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A POSSIBLE APPROACH OF THE CONCEPT OF 'GLOCAL' THROUGH INNOVATION

A „GLOKAL" GONDOLAT EGYIK LEHETSÉGES MEGKÖZELÍTÉSE AZ INNOVÁCIÓ ÁLTAL

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Key words: innovation, local region, supply and demand, SMB, internal innovation system

Abstract

In this study, the authors examine the innovation performance and the internal and external factors that influence innovation in the local region of Zala County (NUTS3). The aim of the empirical research is to determine the performance of companies with the help of variables of the innovation systems and as a result the categorization of companies can be carried out. Further aims are to study the dynamics of the internal factors of innovation in a company and also to investigate the demand and supply. According to the research results, the innovation performance of small and medium sized businesses (SMBs - KKV) strongly depend on the innovation activities of four areas (product-, process-, organizational and marketing innovation) influenced by the internal innovation system of a company and the quality of various innovation services.

Kulcsszavak:
innováció, lokális térség, kereslet és kínálat, KKV, belső innovációs rendszer

Kivonat

A szerzők tanulmányukban vállalatok innovációs teljesítményét és az innovációt befolyásoló belső és külső tényezőket vizsgálják egy lokális térségben (NUTS3), Zala megyében. Az empirikus kutatás célja, hogy az újítási rendszer változóinak a segítségével meghatározza a cégek teljesítményét, mely segíti a vállalatok csoportokra bontását. További cél az innováció vállalaton belüli tényezői kapcsolati rendszerének a vizsgálata, illetve a keresleti és kínálati oldal feltárása. A kutatás eredményei rámutatnak arra, hogy a kis és középvállalkozások (KKV) innovációs teljesítményét kifejezi a négy területen (termék-, folyamat-, szervezeti- és marketing innováció) végzett újítási tevékenység, amelyet a vállalatok belső innovációs rendszere, illetve az innovációs szolgáltatások minősége befolyásol.

INTRODUCTION

Innovation research has been a relatively new field of research within the science of management. Earlier it was considered by many a fashion-word – the inevitable component of scientific analyses in economics. Today, the world of academics, as well as pragmatics of economic policy agrees that the role of innovation is unquestionable. The capability for innovation is more and more becoming the tool of survival and future building.

In our present study we examine the innovation activities of companies located in Zala County in order to identify the local characteristics of innovation. Traditional national and regional studies are of vital importance since they provide the background for international studies. They also provide assistance to the comparison of research and development

activities, although these studies do not reveal much information on the problems and context of local issues. Consequently, we agree with (Pogátsa – Szívós, 2008) who suggest that the analysis of economic development and innovation trends must extend across the traditional NUTS2 regional borders and should additionally include county, small regional and city levels especially if the research focuses on the promotion of rural advancement. Out of the many Hungarian county approaches the research results of Inzelt – Szerb, (2003) have also inspired our study.

The role of SMBs is increasing in economic development because it employs 70 percent of those working in the for profit sector. In addition about half of the added value and the third of the total export of the national economy is created in that sector (Papanek, 2010).

It is especially important to investigate the innovation activities of SMBs in areas where the investments of multinational companies are not expected in the near future.

On the basis of economical indicators County Zala is a moderately developed region in Hungary; it is not well situated within the West Danubian Region. As a result it is paramount to find ways to drive its development at local, regional and country levels. During our research process - to assign possible ways of innovation - we examined the main participants of the innovation system at county level further focusing on the internal innovation activities of businesses through the relation between R+D and innovation and through the internal and external influencing factors of innovation. We also have taken their future inclinations on innovation into consideration. The supporting environment has also been analysed in details. This analysis included the comparison of the companies' inclinations and the offered services. In our present study the main findings of our research will be introduced.

THE THEORETICAL BACKGROUND OF THE RESEARCH

More and more attention has been devoted to innovation in analyses on economic policy since it has been widely acknowledged that the sustainable competitiveness of both nations and regions largely depends on it.

Considering the fact that many definitions exist on innovation (Kotler, 2004; Lundvall, 1995; Drucker, 2003), the one adapted by the writers should be unravelled. We prefer one of the most quoted definitions by Schumpeter (1939) claiming that any form of achieving goals in an unusual way can be called innovation. The drive of capitalist development innovation and the source of innovation are business activities. Though Schumpeter's concept is

general it formed the base for the definition later used by the OECD which can be found in the most recent third edition Oslo Manual (2005, p. 30). It corresponds with the demands of the 21st century.

