

TEAMWORK IN EDUCATION

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Abstract

Knowledge is a determinative factor for companies at the competitive market. Demands change very quickly. Organizations may suit these demands if they can build knowledge management system at their companies. One of the most important elements of this process is teamwork. How can we achieve - from teachers to professors at schools and at universities – that children and students should work in teams with pleasure?

This international research started in the year of 2001 in Mexico and from that time a lot of teachers, researchers, professors from different countries have joined it.

The hypothesis was that there are samples in teachers' behaviour that can be defined in advance and that come from their national cultures especially in the area of teamwork.

We have continued this research by questionnaires and analyzed it with ANOVA and η^2 statistics.

We verified our hypothesis, but this research does not postulate every difference between these countries deriving from cultures. The fact that there are various forms of differences refer to attitudes to work, which are fundamental differences (structural and cultural, too).

The results of this research can be used in the development of education and teaching methods first in the university. These results also can be used together with another international research to develop the possibilities and methods of teamwork in education at universities and we can give instructions to management how to motivate their employees to the spontaneous and free decision knowledge sharing. We will write about this research and its results in this paper.

Key words: education, knowledge, knowledge management system, teamwork.

Introduction

The secret of successful companies has been debated for a long time. How can it be that one of them is more successful than the other but they compete with each other at the same market, they work with similar employees, they have the same organizational structure, they work in the same division of labour, etc.

Researches have verified that these facts do not have a serious role in this difference. And what is more even, the volume of the invested capital does not play an absolutely qualifying part. (Sveiby, 2001).

But we cannot estimate companies without their environment. They work in given social and cultural conditions and with employees who are chosen by themselves. Their success at the market is determined by these two facts. We talk a lot about the changes of our environment that require organizations to change continuously. This willingness to change, flexibility, skill of reaction, skill of renewal are determined by the creativity of employees and colleagues, their willingness to study, the leaders' style and by the organization culture (Gyökér, 2004).

Managers have to prepare for management in a new style, to comply with the requirements of becoming a learning organization, keeping knowledge and at the same time for the adaptation of recent methods of knowledge management not only mentally, but also consciously.

In our opinion groups as the basic pillars of an organization have a remarkable role in the successful realization of the above mentioned factors. Collective learning, effective teamwork contribute to the realization of successful knowledge management work and the development of learning organization, which are the conditions of successful operation at the market (Nonaka et al., 2001).

About Knowledge

It is a big problem of companies how to have their employees work to achieve a better business result. Should employees work alone or together in groups? Some new management theories and practices have appeared that demand teamwork. One of them is knowledge management - the most popular theory nowadays - that forces to apply this method. This demand and some other factors together lead there that human resources become more and more important in the life of companies at the competitive market. This important role can be felt in the forming of operation of learning organization and in the forming of organizational structures. Forming of a learning organization is an elementary prerequisite for the operation of knowledge management systems in companies. This functional method has some significant features and one of them is teamwork. (Bakacsi et al. 2004)

Possibilities of individuals, their knowledge at a higher level, their performance is a sample of organization. People are not the same, they have different skills, different willingness to study, different abilities and ways of thinking that companies should take into consideration at a higher level to achieve a better business result. It is the principle of the best practice. In each organization there are some people who are at the top of these areas. They are either the first to know something much better than the other or they can do something in a different way. It means that companies use the labour of these excellent people on a group level, after it on organizational level. This initiative from inside the organization is called knowledge sharing. This can support the success of companies at the market.

What can we do to realize these principles in practice? (Davenport, 2001)

- best practice has to start from individuals or from groups or from organizational level
- management and the members of the organization have to be extrovert to this new way of thinking
- we have to reward people who use the best practice
- we have to disregard "lilac fog effect"
- we have to allow spontaneous self – teaching groups to operate
- remove obstacles form the way of generalizing best practice

If we can enforce these demands on the individual level, it is only one step to reach the group level. It means the following in case of organizations: if they can realize the continuous education of organization members in the form of a learning organization and as a result of this fact the continuous study, renewal of the organization and updating the organizational memory are carried out they have to care about losing knowledge as well, so that it should be smaller and smaller if the employees are enticed away to other workplaces. During the continuous operation of the organization, they have to reach that people should not study only for themselves but dates, information and knowledge should be built into the organization memory.

