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SERVING INNOVATION WELL? – MISMATCH BETWEEN THE SUPPLY AND DEMAND SIDE OF SERVICES BY INNOVATION INTERMEDIARY ORGANIZATIONS IN HUNGARY

JÓL SZOLGÁLJÁK AZ INNOVÁCIÓT? – ELTÉRÉSEK AZ INNOVÁCIÓS KÖZVETÍTŐ SZERVEZETEK SZOLGÁLTATÁSAINAK KERESLETI ÉS KÍNÁLATI OLDALÁBAN

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Abstract

Innovation intermediary organizations play a significant role in the national innovation systems as they provide services for the actors of the innovation network. Their main goal is to connect these actors to promote knowledge exploitation and -transfer. In the past 12 years intermediaries were founded and developed in Hungary, however, the effectiveness of their service was not measured comprehensively. This paper presents the main results of an analysis examining the effectiveness of their offered services.

Keywords: innovation intermediary organizations, effectiveness, services

Abstract

Az innovációs közvetítő szervezetek fontos szerepet játszanak a nemzeti innovációs rendszerben, mivel az ebben a rendszerben résztvevőknek nyújtják szolgáltatásaikat. Főbb céljuk a tudásteremtők, tudásfelhasználók, illetve az üzleti szféra összekapcsolása a tudáshasznosítás és –transzfer érdekében. Az elmúlt 12 évben Magyarországon megalakultak az innovációs közvetítők, fejlesztették őket, de szolgáltatási hatékonyságuk átfogó felmérésére nem került sor. Ebben a cikkben egy magyar innovációs közvetítők szolgáltatásainak hatékonyságát vizsgáló kutatás eredményeit mutatjuk be.

Kulcsszavak: innovációs közvetítő szervezetek, hatékonyság, szolgáltatások

INTRODUCTION

Organizations like the innovation intermediary organizations play a significant role in the National Innovation Systems (NIS) (like Freeman (1987) and Capello (2006) emphasized). Freeman (1987) in his work about the Japan innovation system mentions that the NIS is composed of public and private institutions (such as intermediaries) working in the field of introducing, applying and spreading inventions. Capello (2006) describes several influencing factors of innovation like organizations participating in the innovation process.

Intermediary organizations provide services for the actors of the innovation process in which cooperation and trust-based connections are crucial. They are also significant in regional, subnational and local level (Hewitt-Dundas–Roper 2011) as they can influence local innovation factors – such as innovation milieu, knowledge creation and networks or knowledge capital – which contribute to the development of regional competitiveness (Johnson–Lehmann 2006, Lengyel 2010, Enyedi 1997)

In the last decade, after Hungary joined the EU, Hungarian innovation system was developed dynamically. Since 2004 Hungarian national and EU strategic decisions and financial support fostered the establishment and development of the institutions serving the innovation process. Institutional background of the Hungarian NIS was founded and from 2006 till 2013 organizations serving the innovation process received more than Forints 120 billion from the calls of the Baross Gabor Program (national support), the New Hungarian Development Plan's and New Szechenyi Plan's Operative Programs (EU co-financed support) (Gajzágó - Gajzágó 2016).

Innovation Union key initiatives[22] foster the market impact and social scope of supported projects, and also Hungarian Innovation Strategy[23] aims to increase the social and economic sustainability of innovation investments. The strategy lists demand and supply side assets[24] to achieve goals of innovation policy and to give a solution to the difference between the high amount of support and the low effectiveness. The document emphasizes the development of intermediaries but does not mention the details (e.g. projects) of this development or the improvement of the effectiveness of organizations.

As stated above, Hungarian intermediaries received large amounts from national and EU funds. Recent (2014) country profile about innovation performance of Hungary also indicates that according to the effective innovation system indicators[25], 'Hungary is below the EU average in most of the areas'. However, the rate of business enterprise expenditure on R&D (BERD) financed by EU funds is significantly higher than the EU average. Hungarian and EU innovation strategies aim to use these supporting funds properly and increase the effectiveness of innovation projects. The effectiveness of promoted organizations implementing innovation projects **influences the achievements of goals of these higher levels strategies**.

Higher level strategies emphasize the importance of effectiveness in innovation development and they allocate resources to gain it. However, effectiveness is also important at the **organizational level**. Service effectiveness of an organization – such as innovation

[22] http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=key
[23] http://nkfih.gov.hu/szakpolitika-strategia/nemzeti-kfi-strategia/befektetes-jovobe-kfi
[24] http://nkfih.gov.hu/szakpolitika-strategia/nemzeti-kfi-strategia/befektetes-jovobe-kfi, pp. 46.
[25] http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2014/countries/hungary.pdf, pp.3.

intermediaries – is closely connected to the **management efficiency and influences their success** (Ostroff–Schmitt 1993, Gaertner–Ramnaravan 1983).

