

# THE IMPACT OF REGIONAL CULTURE ON STUDENTS OF MANAGEMENT

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## Abstract

National and regional cultures are a key factor for the management of multicultural and multinational organizations. We can understand the variety of national and regional cultures. Culture is „software of the human mind“. Programming the human mind is an important factor in verbal expressions of man, his acts and behaviour. Culture is a collective phenomenon. National and regional culture is a key phenomenon of leadership. The dimensions of national and regional cultures are very important. We can also consider with a power distance. Index of power distance is an indicator of relationships and interdependencies respectively independence and emotional proximity respectively distance between subordinates and superiors. Important is an individualism and collectivism. It present an index of individualism and collectivism as an indicator of preference for individual needs and interests of society against the interests and needs of the group or society.

The devotion is oriented to masculinity versus femininity. From this point of view, an index of masculinity and femininity is an indicator of the roles of men and women that society prefers and supports, and deal with attributive values, and the men and women valued companies. Interesting is to consider an uncertainty in this field. Index of uncertainty avoidance is an indicator of tolerance of uncertainty, respectively. Presented is also an uncertainties perception of new and unknown situations, a time orientation while an index of time orientation is an indicator of degree of focus on traditional values, their implementation in terms of time.

**Key words:** collectivism, individualism, femininity, masculinity power distance, time orientation, uncertainty.

**Classification JEL:** M14 – Corporate Culture.

## 1. Introduction

The effect of national and regional cultures is a key issue for the development of the science of organizations. At present, the reality is that there are national and regional cultural differences. In fact, these differences for the management of organizations can become one of the key factors influencing their success and especially for the management of multinational, multicultural organizations, whether public or private.

Geert Hofstede, who is considered the „father of modern cross-cultural research“, says that „... culture is often source of conflicts than of synergy,” (*Hofstede, 1996, p. 244*). Cultural differences are at best unpleasant but often a disaster. This one points to the border situation and often insurmountable barriers. „Takashimaya, the third largest supermarket chain in Japan, suffers not only at home, had to close the prestigious project on Fifth Avenue in New York. An attempt to merge with another retail chain H2O Retailing failed to cultural differences in management,” (*Hospodárske noviny, 2013, p. 10*).

Hofstede compares culture to „software of the human mind“ by which he means the possibility and the ability of human individuality to predict the behavior of interacting participants. „Software“ is programmed for the long term, which implies similarity of responses in similar circumstances. This programming is invisible to humans. Programming is reflected in the words, acts and behavior of individual, which are already observable. „... It should be given to behavior (of people) in organizations a lot of attention ... may be productive, but also destructive ... ethical, but also unethical ... motivating, but also demotivating ... inspiration, but also manipulation...” (*Blašková, 2005, p. 10*).

Everyone carries their own specific ways of thinking, feeling and behavior learned in his entire life. Many of these customs were acquired in childhood, when a person is most open to learning new things. However, once one acquires these habits, applies, that if man wants to learn new, must first get rid of old habits. Generally, unlearn something it is much harder than to learn it first. Such cultural programs are difficult to change. This is so because what is in people's minds, is already reflected in the institutions: the government, the legal system, in education, in family structures, religious organizations, sports clubs, in literature, in architecture, even in scientific theories.

Culture is always a collective phenomenon. It is shared by people who live or have lived in the same social environment. For this reason, it may be defined culture as the collective programming of the mind which distinguishes the members of one group from members of other groups and it is necessary to realize that "...the importance of the human factor for the successful operation of the company in a difficult market environment is particularly important," (*Hittmár, 2006, p. 129*).

## **2. Dimensions of culture**

National and regional cultures are reflected in a significant impact also on leadership. Therefore, managers should pay attention to this issue. "... Many experts consider leadership as a function for the managers as the most complicated," (*Budaj, 2009, p. 161*).

Hofstede points out, that national and regional cultures differ in 5 basic dimensions. The first dimension reflects the ways in which a given culture perceives inequality, respectively the extent to which inequality accepted as a natural part of social hierarchy. This dimension is called a power distance. The degree of integration of the individual to the group is a dimension named as individualism vs. collectivism. Different perceptions of the social roles of men and women are called masculinity and femininity. The tolerance for new and unknown is the fourth dimension, which is called uncertainty avoidance. Willingness to satisfy own needs from different time perspectives is a fifth dimension called long-term and short-term orientation.

### **2.1. Power distance**

Index of power distance refers to the relationships and interdependencies respectively independence and emotional proximity respectively distance between subordinates and superiors in the national or regional culture.