Teams that can realize these demands in organizations are not under any circumstance formal groups operating with serious rules. These teams can be professional groups that can be formed spontaneously or among rules. They support possibilities of knowledge sharing and study and they help the view of knowledge management to get spread.

The job of these groups is to support the organization in period of change, first in those cases when the aim is what we have written in the upper section (Bencsik, 2003).

Importance of Teams

People have formed a group from the ancient times in order to carry out their jobs or tasks in a more simple and effective way. To be a part of a team can be advantageous or disadvantageous from the view of individuals and teams, too. Advantages are that it gives safety it can give a feeling to belong somewhere, team members accept and support each other. Disadvantages are: strained relations, refusal, conflicts, etc. But people join teams because the balance of advantages and disadvantages is better than working alone (Farkas, 2003).

Relationship between organization and teams

There are some researches that have shown organizations can gain advantages by means of teams. These advantages are more knowledge and information, approaching problems multilaterally, better understanding of decisions, participation – acceptance. Certain researches support the fact that a team accept decisions and team members feel responsibility for realizing them if they took part in problem solving. With better utilization of human resources, companies can reduce their costs and they can reach their aims in the areas of buyer – orientation, flexibility and implementation. With a good teamwork employees can be motivated on a higher level, their commitment increases and the organization can expect better innovation, flexibility and solving of complex tasks.

What else is needed to have really tangible results? To this we need a cultural background, which allows, moreover helps ambitions directed to the development of emotional intelligence of organizational groups and guarantees a convenient background to the correct treatment of possible conflicts.

To the successful realization of group work there are some more elements apart from emotional intelligence which influence its successful work. For example:

- management based on participation,
- concentration on future,
- shared responsibility,
- concentration on tasks,
- well-defined aim,
- communication on a high level,
- creativity,
- quick reply,
- effectiveness of group roles etc. (Bencsik, 2003).

Role of teamwork in the creation of group and organizational knowledge

In teamwork there are interactions among people which can bring swapping of information and knowledge into action. To get information we have a lot of possibilities. The most important of these: own experiences, studying, coaching, mentor, informal nets, good communication etc. They can be in the front of teamwork. For common aims team members have to work not only close to each other but together. It means they need to use knowledge and experiences of each other. In this situation the requirement of knowledge sharing arises and individual knowledge should be lifted to a group level.

Nowadays – when the world becomes more extrovert – people who come from different countries

with different cultures very often have to work together. That is why it is very significant to know the characteristics of different countries. Sometimes we can only feel that the colleagues' behaviour is strange for us, but we do not know the reasons for their different work moral or behaviour. We can especially meet some surprising elements during teamwork.

People can feel it daily who work for multinational companies. But what are our experiences? We work at universities and we can often meet students or colleagues from different countries with different cultures. How can we work and live together with them, how can we treat the different behaviour of versatile cultures?

We can often experience that students or colleagues who worked abroad earlier, could not use their knowledge that they brought from a foreign country because there are some cultural differences in their teamwork. (Herneckzi, 2006) The system of education has changed in Hungary and the function of these institutions demands new competences from leaders and teachers. In the operation of this system the mechanisms of market have appeared which force the institutions to be extrovert, to work with partners as a service organization.

A report of Environment and Development World Committee turned to governments, across them to ministries, to education organizations and to institutions. This report speaks directly to the young, teachers to make them understand the basic principium of the future: the conceptual class of sustainable development and knowledge-based society.

When we talk about knowledge – based society, more exactly about educational system and its role in this situation, we can ask some important questions:

- What tasks does the education system have in this knowledge – based society?
- How can education operate more efficiently?
- How can educational system initiate each segment of society in this study – process?
- How can an educational system obey to these changes and to the changed demands that come from these situations?
- How can schools compete with different types of the media that can give knowledge, too (for example: written and electronic papers, internet, etc.) or how can it obey to these systems?
- How can knowledge that comes from the schools be closer to economic demands?
- How can this knowledge become a basis of development?
- How can we achieve that knowledge acquisition be simple and fast?
- On which skills do we have to focus (that are in connection with strengthening society and demands of competitive markets) and which skills are needed to be a participant of this knowledge – based society?

How difficult or easy is it for us to accept and adopt these demands into our value – systems? How can we characterize nations - with the same parameters - that were participants in our research?