The research introduced in this article examined the effectiveness of services of Hungarian innovation intermediary organizations. The main goal of the research was to reveal whether Hungarian innovation intermediaries 'serve' the innovation system effectively and whether their services are effective. Research results introduced below unfolded a mismatch between the supply and demand sides of the services of these bridging organizations. The empirical research had a quantitative approach and the paper intends to introduce its result by a descriptive method.

After the summary of the relevant literature about innovation intermediaries and effectiveness, including a model of effectiveness and briefly introducing the research methods, the paper represents the results of a research about the services of intermediaries. The last chapter contains a synopsis of and some solutions for the revealed problems.

THEORETICAL BACKGROUND

Characteristics of the innovation process and the (national) innovation systems are described in details in several articles – see e.g. Freeman (1987) as above mentioned or Lundvall (1992), and Nelson (1993). Based on these characteristics Arocena and Sutz (2002) explains that the examination of the innovation process and its actors give possible assets for exploring the economic effectiveness and elaborating specific directives.

Many articles (e.g. Guana–Chen 2012) emphasize national economic policies should focus on increasing innovation potential and governments need to introduce strategies – like the above-mentioned innovation strategy of Hungary - and promoting instruments for the development of the national innovation systems (Flanagan at al. 2011, Lundvall 1995) as the investment in innovation can increase national and regional economic competitiveness. The establishment and development of innovation interemdiaries and their services are one of these instruments.

Innovation intermediary organization offer services to the actors of the innovation process but these services differ according to the types or place of organizations in the innovation process (Lokshina et al. 2011). Their main goal is to connect knowledge producers with knowledge users, e.g. researchers and companies or educational and business areas in order to facilitate and promote knowledge exploitation and – transfer. These bridging organisations work as agents in the innovation process between different parties involved (Howells 2006). Through providing specific services, they are also the enablers of innovation, improving

innovation directly (enabling the innovation of firms) or indirectly (increasing the innovative capacity of regions, nations, or sectors – national and sub-national process) (Buzás 2007).

The tasks and the role of intermediaries – especially in higher educational institutes – are defined and listed in articles like Jain et al. (2010), Howlett (2010), Stamm (2003) or Filippetti–Archibugia (2011). In the research introduced in this article, we used a list of services elaborated by these literature. Filippetti and Archibugia (2011) emphasize that systems and organizations which influence the cooperation aiming innovation – thus the tasks of intermediaries – directly influence company innovation. Stamm (2003) lists 8 important factors which influence the tasks and services of intermediaries. These factors – like the time-frame, technology, knowledge, financial resources, actors, processes, cultural aspects, and consumers and markets – are significant for the management these organizations. Howlet (2011) mentions groups of knowledge transfer activities referring to the HE-BCI research[26] measuring higher educational institutes' innovation services annually according to categories like research contracts, consultancy, intellectual property, patent applications, established spin-offs, specific courses, etc. Jain et al. (2010) also classify the task of intermediaries and list the services of the three main groups of the organizations such as goal oriented, scientific and academic organizations.

The research presented in the chapters below was focusing on the participant of the Hungarian national innovation system, on intermediaries in particular. The Hungarian national and regional (subnational) innovation systems and its actors were examined by several Hungarian researchers. Their researches focused on a specific region of Hungary (Dőry 2000, Inzelt–Szerb 2003, Márton 2004, Szépvölgyi 2006, Bajmócy 2006, Csizmadia–Grosz 2008), examined one group of organizations such as industrial or scientific parks (Barta 2002 and Buzás–Lengyel 2002) or innovation system and networks and cooperation (Csizmadia–Grosz 2002, 2011, Lengyel–Leydesdorff 2008 and 2011, Parag–Varga 2009). However, the overall measurement of the effectiveness of services of innovation intermediaries was not carried out in Hungary before the research presented in this paper.

