</sup>	X <sup>+</sup>	X+			X-			X-	X <sup>+</sup>		X <sup>+</sup>				X <sup>+</sup>	X <sup>+</sup>	
12	X <sup>+</sup>	X <sup>+</sup>								*								
13	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	+	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>		X <sup>+</sup>		X <sup>+</sup>	X <sup>+</sup>	
14	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X+	X <sup>+</sup>	X <sup>+</sup>	+	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>				X <sup>+</sup>	X <sup>+</sup>	
15	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>	X <sup>+</sup>		X <sup>+</sup>	X <sup>+</sup>
16	X <sup>+</sup>	X <sup>+</sup>				X				X <sup>+</sup>		X <sup>+</sup>					X+	
17	X <sup>+</sup>	X <sup>+</sup>	-							X <sup>-</sup>		X <sup>+</sup>				X <sup>-</sup>		

Notes: Grey cells represent common priorities, “x” – Estonia, “\*” – Germany, “-“ – Greece, “+” – Romania.

**Conclusion**

To conclude, we can say that Germany and Romania have the highest number of similar value pairs, which is followed by Estonia and Greece having the same number of similar pairs as Germany and Greece. Our research question was about similar institutional backgrounds and similar values, but this could not be proved, as Germany and Romania unless not with similar institutional history have the

highest number of similarities. The pair Estonia and Romania that was expected to have common value sets due to the historical background turned out to have the smallest number of similar pairs.

Based on the metric analysis method we can conclude that just relying on institutional context the differences or similarities can not be drawn. Most probably additional variable culture has to be brought in.

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## Appendix A

Table 1. Mean values of managerial work related values in Germany, Romania, Estonia and Greece

Germany			Romania			Estonia			Greece		
	Value	Mean		Value	Mean		Value	Mean		Value	Mean
1.	Customer satisfaction	6.30	1.	Customer satisfaction	5.97	1.	Customer satisfaction	6.30	1.	Customer satisfaction	6.82
2.	Cost control	6.04	2.	Effect on sales volume	5.51	2.	Cost control	5.88	2.	Effect on long-term competitive ability of the org.	6.47
3.	Effect on firm profitability	5.94	3.	Effect on firm profitability	5.45	3.	Effect on sales volume	5.80	3.	Effect on firm profitability	6.41
4.	Effect on relationships with other organizations with which you do serious business, e.g., suppliers, government agencies, strategic alliances	5.62	4.	Effect on the long-term competitive ability of the organization	5.39	4.	Effect on firm profitability	5.79	4.	Effect on product quality	6.41
5.	Effect on sales volume	5.54	5.	Cost control	5.38	5.	Employee relations issues such as employee well-being, safety, working conditions	5.43	5.	Cost control	6.29
6.	Effect on the long-term competitive ability of the organization	5.53	6.	Employee relations issues such as employee well-being, safety, working conditions	5.36	6.	Effect on relationships with other organizations with which you do serious business, for example suppliers, government agencies, strategic alliances	5.40	6.	Importance of employees relations issues	6.29
7.	Effect on product quality	5.46	7.	Ethical considerations	5.14	7.	Effect on the long-term competitive ability of the organization	5.38	7.	Effect on sales volume	6.27
8.	Employee relations issues such as employee well-being, safety, working conditions	5.36	8.	Effect on relationships with other organizations with which you do serious business, for example suppliers, government agencies, strategic alliances	5.12	8.	Employee professional growth and development	5.13	8.	Employee professional growth and development	6.09
9.	Employee professional growth and development	5.33	9.	Employee professional growth and development	5.11	9.	Effect on product quality	5.08	9.	Ethical considerations	6.02
10.	The welfare of the local community	4.75	10.	Effect on product quality	5.09	10.	Effect on the environment	4.84	10.	Effect on relationships with other organizations	5.76
11.	Ethical considerations	4.45	11.	Contribution to the economic welfare of the nation	4.21	11.	Ethical considerations	4.77	11.	Effect on the environment	5.55
12.	Effect on the environment	4.32	12.	The welfare of the local community	4.14	12.	Pleasing, respecting, not offending a divine being – a god or an idol for example	4.68	12.	Effect on female employees	5.14
13.	Effect on female employees	4.16	13.	Effect on the environment	3.87	13.	Contribution to the economic welfare of the nation	4.64	13.	Contribution to the economic welfare of the nation	4.88

Table 1 (cont.). Mean values of managerial work related values in Germany, Romania, Estonia and Greece

14.	Contribution to the economic welfare of the nation	4.13	14.	Effect on female employees	3.63	14.	The welfare of the local community	4.51	14.	Pleasing, respecting, not offending a divine being – a god or an idol for example	4.82
15.	Effect on of minority employees	3.73	15.	Effect on of minority employees	3.18	15.	Effect on female employees	3.75	15.	The welfare of the local community	4.76
16.	Pleasing, respecting, not offending a divine being – a god or an idol for example	1.96	16.	Pleasing, respecting, not offending a divine being – a god or an idol for example	2.23	16.	Effect on of minority employees	3.45	16.	Effect on of minority employees	4.71
17.	Effect of supernatural forces such as auspicious days, forecasts by truth sayers, and the like	1.3115	17.	Effect of supernatural forces such as auspicious days, forecasts by truth sayers, and the like	1.4918	17.	Effect of supernatural forces such as auspicious days, forecasts by truth sayers, and the like.	1.8234	17.	Effect of supernatural forces such as auspicious days, forecasts by truth sayers, and the like	1.41

**Appendix B. Explanatory example of metric**

Let’s have the situation, where for example three persons *A*, *B* and *C* are asked to sort the elements that belong to the one and the same amount  $H = \{u,v,w,x,y,z\}$ . Let’s assume that the order presented by *A* is  $x,y,z,u,v,w$ ; the order presented by *B* is  $w,x,y,z,u,v$  and the order presented by *C* is  $u,v,w,z,y,x$ . Let’s ask: how similar are the orders that were just presented?

