

Theses of doctoral (PhD) dissertation

**THE ROLE OF ORGANISATIONAL CULTURE AND
LEADER CHARACTERISTICS IN REGIONAL
COMPETITIVENESS AT THE MUNICIPALITIES OF THE
NORTH GREAT PLAIN REGION**

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INTRODUCTION

Nowadays, the dynamically changing economic environment, the tense competition and the economic crisis pose several challenges both at the regional and institutional levels.

In my dissertation, I examined the main determinant factor of competitiveness at the regional, county and institutional level. I chose the North Great Plain region to be the location of my research and I compared this region to the other regions of Hungary based on the indexes of competitiveness. I examined the three counties constituting the region based on the basic and success factors determined in the competitiveness models.

I used the GLOBE questionnaire to survey the organisational culture and leadership of the municipalities of the region in order to examine the correlation between competitiveness, organisational culture and leadership. The competitiveness framework models consider the institutional and social capital to be a basic factor which is represented by the municipalities themselves in this particular case. The basic factors are partially improved by the so-called success factors. My objective was to identify these success factors in the case of the municipalities and to find a link between the organisational structure, leadership and the success factors which contribute to the improvement of the basic factors.

At the institutional level, the organisational structure and leadership contribute to the improvement of competitiveness by positively transforming the resources available to them while conforming to the socially acceptable norms. These transformations are carried out while continuously evaluating the environmental changes which affect operation and by adapting to new expectations.

Competitiveness research showed that workers perform well if they are committed to doing their jobs and work culture is built on trust and mutuality. If workers consider their work to be their own, they will become committed. The key to organisational competitiveness is to develop and maintain this constant bond which can be developed as a result of the impact of the organisational culture and leadership on each other.

The increasing competition and the dynamically changing external environment make their influence felt both in the leadership and the organisation structure. Only those managers are able to lead their organisations with success who have the ability to sense the changes of environmental impacts in time, to create future prospects and to react to environmental changes quickly.

A manager alone is not able to react to every situation or to find an immediate right solution; therefore, managers have to rely on their colleagues on one hand and they also have to learn constantly on the other. Organisations like this have such competitive advantage that is

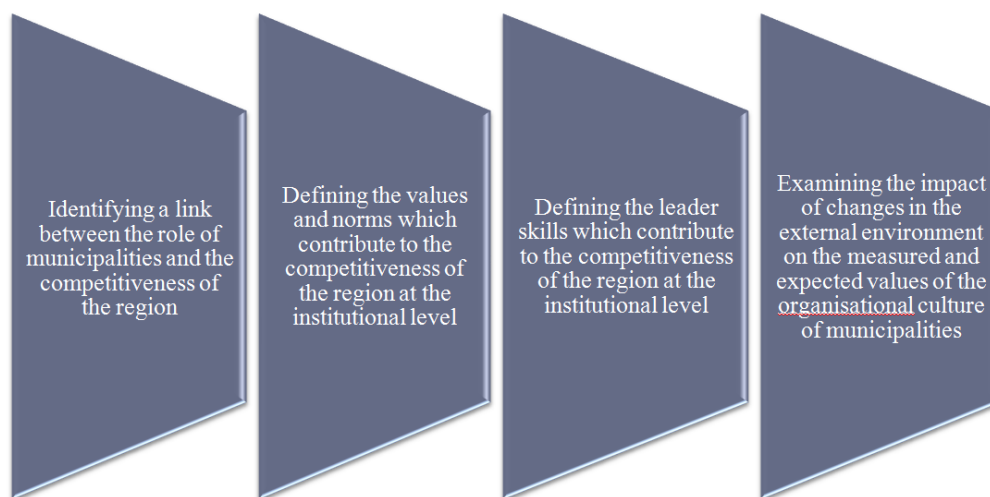
difficult to copy. The quality of workers assure the successful operation of the organisation in the long run. For this reason, it is extremely important what kind of evaluation, motivation and rewarding methods are used in the organisation.

Organisational structure is closely linked to the above rule, as it is able to increase the competitiveness of the organisation with values such as performance orientation, future orientation and human orientation.

Main objectives of the dissertation and the research

The main objective of my dissertation is to find a link between the organisational culture, the leadership of municipalities and the competitiveness of the region. I set my further goals in accordance with this objective (Figure 1).

Figure 1: Main research objectives



(Source: own database)

I studied the Hungarian and international specialised literature on organisational culture, leadership and competitiveness. Organisational culture became a more frequent topic in the early 1980s, considering the high quality level of production shown by Japanese companies. the success of these Japanese companies made American researchers and consultants interested, even though they assumed the reason for this success to be the Japanese organisational and national culture. The number of publications dealing with organisational culture increased significantly, of which the work of Edgar H SCHEIN (1989, 1996, 2004, 2009) was of special importance. Schein’s book “Organizational culture and leadership” became a highly appreciated reference in this branch of science. In Hungary, Gyula

BAKACSI (1985) was one of the first people who were dealing with the examination of organisational culture and leadership and pointed out their importance. In the subsequent years, several Hungarian researchers became interested in certain aspects of this topic, such as HEIDRICH (2002), CHIKÁN (2004), BOKOR (2000) and KARÁCSONYI (2006).

The GLOBE international questionnaire was used to measure organisational culture and leadership. The questionnaire was also used in Hungary (*MÁLOVICS, 2000; BAKACSI, 2001; CHIKÁN, 2004; MIKULÁS, 2011*), but these culture studies were focusing on management companies.

RAKOSA (2002) used the GLOBE questionnaire to survey ministerial organisations, but the idea of examining the organisational culture and leadership of municipalities was less preferred. Instead, other areas of science (economy, history, management) were in focus.

The complex organisational structure and leadership examination of the municipalities in the North Great Plain region with the GLOBE questionnaire has not been performed yet. The North Great Plain region is the last of the Hungarian regions as regards GDP per capita, while its unemployment rate is the second worst. Consequently, it is very important to identify a link between the activity of municipalities and the income per person in the region which determines the competitiveness of the region. Several models can be used to determine competitiveness (*HUGGINS, 2003; PORTER, 1990; LENGYEL, 2003; EUROPEAN UNION, 1996*). I developed my own research model on the basis of the competitiveness models. I used this newly developed model to determine the success factors of the examined municipalities. The examined characteristics of the success factors, basic factors and basic categories of competitiveness show that the competitiveness of the North Great Plain calls for development from several aspects.

2. DATABASE AND APPLIED METHODS

During the research of culture, I used a quantitative methodology, during which I performed a questionnaire survey, using the GLOBE (Global Leadership and Organizational Behavior Effectiveness) international questionnaire. The questionnaire was filled out by the middle level leaders of the municipalities in the North Great Plain region. One of the reasons for choosing middle level leaders was that several Hungarian researchers (*MÁLOVICS, 2000; BAKACSI, 2001; CHIKÁN, 2004; MIKULÁS, 2011*) also targeted middle level leaders (by using the GLOBE international questionnaire). Furthermore, middle level leaders have a better view of the organisation as a whole.

The municipalities present in the sample were selected with a so-called quota selection, which theoretical and practical statisticians consider to be a transition method between random and conscious selection methods. During quota selection, I divided the reference population to various districts based on regional principles. In this case, the North Great Plain region consists of three counties. The selection of municipalities was done randomly on the basis of the previously prepared quota list. The aim of the quota-based selection was to accurately represent the reference population. The method work similarly to layered sampling, since the quota method develops the sample framework on the basis of the reference population structure. Proper sampling can be assured with the help of criterion combinations as the most frequent criterion combinations are based on the main demographic characteristics of the population. The sample may represent the reference population from the aspect of the most significant demographic criteria. Based on the existing research observations, if the sample is representative from the fundamental demographic and socio-economic criteria, it represents the population from other aspects, too (*LEHOTA, 2001:193-196*).

193 middle level leaders were included in the sample which represents 24 municipalities. Based on the population of the given settlement, the municipalities were classified into categories A, B and C. Cities of county rank (Debrecen, Nyíregyháza, Szolnok) were classified into category A, settlements with population between 6 000-17 000 (Téglás, Létavértes, Püspökladány, Kisújszállás, Berettyóújfalu, Nyíradony, Hajdúdorog, Törökszentmiklós, Újfehértó) belong to category B, while category C includes settlements with population between 1 000-3 000 (Nyírcsászári, Monostorpályi, Nyírvasvári, Nyírgelse, Penészlek, Nyírábrány, Bagamér, Encsencs, Pócspetri, Fülöp, Vámospércs).

The first research period took place in 2008, when I organised personal meetings. The personal inquiries were necessary due to the length of the questionnaire, as I assumed that the targeted municipality employees do not fill it out due to their heavy workload. The second

survey was performed in 2012. In this survey, 193 middle level leaders of 24 municipalities filled out the questionnaire during personal meetings.