Defining the effectiveness of intermedaries is a complex task and can be based on several scientific fields like physics, economics, management or marketing. In physics and technical sciences effectiveness – or energetical efficiency – is defined as the quotient of outputs and inputs (Büki 2013, Frischherz et al. 2010). Economics and management theories (Samuelson-Nordhaus 2012, Varian 2005, Ostroff–Schmitt 1993, Mahoney–Weitzel 1969, Hoy–Hellriegel 1982) also uses the ratio of outputs and inputs for defining the effectiveness of companies and their profitability. Management scientists also emphasize that the effectiveness depends on

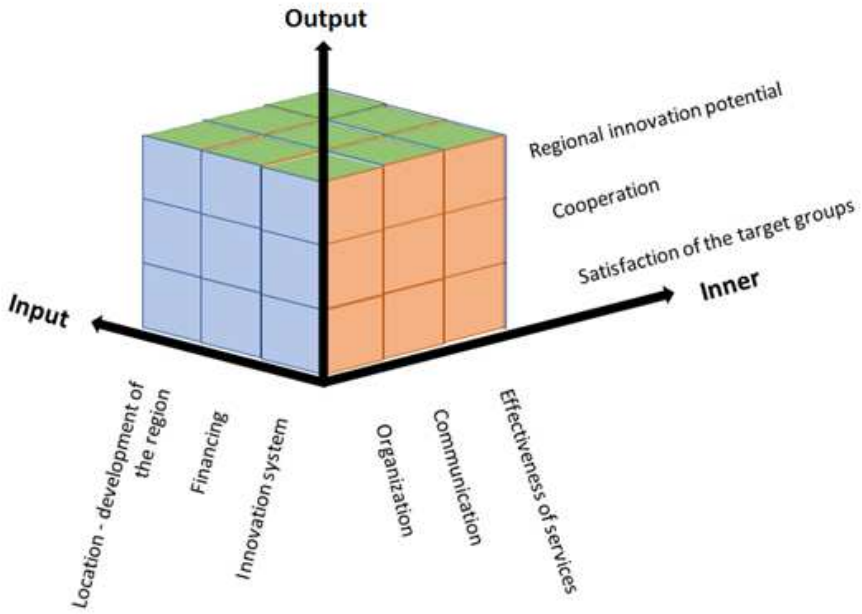
[26] Higher education-business and community interaction survey

factors of inner organizational and management. Mahoney and Weitzel (1969) examined 114 factors separately while Hoy and Hellriegel (1982) classified inner and external effectiveness indicators in their research.

Marketing theories of the effectiveness of service companies are closely connected to the topic of the research introduced in this paper. Kotler and Andreasen (1987) analyze the marketing strategies of nonprofit companies and reveal the importance of strategic planning in the effectiveness of the organization. Hughes and Luksetich (2010) also examined nonprofit copmanies' effectiveness and resulted that the accomplishment of the goals of these organizations is closely connected to the needs of target groups and the effectiveness of services. However, defining the effectiveness and quality of services is difficult and strongly influenced by the interpretation of the customer and by the trust based characteristics of the services (Nádor 2007).

For measuring the effectiveness of the services of intermediaries and based on the above-mentioned literature and the research results, a three-dimensional **model** containing indicators was elaborated by the author. The model was also based on other relevant literature of efficiency in physics (Frischherz et al. 2010), effectiveness in economics and management (Koopmans 1951) and project and innovation management effectiveness (as Eilat et al. 2008, Fisher 2011, Parast 2011, Sundqvist et al. 2014, Csiszér 2016).

Figure 1 Effectiveness model of innovation intermediary organization



Resource: own edition by Csiszér (2016)

Input dimension of the model is represented by external regional factors – like financial support, development level of the region, etc. – promoting or hindering the management of intermediaries. The output dimension is also measured by external data which indicate the effects of innovation intermediary organization to their surroundings. Output dimension contains indicators like the satisfaction level of the consumers of the intermediaries' services or the innovation potential of the region where the intermediary is settled.

In this present article, the author summarizes the research results focusing on the **'inner' dimensions** of this model. Choosing only the inner dimension does not give an overall result of the effectiveness of the organizations but is able to highlight management and strategic problems of innovation intermediaries. The inner dimension contains the effectiveness of the management and strategic decision making of the intermediaries including the **effectiveness of offered services and communication**. The shortage of this inner dimension– e.g. a mismatch between the demand and supply of services –, the low level of the inner dimensional indicators can cause effectiveness problems for the organizations.

OBJECTIVES AND METHODS, BASICS OF THE RESEARCH

Incited of the above-mentioned lack of overall measurement of the services of intermediaries and based on the relevant literature, the research aimed to reveal the **effectiveness of these organizations**. Research questions focused on the **activity and services, cooperation and communication** of the bridging organizations and the **hindering factors** of their success. Measurement of services, communication and organizational factors is connected to the inner dimension of the above-mentioned effectiveness model. The analysis of services focused on data as the **types** and the **frequency of offered services** or the **target groups** of the intermediaries' services. Using these data the researcher was able to **position** the respondent organizations in the innovation process too.

The empirical research intended to find an answer for the problem that several Hungarian intermediaries enlists a high number of services, but doesn't provide all of them in reality. We were also interested in where services of innovation intermediaries can be positioned regarding the stages of the innovation process. Furthermore, the research wanted to reveal the differences between the offered services of intermediaries and the needs of their target groups.