It is worth examining how the real features of national culture have been shown in researches carried out so far about organizational culture. These features come from the history of countries and from religious habits, etc. This part of the iceberg is under water. These features can be changed with difficulties they need a long time to be revealed.

Cultures cannot answer the questions how we can increase the effectiveness of processes or which social system is better than the other. But we think we have to know more about national cultures in order to make useful suggestions to improve the education system, especially in the area of successful operation of learning organizations, knowledge sharing and teamwork. We hope if we can understand the reasons of students' and teachers' behaviour from different cultures in different situations, we can do more for the economic success in our country and for the future.

This international research started in the year of 2001 in Mexico and from that time a lot of teachers, researchers, professors from different countries have joined it. The hypothesis was formed by American colleagues. They thought there were samples in teachers' behaviour that can be defined in advance and that came from their national cultures especially in the area of teamwork. We can say – on the basis of the results of our researches – that these samples can reflect the cultural differences among the examined countries. It supports the original hypothesis.

In our paper we will show the features of national cultures of some countries that participated in our research: China, Russia and Hungary.

How and Why Did We Choose These Cultures?

Culture is the soul of a nation's life. This factor is as important for people as other physical factors. Development of culture determines the civilization of a nation. If these values are destroyed, it means the end of a nation. We would not have liked to do examinations about national culture, but the earlier results of the same researches determine our ideas. We wanted to choose such nations which are in different culture groups on the basis of earlier researches.

Our starting point is the well known Hofstede model. (Hofstede, 1997) There are some other different models that come from the critical way of thinking or they have developed the earlier models.

On the basis of Hofstede model these are the following categories:

Hungary: **well oiled mechanism** (low index of power - distance, high index of uncertainty - avoiding)

China: **family** (high index of power - distance, low index of uncertainty - avoiding)

Russia: **pyramid** (high index of power - distance, and index of uncertainty - avoiding)

On the basis of another researcher - Jarjabka (Jarjabka, 2003):

Hungary: **competing culture** - circle (very high MAS and low index of power - distance)

China: **Janus faced culture** - circle (the highest index of power - distance)

Russia: **bureaucratic - centralized culture** - circle (very high index of uncertainty - avoiding)

We disregard the presentation of these models, they can be found in other literatures. We will focus only on showing of clusters.

Bureaucratic - centralized culture - circle (very high index of uncertainty - avoiding): To this category more groups of countries belong to:

Islamic world: Egypt, Malaysia, Turkey, Latin culture - circle: Brasil, Guatemala, Spain, Peru, post Communist Slavic countries: Bulgaria, Croatia, **Russia**, some developed countries: Belgium, France, the Netherlands.

Janus faced culture - circle (the highest index of power - distance): to this group belong to the fast developing East - Asian countries: India, **China**, Thailand, African countries: Kenya, Nigeria, South - African Republic and some less developed countries from EU: Portugal. These organizations are characterized by strongly hierarchic structures.

Competing culture - circle (very high MAS and low index of power - distance): To this cluster more groups of countries belong to: English - speaking world: Australia, Canada, the UK, USA, German culture - circle from Europe: Austria, German, Switzerland, some post - Communist countries: Check Republic, Poland, **Hungary**, Far - Eastern developed countries: Japan, South Korea. These countries have strong, determined, masculine behaviour at the markets. They like to invest, index of uncertainty - avoiding is lower than generally, their economy is open and there is a sharp competition among the organizations.

Methodology of Research

This international research started in the year of 2001 in Mexico by questionnaires and from this time a lot of teachers, researchers, professors from different countries have joined it. This research focused on the different universities from different countries. We joined the above mentioned research in the year of 2006. We compared three different countries that have very different national culture. They are China, Hungary and Russia.

The research hypothesis was formed by American colleagues.

The hypothesis was: **there are samples in teachers' behaviour that can be defined in advance and that came from their national cultures especially in the area of teamwork.**

Research Method

- quantitative method by questionnaires
- closed, opened and scaled questions
- analysis of answers with MS Excel and SPSS programs (ANOVA, η^2)

Characteristics of the Sample

- stratified
- people of different countries/universities
- random sampling

The survey was made by one – to – one interview and by post. We worked with random sampling and with target audiences. Although our sample was quite largescale (in the respect of the size of the sample) we cannot consider it as a representative sample. We would like to lay down already here that our results are authoritative, but these results cannot mean general connections in the population according to strict statistic rules. Apart from this we have to emphasize that we consider our investigation as a discover examination because such a complex research has not been conducted according to our note yet.