'Innovation is the introduction of a new or considerably improved product (goods or services) or process, a new marketing technique or new organising-organisational method in business practices, working place or external relations.'

While innovation is closely related to Research and Development (R+D) and the learning process it also exceeds them. R+D are a component of the innovation process and not necessarily the one that triggers a new concept or idea. Not all innovation processes include R+D activity; in fact it is often the case that R+D activities do not lead to innovation (Török, 2006). Innovation though, apart from the direct economic benefits has further advantages resulting from the learning process: accumulated company-specific knowledge that can lead to future innovation (Inzelt, 1998; Bajmócy, 2008).

The national innovation system (NIS) (Nelson, 1993) and the regional innovation system (RIS) (Cooke - Uranga 1998) differ based on territorial characteristics. There are major qualitative and quantitative differences between the national and regional/local systems. The regional, local aspects are in a sense neglected in the national system and the institutional system is also chaotic. The regional innovation system is able to capitalize on the locally created and readily available knowledge characteristic of the region (Gregersen – Johnson, 1996; Andersson – Karlsson, 2004). The innovation activities of businesses largely depend on the local factors. Innovation and creativity are embedded in local social relationships (Somogyi - Ricz, 2011). When defining the regional innovation models notions such as the milieu (the interactions and synergy systems between businesses, decision-makers, regional institutions – (Rechnitzer, 1998), clusters (the cooperation nets of numerous small and medium sized businesses – (Porter, 1999; Van den Berg - Braun - van Winden, 2001) are of major importance.

According to the theory of innovation systems all regional factors and participants are part of the innovation potential which determine, support or even hinder the rise and spread of innovation (Dőry, 2007). Hence, innovation is not only closely connected to universities or research institutions that have the necessary technological equipment and innovative mind but also workshops, various professional communities that generate knowledge and technological expertise (Dőry - Rechnitzer, 2000). Innovation services, several 'bridging' and transfer organisations as well as innovation agencies and business development

institutions (chamber, industrial parks) fulfil similar roles (Muller - Zenker, 2001). Innovation services can be drawn on through these institutions so we believe that the investigation of them is inevitable at county level.

The innovation potential of a given region can be influenced by the alteration of the microeconomic and site capacities of businesses. In order to do so the innovation performance of businesses must be measured. The internationally accepted standard of this measurement is the Oslo Manual. With the help of the Community Innovation Surveys – CIS questionnaire the innovation activity of businesses within the EU has been studied four times recently. This questionnaire formed the basis of the innovation studies (Innovation in the Western Danubian region 2006, 2007, 2008) carried out on the Hungarian regional business (SMB). To determine the innovation performance of the companies, firstly the general economic characteristics of the SMEs were measured, than the specific areas of innovation (product-, process-, organizational- and marketing innovation) were examined. Finally the survey was closed with the investigation of the influencing internal and external factors on the innovation activities. The measuring of the SMEs innovation performance was a very new approach, because in the past decades only the investigation of the large companies was usual. The results of these studies helped us to complete the measurement of innovation performance in Zala County.

OBJECTIVES AND METHODS

The aim of present study is to investigate the innovation performance of companies and the internal and external influencing factors of innovation. It was also considered to be important to carry out a comparison of the companies' inclinations to innovation and the offered services.

The central element of the research is the innovation performance of companies in Zala County. It can be detected by the variables of the innovation system (see earlier international CIS and the Hungarian Innovation in the Western Danubian Region 2006-2008). It had been assumed that SMBs could be divided into distinctive clusters or groups (those 'lagging behind', followers, innovators). We also believed that the relationship system of the internal factors (general organisational-, R+D and the characteristics of innovation) influence the innovation performance of companies. A correlation between the regional characteristics of innovation services (innovation supply) and the innovation performance of companies had been presumed as well. We supposed that those regions

where more and better quality services are available the results of innovation are more tangible (Figure 1).

In the course of our research we intended to look into the innovation needs of SMBs. Our hypothesis concerning the innovation needs has been that the demand indicated by companies and the available supply are not in proportion.

