Regions Competitiveness Increase by Improving Conditions for Industry and Services

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Abstract
The main field of study regarding location theories is to define location factors and to determine the optimal location assuming rational behaviour of economic entities. The issue is to find out what place is suitable for localization of the economic entity in order to maximize its profits in relation to its spatial orientation. In the theoretical part, location theories for industry and services with the impact of location factors are first briefly described. Mainly their development and significance in the competitive environment is discussed because the right selection of location factors can actually help to increase the competitiveness of regions. This paper analyses the actual soft regional and local location factors in individual economic sectors and focuses on the secondary and tertiary sector because the primary sector is affected by other than the examined factors. The aim of this paper is to identify factors that affect industry and are more important to the service sector. Identifying these factors can actually help to attract new businesses and to increase regions competitiveness. It is, therefore, necessary to determine the key factors that have stimulating effects on the development of individual regions.

Key words: location, location factor, location theory, secondary sector, tertiary sector

1. INTRODUCTION
Location factors and competitiveness are two terms that are related more than it would appear at first sight. The right selection of a location can contribute to gaining a competitive advantage. On the contrary, a wrong and impetuous selection of a location can lead a company to the loss of competitiveness and subsequent existential problems. It is, therefore, evident that the selection of a location is a complex process that should not be underestimated and on which the subsequent prosperity often depends. The location of companies is influenced by a number of factors that are not constant, but new ones continually emerge and others disappear. There are many companies that do not consider alternative optimal spatial locations and prefer to choose a satisfactory variant. The reason for this seemingly inefficient behaviour may be an unavailability of information about the various regions, and high costs associated with the collection, processing and analysis. An example of this inefficient behaviour is to locate the business because of the home. To be specific, the business location of natural persons is still frequently their place of residence, which can be defined as one of the reasons why so many natural persons are in the insolvency proceedings. Location factors are, therefore, necessary to be defined to ensure the future prosperity of a company and its competitiveness. In today’s globalizing world, in which there are not that big barriers for doing business and it is not so difficult to imitate competition, it is increasingly demanding for a company to maintain its competitive advantage and a market position. The issue dealing with causes of competitiveness or success of the business is, as stated by Blažek (2011), an attractive and current topic for the business management theory. The rela-
2. THEORETICAL FRAMEWORK

The location theory is a relatively young science in comparison with other economic theories, since a general theory of production did not pay attention to the influence of space and location for a long time. Another reason is that the regional economy, which includes the location theory, became more popular in the 50s of the 20th century. (Capello, 2007) Generally, it can be said that since the beginning of 1990, the spatial orientation in economic sciences has been shifted primarily to the development of cities and regions. (Cooke, 2007) As the first fundamental work in the field of industry location theory is regarded the one by Alfred Weber but the major theories in this area are acknowledged to W. Roscher (1865), A. E. Schäffle (1873) and W. Launhardt (1885). According to Weber’s theory, the entrepreneur decides to locate in a place where there are the lowest production costs. Weber’s work of industrial localization was developed by Oskar Englander (1930) who emphasized the factor of demand and supply of goods. A. Lösch (1978) shifted the examination of regional aspects of the economy from simple location considerations to a general equilibrium model of the spatial arrangement of economic activities. Sales market is the main location factor in this theory and minimizing the costs of transport and work are the secondary factors in the secondary sector.

In the field of services location theories the most important theory is considered to be the “theory of central places” by W. Christaller (1933) who showed that various activities need different numbers of customers and different sized areas in an ideal hexagonal model. The localization of services was also dealt with by W. Sombart (1934) or W. J. Coffey and M. Polése (1989) who defined highly skilled workforce as the most important location factor.

As a representative of a new theory of localization could, for example, be mentioned Greenhut (1959) who indentified three groups of location factors: demand, cost and personal. Another theory, which can be classified as newer is Alonso’s (1964) theory dealing with the spatial organization of cities which shows that the most attractive place for business is in the city centre. A large urban centre as the best place to locate is also shown in the theory of Britton and Gertler (1986). Big disadvantages of a larger distance from the centre are primarily the increased costs of travel and transport. (Salomon, 1987) Three key characteristics for remote locations are low population density, lower wages and higher transport costs. (Deavers 1992) Another representative of the newer theories of localization is P. Krugman (1991) and his new economic geography which focuses its attention on the costs and international trade. The basic distinguishing feature between new and classical theories of location can be seen, as stated by M. Viturka (2000), in strong empirical orientation based on the theory of preference.