In organizations with great power distance superiors and subordinates are not considered equals. Also the organizational structure of the organization is based on this principle, i.e. are dominated by a centralization of power. Superiors have the privileges and there are significant differences even in salaries. Contacts between these groups are initiated only by superiors. Such relationships will initiate the establishment of strong emotions towards superiors. The authority of superiors is also supported by visible signs. Cultures with great power distance are characterized by the following characteristics: social inequality are expected, accepted and desired; hierarchy in the organization reflects the actual existence of social inequality; big salary differentiation between the top and bottom of the organization; expectations of subordinates, that they will receive the command what to do; reciprocal distrust and fear of employees to oppose the autocratic boss; privileges and status symbols are accepted and expected.

In organizations with a small power distance are the superiors and subordinates equal. The hierarchy in the organizational structure is not considered as something unchangeable. Prevails in them decentralization of power. Privileges for seniors are non-green. Superiors are open to the views of their subordinates. Subordinates expect to participate in the decision-

making process, but realize that the manager makes the final decision. The symbol of the status is not given much importance. Age younger superiors are preferred over older. For the culture of power with a small distance are typical: at least inequality between people; small wage differentials at different career positions in the organization; expectations of subordinates, that decision will be consulted with them; demonstrated higher rates of corporal employees, who are not afraid to disagree with their democratic superiors; privileges and status symbols are frowned upon.

## **2.2. Individualism and collectivism**

The index of individualism and collectivism story about the extent to which individual members of society prefer enforced their interests and needs before the needs and interests of the collective or the entire company.

In individualistic cultures is relationship of employer and employee perceived as a business transaction. Work performance is a critical factor in keeping the staff in the company. In individualistic cultures dominate personal interests above the interests of collectivist; identity is based on individuals, the relationship between employer and employee is seen as a contract, from which benefits for both parties; hiring and promotion decisions are based exclusively on the skills and rules; management is the management of individuals; decisions of individuals are considered better than those of the group; task prevails over personal relationships, everyone has a right to their private life, the ultimate goal is self-realization of the individual.

In collectivist cultures, the workplace is perceived as a family. There is a high degree of loyalty. Individual employees protect themselves. Poor work performance is not grounds for dismissal of an employee. However, the performance and the ability influence the relocation of tasks. In collectivist cultures collectivist interests dominate over personal interests; identity is based on the social network (layer) to which the individual belongs, the relationship between employer and employee is perceived in moral terms such as family ties; hiring and promotion are decisions that take into account the context and needs of the group; management is the e management of group; group decisions are considered better than individuals; personal relationship prevails over the task, the ultimate goal is the harmony and consensus in society. „...teamwork is a common way of the organization of work, the concept of the future,“ (*Hitka, 2006, p. 7*).

## **2.3. Masculinity vs. femininity**

The index of masculinity and femininity speaks not only about the roles of men and women, which the company prefers and supports, but also about the values that are seen as attributes attributed to men and women are valued by companies. The index of masculinity and femininity speaks not only about the roles of men and women, which the company prefers and supports, but also about the values that are seen as attributes attributed to men and women and companies are valued.

Masculine culture in the society aims to power. The masculine culture is characterized by: the ideal is a powerful company, supported by the strongest, dominant values in society is the material gain and progress, from men are expected assertiveness, ambition and tenacity, from women are expected tenderness and striving for interpersonal relationships; preference for a higher income as shorter working time, managers are expected to resolve, assertiveness; emphasis is placed on the fairness, competition among colleagues and power/performance, conflicts are obtained, women in top positions are rare.

Female culture in the society aims to useful the company, which is ideal. It helps the people in need, the dominant values in society is caring for others, important are people and

relationships, from everyone is expected modesty, men and women showing kindness, preference of shorter working hours as a higher income, managers use intuition and strive for mutual consensus with emphasis on equality, solidarity and quality of working life, conflicts are solved compromise and negotiation, women in top positions are not uncommon.

## **2.4. Uncertainty avoidance**

The index uncertainty avoidance presents as in cultures tolerate uncertainty, respectively ambiguity as are perceived by new and unknown situations. Cultures with low uncertainty avoidance is characterized by: uncertainty is seen as a normal part of life, low stress level/low voltage, subjective well-being, aggression and emotion should not be showing what is different is interesting, less conservatism prevailing relativism, empiricism, minor generational differences, accuracy and punctuality must be learned; tolerance for innovative ideas and behavior, motivation and success, respect, acceptance of foreign managers, high labor turnover. Cultures with a lower index provides more space change, innovation, they are open to new possibilities, even at the cost of uncertainty and risk.

Cultures with strong uncertainty avoidance is characterized by: uncertainty in life is seen as a constant threat, fear of unknown situations, high stress level/high voltage, the subjective feeling of anxiety, aggression and emotion may, under certain circumstances and at certain places ventilated; what is other is dangerous; prevailing conservatism, law and order, the search for absolute truths and values, time is money; emotional need to be busy, inner motive to keep working; larger generational differences, accuracy and punctuality are natural, suppression and resistance to innovation, motivation confidence and respect; distrust of foreign managers and low staff turnover. Cultures with strong uncertainty avoidance index have a low tolerance for uncertainty and are perceived culture of laws and rules.