The research was elaborated on three levels, containing a national, a regional and a local analysis. The national level research surveyed the intermediary organizations, while regional

and local researches were focusing on target groups of services of intermediaries like researchers and companies. 129 organizations answered the national level questionnaire, the regional survey measured 300 companies and 30 experts in the Central-Transdanubian Region of Hungary while the local research resulted 131 answers (53 researchers and 78 companies) in the sub-region of Dunaújváros, Hungary.

This paper focuses on the results of the **national level research** and uses regional and local data supplementing these results with the data representing the opinion and motivation of the target groups of innovation services. Local data was collected in a middle-sized city of Hungary, in Dunaújváros. However local research cannot significantly be compared to national level results, there are several fields of effectiveness in which local factors give a more subtle aspect.

As stated above, this present paper describes only those research results which are connected to the inner dimension of the model in Figure 1. Both national and subnational level researches contained information according to this dimension. However reviewing one dimension can not give an overall picture of the effectiveness of the organizations, examining inner management of intermediaries gave an answer to several research questions stated above – e.g. questions about positioning and about the difference of the offered and demanded services.

Based on the relevant literature about innovation intermediary organizations and their services (like Jain et al. 2010, Nagaoka et. al 2009, Guana–Chen 2012 or Filippetti–Archibugia 2011), in the national research we defined and questioned the following types of innovation intermediary organizations:

Table 1 Types of innovation intermediaries

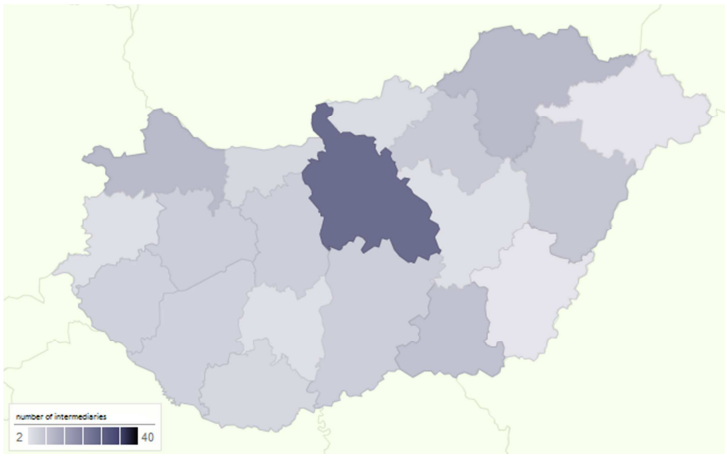
Type of the organization	Number of respondents in the national level research
technology transfer offices (TTO)	25
chambers of commerce (chamber)	59
regional innovation agencies (RIA) – nonprofit companies	7
business or company development foundations (BDF) – companies and civil organization	21
members of Hungarian Innovation Association (HIA) – civil organization	17

Resource: own compilation

The research aimed to reach all innovation intermediary organization of Hungary in these groups but did not examine profit-oriented companies participating in the innovation process as intermediaries. The respondent rate of the questionnaires sent to the organizations listed in Table 1 was more than 75 percent.

Spatial distribution and types of the analyzed innovation intermediary organizations are visualized on the following figure:

Figure 2 Spatial distribution of the respondent Hungarian innovation intermediaries (number of organizations)



Resource: own compilation, http://www.chartle.net/embed?index=81208

Most of the intermediaries are located in the Central-Hungarian Region. In Northern-Hungary, Western-Transdanubia and Southern-Great-Plain Region the number of organizations – especially chambers – are also significant. This spatial distribution of the organizations is significantly connected to the distribution of financial resources mentioned in the introduction chapter. The Southern-Great-Plain and Northern-Hungary Regions received more support for their innovation project than other regions – except the Central-Hungarian Region.

The number of organizations working in or near higher educational institutes and chambers was high in the sample and the fewer answers arrived from profit-oriented companies and civil organizations. Respondent organizations were mainly founded after 2005 and employ less than 10 employees.