It is also important to note that from a convenient location does not only arise a benefit of reducing transportation or production costs, but also a higher production capacity, additional profit, easier expansion into other markets and easier access to further capital. One of the ways how to achieve it are clusters, which are defined by Porter (2000) as a geographically proximate group of...
interconnected companies and associated institutions in a specific field based on commonalities and complementarities. Clusters generate increasing returns in relation to the interconnected area and benefits from diversity and comparative advantages. (Boschma, Frenken 2004)

Since there is not one generally valid localization theory, it is impossible to unify even a survey of different individual localization factors into individual groups. This article concentrates on factors that are related to the region and cannot be numerically measured. These factors could be called “soft regional and local localization factors”. The division of localization factors into soft and hard is a frequently used classification and as an example, it is possible to present the typology of the authors Dziembow-Kowalski and Funck, who divide localization factors by their impact. It means, considered as soft are factors whose impact is not directly measurable in economic outputs, i.e. they do not appear in accounting ledgers. (Rumpel, et al, 2008, s. 14)

Some authors understand the concept of “soft” with the less significant from the standpoint of the impact on regional development. Contrary to this B. Grabow and B. Hollbach-Grömig counter with the fact that soft localization factors could be significant without having to become hard factors. The above German scientists are the authors of the most implemented typology of localization factors, which divided soft factors into:

- **Soft localization factors of business**, which have an immediate impact on business activity, but are not primarily measurable, or depend on a subjective evaluation by the entrepreneur.
- **Soft individual localization factors**, which are matters of personal preference by management staff and employees and do not have an immediate impact on the activities of enterprises, but rather on affect motivation and effectiveness. (Grabow, Hollbach-Grömig, 1995)

Hard factors are those that directly affect regional disposition for a certain economic activity and also have a direct impact on the net profit of the business. As noted also by Slach, Rumpel and Koutský, currently the significance of hard localization factors is gradually declining as they become ubiquitous, i.e. generally available and accessible, by which they lose their privileged significance for localization. (Slach, et al, 2008) and greater significance has been attributed to soft localization factors. In future, it is possible to anticipate that regions that complement their development strategy for hard localization factors with a suitable diversified development strategy for soft factors will become more competitive.

### 3. OBJECTIVES AND METHODOLOGY

The main goal of the article is to identify which location factors play the main role in the secondary sector and which are more important in the tertiary sector, and if there is a connection between the evaluation of a factor and the economic branch and whether it is possible to consider and investigated factor as universal. That is why the goal of the research was to verify the basic hypothesis that despite the existence of various approaches to determining localization factors, in part there are localization factors that act universally in all economic branches and further factors that specifically manifest themselves only in some branches.

In the first step of verifying this hypothesis, a test for normality with the chi-square was made for each factor. It was not possible to consider a normal distribution of the data and to make an analysis of the variance at the 95.0% confidence level because the P-Value was in each group lower than 0.05, see Tab. 1.
Tab. 1 – Example of The test for Normality. Source: Program STATGRAPHICS Centurion

<table>
<thead>
<tr>
<th>Test</th>
<th>Statistic</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square</td>
<td>3673,19</td>
<td>0,0</td>
</tr>
<tr>
<td>Shapiro-Wilk W</td>
<td>0,868959</td>
<td>0,0</td>
</tr>
</tbody>
</table>

In the next step it was necessary to check the variance. That is why the **Contingency Table** was made which is designed to analyze and display frequency data contained in a two-way table. Such data is often collected as the result of a survey. Statistics are constructed to quantify the degree of association between the rows and columns (evaluation of a factor depends on the economic branch), and tests are run to determine whether or not there is a statistically significant dependence between the row classification and the column classification at 5% level of significance with the Chi-Square test.