In connection with the above, it is important to note that „... each individual and also each organization are able to survive, only when are continually adapted to the circumstances and events that occur in the immediate and surrounding environment,“ (*Mikus, 2009, p. 10*).

## **2.5. Time orientation**

The index of time orientation indicates the degree of focus on traditional values, their implementation in terms of time. For organizations with short-term orientation is characterized by: respect for tradition, respect for the status, regardless of cost, social pressure to compensate for the environment and even at the expense of expenditure; creation of small savings and small resources for investment; expectations of quick results; effort to „save face and trying to be right“.

Organizations with long-term orientation are characterized by: an adaptation of traditions in modern context, respect for social status within its specified limits, prudent management of resources, high savings, a lot of resources for investment; perseverance to achieve slow results, willingness to obey for good reason; effort „to obtain a virtue „.. In companies with long-term oriented people believe that truth is largely dependent on the situation, context and time. At present, it appears that the shift from short-term to long-term orientation is more than desirable, not only because of the sustainability of economic growth, but also the use of limited resources.

## **3. Analysis of the impact of regional culture on students of management**

In the context of the above was conducted the research at the research sample of 160 management students of selected universities in the Czech Republic: University of Prešov in Prešov – 1st year of the study, The Catholic University of Ružomberk – 1 year of the study, University of Žilina – 5rd year of the study, and Matej Bel University in Banská Bystrica –

5th year of the study. The research was conducted during 2012, provided that these universities have many students from the region where the university is located.

The main objective of this research was to determine the impact of regional culture on students of management, and express this by using models. Models were created by calculated levels of significance. For each level of significance are assigned to the variables that belong to him. The partial objective of the research was to determine the level of distinctive ability of students in selected variables.

### 3.1. Variable dimensions of regional culture

For research purposes for each dimension of culture – in consultation with experts<sup>1</sup> in the field – were selected following variables:

#### 1. *Power distance*

$X_1$  – distance from the employees;  $X_2$  – decisions consultation with subordinates;  $X_3$  – duty to make decisions;  $X_4$  – acceptance of participation the other team members in decision-making;  $X_5$  – significant wage differentiation within the organization;  $X_6$  – privileges and symbols include the performance of the managerial functions;  $X_7$  – acceptance of dissenting opinions of the subordinates;  $X_8$  – mutual trust among employees is normal;  $X_9$  – adaptation to the interests of the team;  $X_{10}$  – hierarchy of the organization reflects the true existential and social inequality;  $X_{11}$  – informal influence on the others;  $X_{12}$  – willingness to listen to the employees at the deficit of your time.

#### 2. *Individualism – collectivism*

$X_1$  – willingness to submit to the higher interest despite internal disagreement;  $X_2$  – creating space for new ideas and initiatives;  $X_3$  – self-reflection is necessary for success;  $X_4$  – fight against intrigue, envy, gossip;  $X_5$  – need for self-realization of all team members;  $X_6$  – willingness to observe the team rules;  $X_7$  – within the employer-employee relationship should be created benefits to both sides;  $X_8$  – recruitment and career development are determined entirely by abilities and rules;  $X_9$  – self-management is the key to success;  $X_{10}$  – fulfillment of the task prevails over personal relationships;  $X_{11}$  – no need to stress success of individuals, important is the team result;  $X_{12}$  – willingness to share hidden knowledge for the team benefit.

#### 3. *Masculinity vs. femininity*

$X_1$  – women in managerial positions;  $X_2$  – dominance of material profit and progress;  $X_3$  – preference of higher income instead less working hours;  $X_4$  – competition among colleagues and their performances;  $X_5$  – harmonium and consensus in the interpersonal relationships;  $X_6$  – the balance between work and private life;  $X_7$  – willingness to accept changes;  $X_8$  – assertiveness, determination, ambition, tenacity;  $X_9$  – loyalty to employer;  $X_{10}$  – problem-solving – compromise and negotiation;  $X_{11}$  – properly managed conflicts – constructive way of solving problems;  $X_{12}$  – material values (company car, mobile phone, note book...).

#### 4. *Uncertainty – uncertainty avoidance*

$X_1$  – harmony of family background where you grew up;  $X_2$  – orderliness (integrity) of your own family;  $X_3$  – clear identification (definition) of the tasks-directives, regulations, clear job descriptions;  $X_4$  – subjective feeling of comfort, low noise level;  $X_5$  – lower generational differences of team members;  $X_6$  – ventilation of aggression and emotions;  $X_7$  – internal

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<sup>1</sup> Majid Belmiloud, sale specialist for Middle and Eastern Europe

motive still to work, emotional need to be busy;  $X_8$  – distrust towards the foreign managers;  $X_9$  – uncertainty-tolerated as the part of normal life;  $X_{10}$  – innovative ideas;  $X_{11}$  – fluctuation of labor force;  $X_{12}$  – nationality.