2.1 Statistical methods used in the analysis

Analysis of variance (ANOVA)

The analysis of variance is a parametric method which determines whether there is significant difference between the values of the dependent variables (the main components developed from each question [evaluation of the current and future factors of the organisation; evaluation of leader characteristics]) in the subsamples classified on the basis of each criterion as independent variables (e.g. gender, educational level, counties, municipality types). The analysis of variance provides answer to these questions. The independence of the subsamples, the normality of the dependent variable, as well as the sameness of its standard deviation are requirements of using ANOVA. The detailed description of the method can be found in the book of I. FALUS and J. OLLÉ (2000). Before using this method, I ran a main component analysis referring to the answers of the leaders in order to reduce data and to explore the dimensions behind the answers (e.g. efficiency of the reward system, regulation of the work performed, performance motivation). ANOVA was performed after the main component analysis in order to explore the differences in the middle level leadership activities of municipalities and the differences of opinion shown in the evaluation of the leaders' characteristics. I wanted to know the dimensions along which the opinions differ from each other if I arrange the leaders' opinions in different groups (county, work area, type of municipality, gender, religiousness). Furthermore, ANOVA is also necessary to be carried out because the main components which represent each dimension are normally distributed variables.

Cluster analysis

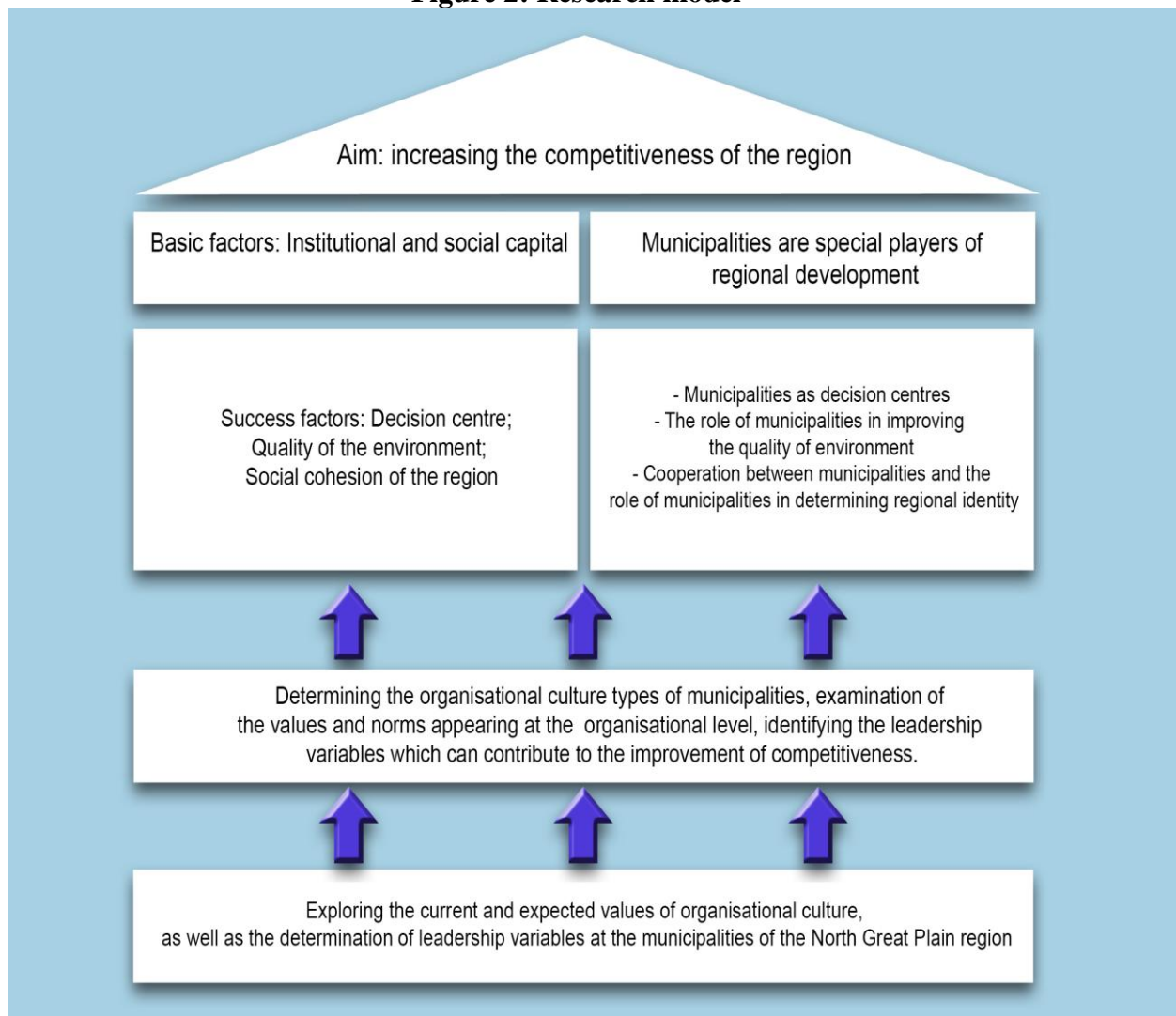
Cluster analysis is basically a grouping method and it is one of the most known procedure of multivariable statistical methods. My aim was to create clusters (groups) whose elements are linked to each other as strongly as possible while they can be distinguished from the elements of other clusters relatively well (*KOVÁCS-BALOGH, 2007*). Cluster analysis makes it possible to group observation entities and also to develop variable groups. In my dissertation, I used Ward's method, as it performs grouping with a minimum loss of information. I carried out the validation of cluster analysis by running the procedure for several distance measures and I compared the obtained results. Using the cluster analysis, I grouped each question and

established dimensions measured during a previous, similar survey (GLOBE) in order to evaluate the expectations of both current situations and future expectations. I used Pearson's correlation and the most frequently used Euclidean distance to establish the dimensions. The dimensions developed by me and the observations gained with GLOBE perfectly match, which also shows the validity of cluster analysis.

3. MAIN CONCLUSIONS OF THE DISSERTATION

My research was focused on the determination and examination of the factors influencing the competitiveness of the region. I considered competitiveness to be both a performance-related factor and also an organisational ability of a leader that develops this performance.

Figure 2: Research model



Source: Lengyel, 2003

The basis of the research is provided by the determination of the organisational culture and leadership of the municipalities in the North Great Plain region (Figure 2). The aim of determining these factors was to identify the values and norms appearing at the organisational level, as well as the leadership variables which contribute to increasing competitiveness.

Taking Lengyel's pyramid model as a basis, I identified the success factors and basic factors which improve the competitiveness of the region. According to Lengyel (2003), the success

factors are the decision centres, the quality of the environment and the social cohesion of the region. During the research, I assumed that municipalities play an important role as decision centres and also as institutions which improve the quality of the environment. Furthermore, it was also my assumption that municipalities determine the identity of the region themselves. Lengyel considers the institutional and social capital to be basic factors. In the case of this model, these factors are the municipalities themselves.

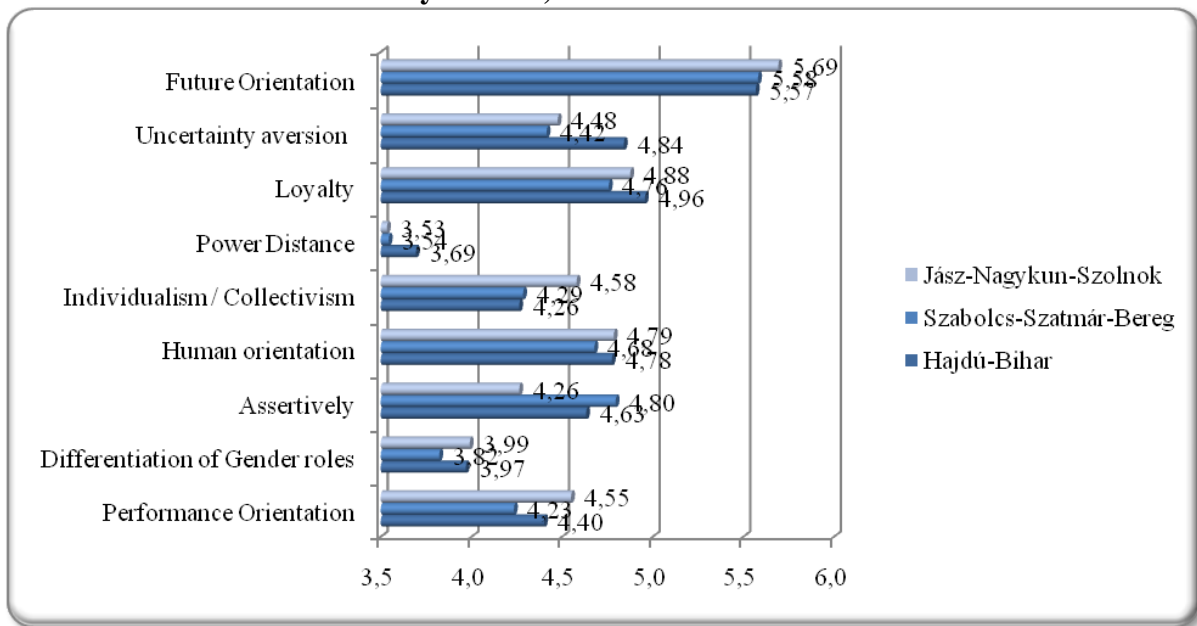
The operationalisation of the research model is carried out by means of the success factors with the help of the GLOBE questionnaire. Municipalities as decision centres can be surveyed by means of the dimensions of their organisational culture. In addition, it is also a success factor that they have a high position in the settlement hierarchy. Of the dimensions of organisational culture, a municipality as a decision centre is determined by the power distance, the avoidance of uncertainty, performance orientation and future orientation. The examination of these aspects makes it possible to measure this success factor. Of leader characteristics, the typical leaders of municipalities as decision centres are performance focused, diplomatic, organised personalities who have future prospects.