Fig. 1 Research model
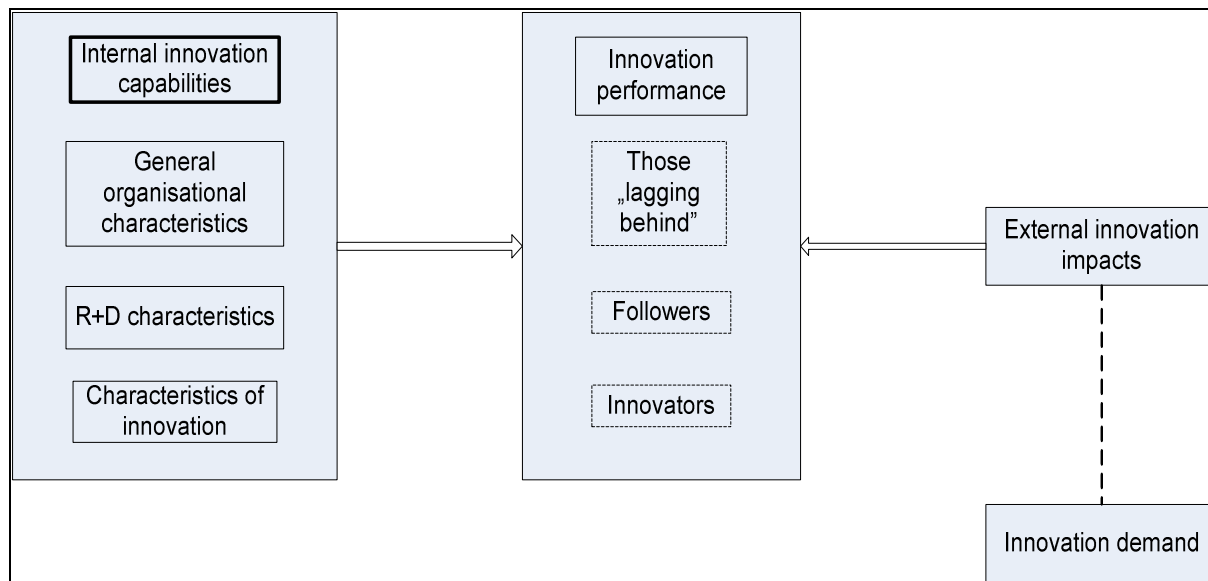
Source: own edition

In the course of the quantitative survey data was collected among small and medium sized businesses (SMB) in Zala County through questionnaires between October, 2008 and February, 2009. The questionnaire centred around the period of 2005 and 2007 and can be divided into three main areas. In the first part, some general information on the company are covered, in the second the R+D and the innovation activities are investigated and in the last part the questions regarded the terms and conditions of the realization of innovation, the characteristics of Zala County and the basic information on services.

Based on information collected from the official database of CSO (Hungarian Central Statistics Office) there were 2409 SMBs employing 5 or more workers in Zala County as of 1 January 2008 (that is adopting the survey results of earlier CSO stating that companies employing less than 5 workers have low inclination to innovation). 2409 companies had been posted the questionnaire, which were later collected. The total number of questionnaires turned in was 303 out of which 213 were full-scale and assessable. It gives us an almost 9 percent inclination to respond. The division of the companies based on their innovation activity had been carried out before the detailed analysis of the sample. This was

followed by the allocation of variables. There were 21 variables in total which indicated R+D and innovation and various parameters influencing the innovation activity (the most influential variables were those which denoted product-, process-, marketing and organisational innovation – see Oslo Manual (2005). After selecting the parameters the differing scales were standardised (Barna-Nagy-Molnár, 2007). Out of the possible analytic methods the K-MEANS clustering was chosen. In a research with small number of samples K-MEANS clustering can be used (Székelyi – Barna, 2005) but the number of clusters must be indicated ahead of the analysis. Only a very well founded reasoning may justify a cluster with law number of elements as a result we included a minimum of 10 elements in each all three clusters established. Only those companies remained in the sample that had valid information to explain all 21 variables.

The econometric study contained a cross-tabulation analysis to conceive information on the context of the internal innovation of companies and to show the connection between various tasks and to determine the strength of these connections (Molnár-Barna, 2004).
In addition to the quantitative method, qualitative research method was applied as well by carrying out guided interviews. Among the innovation service providers in Zala County we completed 14 interviews between March and May of 2009. The interviews were organised around seven topics the first three of which focussed on the history, the operation and financial background of the companies. Topics also included the quality, consistency and motivations of their relationships with SMBs. Interviewees then were asked to choose from a set of definitions describing innovation. By asking about the ways innovation service providers help businesses in Zala County our purpose was to find out more about the quality of their innovation activities. There were also some questions on the already provided services and those planned for the future. Last, respondents were asked to evaluate the conditions of realizing innovations in Zala County and to list some factors that hinder innovation.