After the literature search, the following parameters are defined as sub-objectives of the research:

- Tradition and history of the locality will be less significant in the tertiary than in the secondary sector.
- Availability of information and communication technologies will be more important in the dynamic and growing industry.
- The location factor image of the region will not be too significant for companies engaged in industrial production.

A form of a questionnaire was chosen as the most appropriate screening technique. Because of the generally known knowledge about the low rate of return of electronic questionnaires, it was necessary to construct the questionnaire in such a way that respondents were the least time consuming and at the same time enabled inquirers to determine precisely and clearly the required information. Since the reasons and factors for localization decision-making of companies are often very subjective matters, it is complicated to measure them in any way. For this reason, a valuation scale was selected, whereby it is possible to compare parts of factors, to what degree they are significant for individual economic activities. (Jirásková, Žižka, 2011 b) For the described survey the scale from 1 to 5 was selected (with the range of 1 completely unimportant to 5 absolutely important). The individual position of respondents could then be distinctly expressed on the scale using certain descriptive responses and the question was “which location factors are important for your type of business”. Thus, it is based on their kind of perception which may be slightly misleading.

The stratified choice was made and the sorting feature of the carried out project was a sectoral affiliation according to the CZ-NACE classification, which divides businesses into 21 sections. Not all the sections were consistent with the purpose of the research. Out of the 21 sections, it was, therefore, necessary to choose businesses which actually decide on the location and where the examined factors could play a role. The entire primary sector was eliminated, since most of the studied factors have no influence on the decision-making. For example, the “production and distribution of electricity” section was earmarked because the power companies have a long lifetime period and it is difficult to address those who actually decide on the location.
In the secondary sector there were left:
- water supply, services related to waste water, impacts and remediation;
- processing industry;
- building industry.

The tertiary sector includes for the research:
- information and communication activities;
- real estate activities;
- professional, scientific and technical activities;
- administrative and support service activities;
- transport;
- banking and insurance;
- accommodation;
- retail;
- education.

Out of the final 13 sections which were involved in the research, there was finally selected a total of 455 micro small and medium-sized enterprises. As is clear from the Fig. 1, more than one half of the respondents were micro-sized enterprises, which means they have less than 10 employees. One third of the companies were small and 15 % were medium-sized companies.

These companies were selected not only because of their high position in the economy, but also because it was easier to approach them. That is why only micro, small and medium-sized companies were contacted. Respondents were selected at random, in each section there were 35 existing companies approached and the rate of returning the questionnaires was 95 percent.

![Fig. 1 - Characteristics of the surveyed enterprises. Source: author's own](image_url)

4. RESULTS

The group includes regional and local factors, which in some way affect the location in the selected region. This group can contain both hard and soft location factors, but for this paper only soft factors, which in some manner affect the given locality and region, are described because sufficient attention has not been devoted to these factors in professional literature and has not been mapped much in the Czech Republic. (Slach, O., et al, 2008)

The first soft investigated factor is the quality and attractiveness of the territory, which is one of the defining criteria for locating housing of higher income groups. (Maier, K., Čtyřoký, J.,
People who perform challenging and well-paid work will probably require corresponding housing conditions in their region. It can be stated from the survey that although it is a soft location factor, it is assessed as rather important by economic subjects, when 59% of the respondents evaluated this factor as important and the average value attained the amount of 3.46. This factor was considered as the most important in the area of real estate and accommodation and in terms of secondary and tertiary sector, the evaluation of the quality and attractiveness of the area was almost identical.

The tradition and history of the locality is another of soft location factors which was evaluated very differently and the approximated average value was 3. For this factor, it was rather expected that it would be attributed more importance by companies whose economic sector is linked with the history and it is possible to assume that a greater significance of this factor will be evaluated rather by companies established in the past. Therefore, for industries demanding modern technology, more significance was not anticipated and based on these facts, and the results of the research, it was supposed that the factor would be less significant in the tertiary than in the secondary sector. This assumption was confirmed when 46% of the respondents from the secondary sector evaluated this location factor as important and 26% as unimportant. In the tertiary sector this factor was evaluated as important by 40% of the respondents and by 34% as unimportant.