Social cohesion as a success factor is realised in the factors of cooperation and regional identity in the case of municipalities. Of the dimensions of organisational culture, human orientation, loyalty, assertiveness and individualism/collectivism can be measured. As regards leader characteristics, the ability of team integration, human orientation, coordination and development focus greatly improve social cohesion.

3.1 Change of the measured and expected values of the organisational culture in 2008 and 2012, broken down to county

In 2008, the organisational culture values measured in the three counties (Figure 3) especially focused on future orientation. The reason for this phenomenon lies in the economic conditions and the increasing competitive sector. Consequently, the power distance and the avoidance of uncertainty have low values. Loyalty and human orientation can also be observed in the present of the organisations. Future cannot be planned without teamwork and cooperation. The importance of assertiveness lies in the future orientation and the extent of determination of objectives in general. Assertiveness is inevitable in the case of any organisation which focuses on the future and seeks its opportunities in the future.

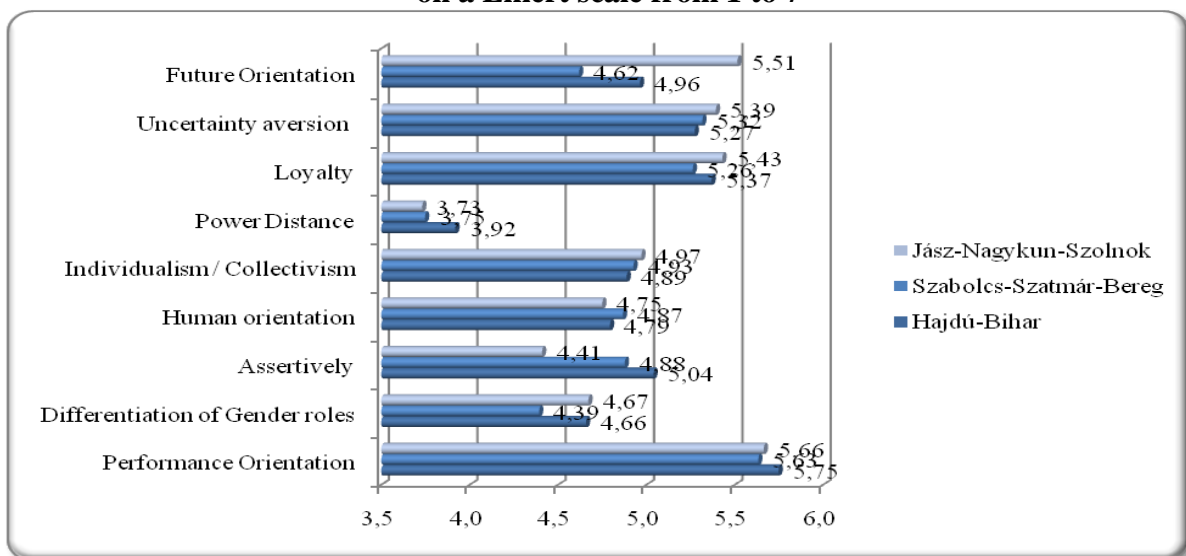
Figure 3. The organisational culture values measured in municipalities in the case of each county in 2008, on a Likert scale from 1 to 7



Source: own database

Based on the Kruskal-Wallis test, significant difference was observed in the case of avoiding uncertainty ($\text{Chi}^2=6.583; \text{sf}=2; \text{p}=0.037$) at the significance level of 5%. As regards assertiveness ($\text{Chi}^2=5.088; \text{sf}=2; \text{p}=0.078$), a difference was observed only at the significance level of 10%. I observed the normally distributed variables of performance orientation and individualism/collectivism with ANOVA. The analysis did not show any difference in the case of either variable ($F=0.966, \text{p}=0.382$ and $F=1.365, \text{p}=0.258$).

Figure 4. Expected culture variables at the organisational level in each county in 2008, on a Likert scale from 1 to 7

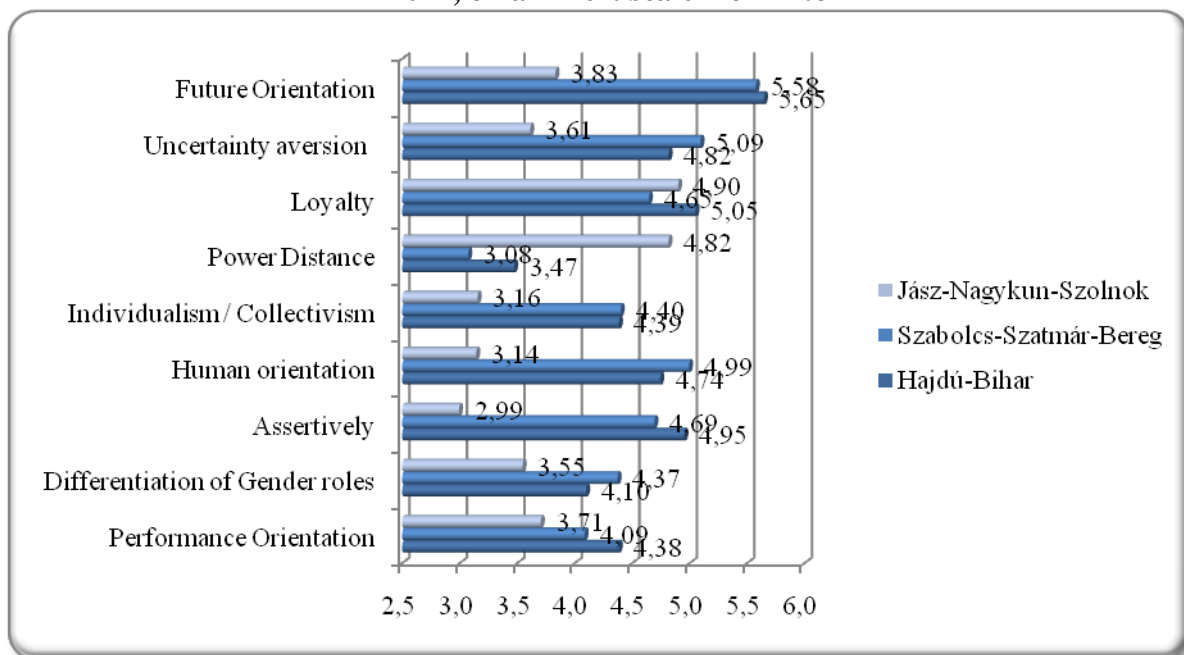


Source: own database

Based on the 2008 data (Figure 4), the dimensions of performance orientation, assertiveness and power distance are more preferred in the future in *Hajdú-Bihar county*. In *Szabolcs-Szatmár-Bereg county*, human orientation is intended to be strengthened in the future. In *Jász-Nagykun-Szolnok county*, the differentiation of gender roles, individualism/collectivism, loyalty, avoiding uncertainty, future orientation and performance orientations are relatively more preferred in comparison with the other two counties.

Therefore, there is no notable difference between the counties in the region in terms of the expected values and culture variables. However, the Kruskal-Wallis test showed significant difference in the case of the differentiation of gender roles ($\text{Chi}^2=7.218$;sf=2;p=0.027), assertiveness ($\text{Chi}^2=6.851$;sf=2;p=0.032) and future orientation ($\text{Chi}^2=13.051$;sf=2;p=0.001) at the significance level of 5%.