RESEARCH RESULTS

Comparing clusters

The 213 businesses have been divided into three groups (158-45-10) by clustering. The size of each group was considerably different meaning that group 1 contained 74% of the companies. It was assumed that the innovation performance of all three groups were significantly different in the three main areas the research focused on.

Based on the general organisational characteristics (Table 1) the first two groups – one including 158 companies and the other including 45 businesses – was not significantly different from each other. The main demonstratable difference was the strength of their relationships. The third group including 10 companies showed a more significant difference.

Table 1 Main information regarding the company groups

	158 companies	**45 companies**	**10 companies**
Number of employees	23,54	29,22	372,44
Net revenues (in million Ft)	237,94	322,29	5410
Percentage of foreign ownership (%)	5,33	9,17	31,17
Percentage of the group of companies' ownership (%)	5,22	22,22	30

Source: own research

The part of the research that focuses on R+D (Table 2) further differentiated the sample and major differences could be found between the first two groups. The group including 45 businesses was much more developed in their innovation. Moreover, some variables showed major differences in case of some of the financially stable large company-groups as well.

Table 2 Data of the company groups related to the R+D

	158 companies	**45 companies**	**10 companies**
R+D spending in proportion to the yearly revenue	0,73	3,31	3,35
How many percent of the employees possess a degree?	12,83	15,16	23,53
How many percent of the employees work in R+D?	0,24	5	0,66
Percentage of those owning quality assurance	35,04	55,55	100,00
Invention, patent and publication 2005-2007	2,1	7,40	6,70

Source: own research

In case of parameters describing product, process, organization and marketing innovation there is a huge dividing line between the group including 158 companies and the rest of the businesses. The difference is greater than in case of the R+D performance. In fact the innovation activity of the largest group (including 158 companies) is insignificant except for the product advertising compared to large companies (Table 3). Given their innovation

activities the Hungarian SMBs of 45 businesses are the most active except for two cases: introducing new products or new and more developed methods into the organisation.

Table 3 Innovations realized by groups of companies

	158 companies	45 companies	10 companies
Introducing new products	15,18	35,60	40,00
Introducing new services	12,02	64,40	20,00
Introducing new methods	8,22	66,70	20,00
New logistics and transportation methods	3,79	51,10	0,00
New activities	6,33	66,70	50,00
New or improved methods concerning the business practices	5,06	66,70	50,00
New or improved methods in the organization	3,79	57,80	80,00
New or improved methods to keep external relations	9,49	71,10	60,00
Product planning	1,89	28,90	20,00
Packaging	1,89	31,10	0,00
Product launch	6,33	48,90	10,00
Advertising products	25,31	57,80	10,00
Pricing	5,06	66,70	0,00

Source: own research

Concerning the general organizational characteristics, the innovation, R+D capacity companies within the same group are significantly different. The first group including the most companies are those 'lagging behind'. They hardly deal with innovation and their inclination for innovation is low. But there is an improvement oriented group of mainly Hungarian owned small businesses – the followers – who are open for innovations in order to boost their competitiveness. The last group is called the innovators. They are companies of considerable capital and revenue and also are open for innovation and R+D.

The characteristics of the internal innovation

It was also considered important to look at the relationship between the general organizational characteristics influencing innovation and the R+D activity and the achievements driven by innovation. While the R+D indicators and the general characteristics were the independent variables, innovation activities (product-, process-, organizational and marketing innovation) became the dependent variables. As a method the

cross-tabulation analysis was applied because the metric scales necessary for the correlation and regression analysis were only available in the independent variables, whereas independent variables could not be placed in the metric scale. According to our assumption, there was a strong and easily detectable relationship between R+D and innovation in companies, but that could not be proven in the two other areas. The cross-tabulation analysis revealed the followings:

Diverse correspondence – both in their strength and nature - could be established between various R+D activities and innovation. Only in case of the proportion of employees working in the field of R+D, publications, patent and invention variables showed significant correspondence with all four innovation areas. Cramer's V value that would have signified a strong correspondence did not occur. The strongest association was 0,293 which is still very weak.

The relationship between the general organisational characteristics and the innovation only indicated a weak association in the following categories: percentage of foreign ownership, and the three categories focusing on innovation (product-, process- and organizational innovation).

The relationship between the general organizational characteristics and the R+D activities are the most complex and at the same time the highest values were measured in that relationship (0.421; 0.403 – Table 4). A moderate relationship was established between the quality assurance and the revenue and the quality assurance and the number of employees. It was also validated by the values of the Chi-square distribution.