If we mean by the order that we could decide concerning every two figuring elements in the order, which of them is so to say previous and which is the following then we have binary or double digit connection between the elements of amount *H*. Hence we have some (or in this case with one or another or third) part amount of the hole amount  $H \square H$  (or from all this kind of ordered pairs, which can be formed by the elements of the amount *H*). In this concrete case amount  $H \square H$  compose of the following ordered pairs, which we present here as a table:

1.  $\square u,u \square, \square u,v \square, \square u,w \square, \square u,x \square, \square u,y \square, \square u,z \square,$
2.  $\square v,u \square, \square v,v \square, \square v,w \square, \square v,x \square, \square v,y \square, \square v,z \square,$
3.  $\square w,u \square, \square w,v \square, \square w,w \square, \square w,x \square, \square w,y \square, \square w,z \square,$
4.  $\square x,u \square, \square x,v \square, \square x,w \square, \square x,x \square, \square x,y \square, \square x,z \square,$
5.  $\square y,u \square, \square y,v \square, \square y,w \square, \square y,x \square, \square y,y \square, \square y,z \square,$
6.  $\square z,u \square, \square z,v \square, \square z,w \square, \square z,x \square, \square z,y \square, \square z,z \square.$

$S_A$  as *binary connection* is just presented all colored ordered pairs part amount in order to sort *A*  $x,y,z,u,v,w$  or the aggregation of all these kind of pairs  $\square p,q \square$ , and we can say that for the *A* *p* is before the *q*:

1.  $\square u,u \square, \square u,v \square, \square u,w \square, \square u,x \square, \square u,y \square, \square u,z \square,$
2.  $\square v,u \square, \square v,v \square, \square v,w \square, \square v,x \square, \square v,y \square, \square v,z \square,$
3.  $\square w,u \square, \square w,v \square, \square w,w \square, \square w,x \square, \square w,y \square, \square w,z \square,$
4.  $\square x,u \square, \square x,v \square, \square x,w \square, \square x,x \square, \square x,y \square, \square x,z \square,$
5.  $\square y,u \square, \square y,v \square, \square y,w \square, \square y,x \square, \square y,y \square, \square y,z \square,$
6.  $\square z,u \square, \square z,v \square, \square z,w \square, \square z,x \square, \square z,y \square, \square z,z \square.$

$S_B$  as *binary connection* is just presented all colored ordered pairs part amount in order to sort *B*  $w,x,y,z,u,v$  or the aggregation of all these kind of pairs  $\square p,q \square$ , and we can say that for the *B* *p* is before the *q*:

1.  $\square u,u \square, \square u,v \square, \square u,w \square, \square u,x \square, \square u,y \square, \square u,z \square,$
2.  $\square v,u \square, \square v,v \square, \square v,w \square, \square v,x \square, \square v,y \square, \square v,z \square,$
3.  $\square w,u \square, \square w,v \square, \square w,w \square, \square w,x \square, \square w,y \square, \square w,z \square,$
4.  $\square x,u \square, \square x,v \square, \square x,w \square, \square x,x \square, \square x,y \square, \square x,z \square,$
5.  $\square y,u \square, \square y,v \square, \square y,w \square, \square y,x \square, \square y,y \square, \square y,z \square,$
6.  $\square z,u \square, \square z,v \square, \square z,w \square, \square z,x \square, \square z,y \square, \square z,z \square.$

$S_C$  as *binary connection* is just presented all colored ordered pairs part amount in order to sort *C*  $u,v,w,z,y,x$  or the aggregation of all these kind of pairs  $\square p,q \square$ , and we can say that for the *C* *p* is before the *q*:

1.  $\square u,u \square, \square u,v \square, \square u,w \square, \square u,x \square, \square u,y \square, \square u,z \square,$
2.  $\square v,u \square, \square v,v \square, \square v,w \square, \square v,x \square, \square v,y \square, \square v,z \square,$

3. □w,u□, □w,v□, □w,w□, □w,x□, □w,y□, □w,z□,
4. □x,u□, □x,v□, □x,w□, □x,x□, □x,y□, □x,z□,
5. □y,u□, □y,v□, □y,w□, □y,x□, □y,y□, □y,z□,
6. □z,u□, □z,v□, □z,w□, □z,x□, □z,y□, □z,z□.

Subsequently we calculate distances  $d(S_A, S_B)$ ,  $d(S_A, S_C)$ ,  $d(S_B, S_C)$ :

$$d(S_A, S_B) = [E(S_A) + E(S_B) - 2E(S_A \square S_B)]:[E(S_A) + E(S_B) - E(S_A \square S_B)] = [15 + 15 - 2 \cdot 10]:[15 + 15 - 10] = 10:20 = 1:2$$

$$d(S_A, S_C) = [E(S_A) + E(S_C) - 2E(S_A \square S_C)]:[E(S_A) + E(S_C) - E(S_A \square S_C)] = [15 + 15 - 2 \cdot 3]:[15 + 15 - 3] = 24:27 = 8:9$$

$$d(S_B, S_C) = [E(S_B) + E(S_C) - 2E(S_B \square S_C)]:[E(S_B) + E(S_C) - E(S_B \square S_C)] = [15 + 15 - 2 \cdot 4]:[15 + 15 - 4] = 22:26 = 11:13$$

According to the results we could say that the most similar are the ordered structures presented by  $A$  and  $B$  (or order  $x,y,z,u,v,w$  and  $w,x,y,z,u,v$ ).