Table 1: Models of variables cultural dimensions of „Power distance“(source: own study)

POWER DISTANCE											
University of Prešov			Catholic University in Ružomberok			University of Žilina			University of Matej Bel in Banská Bystrica		
Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables
$X_3$ 8.18	$X_3 - X_2$ 1.52	1. LS	$X_3$ 9.18	$X_3 - X_2$ 2.28	1. LS	$X_4$ 9.26	$X_4 - X_3$ 1.00		$X_3$ 8.92	$X_3 - X_{12}$ 1.41	1. LS
$X_{12}$ 8.06	$X_3 - X_2$ 3.41		$X_2$ 7.86	$X_2 - X_7$ 1.79	2. LS	$X_3$ 8.90	$X_4 - X_{12}$ 3.14		$X_{12}$ 8.00	$X_3 - X_4$ 2.40	
$X_9$ 7.87			$X_{12}$ 7.84	$X_2 - X_5$ 2.52		$X_{12}$ 7.42	$X_{12} - X_8$ 1.42		$X_4$ 7.66	$X_4 - X_9$ 2.06	2. LS
$X_4$ 7.64			$X_9$ 7.76			$X_7$ 7.36	$X_{12} - X_{10}$ 2.97		$X_2$ 7.52		
$X_2$ 7.32			$X_4$ 7.12			$X_2$ 6.88			$X_7$ 7.52		
$X_6$ 6.10	$X_3 - X_6$ 1.60	2. LS	$X_7$ 6.71		3. LS	$X_9$ 6.84			$X_9$ 6.58	$X_9 - X_{10}$ 2.06	3. LS
$X_5$ 5.98			$X_5$ 6.16	$X_5 - X_{10}$ 1.00		$X_8$ 6.46			$X_6$ 6.30	$X_9 - X_1$ 3.05	
$X_7$ 5.94			$X_6$ 5.69	$X_5 - X_1$ 2.50		$X_{10}$ 5.34	$X_{10} - X_5$ 0.78		$X_5$ 6.10		
$X_{11}$ 5.44			$X_{10}$ 5.57			$X_{11}$ 5.24	$X_{10} - X_1$ 3.72		$X_{11}$ 5.68		
$X_{10}$ 4.80			$X_1$ 4.73	$X_1 - X_8$ 0.84		$X_6$ 5.06			$X_{10}$ 5.26	$X_1 - X_8$ 2.47	
$X_8$ 4.26	$X_8 - X_1$ 1.00	3. LS	$X_{11}$ 4.47		4. LS	$X_5$ 4.88			$X_1$ 4.76		4. LS
$X_1$ 3.42			$X_8$ 4.27			$X_1$ 3.06			$X_8$ 3.56		5. LS

Note: LS - level of significance; first level is the most important

### 5. Time orientation

$X_1$  – rate of staying in the employment in 5 years;  $X_2$  – rate of staying in the employment in 10 years;  $X_3$  – vertical career progression;  $X_4$  – working after working hours only for adequate reward;  $X_5$  – realization of ambitions (specify how many steps);  $X_6$  – willingness to lifelong education;  $X_7$  – not to shorten the time allotted for the regeneration;  $X_8$  – willingness to

tolerate subsequent; performance of the tasks;  $X_9$  – maximum duration of incorporation to the function;  $X_{10}$  – horizontal career growth;  $X_{11}$  – age of employees;  $X_{12}$  – continuity of self-education.

Table 2: Models of variables dimension of culture „individualism-collectivism“ (source: own study)