Figure 5. Measured values of the organisational culture of municipalities in each county in 2012, on a Likert scale from 1 to 7

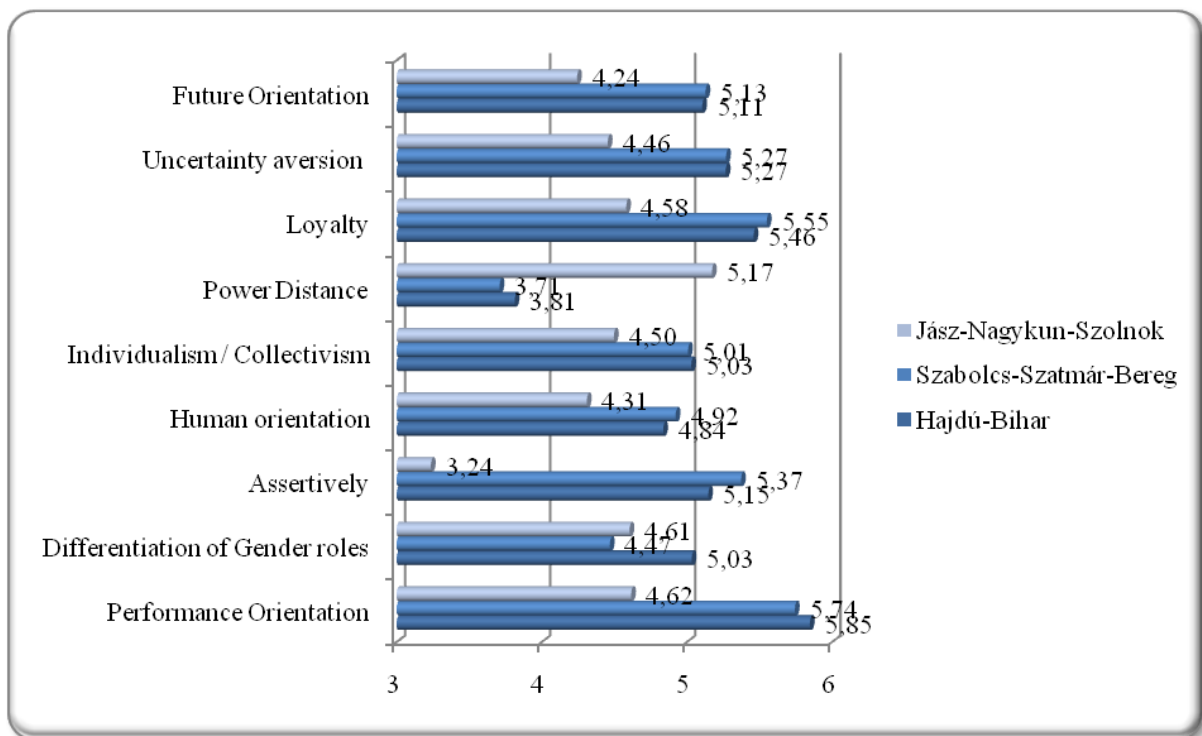


Source: own database

In 2012 (Figure 5), power distance was the most typical factor in *Jász-Nagykun-Szolnok county* in comparison with the other two counties, while performance orientation, the differentiation of gender roles, assertiveness, collectivism, avoiding uncertainty and future orientation were less usual. Future orientation and avoiding uncertainty is much more present in Hajdú-Bihar and Szabolcs-Szatmár-Bereg counties, while loyalty is present in all three counties. The examination of performance orientation and individualism/collectivism was carried out with ANOVA. As a result, I observed significant difference between the examined

counties concerning these two factors ($F=6.902$; $p<0.001$ and $F=11.778$; $p<0.001$). Based on the Kruskal-Wallis test, a difference ($p<0.05$) was shown between the examined counties in the case of all factors except for loyalty ($\text{Chi}^2=0.955$, $\text{df}=2$, $p=0.620$) at the confidence level of 95%

Figure 6. Expected culture variables at the organisational level in each county in 2012 on a Likert scale from 1 to 7



Source: own database

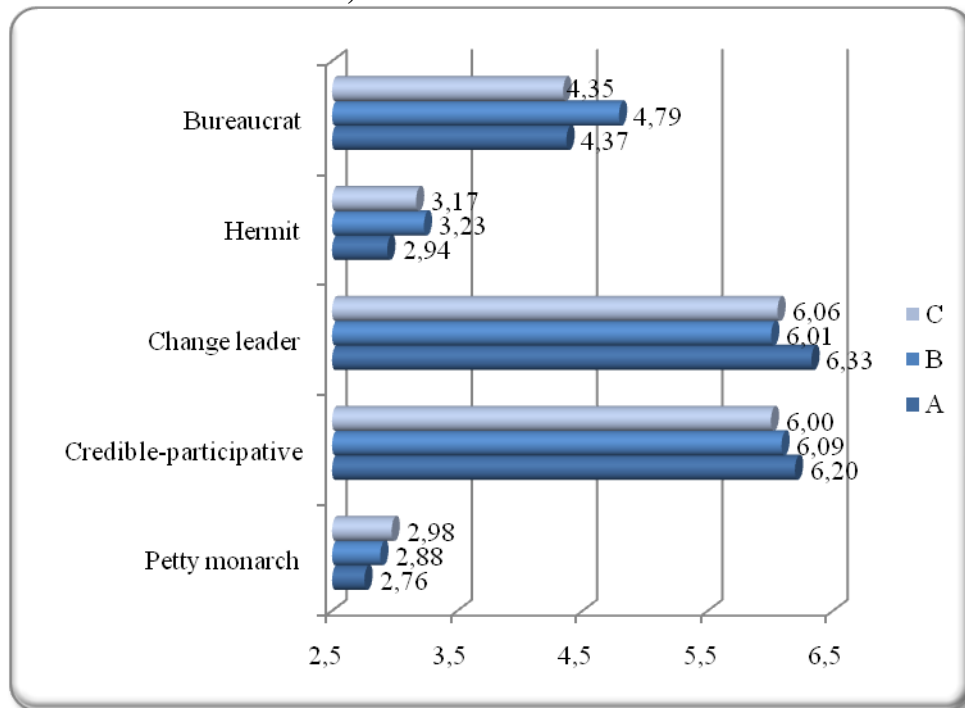
In *Hajdú-Bihar county*, performance orientation was preferred to be even stronger in the future, based on the 2012 survey (Figure 6). In *Szabolcs-Szatmár-Bereg county*, the differentiation of gender roles should be strengthened in the organisation. In *Jász-Nagykun-Szolnok county*, the power distance should be reduced. Also in Hajdú-Bihar and Szabolcs-Szatmár-Bereg counties, performance orientation, human orientation, collectivism and the avoidance of uncertainty should be strengthened in the future. The examination of individualism/collectivism was performed with ANOVA. As a result, I observed significant difference between the counties ($F=6.056$; $p<0.001$). Based on the Kruskal-Wallis test, I found differences ($p<0.05$) in the case of all other factors at the confidence level of 95%.

3.2 Examination of specifically Hungarian leadership variables in 2008 and 2012

In 2008, the most typical leader characters in the examined municipalities were the *credible-participative* and *change leaders* (Figure 7). However, these two variables are relatively more

typical of the *municipalities of cities of county rank* than the other two municipality types. The credible-participative leadership variable includes honest, righteous, diplomatic, informed and trustworthy personalities, which are indispensable when it comes to a leader of a county municipality.

Figure 7. Specifically Hungarian leadership variables broken down to municipality size in 2008, on a Likert scale from 1 to 7