Table 4 The rate of employment, the rate of degrees and the relationship between the rate of employment and the quality assurance

		Rate of degrees					**Quality assurance**		
		0%	1-10%	11-50%	above 51%	Total	No	Yes	Total
Rate of employment	0-5 people	40 63,5%	7 11,1%	10 15,8%	6 9,5%	**63**	52 82,5%	11 17,5%	**63**
	6-50 people	26 22,2%	49 41,9%	36 30,8%	6 5,1%	**117**	69 59,0%	48 41,0%	**117**
	51-250 people	1 3,7%	15 55,6%	11 40,7%	0 0,0%	**27**	8 29,6%	19 70,4%	**27**
	above 251 people	0 0,0%	2 33,3%	4 66,7%	0 0,0%	**6**	0 0,0%	6 100,0%	**6**
	Sum	67 31,5%	73 34,3%	61 28,6%	12 5,6%	**213**	129 60,6%	84 39,4%	**213**

Table 4 - continue

|		
Pearson	**67,428**	**34,595**
Cramer V	**0,281**	**0,403**
Significance	**0,000**	**0,000**

Source: own research

Based on the research it can be stated that our hypothesis could not be proved since we could not establish strong relationship between the R+D and the innovation. Our assumption that the general organizational characteristics and the innovation activities are not directly related could be established though. Finally, in the three categories we found the strongest association between the R+D variables and the general characteristics but even in there the relationship is only moderate.

Categorical connections

The process of mapping and selecting those appearing on the supply side revealed the followings: in Zala County there are two centers based on the innovation and R+D services. The first one is in Zalaegerszeg where many organizations and innovation experts can be found (innovation agencies, cluster centers, advanced industrial parks, business development foundations). The second centre concentrates around Keszthely where R+D are more advanced as a result of the existing agricultural research. We also analyzed whether the results of the innovation study carried out among SMBs reflect the bicentral nature of the supply side and whether there is a significant difference between the basic innovation activities of the small region businesses (LAU1).

The research result did not reflect our expectations. The reason behind this is that while the innovation service providers clearly centre around the two central regions of the county Zalaegerszeg and Keszthely, the innovation activities of the businesses do not reflect this. The total innovation performance of the businesses of Zalaegerszeg and Keszthely are close to equal. There are some minor differences though in some of the areas of innovation; in the county capital the processing industry is predominant as a consequence companies excel in product innovation there. In Keszthely companies achieve better results in marketing innovation possibly as a result of the more commercial nature of the district (Figure 2).

Figure 2 The innovation achievements of companies operating in the small regions of Keszthely, Zalaegerszeg and Nagykanizsa
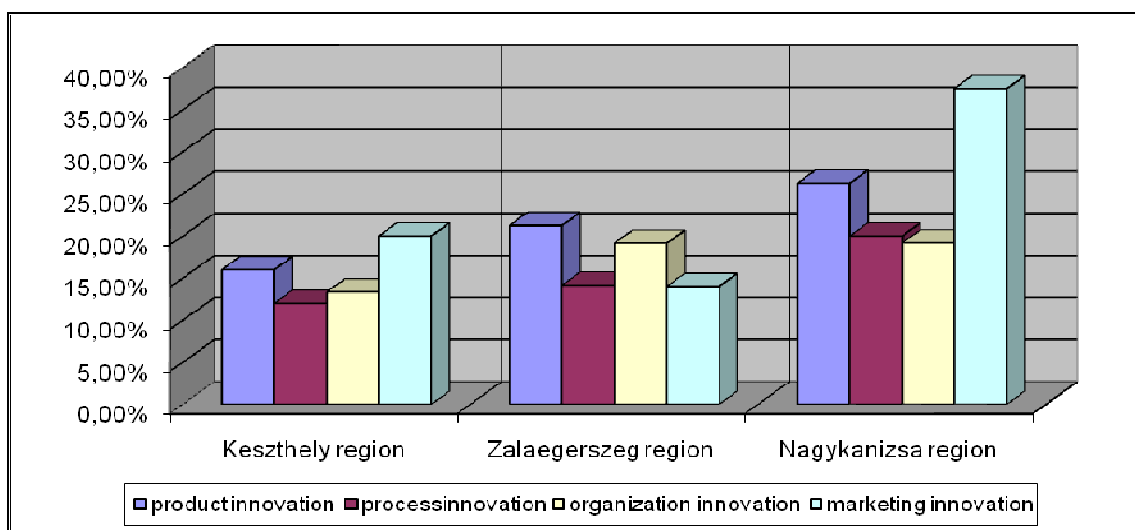
Source: own research

As the research evidence shows the innovation activities of Zala County are not influenced by the area characteristics of the supply side.