The research examined 31 services that innovation intermediaries offer. The list contained 7 main groups of services:

1. consultancy
2. education

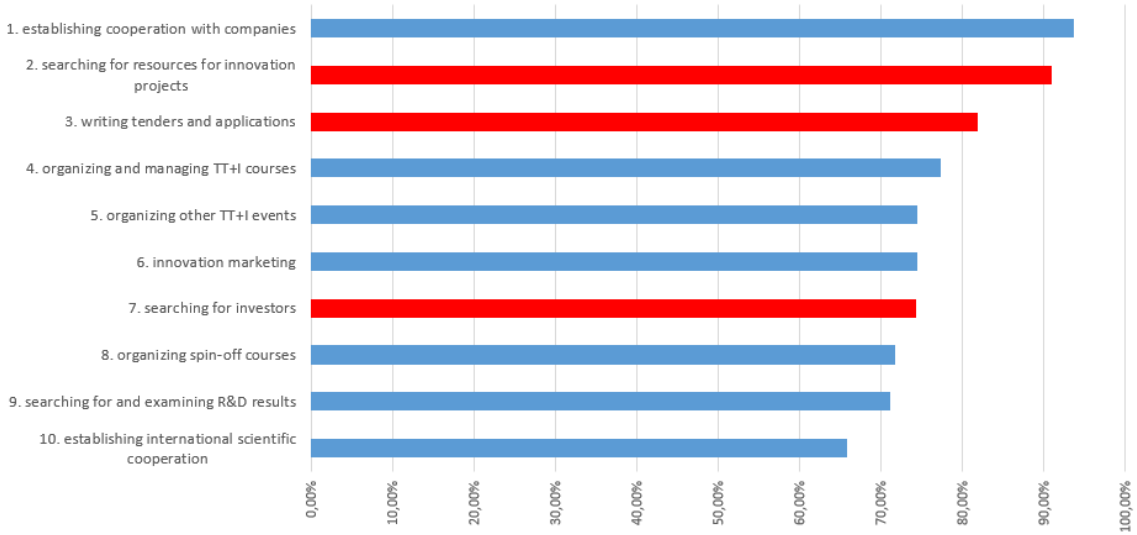
3. knowledge and technology transfer
4. establishment of cooperation and networks
5. involvement of resources (like applications and tenders)
6. activities regarding protection of intellectual property rights
7. other innovation activities

National level data collection was implemented by questionnaires sent directly to all Hungarian organization in the above mentioned five groups.

MAIN RESULTS OF THE RESEARCH

The national level research examined the services of intermediaries in details according to the 31 types of services. Examining the rate of organizations offering the listed services, the TOP 10 rank of services (Figure 3) are the following:

Figure 3 TOP 10 rank of services offered by Hungarian intermediaries (percent of intermediaries)



Resource: own compilation

Figure 3 reflects that for the intermediaries the **involvement of resources** – 5th group of services in the above-mentioned list - is crucial (three of the TOP 10 services are connected to financing). Lack of financing as a barrier to innovation has also been indicated in surveys published by the authors Csizmadia–Grosz (2011), or Dőry (1996).

The target group of the services of innovation intermediary organization was examined by the data of the national level research. In this article, we only present the results about the two main target groups – companies and researchers.

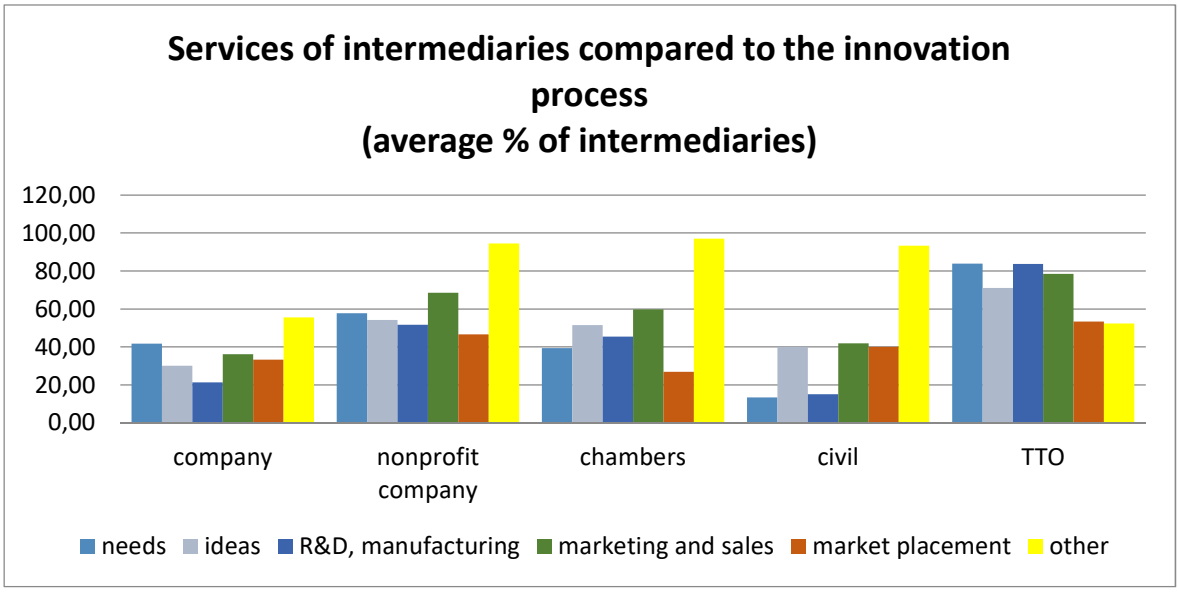
The research indicated that most of the intermediaries (nearly 58%) offer the 5th group of services (involvement of resources like applications and tenders) for the target group of companies. Other important services offered to this group are the establishment of partnership, education and other, innovation marketing services. However these services do not aim the target group of companies, rather the organization itself or other partner organization (finding resources) or the group of researchers (innovation marketing).