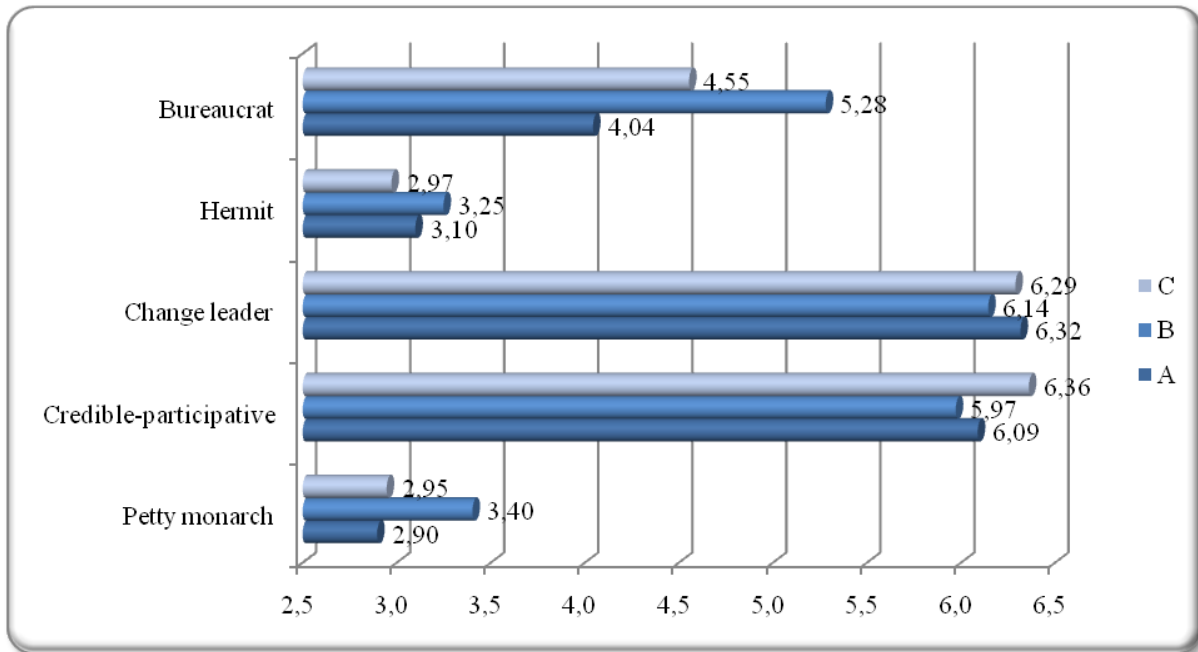


Source: own database

The change-leader type of leadership is constituted by prepared, intuitive, far-sighted personalities and those who plan in advance. The *bureaucratic leadership* variable is more preferred in the municipalities of cities with population between 6 000-17 000. The following characteristics are included in this group: class-conscious, status honouring, ritual. In the municipalities of townships with population between 1 000-3 000, the petty monarch and hermit variables are more typical than the other two types. In the case of the hermit variable, the typical characteristics are gentle, friendly, lonely, autonomous, avoiding company, while the petty monarch variable involves independent, individualist and autonomous personalities. The bureaucratic ($Z=1.057$, $p=0.214$) and petty monarch ($Z=1.133$, $p=0.154$) factors showed normal distribution in the Kolmogorov-Smirnov test; therefore, these variables were examined with ANOVA. Based on the ANOVA analysis, there was no significant difference between A, B and C types in the case of the petty monarch factor ($F=2.238$, $p=0.109$), unlike in the case of the bureaucratic factor ($F=6.264$, $p=0.002$). As regards the other factors, the

Kruskal-Wallis test showed significant difference in the case of the change-leader variable ($\chi^2=14.232; df=2, p<0.001$) at the significance level of 5%.

Figure 8. Specifically Hungarian leadership variables broken down to municipality size in 2012, on a Likert scale from 1 to 7



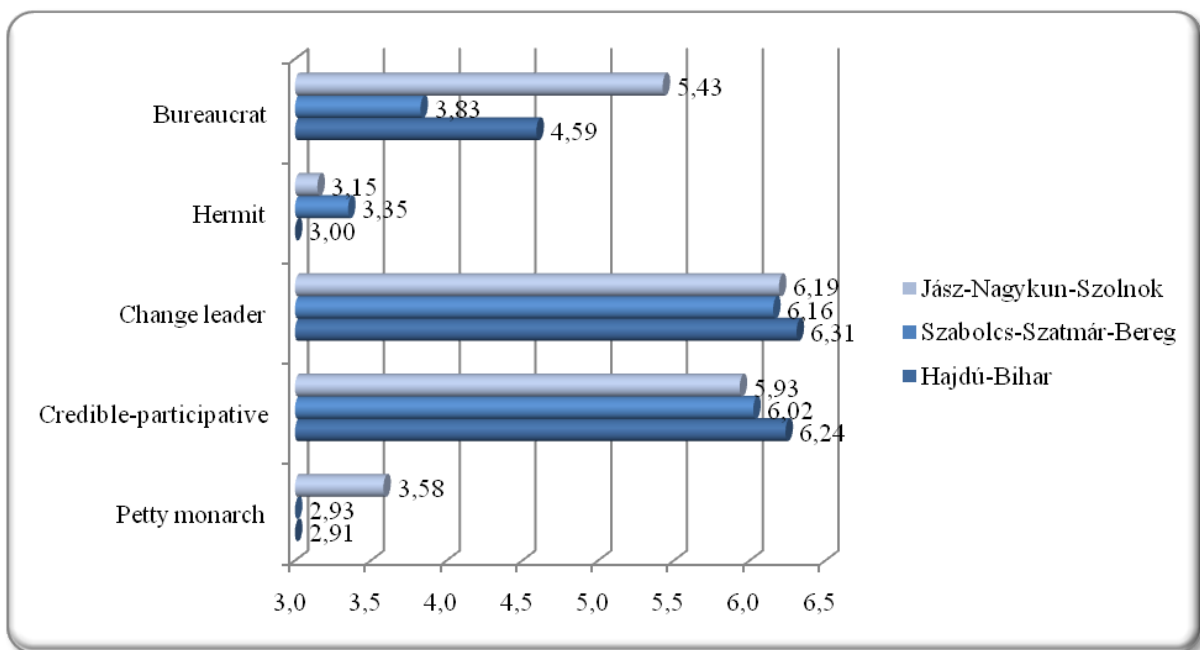
Source: own database

Depending on the size of municipalities, the credible-participative and change leader types were the most typical in 2012 (Figure 8). However, the change leader type is relatively more typical in the *municipalities of cities of county rank* than the other two types of municipality. Credible-participative leadership is relatively more typical in the *municipalities of townships with population between 1 000-3 000 people*. The credible-participative leadership variable includes honest, righteous, diplomatic, informed and trustworthy personalities, which are indispensable when it comes to a leader of a county municipality. The change-leader type of leadership is constituted by prepared, intuitive, far-sighted personalities and those who plan in advance. Bureaucratic and petty monarch leadership variables are more typical in the *municipalities of cities with population between 6 000-17 000*. The bureaucratic variable consists of the following characteristics: class-conscious, status honouring, ritual, while the petty monarch variable involves independent, individualist and autonomous personalities.

Based on the Kolmogorov-Smirnov test, the hermit ($Z=1.062, p=0.209$) and bureaucratic ($Z=1.351, p=0.052$) variables were not shown to have normal distribution; therefore, I used ANOVA for analysing them. ANOVA showed a significant difference only in the case of the

bureaucratic variable at the significance level of 5% ($F=30.678$, $p<0.001$) and there was no significant difference in the case of the hermit variable ($F=2.090$, $p<0.126$). The Kruskal-Wallis test showed significant difference between the examined municipality types at the significance level of 5% in the case of the change leader ($\text{Chi}^2=8.900$, $\text{df}=2$, $p=0.012$), the credible-participative ($\text{Chi}^2=14.669$, $\text{df}=2$, $p<0.001$) and the petty monarch ($\text{Chi}^2=12.134$, $\text{df}=2$, $p=0.002$) variables.

Figure 9. Specifically Hungarian leadership variables broken down to county in 2012 on a Likert scale from 1 to 7



Source: own database

It can be concluded from the 2012 survey (Figure 9) that *Jász-Nagykun-Szolnok county* refuses the petty monarch and hermit variables more than the other two counties, while *Szabolcs-Szatmár-Bereg county* and *Hajdú-Bihar county* refuses them less. All three counties prefer the credible-participative and change leader variables. These expected characteristics belonging to each leadership variable can potentially contribute to the increasing competitiveness. Hajdú-Bihar county and Jász-Nagykun-Szolnok county accept the bureaucratic variable more than Szabolcs-Szatmár-Bereg county.

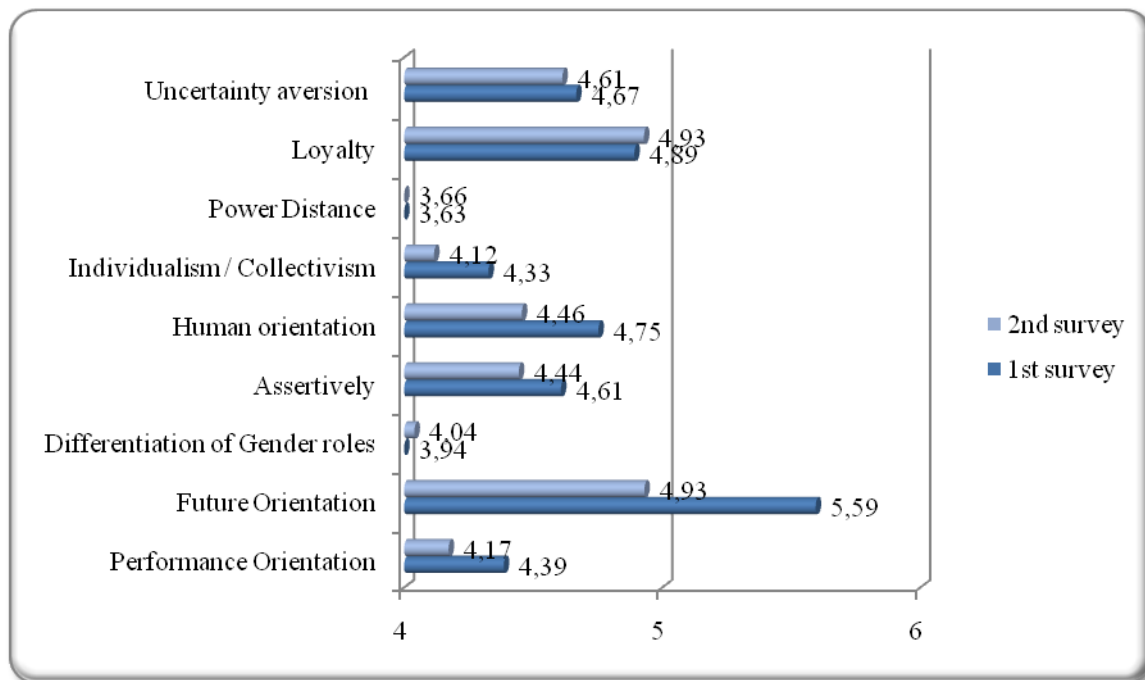
The analysis of variance showed significant differences both in the case of the bureaucratic ($F=23.034$, $p<0.001$) and the hermit ($F=2.997$, $p=0.032$) variables at the significance level of 5%. The Kruskal-Wallis test showed significant differences in the different counties in the case of the change leader ($\text{Chi}^2=6.702$, $\text{df}=2$, $p=0.035$), credible-participative ($\text{Chi}^2=13.490$,

df=2,p=0.001) and petty monarch ($\text{Chi}^2=14.47$, df=2, $p<0.001$) variables at the significance level of 5%.