In the town background factor, it was investigated what emphasis companies give to the health care network in the region, cultural facilities, educational facilities etc. The quality of facilities is advantageous in cases where there is a need for qualified human resources that can choose where they will work. Nearly one half of the respondents evaluated this factor as important and the biggest influence of this factor was recorded in the section of administrative and support service activities, and the least importance was recorded in the section of professional, scientific and technical activities and in education. Comparing industry and services, the surveyed factor does not play a bigger role in either area. This factor was evaluated as important in both sectors by nearly a half of the respondents. Although it is a soft location factor, it is clear from the results of the research that most companies are aware of the town background factor and its importance is assumed to grow in the future.

Furthermore, it was examined how the location decision of respondents is influenced by the availability and quality of research facilities. This factor was not assumed to be rated as important by all surveyed companies because some of them do not need research facilities for their work. Thus, only 5% of respondents marked it as important and the largest significance was recorded in the supply of water section. On the other hand, the factor was evaluated as least important by respondents from transportation and accommodation. The survey suggests that research facilities do not play such a big role in the location of companies dealing with service. In terms of competitiveness of the region, it is evident that research facilities and their availability will play a more important role in industrial sectors. It can be assumed that the quality and availability of research facilities could play a bigger role in deciding on the location of larger companies involved in industrial production.

The economic performance of a region and its competitiveness plays a big role in the issue of company’s location. Therefore, in the given research, it is investigated to what extent the decision-making of economic subjects when selecting a location is influenced by the economic situation of a region and its image. A competitive region will create a more attractive location.
offer for potential investors. That is why the location factor economic situation in the region is connected more than any other with the regional policy and strategic planning. Many economists have been trying to figure out for many years what is behind the divergent evolution of the economic situation of each region and why differences arise between them. Some of them tend the influence of variety of natural and demographic conditions in each region. An important role in the development of the region also plays an awareness of the region, its history and economic status; the general rule is that in more developed regions the evaluation of money in a short term is faster and more efficient than in the weaker regions. In the research it was found out that 31 % of respondents evaluated this location factor as important and only 22 % as unimportant. This factor was evaluated as the most important in the section of real estate, as well as in construction and retail. The factor was evaluated as less important in the section of education and professional, scientific and technical activities. According to the secondary and tertiary sector, there were not bigger differences and it could be said that the importance of the economic situation in the region is equally important for the secondary and tertiary sectors.

Another factor previously neglected in more cases as a location factor is the image of the region. In the last few years, its importance has been growing, especially in companies with a higher proportion of highly qualified human resources. This factor was also a part of the study by German Institute of Urbanism where a high degree of importance of this factor was found especially in companies from the service sector, which resulted in the assumption that this localization factor would not be too significant for companies engaged in industrial production. Our research also shows that for this factor more importance is given in services than in manufacturing companies.

The cooperation with the government was studied, even though most companies come into contact with the authorities no more than a few times a year and this factor was not expected to play a major role. The cooperation was included in the survey not so much for its significance, but rather to determine whether, after all, there are some sectors where the government plays an important role and where the cooperation should be improved to make the given area more attractive. With this location factor is closely related the “willingness of the public sector to the business” factor, which was examined in the study of Grabow and Hollbach-Gröming (1995) where this factor was evaluated as the most important for large industrial enterprises. As resulted from our research, this factor was evaluated as important by 38 % of respondents and as unimportant by 37 %. The research also shows a greater significance of this location factor for industrial enterprises because for almost a half of the respondents this factor had a significant influence, compared to the 35 % in the tertiary sector.