To the target group of researchers, most of the respondent intermediaries (65%) offer other innovation services like marketing or organizing events. Other important offered services for researchers are the protection of intellectual property rights and involvement of resources.

Comparing these results to the needs of the target groups (analyzed in the regional and local research) our results indicated problems of marketing segmentation of the intermediaries. Defining the proper target group and offering services which they need is crucial for an organization (Veres, 2002). Contrary to the preferred services of intermediaries companies do not need services like the involvement of resources or focusing on the establishment of partnership as they have their own network and can easily manage their cooperation. The target group of researchers would need information about local projects and wishes to participate in more R&D possibilities. Both national and subnational research indicated that there is a **mismatch between the offered services and the needs of the target group** of intermediaries.

The national level research also analyzed the positioning of innovation services by comparing the measured services to the stages of innovation process (based on the model of Rothwell, 1994). The results showed (in Fig. 4.) that Hungarian intermediaries **are not specialized on a specific stage** of the innovation process. More specifically, most of them **serve mainly the 'starting' stages** of the innovation process (i.e. ideation, invention or R&D phase) and only less than 60% of the respondent organizations offer services in the 'ending' commercialization phase. Focusing on the first stages means that intermediaries lose to obtain incomes from patenting or implementation.

Figure 4 Types and services of intermediaries vs. innovation process



Resource: own compilation

The overemphasized scale of 'other' services (see the 'other' columns of the above diagram) – like innovation marketing or services regarding tenders – also indicate the marketing positioning problems of intermediaries. These services cannot be closely connected to one specific stage of the innovation process. Besides, intermediaries usually do not offer tender services to other organizations but try to involve resources for their own operation. Comparing the results of the above analysis and the types of organizations it is clear that Technology Transfer Offices (TTOs) position themselves well in the innovation process, offering several types of services but mainly supporting the knowledge creation phase. However, industrial chambers which are closely connected to companies in Hungary – due to a regulation about the obligatory registering – and have a huge network of partnership, seem not to utilize this advantage and do not focus on the market placement phase.

Communication problems and weaker impact of communication can also have an effect on the effectiveness of innovation intermediary organization. Communication and the motivation of the participants of the communication process (as the element of social capital) are specific local factors and influence the local innovation system (Enyedi 1997). Therefore the results of local and regional level survey examining the communication of the intermediaries can give a more subtle result representing the local relations and milieu. The research revealed that companies could be considered as well informed about the activities and services provided by innovation intermediary organizations. However, only one-quarter of them knows to whom they can turn to get information about innovation problems. Besides, less than 22% of the companies reported having a living contact with intermediaries. Similar or less percent (10-

18%) of cooperation was highlighted in the publication of Csizmadia and Grosz (2011) and Bodas Freitas et al. (2013), thus these results correspond with other European and Hungarian researches. However, according to the results of our research, the percent of cooperation will drastically decrease in the next 3 years as less than 10% of the respondents intend to have a partnership with intermediaries.

About the communication channels used by the target groups, our local research indicated that online sources and personal connections are the most important ones. Most of the Hungarian intermediaries have their own websites (more than 56%) or can be found on the webpage of the hosting higher educational institute but still, many of these sites do not contain proper or specific information – e.g. about offered services – which the target group requires.

CONCLUSION

The introduced research results clearly indicate the ‚inner' management and service problems of Hungarian innovation intermediaries. There is a significant mismatch between the services they offer and the needs of their target groups and the positioning of intermediaries' services is erroneous too.

In consequence, inner management problems of the innovation intermediary organizations negatively influence their effectiveness. If they offer services which the target groups do not need, these services will be unsaleable and the target group will not cooperate with them in the future. The false positioning of services forces intermediary organizations to have an unreasonably wide service portfolio and implement more activities than they are capable of (e.g. not closely connected to the innovation process). Both cases implicate management and financial problems.