3.3 Comparison of the 2008 and 2012 research results

In the case of the dimensions characterising the organisational culture, both surveys showed the same extent of avoiding uncertainty, loyalty and power distance in the life of the examined organisations. The extent of collectivism, human orientation, assertiveness and performance orientation decreased in comparison with the previous survey. Of the obtained results, the extent of future orientation decreased the most between the two surveys (Figure 10). Since the current values of performance orientation and individualism/collectivism showed normal distribution, I used independent paired sample t-test to carry out the statistical comparison of their values measured in both surveys. In the case of the performance orientation, the coefficient of correlation between the results of the two surveys was rather high ($r=0.535$, $p=0.001$). The independent paired samples t-test also showed that there is a significant difference ($t=2.791$, $p=0.006$) between the mean of the two surveys (0.214; sd.:1.064) at the significance level of 5%.

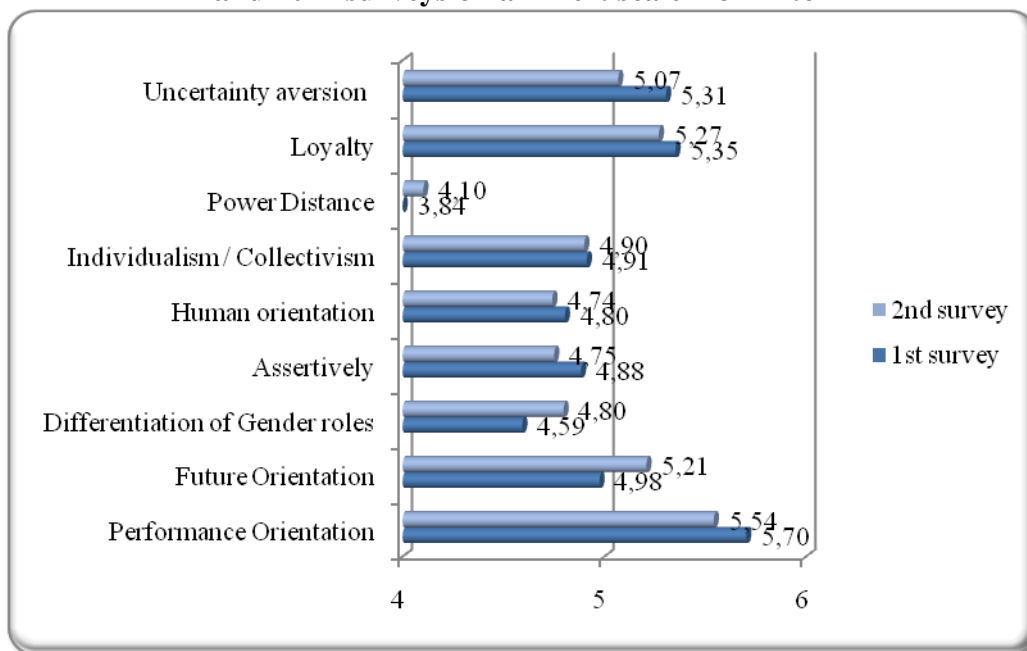
Figure 10. Comparison of the organisational culture of the examined municipalities based on the measured values in the 2008 and 2012 surveys on a Likert scale from 1 to 7



Source: own database

In the case of individualism/collectivism, the coefficient of correlation between the two survey was rather high ($r=0.449$, $p=0.001$). The independent paired samples t-test revealed that there is a significant difference ($t=2.265$, $p=0.025$) between the mean values of the two surveys (0.214; sd.:1.064) at the confidence level of 95%. As regards all other values, I used the non-parametric Mann-Whitney test, which showed a significant difference between the two surveys only in the case of future orientation ($Z=-2.061$, $p=0.039$, mean difference=0.386) at the significance level of 5%.

Figure 11. Expected values of the organisational culture of the municipalities in the 2008 and 2012 surveys on a Likert scale from 1 to 7

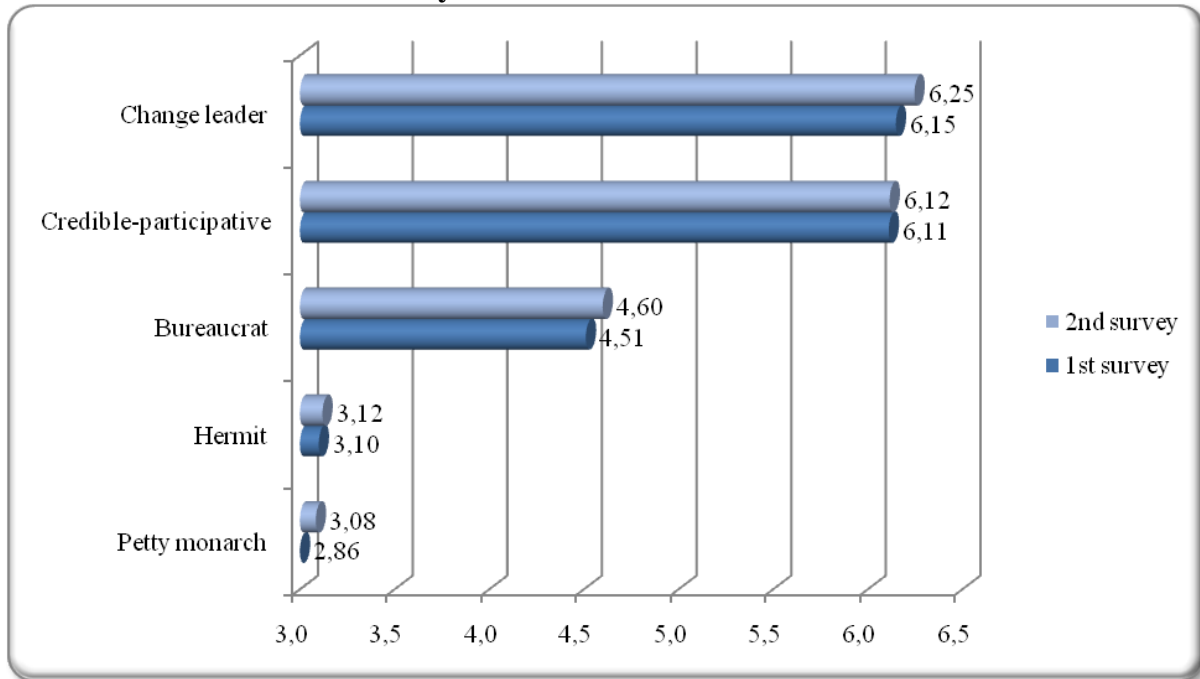


Source: own database

In the case of the expected values, the extent of avoiding uncertainty, loyalty and performance orientation changed between the two surveys. These dimensions were less preferred in the second survey than in the first one. Future orientation, power distance and the differentiation of gender roles was considered to be more preferred in the second survey than in the first one (Figure 11). Since the desired values of individualism/collectivism showed normal distribution, I used paired samples t-test to perform the statistical comparison of their values measured in the two surveys. The coefficient of correlation between the results of the two surveys ($r=0.688$, $p<0.001$) was rather high. The independent paired samples t-test revealed that no significant difference ($t=0.291$, $p=0.771$) can be observed between the means of the two surveys (0.012; sd.:0.594) at the confidence level of 95%. As regards all other values, the non-parametric Mann-Whitney test was used which showed significant difference between

the values of the two surveys only in the case of power distance ($Z=-2.005$, $p=0.045$, mean difference=-0.261) and avoiding uncertainty ($Z=-2.024$, $p=0.043$, mean difference=0.237) at the significance level of 5%.