INDIVIDUALISM - COLLECTIVISM											
University of Prešov			Catholic University in Ružomberok			University of Žilina			University of Matej Bel in Banská Bystrica		
Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables
$X_6$ 8.00	$X_6 - X_9$ 1.77	1. LS	$X_5$ 7.78	$X_5 - X_2$ 1.58	1. LS	$X_2$ 9.02	$X_2 - X_7$ 1.79		$X_2$ 8.32	$X_2 - X_6$ 1.78	1. LS
$X_7$ 7.44	$X_6 - X_4$ 2.90		$X_6$ 7.76	$X_5 - X_3$ 2.19		$X_6$ 8.18	$X_2 - X_3$ 3.05		$X_9$ 7.40	$X_2 - X_5$ 2.06	
$X_5$ 7.32			$X_8$ 7.71			$X_5$ 8.16			$X_6$ 7.24		
$X_2$ 7.08			$X_7$ 7.22			$X_7$ 7.78			$X_5$ 7.22	$X_5 - X_4$ 0.95	2. LS
$X_3$ 6.92			$X_9$ 6.86			$X_3$ 7.18	$X_3 - X_4$ 1.93		$X_3$ 6.88	$X_5 - X_{10}$ 2.43	
$X_9$ 6.68		2. LS	$X_2$ 6.67		2. LS	$X_9$ 7.04	$X_3 - X_{11}$ 3.66		$X_7$ 6.86	$X_{10} - X_{12}$ 1.74	
$X_4$ 6.36	$X_4 - X_{10}$ 1.62		$X_3$ 6.37	$X_3 - X_{12}$ 1.83		$X_8$ 6.20			$X_8$ 6.80		3. LS
$X_8$ 6.00			$X_{10}$ 6.12	$X_3 - X_1$ 2.32		$X_4$ 5.98			$X_4$ 6.50		
$X_{12}$ 4.90			$X_4$ 6.06			$X_{11}$ 4.90	$X_{11} - X_{10}$ 1.53		$X_{10}$ 5.62		
$X_1$ 4.84			$X_{11}$ 5.22			$X_1$ 4.84			$X_1$ 5.26		
$X_{11}$ 4.76		3. LS	$X_{12}$ 5.16		3. LS	$X_{12}$ 4.64			$X_{11}$ 5.26		
$X_{10}$ 4.70			$X_1$ 4.88			$X_{10}$ 4.12			$X_{12}$ 4.64		

Note: LS - level of significance; first level is the most important

### 3.2. Statistical evaluation of results

From a methodological point of view was determined the value of the significance of individual variables. To ensure a high validity of the results was elected Student's paired *t*-test for comparison variables (Riečan et al., 1992, p. 302).

Table 3: Models of variables dimension culture of „masculinity-femininity“ (source: own study)

MASCULINITY – FEMININITY											
University of Prešov			Catholic University in Ružomberok			University of Žilina			University of Matej Bel in Banská Bystrica		
Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables
$X_9$ 7.30	$X_9 - X_{10}$ 1.87	1. LS	$X_8$ 7.69	$X_8 - X_5$ 1.62	1. LS	$X_6$ 8.50	$X_6 - X_7$ 0.94	1. LS	$X_5$ 8.28	$X_5 - X_6$ 0.95	1. LS
$X_1$ 7.28	$X_9 - X_6$ 2.36		$X_7$ 7.57	$X_8 - X_3$ 2.56		$X_{11}$ 8.22	$X_6 - X_5$ 2.07		$X_{11}$ 8.00	$X_5 - X_{10}$ 2.39	
$X_{11}$ 7.18			$X_9$ 7.35			$X_8$ 8.00			$X_7$ 7.70		
$X_7$ 7.14			$X_1$ 7.22			$X_7$ 7.90			$X_9$ 7.62		
$X_8$ 7.04			$X_{10}$ 7.06			$X_5$ 7.34	$X_5 - X_4$ 1.54	2. LS	$X_6$ 7.60		2. LS
$X_{10}$ 6.46			$X_6$ 6.98			$X_{10}$ 7.24	$X_5 - X_3$ 3.45		$X_{10}$ 6.70	$X_{10} - X_4$ 1.91	
$X_6$ 5.82	$X_6 - X_2$ 1.11	2. LS	$X_{11}$ 6.98		2. LS	$X_9$ 6.90			$X_1$ 6.66	$X_{10} - X_2$ 2.72	
$X_5$ 5.66	$X_6 - X_4$ 2.74		$X_5$ 6.71			$X_4$ 6.52			$X_8$ 6.14		
$X_{12}$ 5.34			$X_3$ 5.57	$X_3 - X_2$ 0.60		$X_3$ 5.10	$X_3 - X_{12}$ 1.39	3. LS	$X_4$ 5.42		3. LS
$X_3$ 5.06			$X_{12}$ 5.33	$X_3 - X_4$ 1.52		$X_1$ 4.40			$X_2$ 4.92	$X_2 - X_{12}$ 1.33	
$X_2$ 4.94			$X_2$ 5.06			$X_{12}$ 4.24			$X_3$ 4.80		
$X_4$ 4.12		3. LS	$X_4$ 4.31			$X_2$ 3.98		4. LS	$X_{12}$ 4.20		

Note: LS - level of significance; first level is the most important

Based on respondents assigned values (scale of 1 – 12, 1 – lowest importance) of twelve selected variables was calculated arithmetic average for each variable. Student's t-test was used to compare the difference between arithmetic average of pairs of the investigated variables (ranked by maximum for a minimum value), see (1) - (7).