There can be a number of issues behind these problems. During the last decade, basic changes were made in the Hungarian system of institutions and also in the national innovation system (NIS). The main innovation institutions were founded in the early 2000s but since then the system was continuously changing. For instance, since 2004 one of the main organizations which is responsible for the coordination of the R+D+I (research and development and innovation) process in Hungary, the NKTH (National Research and Development Office) became the NIH (National Innovation Office), then changed to NKFIH (National Research and Development and Innovation Office).

The system of grants supporting innovation has also been transformed continuously. The role of the government financing the innovation process has been gradually decreased but this reduction influenced the system of organizations only to a small extent. The structure of the NIS is extended and some of the organizations have parallel functions. Decentralization and networking – emphasized in the EU – have already begun but hindered. In the few last years, the financing of the organizations (like intermediaries) was de-emphasized.

Intermediary organizations face many difficulties because of the unstable, project-centered and non-continuous financing, therefore they are forced to focus on the involvement of resources. Financing of innovation is a part of the input dimension of the model mentioned in the theoretical background chapter and was also examined by the author during to the above-mentioned national research. In Hungary, intermediaries can apply for several EU co-financed and national calls. However, these sources do not support the whole management and operation of innovation intermediaries as they only promote specific projects – like improving the licensing process or the establishment of start-ups. Besides, financing methods of applications do not give a stable financial background to the organizations as the sum and spatial distribution of the resources change according to time. In the beginning of the financing period more support are distributed to several regions but at the end of the period, only a few organization in some regions can receive grants. For instance, larger state aid was received by intermediaries in the first year (2006) of the national Baross Gábor Program, 70% of the total four year budget was spent then.

This unsuitable financing method and the fact that most of the services and activities of the intermediaries (e.g. licensing) do not result immediate profit multiplicatively increase the financial burden and liquidity problems of the organizations. Besides, involving investors in Hungary – e.g. for research projects – is also difficult due to the low level of trust (Research results about trust in the Hungarian innovation system are mentioned in Inzelt's (1998) article.)

Financial and liquidity problems drive intermediaries to provide all kind of services and run projects that contribute to their survival. Importing more activities into the offered group of services to involve resources also causes dispositioning of the organizations in the innovation process. Industrial chambers, for instance, now need to focus on educational services to gain more prompt incomes rather than utilizing their wide range network and offering more 'ending phase' innovation services (positioned to the marketing phase of the innovation process) to the companies.

Solutions for the problems revealed in the presented research should be complex and need to use system approach. Implementation of long-term goals of innovation strategies, stable institutional and financial system can decrease financial burden of organizations and increase the trust of the participants of the innovation process in their partners. Trust-based cooperation of intermediaries with their target groups is also necessary for their development. Besides of these 'input' dimensional changes, intermediaries also need to focus on the development of their inner management facilities and methods. Offering their services for the target groups which need it, positioning themselves clearly in the innovation process and increasing the effectiveness of their communication would result more operational effectiveness.

The above-mentioned problems of Hungarian innovation intermediaries influence not only of their organizational and service effectiveness. Inappropriate services, less effective communication result law cooperation of companies and researchers with intermediaries thus negatively influence the innovation process and the innovation potential of Hungarian regions. Therefore solving these problems is crucial for actors and decision makers participating in the Hungarian innovation system.

SUMMARY

Innovation intermediary organizations play a significant role in national innovation systems as they provide services for the actors of the innovation network. Their effectiveness influences the innovation potential of national or regional innovation system too. The main goal of intermediaries is to connect the actors of innovation network to promote knowledge exploitation and -transfer. In the past 12 years intermediaries were developed in Hungary, however, their effectiveness was not measured comprehensively. Our survey examined the services of Hungarian innovation intermediary in details. The main question was whether Hungarian innovation intermediaries 'serve' the innovation system effectively. Our results highlighted several 'inner' management problems of these organizations like the significant mismatch between the provided services and the needs of the target groups or the positioning of intermediaries' services. The problems have affected not only on their effectiveness but negatively influence the innovation process.

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NOTES

QUESTIONAIRE OF THE NATIONAL LEVEL RESEARCH

Questionnaire for innovation intermediary organizations

1. **Address of the headquarter of the organization: _____**

2. **When was the organization established?**
   a) before 1989
   b) between 1990 and 1995
   c) between 1996 and 2000
   d) between 2001 and 2005
   e) after 2006

3. **Legal form of the organization:**
   a) for-profit company
   b) non-profit company
   c) sole entrepreneur
   d) chamber
   e) civil organization
   f) other: …….

4. Please indicate your position in the organization!
a) owner
b) top manager
c) middle manager
d) employee
e) other: …….