Figure 12. Specifically Hungarian leadership variables based on the 2008 and 2012 surveys on a Likert scale from 1 to 7



Source: own database

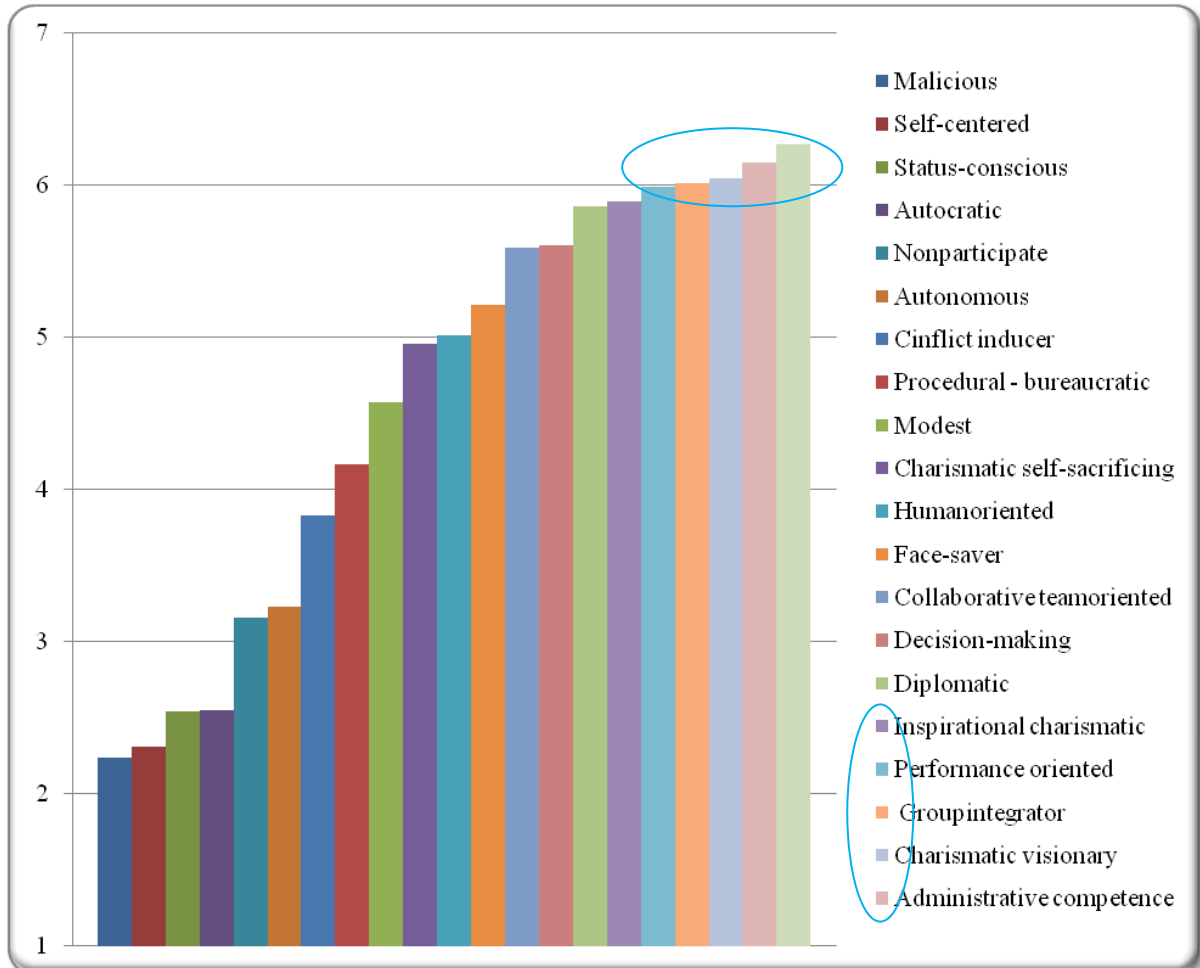
Based on the performed surveys, it can be concluded (Figure 12) that the leaders of the examined municipalities prefer the change leader and credible-participative leadership and they refuse the hermit and petty monarch variables. The Mann-Whitney test showed that only the petty monarch variable was evaluated differently considering both surveys ($p=0.005$).

3.4 Comparison of leader characteristics based on the 2008 and 2012 surveys

Municipalities prefer a leader to have integrator abilities, administrative competency, charismatic personality with future prospects, group integrator skills and performance orientation. Refused leader characteristics include malevolence, respect of authority, self-centeredness, autocracy and the non-participativeness (Figure 13). The majority of the 21 primary leadership variables were not shown to have normal distribution based on the Kolmogorov-Smirnov test; therefore, I used paired Mann-Whitney tests. I mainly focused on the variables which had the highest mean (team integrator, administrative competency,

charismatic personality with a future prospect, performance oriented and integrator) and the differences between other variables.

Figure 13. The 21 primary leadership variables in 2008 on a Likert scale from 1 to 7



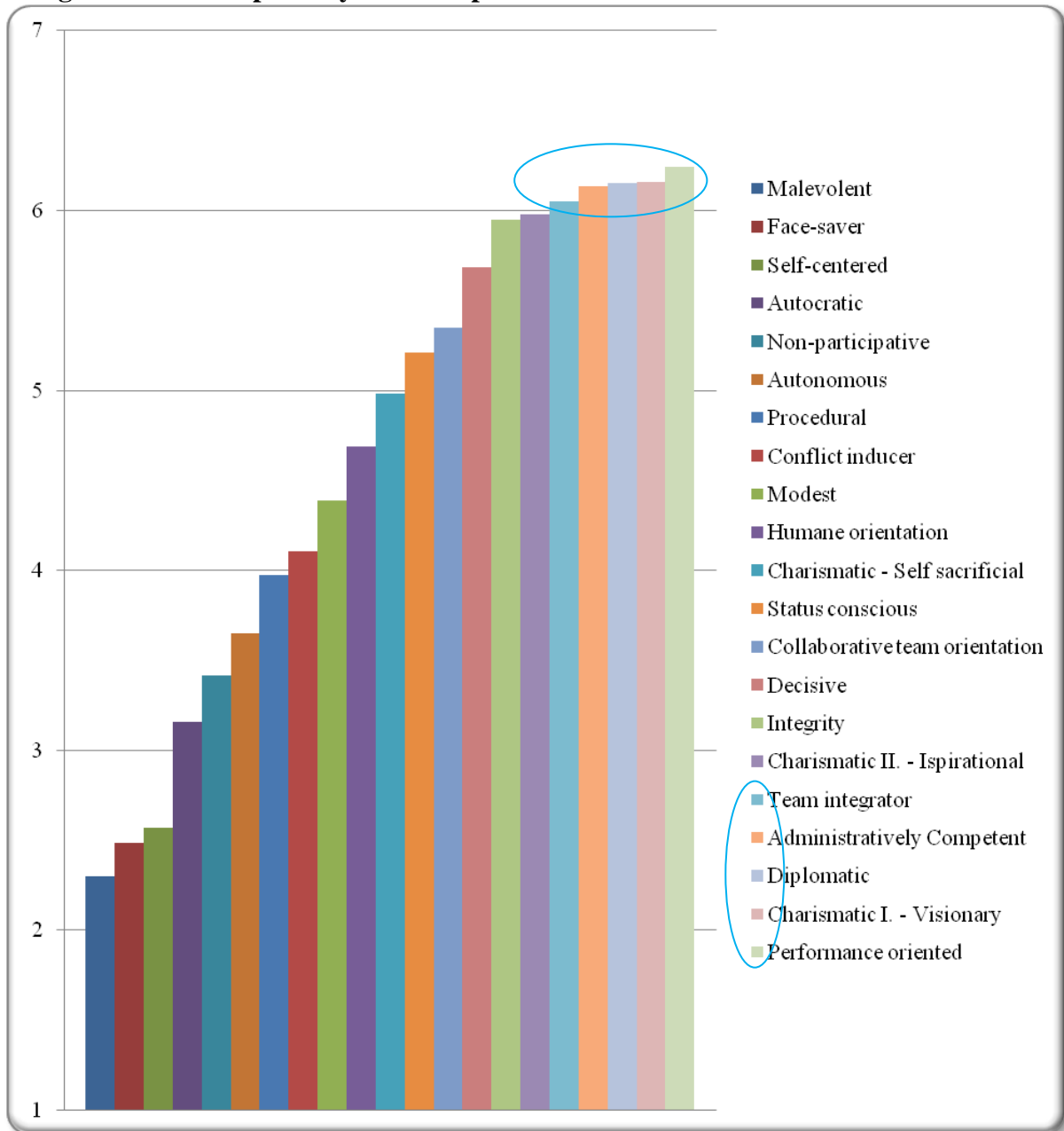
Source: own database

As a first step, I determined which variable pairs first showed significant difference in 2008. The mean of performance orientation ($Z=-4.877$, $p<0.001$), charisma with future prospect ($Z=-5.078$, $p<0.001$), group integration ($Z=-5.961$, $p<0.001$) and administrative competency ($Z=-2.928$, $p=0.003$) variables significantly differed from the mean of the integrator variable. Also, the mean of performance orientation ($Z=-2.565$, $p=0.010$), group integration ($Z=-2.964$, $p=0.003$) and charisma with future prospect ($Z=-2.279$, $p=0.023$) significantly differed from the mean of administrative competency.