The quality of employment offices factor is closely related to the cooperation with the government. It was assumed that the majority of businesses would consider this factor as generally insignificant. Results of the research showed that 62% of respondents evaluated the factor as unimportant for the decision about a placement, and in all branches this factor was more frequently evaluated as unimportant. To compare this factor in terms of the secondary and tertiary sector, was the factor evaluated as less important in services. It can be concluded that the quality of the employment office will play a bigger role in deciding on the location of rather industrial companies. Generally, we can also state that a minor importance of this factor can be associated with the economic situation that makes labour resources sufficient and it is not difficult for a company to get quality workers without the employment office.
The availability of information and communication technologies can be considered as a relatively young location factor. It is assumed that it will be attributed more importance in the dynamic and growing industry but this assumption could not be verified based on our results. However, it is possible to state that the availability of information and communication technologies has a greater significance for the tertiary sector. In general, this factor was evaluated as important by 63% of respondents and it can be concluded that this factor plays an important role in most companies and that is why this factor should be included in the strategy of the region’s competitiveness. This factor is little bit more important for retail and wholesale and less important for transportation. For comparison with other research, in the USA this factor was identified as the main factor of localization for 38 % of respondents (Venable, 1993) and according to the research results of the Dutch Economic Institute, this factor is especially important for distribution. It can also be assumed that telecommunications will play a crucial role in relation to the location mainly in less developed regions. Potential benefits of the telecommunication technologies and the connection to the localization is realized, for example, by Malecki (1996) who sorted telecommunications technology as one of the factors of localization primarily for businesses focused on knowledge-based activities. Malecki examined the advent of technology and the influence on their decision-making. The difference of telecommunication technologies is also evident in the theories of Wilson, Teske and Hack. (1992) Hepworth (1990) assumed the influence of communication technologies in the event of evacuation services to smaller towns or in the suburbs.

The presence of foreign companies is considered as a localization factor for which not so much consideration is assumed because most companies do not realize the positive aspect which involves the presence of foreign companies and that it is advantageous to cooperate with them. This assumption has been confirmed because only 30 % of respondents noted it as important for their localization. It is possible to assume that these respondents are cooperating with foreign companies in some way or are aware of their potential threat. Higher significance was recorded especially in the areas of accommodation and in retail and wholesale. According to the standpoint of a section, this factor is almost unimportant in both surveyed areas.

The last of the surveyed soft regional and local factors are leisure time opportunities. In the last few years, there has been recorded its growing significance with the need for skilled labour, for which this regional factor is one of the most important. When searching for suitable employment, the factor of broad leisure activity and attractiveness of the area becomes more and more crucial. Due to small differences between sectors, it cannot be clearly concluded whether this factor has a higher decision-making importance for industrial companies or for those who provide services.

4.1 VERIFICATION OF HYPOTHESIS

Each factor was further evaluated from the standpoint of the dependence of the evaluation on the economic activities. For six investigated factors in Tab. 3 the hypothesis about the dependence of the evaluation on economic activities at 5% of the level of significance was not possible to verify and the factor may not be considered as universal, but as specific. Only for 5 factors there was a confirmed dependence of the factor evaluation on economic activity. These factors can be considered at the level of significance of 5% as universal within economic activities.
**Tab. 2 - Verification of the hypothesis. Source: Author’s own.**

<table>
<thead>
<tr>
<th>Location factors</th>
<th>Statistics</th>
<th>Df</th>
<th>P-Value Chi-square</th>
<th>Is there the dependence?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of employment offices</td>
<td>0,2443</td>
<td></td>
<td></td>
<td>NO</td>
</tr>
<tr>
<td>Quality and attractiveness of the territory</td>
<td>46,605</td>
<td>24</td>
<td>0,0037</td>
<td>YES</td>
</tr>
<tr>
<td>Tradition and history of the locality</td>
<td>49,898</td>
<td>24</td>
<td>0,0015</td>
<td>YES</td>
</tr>
<tr>
<td>Town background</td>
<td>0,2652</td>
<td></td>
<td></td>
<td>NO</td>
</tr>
<tr>
<td>Availability and quality of research facilities</td>
<td></td>
<td></td>
<td></td>
<td>NO</td>
</tr>
<tr>
<td>Cooperation with the government</td>
<td>0,7977</td>
<td></td>
<td></td>
<td>NO</td>
</tr>
<tr>
<td>Economic situation in the region</td>
<td>51,485</td>
<td>36</td>
<td>0,0455</td>
<td>YES</td>
</tr>
<tr>
<td>Availability of information and commu-</td>
<td>51,335</td>
<td>36</td>
<td>0,0468</td>
<td>YES</td>
</tr>
<tr>
<td>nication technologies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>presence of foreign companies</td>
<td>0,1293</td>
<td></td>
<td></td>
<td>NO</td>
</tr>
<tr>
<td>The image of the region</td>
<td>65,085</td>
<td>36</td>
<td>0,0021</td>
<td>YES</td>
</tr>
<tr>
<td>Leisure time opportunities</td>
<td>0,1095</td>
<td></td>
<td></td>
<td>NO</td>
</tr>
</tbody>
</table>

**5. DISCUSSION**

Due to a large number of examined factors and to avoid confusion and unnecessary complexity, factors were divided into three groups:

- factors more important in tertiary sector;
- factors more important in secondary sector;
- factors rated equally in both sectors.