Table 1. Characteristics of Samples.

	Number of cases	Characteristics of sample
Russia	97	Random sample
China	96	Random sample
Hungary	105	Random sample

Chapters of Questionnaire

- General characteristics
- Methods of teaching
- Students' performance evaluation
- Team and teamwork
 - General Questions
 - Worker Contributions
 - Work Outcomes
 - Work Relationship

In this paper we focus only on the last chapter, on the team and teamwork. We analyzed the questionnaires with ANOVA and η^2 statistics. We have compared the means of subsamples. The independent factors were the countries and dependent factors were the opinion about teamwork. In our analysis the significant factors are from the questionnaire:

General Questions about Teams and Teamwork:

1. I prefer to work in teams even if I am capable of doing the whole job alone
2. People generally prefer to work in teams even if they are capable of doing the whole job alone

3. Highly skilled people will accomplish more as a team than they would if each worked independently.
4. Team members will not help each other unless they trust each other
5. Even if team members are alike in appearance they will differ in many ways that are not outwardly observable

Worker Contributions:

6. For good teamwork, the most important factor is to have competent individuals on the team
7. For good teamwork, the most important factor is to have good relationships among team members
8. For good teamwork, the team itself is more important than individual members and the relationships among them

Work Outcomes:

9. With teamwork, team morale (spirit) is more important than team performance
10. With teamwork, team performance is more important than team morale (spirit).
11. With teamwork, good performance is necessary for good morale (spirit).

Work Relationships:

12. For effective teamwork, everyone on the team must get along well with everyone else on the team
13. For effective teamwork, interpersonal relationships will have little effect on the performance of the team

These significant factors are in the following table. You can see the main mean values related to the countries and their variances. (With the ANOVA we compared the countries and their values and analyzed the differences.)

Table 2. Mean and Variance of Significant Factors.

Signifi-cant factors	Mean				Variance			
	China	Russia	Hungary	Total	China	Russia	Hungary	Total
1	4,26	3,47	4,79	4,28	1,65	1,54	1,45	1,62
2	3,72	4,32	4,55	4,11	1,41	1,29	1,44	1,43
3	5,11	3,47	4,55	4,61	1,55	1,17	1,70	1,64
4	6,02	5,79	5,27	5,73	0,97	0,79	1,13	1,04
5	5,94	5,68	4,61	5,44	0,82	1,25	1,41	1,27
6	4,96	6,16	5,79	5,47	1,52	1,21	0,86	1,36
7	5,93	6,37	5,61	5,91	1,04	0,83	1,14	1,07
8	4,52	5,58	5,13	4,93	1,64	1,46	1,50	1,60
9	5,69	3,58	3,76	4,62	1,12	1,64	1,46	1,67
10	3,47	4,11	4,82	4,05	1,52	1,63	1,31	1,58
11	3,58	5,42	4,94	4,40	1,53	1,50	1,41	1,67
12	5,00	5,84	5,27	5,26	1,37	0,90	1,01	1,20
13	2,26	3,79	2,64	2,68	1,14	1,87	1,14	1,42

Results of Research

Teamwork

Teams have a very important role in motivating knowledge sharing. People from these three countries prefer teamwork. China support this way of work better than Russia. And at the same time they have different opinion about the other people's behaviour. You can see it in the Figure 1.

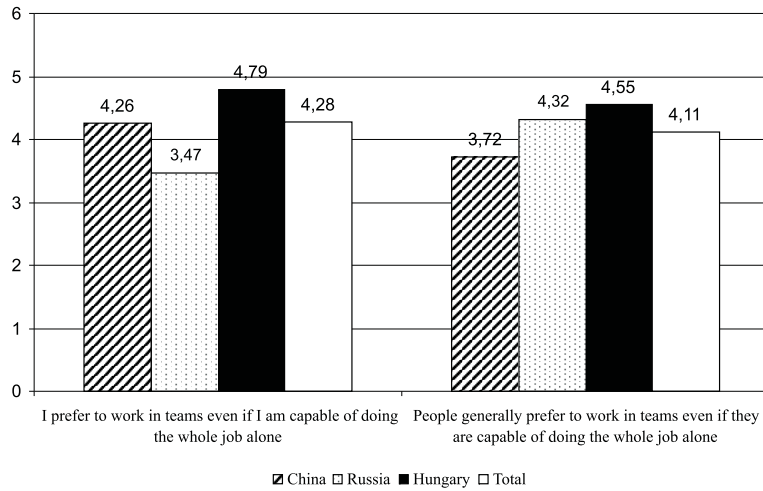


Figure 1. Teamwork (values means).