5. Number of employees of the organization:
a) 0
b) 1-9
c) 10-49
d) 50-249
e) more than 250

6. **Please indicate the target group of the services of your organization. (More answer is possible)**
a) companies
i. micro and small size companies
ii. medium size companies
iii. large companies
b) researchers
c) higher educational institutes
d) civil organizations
e) innovation intermediaries
f) networks and clusters
g) other advisory organization (not intermediaries)
h) other private persons
i) I do not know.
j) other: ----------

7. Please indicate the three main – most important – target groups of your organization – to which you offer the most of your services. (Three answer is possible)
a) companies
iv. micro and small size companies
v. medium size companies
vi. large companies
b) researchers
c) higher educational institutes
d) civil organizations
e) innovation intermediaries
f) networks and clusters
g) other advisory organization (not intermediaries)
h) other private persons
i) I do not know.
j) other: ----------

8. **Does your organization have any service directly connected to innovation?**
a) yes
b) no
c) I do not know.

9. What kind of services does your organization offer to its target groups? (More answer is possible)
a) advisory
b) educational
c) knowledge and technology transfer
d) establishment of partnerships and networks
e) involvement of resources (e.g. tenders and applications)
f) protection of intellectual property rights
g) other innovation services

10. How frequently your target groups demand (use) the below-mentioned ADVISORY services?

Services	daily	weekly	monthly	several times a year	rarely	never
advises about innovation in general						
management advises						
financial advises						
advises about intellectual property rights						
advises about starting a company						
advises about starting a spin-off						
other advisory: ……						

11. How frequently your target groups demand (use) the below-mentioned EDUCATIONAL services?

Services	daily	weekly	monthly	several times a year	rarely	never
organizing and implementation of courses of knowledge and technology transfer						
organizing company development and spin-off courses						
other courses: ……						

12. How frequently your target groups demand (use) the below-mentioned KNOWLEDGE AND TECHNOLOGY TRANSFER services?

Services	daily	weekly	monthly	several times a year	rarely	never
scientific and innovation marketing						
scientific dissemination activity (e.g. research catalogues, laboratory brochures, etc.)						
organizing innovation exhibitions						
organizing other events about innovation						
organizing other scientific events						
elaboration and maintenance of knowledge maps						
incubation and management of spin-off companies						
organizing innovation or idea competitions						
organizing business plan competitions						

13. How frequently your target groups demand (use) the below-mentioned PARTNERSHIP AND NETWORK ESTABLISHING services?

Services	daily	weekly	monthly	several times a year	rarely	never
development of company partnership						
connecting and partnership with VCs and business angels						
building an international scientific partnership						

membership in international knowledge and technology transfer or innovation organizations (e.g. ASTP)						
participation in the events of international knowledge and technology transfer or innovation organizations						

14. How frequently your target groups demand (use) the below-mentioned RESOURCE INVOLVEMENT services?

Services	**daily**	**weekly**	**monthly**	**several times a year**	**rarely**	**never**
writing applications and tenders						
management of applications' and tenders' projects						
searching for resources for innovation projects						
searching for investors for the use of intellectual property or for inventions						

15. How frequently your target groups demand (use) the below mentioned INTELLECTUAL PROPERTY RIGHTS services?

Services	**daily**	**weekly**	**monthly**	**several times a year**	**rarely**	**never**
evaluation of intellectual property						
registration of intellectual property (with procurators)						
management of industrial property protection						
participation in the process of distributing incomes from intellectual property rights and in handling conflicts about it						
advisory about intellectual property						
advisory about the use of intellectual property						

16. How frequently your target groups demand (use) the below mentioned OTHER INNOVATION services?

Services	**daily**	**weekly**	**monthly**	**several times a year**	**rarely**	**never**
searching for R&D results						
research about the current state of technology						
elaboration of company research agreements						
management of incubator						

17. How effective do you think the knowledge and technology transfer services of your organization are?

1 not effective at all	**2 less effective**	**3 moderately effective**	**4 quite effective**	**5 very effective**

18. How effective do you think your organization are in general?

1 not effective at all	2 less effective	3 moderately effective	4 quite effective	5 very effective

19. Please esteem the time (how many % of your working hours?) that you and your colleagues spend with offering knowledge and technology transfer services.

a) 0-10%
b) 10-30 %
c) 30-50%
d) 50-70%
e) 70-100%
f) I do not know.

20. How much income (Ft) does your organization have annually? (Consider the average of the previous 3 years incomes).

a) under 10 million
b) between 10-25 million
c) between 25-50 million
d) between 50-100 million
e) above 100 million
f) I do not know.

21. How many percent of your income comes from the services of knowledge and technology transfer and innovation?

a) 0-10%
b) 10-30 %
c) 30-50%
d) 50-70%
e) 70-100%
f) I do not know.