Municipality leaders prefer performance orientation, charisma with future prospect, administrative competency and group integration.

Refused leader characteristics include malevolence, respect of authority, self-centeredness, autocracy and non-participative personality (Figure 14). Based on the Kolmogorov-Smirnov test, none of the 21 primary leadership variables were shown to have normal distribution; therefore, I used paired Mann-Whitney tests to show the differences. I mainly focused on the variables which have the highest mean (group integrator, administrative competency, diplomatic, charismatic with future prospect, performance oriented) and the differences between the other variables.

Figure 14. The 21 primary leadership variables in 2012 on a Likert scale from 1 to 7



Source: own database

I determined which variable pairs first showed significant difference in 2012. The mean of charisma with future prospect, diplomacy and administrative competency significantly differed from that of group integrator ($Z=-4.358$, $p<0.001$) and from all variables whose mean values were less than 6 ($p<0.001$). Altogether, it can be concluded that if the difference between the means of two variables is higher than the value of significant difference (0.07), there is a statistically significant difference between these two variables. For example, the difference between the means of group integrator and charisma with future prospect (0.069) was still not significant ($Z=-1.922$, $p=0.055$).

4. NEW AND NOVEL RESULTS OF THE DISSERTATION

1. I developed a model which made it possible to measure two success factors (decision centres and regional cohesion) of Lengyel's model with the respective dimensions of the organisational culture. The operationalisation of municipalities as decision centres, i.e. the organisational culture was realised along the dimensions of power distance, the avoidance of uncertainty and future orientation. The efficiency of the activity, i.e. the organisational culture of municipalities as institutions supporting regional cohesion can be measured through the dimensions of human orientation, loyalty, individualism/collectivism and assertiveness. The leader who effectively leads the municipality as a decision centre typically has the following leader characteristics: performance orientation, charisma with future prospect, diplomacy, organised. Of the various leader characteristics, group integration, human orientation, coordination and development orientation support social cohesion the most.
2. Significant difference can be shown based on the location of municipalities in terms of counties. Based on the Kruskal-Wallis test, there was significant difference in the values measured during the 2008 survey in the case of avoiding uncertainty at a significance level of 5%. As regards the expected values, significant difference was shown in the case of the differentiation of gender roles, assertiveness and future orientation. In 2012, difference was shown in the measured values between the examined counties along the dimensions of power distance, individualism/collectivism, the differentiation of gender roles, performance orientation, future orientation and human orientation at the confidence level of 95%.
As regards the expected values, significant difference was shown by the ANOVA of individualism/collectivism between counties in terms of avoiding uncertainty, the differentiation of gender roles, power distance, individualism/collectivism, performance orientation, future orientation and human orientation.
3. During my research, I identified the leader characteristics whose development would enable municipality leaders to improve the quality level of the operation of their organisation, thereby directly or indirectly contributing to the improvement of the competitiveness of the region. The following characteristics are involved in the different variables: honest, trustworthy, future oriented, righteous, cooperative, informed, patient,

consulting, positive, encouraging, ambitious, sincere, diplomatic, intuitive, logical, ability to look ahead, bargains successfully, prepared, plans in advance.

During the evaluation of the analysis of Hungarian leadership variables, I demonstrated that the accepted variables of municipalities are credible-participative leader (2012) and change leader (2008), independently of the size of municipalities.

4. Based on the comparison of the results obtained in the 2008 and 2012 surveys, I concluded that the changes occurring in the external environment had a measurable impact on the dimensions of the organisational culture of the examined municipalities and on the leadership variables.

In the case of the measured dimensions of the organisational culture, there was significant difference in the dimensions of future orientation, performance orientation and individualism/collectivism. As regards the expected values of organisational culture, the surveys showed significant difference in the dimensions of power distance and avoiding uncertainty.

5. During the processing of the data obtained with the questionnaire survey, I demonstrated that the examined organisations prefer planning in advance, teamwork and performance oriented leader characteristics. The leader plans for the future, encourages the employees to achieve the best performance possible, emphasises the importance and value of specific, idealised objectives, motivates them to adjust their own values to those of the organisation and motivates the employees to reach higher goals; therefore, an ideal leader performs transformational leadership.

Based on the 2008 survey, I concluded that the middle level leaders of the examined municipalities consider human oriented, charismatic and performance oriented leader characteristics to be important.

During the evaluation of the 2012 survey, I demonstrated that the middle level leaders consider administrative competency, diplomacy and performance orientation to be leader characteristics which help the leader in the long run.

5. THEORETICAL/PRACTICAL USEFULNESS OF THE RESEARCH RESULTS

From the theoretical aspect:

1. This dissertation aims to give a new impulse to the currently running research of organisational culture by using the previous theories and working out new ones.

The result of the research makes it possible to connect the organisational culture and leadership theory to municipalities and competitiveness by providing new theoretical bases. I classified the examined municipalities into three groups: cities of county rank and municipalities of townships with populations between 6 000-17 000 and 1 000-3 000 people. This differentiation between municipalities provided clear and many-sided research opportunities and results.

From the practical aspect:

2. One of the most important usage possibilities of the dissertation is to make county heads of general assembly, mayors and notaries realise their role in forming the culture and bringing a change, as well as in improving the competitiveness of the region.

The locally affected mayors looked through the measurement results and paid special attention to the expected leadership variables. The results of this research were added to the database of researchers who have been dealing with organisational research for long years.

3. New research projects can be initiated on the basis of the research results so far. Research can continue in many ways. I wish to extend the survey to the municipalities of other Hungarian counties and I would also like to perform newer surveys later on to see how the changes which occur in the economy will affect the culture dimensions and leadership variables examined by me.

4. In the technical (cognitive) sense of the word, municipalities can be characterised by a strong learning process (getting to know new organisational systems, new rules and procedures) which could also result in a positive improvement of their set of values. However, this demand poses a significant challenge to leaders and makes it possible to launch intensive organisational learning processes.

6. LIST OF PUBLICATIONS IN THE TOPIC OF THE DISSERTATION

Publications which can be considered in accordance with the Rules:

1. **Matkó A.** – Szűcs E.(2011): Examination of Leadership in the local authorities in the North Great Plain Region. In: International Review of Applied Sciences and Engineering. 2011/2, ISSN 2062-0810, p.143-151
2. **Matkó A.** – Berde Cs.(2013): Relationships of competitiveness in the Northern Great Plain and the organisational culture of local authorities. In: Abstract, 2012/5-6 HU-ISSN 1789-221X, p.15-23
3. **Matkó A.** (2013): A jelenbeli és az ideális szervezeti kultúra és vezetés elemeinek vizsgálata az Észak – alföldi Régió önkormányzatainál. In: Agrártudományi Közlemények, 2013/1, p
4. **Matkó A.** – Szűcs E. (2011): Survey of the organizational culture in the Hungarian local councils. In: Review of Management and Economic Engineering. 2011/3, ISSN: 1583-624X, p. 13-28
5. **Matkó A.** (2013): Examination of leadership in 2008 and 2012 years in the local governments in the North Great Plain Region. In: International Review of Applied Sciences and Engineering. 2013/2, ISSN 2062-0810 (13 oldal) (megjelenés alatt)
6. **Matkó A.** (2013): A transzformális vezetés szerepe az önkormányzatoknál. In: Agrártudományi Közlemények, 2013 (10 oldal)
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LIST OF FURTHER PUBLICATIONS

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Szűcs, E. – **Matkó A.** – Rády E. (2013): Menedzsmentismeretek. TERC Kereskedelmi és Szolgáltató Kft., Budapest, 2013. ISBN 978-963-9968-70-7, p. 84-103

Presentation published in its entirety in a foreign language abroad

Matkó A. (2011): Leaderships'role of the local governments in competitiveness' enchancement of Region Bihar. In: Annals of the Oradea University [elektronikus dokumentum]: Fascicle of Management and Technological Engineering: CD-ROM Edition. 2011/2, ISSN 1583-0691 p.1-6.

Matkó A. (2011): Observed and expected values for comparing of local governments int he North Great Plain Region. In: Kalmár F., Balla T. (szerk.): XVII. Épületgépészeti, Gépészeti és Építőipari Szakmai Napok: szakkiállítás és Nemzetközi Tudományos Konferencia 2011. október 13-14. Debreceni Egyetem Műszaki Kar, Debrecen, 2011, ISBN 978-963-473-464-2 p.1-7.

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Presentation published in Hungarian without any abstract in a foreign language

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Szűcs E. - **Matkó A.** – Rády E. (2011): Kompetenciamérés a diplomások és a munkaerőpiaci szereplők körében. In: VIII. Nemzetközi Konferencia. Miskolc-Lillafüred, 2011. május 19-20. [elektronikus dokumentum] Miskolci Gazdaságtudományi Kar, Miskolc, 2011. ISBN: 978-963-661-951-0, p

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