Worker Contributions

In this area the difference is the biggest between Chinese and Russian people. In worker contributions the calculated F values (which is the verifying statistics of ANOVA) were always bigger than those at the F table in the same degree of freedom at $\alpha = 0.05$ significant level.

In all cases the Russians think that the individuals and their performance are more important than team and team morale. The differences in the way of thinking reflected most in the worker contributions however the figures in the chart do not highlight it so much. See it in the Figure 2.

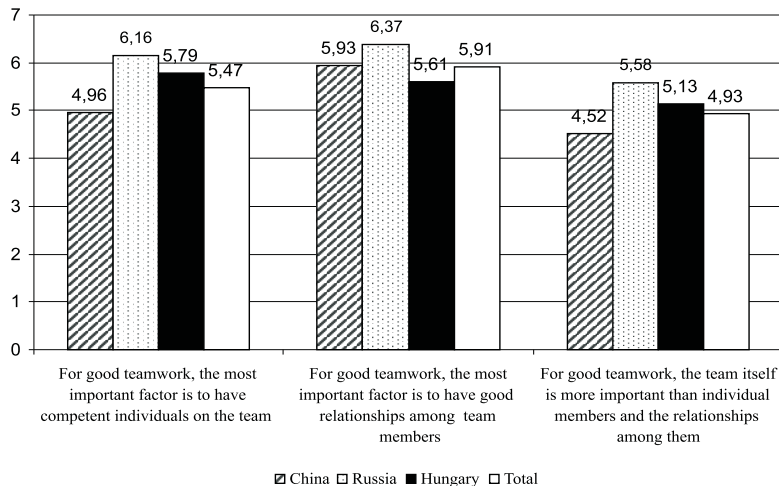


Figure 2. Worker Contributions (values means).

Work Outcomes

Chinese people prefer the team morale (spirit) most of all, but Russian people have a totally different opinion about it, they think that a good performance is necessary for good spirit. We Hungarian people have the same opinion about it and at the same time we think that team performance is more important than team morale. But we think team performance depends on team morale, so we would turn the third question and we would say that good morale is necessary for a good performance. Figure 3rd illustrates this information.

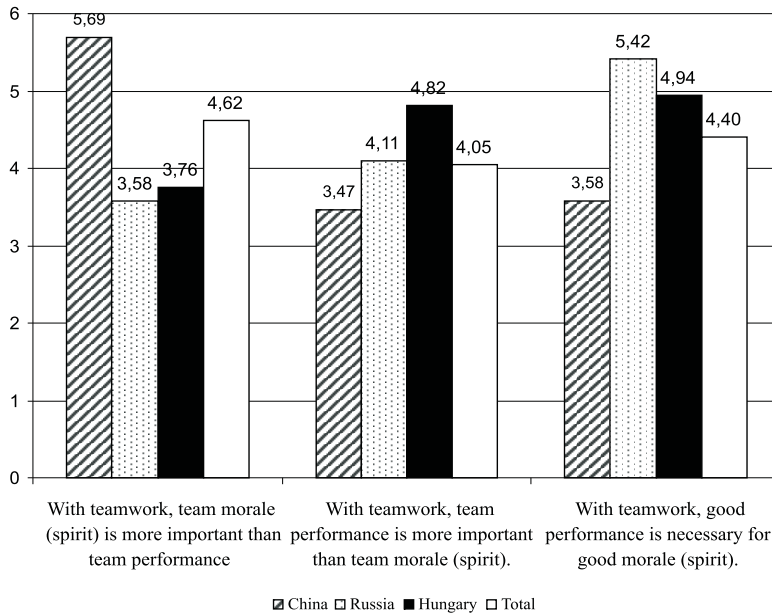


Figure 3. Work Outcomes (values means).

Work Relationships

People from these three countries think it is very important to be in a good relationship with each other for effective teamwork. But they do not think that interpersonal relationship will have little effect on the performance of the team. You can see it in the Figure 4.