The difference between the variables:

$$d = \sum_{i=1}^n d_i. \quad (1)$$



Table 4: Models of variables dimension of culture „Uncertainty-uncertainty avoidance“ (source: own study)

UNCERTAINTY – UNCERTAINTY AVOIDANCE											
University of Prešov			Catholic University in Ružomberok			University of Žilina			University of Matej Bel in Banská Bystrica		
Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables
$X_1$ 9.50	$X_1 - X_2$ 0.75	1. LS	$X_{10}$ 8.18	$X_8 - X_5$ 1.62	1. LS	$X_2$ 8.72	$X_2 - X_7$ 1.20	1. LS	$X_{10}$ 8.48	$X_{10} - X_1$ 0.79	1. LS
$X_2$ 9.26	$X_1 - X_3$ 4.50		$X_3$ 8.02	$X_8 - X_3$ 2.56		$X_{10}$ 8.62	$X_2 - X_1$ 2.41		$X_2$ 8.46	$X_{10} - X_6$ 2.59	
$X_3$ 6.98	$X_3 - X_4$ 1.01		$X_1$ 7.82			$X_4$ 8.28			$X_3$ 8.34		
$X_{10}$ 6.72	$X_3 - X_4$ 2.04	2. LS	$X_2$ 7.78			$X_7$ 7.84			$X_4$ 8.24		
$X_4$ 6.44			$X_4$ 7.08			$X_1$ 7.70	$X_3 - X_4$ 0.99	2. LS	$X_1$ 7.98		
$X_6$ 6.42			$X_{11}$ 6.92		2. LS	$X_3$ 7.30	$X_3 - X_4$ 3.21		$X_6$ 6.52	$X_3 - X_4$ 1.35	2. LS
$X_9$ 5.44	$X_3 - X_4$ 0.94	3. LS	$X_7$ 5.67			$X_6$ 5.62	$X_3 - X_4$ 0.66	3. LS	$X_7$ 5.90	$X_3 - X_4$ 2.12	
$X_5$ 5.03	$X_3 - X_4$ 3.78		$X_5$ 5.66	$X_3 - X_4$ 0.60	3. LS	$X_{11}$ 5.59	$X_3 - X_4$ 2.14		$X_5$ 5.76		
$X_7$ 5.00			$X_6$ 5.40	$X_3 - X_4$ 1.52		$X_9$ 5.46			$X_{11}$ 5.60		
$X_8$ 4.68			$X_9$ 5.39			$X_8$ 5.18		4. LS	$X_9$ 5.20	$X_3 - X_4$ 2.21	3. LS
$X_{11}$ 4.58			$X_8$ 5.37			$X_5$ 4.24	$X_3 - X_4$ 2.53		$X_{12}$ 3.80	$X_3 - X_4$ 0.12	4. LS
$X_{12}$ 3.30			$X_{12}$ 4.26			$X_{12}$ 2.86		5. LS	$X_8$ 3.74		

Note: LS - level of significance; first level is the most important

The squared difference:

$$d^2 = \sum_{i=1}^n d_i^2. \quad (2)$$

Average difference:

$$\bar{d} = \frac{1}{n} \sum_{i=1}^n d_i. \quad (3)$$

The average value of the second squared differences:

$$d^2 = \frac{1}{n} \sum_{i=1}^n d_i^2. \quad (4)$$

Dispersion of differences:

$$\sigma^2 = \overline{d_i^2} - \bar{d}_i^2. \quad (5)$$

Table 5: Models of variables dimension of culture „time orientation“ (source: own study)

TIME ORIENTATION											
University of Prešov			Catholic University in Ružomberok			University of Žilina			University of Matej Bel in Banská Bystrica		
Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables	Variable / Arithmetic average	Compared variables / Value of test	Significance of variables
$X_3$ 7.68	$X_3 - X_6$ 1.63	1. LS	$X_6$ 7.80	$X_6 - X_9$ 1.77	1. LS	$X_6$ 8.72	$X_6 - X_2$ 1.82	1. LS	$X_6$ 8.90	$X_6 - X_3$ 0.67	1. LS
$X_7$ 7.42	$X_3 - X_{12}$ 2.06		$X_{12}$ 7.37	$X_6 - X_7$ 2.23		$X_7$ 7.82	$X_6 - X_4$ 2.63		$X_3$ 8.53	$X_6 - X_4$ 2.25	
$X_2$ 7.16			$X_3$ 7.16			$X_3$ 7.56			$X_4$ 7.44	$X_3 - X_{12}$ 1.48	2. LS
$X_6$ 6.82			$X_{10}$ 6.73			$X_2$ 7.32			$X_7$ 7.28	$X_3 - X_{12}$ 2.11	
$X_{12}$ 6.66	$X_3 - X_{12}$ 1.72	2. LS	$X_2$ 6.49		2. LS	$X_5$ 7.32		2. LS	$X_5$ 6.80		
$X_5$ 6.48	$X_3 - X_{12}$ 2.93		$X_4$ 6.45			$X_4$ 6.84	$X_3 - X_{12}$ 1.91		$X_2$ 6.68		
$X_4$ 6.44			$X_9$ 6.43			$X_9$ 6.12	$X_3 - X_{12}$ 4.04		$X_{12}$ 6.44		
$X_{10}$ 6.00			$X_7$ 6.24	$X_3 - X_{12}$ 1.49	2. LS	$X_{10}$ 6.04		2. LS	$X_{10}$ 6.07	$X_3 - X_{12}$ 1.26	3. LS
$X_8$ 5.42		3. LS	$X_5$ 6.18			$X_8$ 5.76			$X_1$ 5.42	$X_3 - X_{12}$ 3.45	
$X_1$ 4.70	$X_3 - X_{12}$ 1.56		$X_1$ 6.12			$X_{12}$ 5.52			$X_8$ 5.34		
$X_9$ 4.52			$X_8$ 5.71			$X_{11}$ 4.26	$X_3 - X_{12}$ 0.34	3. LS	$X_9$ 5.20		
$X_{11}$ 3.88			$X_{11}$ 5.16			$X_1$ 4.06			$X_{11}$ 4.12		4. LS