Comparing supply and demand

Finally, we aimed at providing a comparison of supply and demand (Table 5 - Annex). During the research on SMBs we asked companies (the complete sample of the study) what kind of services they would require in the future. This information formed one side and the other was the interviews made with the supply stakeholders covering 44 services. The results were summed up in a table. On the supply side those services which are included in the survey are marked with grey and the rest of the services help the general operation of businesses. Services required by companies and services offered by the supply stakeholders are not synchronized. It basically means that all traditional innovation services other than organizing technology fairs, market research and product development appear behind item 20 in our list of innovation service provision which indicates that only a few service provider offer them. Some of the services are not even offered by innovation service providers. Worst, product quality assessment as an innovation service is offered by two providers while there is a huge demand for it. To sum up the interviews the innovation service providers in Zala County offer rather general services supporting the operation of businesses. They lack an in-depth expertise in certain innovation services partly because there might not have been demand for those or maybe because the innovation service

providers are not aware of the needs of businesses. Our comparison has proved that there is a discord between supply and demand.

CONCLUSION AND THE APPLICATION OF RESEARCH RESULTS

The focal point of our study was to examine the innovation activities of companies situated in Zala County, Hungary. Our aim was to detect factors influencing innovation, the correlations between demand, R+D, innovation and the general characteristics of companies. Furthermore, we studied the activities of innovation service providers, their future plans and their relationships with the local companies.

The innovation performance of SMBs is better signified by the innovation activities of the four defined areas (product-, process-, organizational and marketing innovation) which are influenced by the internal innovation capabilities, the characteristics of the areas of innovation and the quality of innovation services. Out of the previously mentioned factors the difference between the demand and supply of available innovation services should be emphasised. That difference causes potential bottlenecks in the effectiveness of service capacity, and puts limit on cooperation between organizations.

It is important to notice at this point that present study was the first in Zala County that involved so many areas and participants in the field of innovation. Our results can contribute to the improvement of the innovation performance of the county. The foremost practical step would be to inform service providers of our research results so that the demands of companies could be revealed to them. In addition, institutions of higher education and companies should be encouraged for cooperation in the future and the existing bridging organizations should be offered advised on their lack of knowledge on the existing research and higher education capacities. The possibility of targeted developments can be built on the group division established in our study: 'innovators', 'followers' and the unraveling and satisfying of their needs which eventually could lead to a more developed innovation in Zala County.

Summary

The authors have studied the innovation potential of enterprises and the internal and external factors influencing innovation in a local region (NUTS 3), in one of the Hungarian counties. Traditional national surveys are important due to international studies and they also contribute to comparing research and development activities. However, they do not point out local innovation queries, problems or connections to an adequate extent. With regard to the research, among the few Hungarian and international examples those county (NUTS 3) and regional (NUTS 2) results were significant that helped the achievement of regional approach and those that studied innovation potential from the enterprise's point of view.

It is worth highlighting two definitions among the various ones related to innovation since these would help to understand the direction of the research. The first one, which is quoted most frequently, is from Schumpeter who said that innovation is the ability to do things differently. This definition contributes to the broadening of the innovative processes connected to enterprises in the local regions; therefore, it helps to adapt the approach that expresses that innovation is not equal to inventions. The other definition puts 'doing-things-differently' into categories; accordingly, these activities can be classified as improved product, process or marketing method or new organizational method in the business practice with respect to SMEs.

One aim of the empirical research is to describe enterprise types/groups by studying the variables of the innovation system. The studied 213 enterprises can be classified into groups with the help of cluster analysis. It can be presumed that the performance of the groups would differ significantly in the three studied fields influencing innovation.

Another goal is to present the relationship system of innovation factors within a company; therefore, it is essential to look into what relations can be revealed between the general organizational characteristics, R+D activities and innovative activities that play some role in the innovation of enterprises. It seems likely that there is a strong relation between research and development activities and innovative measures.

Furthermore, regional connections can be studied. The geographical location of the services of the supply-side and the innovative performance of companies can be compared. It is expected to find SMEs performing better in innovation where there are a lot of innovative service providers.

To study the demand-side of companies can also be interesting; namely, what is needed in the field of innovation; moreover, it is worth comparing those needs with the opportunities service providers in the same field offer.