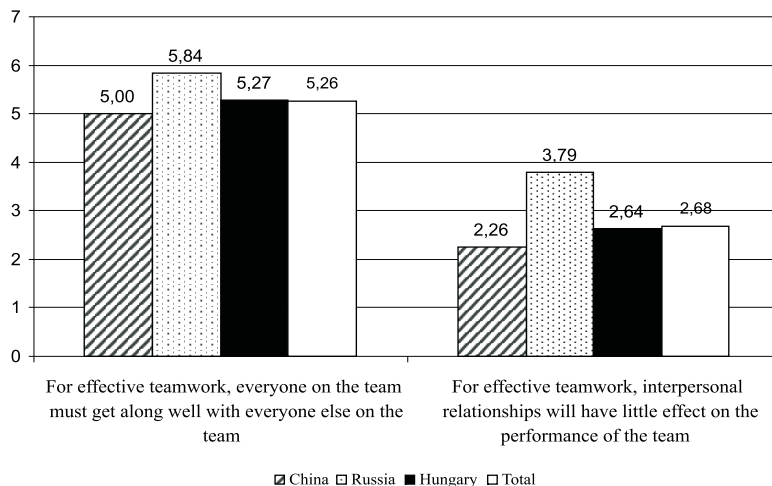


Figure 4. Work Relationship (values means)

According to the Russians the most important feature is **efficiency** in a team. It comes from their earlier opinion. But they do not deem **quality** as an important factor.

According to Hungarian and Chinese people's opinion there are some other important factors that bring advantages for teamwork for example: multiple opinion, group motivation, knowledge sharing and quality.

Disadvantages of Teamwork

According to the Hungarians and the Russians too the worst factor is the conflict in a team. To treat this problem a very good team leader is needed. But the Russians think it is very difficult to lead a team and workload is not even.

Good Team Workers

The Russians like to work with **reliable, honest, cooperative and highly skilled** people. The Hungarians prefer these features, too, but not at the same measure. For the Hungarians the most important factor is to be **highly skilled** and they think that **enthusiasm, persistent and problem solving** is important as well.

About Leadership

According to the Russians the two most important features are **coordination** and **organization**, but in not too high measure. In spite of this opinion the Hungarians think that the most significant factor is **coordination**. In this area the biggest difference is between these two countries. The Russians think that **creativity** is not important at all. See it in the Figure 5.

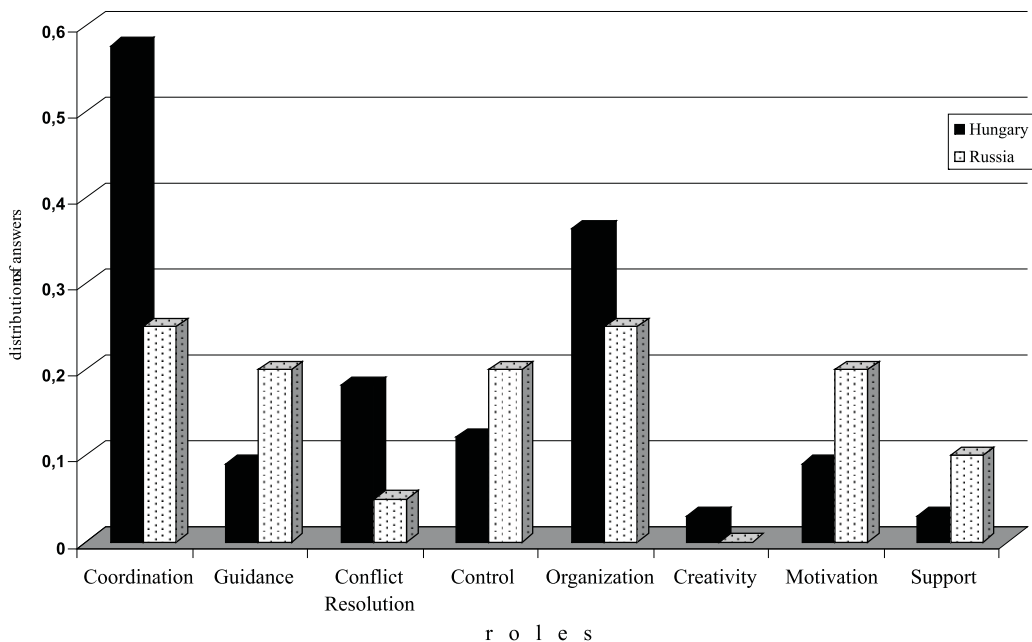


Figure 5. The Roles of Leadership in Teamwork.