Note: LS - level of significance; first level is the most important

Unbiased estimate of the standard deviation:

$$s^2 = \frac{n \sigma^2}{n - 1}. \quad (6)$$

The test value:

$$t = \frac{\bar{d} \sqrt{n}}{s}. \quad (7)$$

Based on the value of tests we can determine the variables, which differ significantly respondents values their differently.

### 3.3. Analysis of research results

Calculated models are made up of different levels of significance, which contain a different number of variables. E.g. in the dimension of „power distance“ (Table 1) at Prešov University variables model consists of three levels of significance - the first level contains the variables  $X_3$ ,  $X_{12}$ ,  $X_9$ ,  $X_4$  and  $X_2$ , the second level contains variables  $X_6$ ,  $X_5$ ,  $X_7$ ,  $X_{11}$  and  $X_{10}$ , the third level contains variables  $X_1$  and  $X_8$ , at the Catholic University of the model consists of four levels of significance – the first level contains the variable  $X_3$ , the second level contains the variable  $X_2$ ,  $X_{12}$ ,  $X_9$ ,  $X_4$  and  $X_7$ , the third level contains the variables  $X_5$ ,  $X_6$  and  $X_{10}$ , the fourth level contains variables  $X_1$ ,  $X_{11}$  and  $X_8$ , the University of Žilina this model consists of four levels of significance - the first level contains the variables  $X_4$  and  $X_3$ , the second level contains variables  $X_{12}$ ,  $X_7$ ,  $X_2$ ,  $X_8$  and  $X_9$ , the third level contains the variables  $X_{10}$ ,  $X_{11}$ ,  $X_5$  and  $X_6$ , fourth level contains the variable  $X_1$ , at the University of Matej Bel, this model consists of five levels of significance – the first level contains the variables  $X_3$  and  $X_{12}$ , the second level contains the variable  $X_4$ ,  $X_2$  and  $X_7$ , the third level contains the variables  $X_9$ ,  $X_6$ ,  $X_5$ ,  $X_{11}$  and  $X_{10}$ ; fourth level contains the variable  $X_1$ , the fifth level contains  $X_8$ .

Analogously, it is possible to determine the significance of the model structure selected variables for the other four dimensions of regional culture – the „individualism-collectivism“, „masculinity – femininity“, „uncertainty – uncertainty avoidance“ and „time orientation“ (Tables 2, 3, 4, and 5 ).

Table 6: Number of levels and the number of variables depending on dimensions of regional culture (regions placements of universities), (source: own study)

	The number of occurrences / Number of occurrences of variables at each level				
	Power distance	Individualism	Masculinity	Uncertainty	Time orientation
<b>University of Prešov</b>	3 / 5, 5, 2	2 / 6, 6	3 / 6, 5, 1	4 / 2, 4, 5, 1	3 / 4, 5, 3
<b>Catholic university in Ružomberok</b>	4 / 1, 5, 3, 3	3 / 6, 5, 1	2 / 7, 5	3 / 5, 3, 4	2 / 7, 5
<b>University of Žilina</b>	4 / 2, 5, 4, 1	3 / 4, 4, 4	4 / 4, 4, 3, 1	5 / 4, 2, 4, 1, 1	3 / 5, 5, 2
<b>University of Matej Bel in Banská Bystrica</b>	5 / 2, 3, 5, 1, 1	3 / 3, 5, 4	3 / 5, 4, 3	4 / 5, 4, 1, 2	4 / 2, 5, 4, 1