More details on each of the studied localization factors as well as the statistical analysis can be found in the monograph Jirásková (2011 a).
From Figure 2, it is clear that in terms of the tertiary sector the most important location factors are only:

- the image of the region;
- the availability of information and communication technologies.

The tertiary sector in the area of regional and local factors should rather focus on factors that will make the housing of employees pleasant. For services, it is generally supposed that since they are less space-consuming than industrial production, for example the hard location factors price of offices and commercial space will be less important for them. Generally, the assumption can be made that it will be important for industry to locate in places where there are readily available complementary products, better cooperation and easier establishment of links with other businesses. Due to fatal consequences associated with failure of localization of an industrial enterprise and significant costs of any change in localization, it was foreseeable that more importance will be given to the individual location factors in the secondary sector. This assumption was confirmed when industrial enterprises regarded nearly one half of the surveyed location factors as significant. In the secondary sector they are more important, as you can see from Fig. 3:

- tradition and history of the locality;
- availability and quality of research facilities;
- cooperation with the government;
- the quality of employment offices.

![Fig. 3 – Factors more important in secondary sector. Source: author’s own](image)

The congruence in the evaluation of location factors occurred between the secondary and the tertiary sector in the following factors:

- quality and attractiveness of the territory;
- town background;
- economic situation in a region;
- presence of foreign companies;
- leisure time opportunities.
6. CONCLUSIONS

Location factors and business environment are rapidly changing. At the time of Weber (1969) there were different historical circumstances and the structure of the economy accounted only for small producers who did not have the market power to influence the price of offered products.

The aim of assessing the importance of localization factors was to detect sectors demanding in location. From the results it is possible to come to the general conclusion that the investigated localization factors influence the decision-making of businesses, particularly in the branches of accommodation and dining, as well as wholesale and retail. On the basis of the research results, it is possible to state that most companies evaluate the locality of a future business from the standpoint of several factors. In the context of each factor, it was investigated whether the evaluation of a factor depends on the economic branch and whether it is possible to consider an investigated factor as universal. This hypothesis was confirmed for 5 investigated location factors. The regional strategy should focus on these factors and thus, help to increase the competitiveness of a region. The regional competitiveness is the subject of numerous discussions, since the basic question is whether the areas (cities, regions or states) are able to compete with one another. On the other hand, real life shows that individual regions compete, for example, in maintaining, attraction and support of companies and individuals who can generate new job positions and increase the wealth of an area. This does not mean that a region is competitive only because it has a lot of competitive companies. Generally, in each region, there are competitive and uncompetitive companies that determine the common factors of the given area. Apart from increasing a region’s competitiveness, the results of the research may also serve companies when making decision on the location. They can find location factors that most influence their competitors or businesses with complementary services necessary for their business, which is one of the key problems of SMEs (Rydvalová 23) because decision-making about the best location is a very complex process, which fundamentally affects the subsequent development, profitability and prosperity of the given economic subject. Economic subjects and the reasons for their localization have a fundamental impact on the situation in the region and in the given locality;
therefore, localization factors should be given sufficient attention in regional development strategy. (Jirásková, Žižka, 2011 b)

6.1 FUTURE RESEARCH
After detailed analysis of the external environment in the region and detection of potential strengths and weaknesses, it is possible to strengthen competitiveness strategy for the region. This paper is one of author’s several papers focusing on location factors. It complements the description of the situation in the Czech Republic. For a more exhaustive research of branches, it would therefore be necessary to conduct repeated analyses, over a longer time period and to expand the sample of respondents. Then it would be possible to analyze how the evaluation of factors develops over time, where it is possible to observe the greatest differences and by which these differences are given. Thus, in the future there is still a huge potential, both in terms of exploration of dependencies and discovering new location factors.

References


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