Conclusions

We can say that the difference among cultures can be seen from our results. (The calculated F values (which is the verifying statistics of ANOVA) were always bigger than those at the F table in the same degree of freedom at $\alpha = 0.05$ significant level.)

Clusters of cultures on the basis of earlier researches have been verified.

We could establish that the higher education systems in the examined countries - as firstly important knowledge intensive organizations – are not at that high level so that they can support the methods of thinking and behaviour that are very decisive in the life of companies. Teamwork and knowledge sharing are prime movers of the economic development of companies. If we cannot communicate it at a high enough level to the students or cannot create the right conditions to change their behavioural style, we cannot hope for a serious development in the future.

But it is our responsibility. We have taken some steps to solve the problems. For example we have divided the extremely large groups of students into smaller groups and we have given them practical exercises that they had to prepare with each other within the frame of teamwork.

It is difficult to change the characteristics of cultures that are rooted deeply and sometimes it is impossible. But we have to aspire to move to the direction of demands and we have to do everything we can. Our teaching staff needs to change its attitude, to take part in trainings and we have to change our thinking and viewpoint. In this way we can create the conditions of the development of the educational system. These will be the basis for our students to become extrovert, well trained and prepared for teamwork in companies. In this way we can give a possibility to companies to reach success in the long run on the basis of creating a knowledge management system.

References

- Bakacsi Gy. & Bokor A. & Császár Cs. & Gelei A. & Kováts K. & Takács S. (2004). *Stratégiai emberi erőforrás menedzsment* Budapest KJK- KERSZÖV Jogi és Üzleti Kiadó Kft.
- Bencsik, A. (2003): Csoportszerepek és csoportfejlődés a tudásmenedzsment szolgáltatásban *Vezetéstudomány* XXXIV./6. 17-24.
- Davenport, T. & Prusak, L. (2001): *Tudásmenedzsment*. Budapest Kossuth Kiadó
- Farkas, F. (2003) The Role of Leadership in Knowledge Management and Knowledge Transfer. In: *Knowledge Transfer, Small and Medium Sized Enterprises and Regional Development in Hungary*. Szeged JATEPress.
- Gyökér, I. (2004). A vállalat szellemi tőkéje - számolatlan vagyon. *Harvard Businessmanager* 2004, December, Budapest.
- Herneczki, K. (2006). Nemzeti szervezeti kultúrák I. *CEO Magazine* VII/4. 12-14.
- Hofstede (1997). *Cultures and Organizations (revised edition)*. New York: MacGrow Hill.
- Jarjabka, A. (2003). Vizsgálatok a szervezeti kultúra témakörében kultúramodellek és hazai alkalmazhatóságuk (*PhD Dissertation University of Pecs Hungary*).
- Lengyel, I. & Deák, Sz. (2002): Klaszter: a helyi gazdaságfejlesztés egyik sikeres eszköze. In: *Buzás N. & Lengyel I. (Eds.): Ipari parkok fejlődési lehetőségei: regionális gazdaságfejlesztés, innovációs folyamatok és klaszterek*. SZTE GTK, Szeged: JATEPress.
- Mészáros, T. & Bálint, A. (2003). The Vision of Hungarian Small and Medium Sized Enterprises In: *Lengyel I. (Eds.) Knowledge Transfer, Small and Medium Sized Enterprises Development in Hungary*. Szeged JATEPress.
- Nonaka, I. & Toyama, R. & Byosiére, P. (2001). *A Theory of Organizational Knowledge Creation: Understanding the Dynamic Process of Creating Knowledge*, Handbook of Organizational Learning & Knowledge. New York: Oxford University Press.

Sveiby, K. E. (2001). *Szervezetek új gazdagsága: a menedzselt tudás*, KJK- KERSZÖV, Budapest Jogi és Üzleti Kiadó Kft.

Varga, A. (2003). Agglomeration and the Role of Universities in Regional Economic Development *In: Lengyel I. (Eds): Knowledge Transfer, Small and Medium Sized Enterprises Development in Hungary*. Szeged JATE-Press.

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