The empirical study partly proved the above assumptions.

Based on general organizational characteristics, innovation and R+D activities the enterprises in different cluster groups differ significantly. The first group, which includes the largest number of enterprises, is the one that lags behind, the laggards - these companies lack R+D activities and innovation willingness. There is a circle of enterprises that are development and innovation-oriented and mainly owned by Hungarian entities that have been present in the market for a long time – the early adopters, who are open to innovation in order to improve their competitiveness. Finally, the group of large companies that in addition to significant profit and solid capital are interested in R+D and are also remarkable in innovation – they are the innovators.

The findings have not proved that there is a strong relation between R+D and innovation activities. The assumption also proved to be right that there is no strong connection between general organizational characteristics and innovation activities. Eventually, in case of the three studied field the strongest and most complex connection was between R+D variables and general characteristics although the connection between variables is maximum of medium intensity.

Based on the results, it can be concluded that the regional characteristics of the supply-side do not influence the innovation activities of the enterprises in county Zala.

The local R+D and innovation service providers are organizations that would rather help in general management of the enterprise and have not yet got involved in the various fields of innovation (there have been no serious demand for it yet presumably) and they may not know the exact needs of the enterprises, either. Based on the comparison, it can be concluded that there is no agreement between the supply-side and the demand-side.

Summary in Hungarian

A szerzők tanulmányukban vállalatok innovációs teljesítményét és az innovációt befolyásoló belső és külső tényezőket vizsgálják egy lokális térségben (NUTS 3), Magyarország egyik megyéjében. A hagyományos országos vizsgálatok a nemzetközi mérések miatt fontosak, illetve jellemzően a kutatás–fejlesztési tevékenységek összehasonlítását segítik. Azonban a lokális innovációs kérdésekre, problémákra, összefüggésekre nem világítanak rá kellő mértékben. A kutatás szempontjából a területi megközelítés néhány magyar és nemzetközi példája közül azok a megyei (NUTS 3) és régiós (NUTS 2) eredmények voltak meghatározóak, melyek segítették a területi szemlélet kiteljesítését, illetve vállalati szempontból vizsgálták az újítási képességeket.

A számtalan innovációra vonatkozó definíció közül kettőt külön érdemes kiemelni, hiszen ezek segítik a kutatás irányának a megértését. Az első, a legtöbbet idézett meghatározás Schumpetertől származik, aki szerint

a gazdasági életben a dolgok másképpen való csinálásának bármely formája az innováció fogalmába tartozik. Ez a definíció segíti a lokális térségekben zajló, vállalatokhoz köthető újítási folyamatok kiszélesítését, így segíti elfogadni azt a nézetet, mely szerint nem csak a találmányok jelenthetnek innovációt. A másik meghatározás kategorizálja a „másképp csinálást", eszerint termék-, folyamat-, szervezeti- és marketing innovációra bonthatóak ezek a tevékenységek a KKV-k esetében.

Az empirikus kutatás egyik célja, hogy az újítási rendszer változóinak a vizsgálatával vállalati csoportokat/típusokat írjon le. A vizsgált 213 vállalkozás klaszterelemzés segítségével bontható csoportokra. Feltételezhető, hogy a csoportok teljesítménye az innovációt befolyásoló három vizsgált területen jelentősen eltér egymástól.

További cél az innováció vállalaton belüli tényezői kapcsolati rendszerének a bemutatása, ezért fontos azt is megvizsgálni, hogy milyen összefüggés mutatható ki a vállalkozások innovációban szerepet játszó általános szervezeti jellemzői, K+F aktivitás és az innovációs tevékenységek között. Valószínűsíthető, hogy a kutatás-fejlesztéssel összefüggő tevékenységek és az újítási lépések között erős a kapcsolat.

Területi összefüggések is vizsgálhatók. A kínálati oldalon található szolgáltatások földrajzi elhelyezkedése és a vállalkozások innovációs teljesítménye összevethető. Elvárható, hogy ahol sok innovációs szolgáltató tevékenykedik, azokon a helyeken a KKV-k is jobbak az innovációban.

Érdekes a vállalatok keresleti oldalának a felmérése is, azaz mire van szükségük az újítás területén, illetve ezt az igényt érdemes összehasonlítani a területen működő szolgáltatók által kínált lehetőségekkel.

Az empirikus kutatás részben igazolta a fenti feltevéseket.