### Degree of distinctive abilities of students

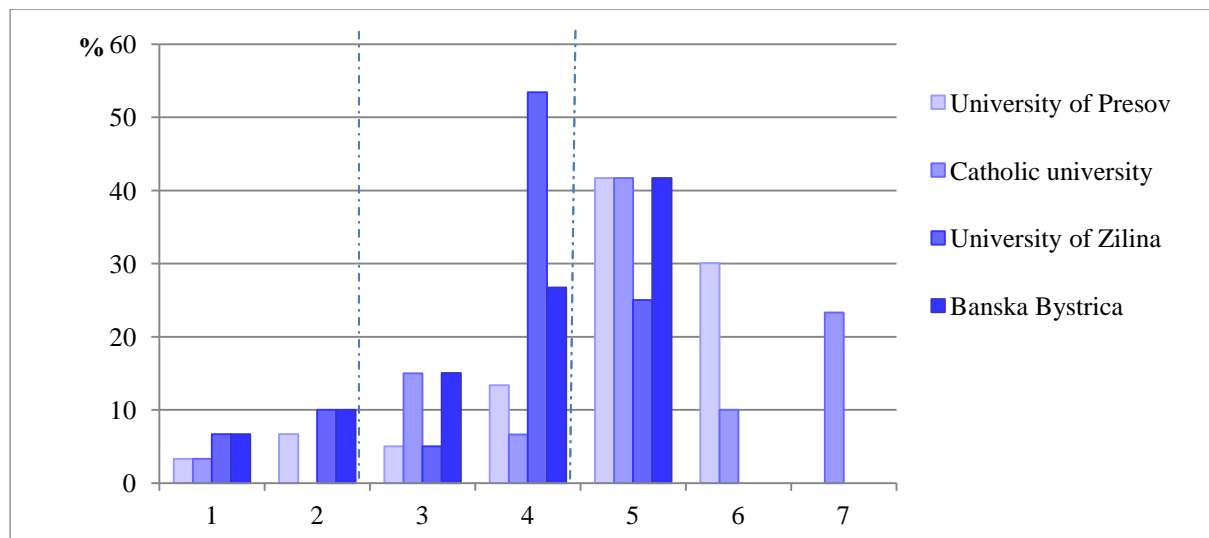
Based on obtained the results (Tables 6, 7, Figure 1 and Table 8), we can say that in terms of the level of resolution the best scores were achieve by students of the University of Žilina, when in the „ideal area“ is 16% of the variables in the „required field“ is 58% of the variables in the „unwanted area“ is 26% of the variables. The worst results were achieved by

students at the Catholic University when the „ideal area“ are 3% of variables in the „required field“ is 22% of variables in „undesirable area“ is 75% of the variables.

*Table 7: Number of occurrences of variables at one level of importance depending on the dimensions of regional culture (regions placements of universities), (source: own study)*

	The number of occurrences of variables at one level of importance							<b>Note: The number of occurrences of variables at one level of importance</b>
	1 %	2 %	3 %	4 %	5 %	6 %	7 %	
<b>University of Prešov</b>	2 3	2 7	1 5	2 13	5 42	3 30	0 0	1 variable = 1.67 % E.g.: University of Prešov – 4 variables are on 1 level 2 times – by calculation % we consider 8 variables
<b>Catholic university in Ružomberok</b>	2 3	0 0	3 15	1 7	5 42	1 10	2 23	
<b>University of Žilina</b>	4 6	3 10	1 5	8 53	3 26	0 0	0 0	
<b>University of Matej Bel in Banská Bystrica</b>	4 6	3 10	3 15	4 27	5 42	0 0	0 0	

Note: 1 – Ideal area – 1 and 2 variables at one level of significance; 2 – Required area – 3 and 4 variables at one level of significance; 3 – Undesirable area – 5, 6 and 7 variables at one level of significance.



*Figure 1: The number of occurrences of variables at one level of importance (source: own study)*

Table 8: Evaluation of the quality of distinctive ability of students of management (source: own study)

	<b>Ideal area [%]</b>	<b>Required are [%]</b>	<b>Undesirable area [%]</b>	<b>Ranking of universities</b>
<b>Catholic university in Ružomberok</b>	10	18	72	3.
<b>University of Žilina</b>	3	22	75	4.
<b>University of Matej Bel in Banská Bystrica</b>	16	58	26	1.
<b>University of Prešov</b>	16	42	42	2.

#### 4. Conclusion

The main objective of the paper was to demonstrate the impact of regional cultures to students at selected universities. This influence is reflected in the determination (calculation) the level of importance of the variables that were assigned to the dimensions of the regional culture by G. Hofstede. Number of levels of importance, number and structure of variables in each level was different. Diversity of classes of university students was caused by the real possibilities of implementation of questionnaires, which the authors considered a deficiency. But despite this fact, the authors believe that the objective of the paper was completed and the influence of regional cultures on student management proved.

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