Az általános szervezeti jellemzők, az innovációs és a K+F magatartás, képesség alapján a klasztercsoportokba tartozó vállalkozások markánsan eltérnek egymástól. Az első, a legtöbb céget magába foglaló csoport a lemaradók, akiknek elenyésző a K+F aktivitásuk és ennél is jelentéktelenebb az innovációs hajlandóságuk. Létezik egy fejlesztés és újítás orientált, vagy legalább sikeresen adaptáló, zömében hazai tulajdonú, a piacon régóta jelenlévő kisvállalkozói réteg – a követők -, akik inkább saját erőből, a versenyképességük javítása érdekében nyitottak az újításra. Végül jól kimutatható egy jelentős árbevételű, tőkeerős, a K+F iránt erősebben érdeklődő, de az innováció szempontjából is meghatározó nagyvállalati csoport, ők az innovátorok.

Az eredmények nem igazolták, hogy a K+F tevékenységek és az innovációs tevékenységek között szoros kapcsolat mutatható ki. Az a feltételezés helyesnek bizonyult, hogy az általános szervezeti jellemzők és az innovációs tevékenységek között sincs szoros összefüggés. Végül a három terület esetében a legerősebb, legösszetettebb kapcsolat a K+F változók és az általános jellemzők között mutatható ki, de ebben az esetben is maximum közepes erősségű a változók közötti kapcsolat.

Az eredmények alapján megállapítható, hogy Zala megye vállalkozásainak innovációs tevékenységét nem befolyásolják a kínálati oldal szereplőinek területi jellemzői.

A megyei K+F- és innovációs szolgáltatók inkább általános vállalkozási működést segítő szervezetek, az újítás területein nem mélyedtek el (valószínűleg eddig komoly igény sem jelentkezett), talán a vállalkozások igényeit sem ismerik pontosan. Az összehasonlítás alapján kijelenthető, hogy nincs harmónia a keresleti és kínálati oldal között.

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APPENDIX 1.

Table 5 Comparing supply and demand

Demand of services			Supply of services	
Characteristics	%		Characteristics	%
market research	41,78%	1	preparing tenders	71,43%
technology fairs, organizing brainstorming	35,21%	2	providing inform. on a regular basis	71,42%
technological development	34,74%	3	organizing programs for educ. purposes	64,28%
product qualification	28,63%	4	organizing technology fairs	64,28%
economic verification of technologies	28,17%	5	participation in innovation research	57,14%
introducing valuable patent ideas	27,69%	6	making business plans	57,14%
product inspection	25,35%	7	financial and tax consultation	57,14%
technological positioning	25,35%	8	cut-rate loan for financing current assets	50,00%
revealing options for technical cooperation	23,47%	9	marketing and communication	50,00%
scouting	22,06%	10	partner mediation	50,00%
first sample inspections	21,59%	11	market research	42,86%
following techn. trends, reporting on trends	21,59%	12	Accounting advice	42,86%
assuring special machinery	21,12%	13	product development services	42,86%
patent and intellectual property	20,19%	14	Mentoring	35,71%
carrying out special lab tests	20,18%	15	investment advice	35,71%
involving risk-based capital	19,72%	16	Organizing economic networks	28,60%
production planning and preparation	18,78%	17	assuring offices and workshops	28,60%
calibrating measuring and verifying tools	18,78%	18	legal advice	28,60%
product development services	18,78%	19	revealing possible technical opportunities	28,60%
involving business angels	16,43%	20	support similar to tenders	28,60%
lending measuring and verifying tools	16,43%	21	technological positioning	28,60%
		22	patent and intellectual property	21,40%
		23	calibrating measuring and verifying tools	21,40%
		24	carrying out special lab tests	21,40%
		25	technology development	21,40%
		26	product inspection	21,40%
		27	introducing valuable patent ideas	21,40%
		28	product qualification	14,28%

Table 5 - continue

Demand of services			Supply of services	
Characteristics	%		Characteristics	%
		29	involving risk-based capital	14,28%
		30	first sample inspections	7,10%
		31	production planning and preparation	7,10%
		32	deliver IT technologies	7,10%
		33	lending measuring and verifying tools	7,10%
		34	scouting	7,10%
		35	assuring the use of special machinery	7,10%
		36	following techn. trends, reporting on trends	7,10%
		37	economic verification of technologies	7,10%
		38	operational services	7,10%
		39	factoring	0,00%
		40	access to guarantee funds	0,00%
		41	leasing opportunity	0,00%
		42	hiring labour	0,00%
		43	secretarial services	0,00%
		44	involving business angels	0,00%