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EXAMINATION OF ENTREPRENEURSHIP ECOSYSTEM IN DEBRECEN FROM THE DIRECTION OF OPEN INNOVATION SPACES

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Abstract: Innovation is not just a technology, but it is rather a comprehensive vision of what the future should look like and which requires changes in many ambits. Innovation is driven by people's needs, ambitions and dreams, and it is necessary that people at different positions in the society change the way they work and live. Innovation, as a result of human interactions, often fails because people do not understand each other, as they belong to different worlds which have their own languages and cultures. While innovation system-like thinking recognizes that the needs are a good mix of factors for innovation, it is hard to establish the perfect mix beforehand: innovation systems and policies need to be adaptive" (Klerkx, Mierlo & Leeuwis 2012).

I tried to bring this complex vision to our future. The actuality of the topic is provided by the fact that we are in the period of the development of digital industrial revolution, on the peak of the technology innovations, slowly resulting in the revolutions of the machines. These technological innovations, trends, equipment or new technological achievements often make our work easier, or they may replace us, and will bring changes transforming the world with them. At present era, the availability and use of the relevant knowledge is essential. In Western Europe and in other more developed countries different spaces provide places for evolving various trends, applying the acquired knowledge, e.g. development of Silicon Valley, polices, clusters, co-workings. These innovative spaces may form a bridge for evolving a global, international or regional technology and knowledge transfer, sharing our knowledge and developing our competitiveness. They may be the engine of a "new world".

The entrepreneurship ecosystem in Debrecen was investigated regarding the presence of open innovation spaces. Though Debrecen has already had open innovation spaces, it does not have space operating as HUB. „HUB is a global platform, where people from all corners of the planet connect and engage in collaborative action to realize enterprising ideas for a better world" (HUB GMBH 2012). Furthermore, I studied the fact that why the creation of HUB in Debrecen is reasonable concerning every sector, and what characteristics this space may have. In order to analyze my hypotheses, I used questionnaires made by Delphi survey. During the process experts of this field were asked in two turns. Selecting the experts occurred on the basis of Helix model.

Keywords: innovation, open innovation, HUB, Delphi survey method, Helix model

1. Introduction

The competitiveness of the European Union in the field of research and development and innovation (R&D&I) reflects a long-term deterioration in global steps. The regional and structural differences of R&D&I and particularly of R&D have further increased during the last decade. The so-called European paradox means the contradiction that in Europe outstanding scientific results are achieved, the practical results of innovation are more moderate. This has impacts certainly on Central and Eastern Europe and Hungary. In spite of the world economic crisis, most of the developed countries in the European Union, as well as the EU itself, are endeavouring to increase the R&D support.

In Hungary there are three major problems relating to R&D&I, such as the weaknesses of university-academy, governmental, national and international knowledge bases,

knowledge generation; knowledge transfer (technology transfer, lack of other transfer mechanisms) and knowledge application. The European Union's framework programme for R&D development between 2014 and 2020, called the Horizon 2020 strategy, set the objective of significantly increasing the R&D resources available at the Union level" (Ministry for National Economy 2013). The aim of my research is to establish a HUB operating as an open innovation space. The R&D&I strategy of the European Union may form a basis for this, and it may harmonize with the economic development plan of Debrecen. The development such an innovative space forming a bridge may have a relevant impact in our region from the practical aspect as well. In my opinion, this shows something new than the already existing open innovation space in this way it would be worth developing it in Debrecen.

"The innovation process and its scientific approach went through a fundamental change during the past years. After

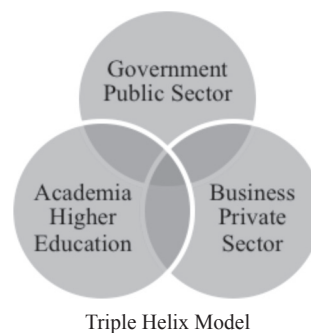
publishing the book of Henry Chesbrough in 2003 a new definition became generally accepted, the so-called Open Innovation. During the open innovation operation many companies strive to utilize the economic value in the intellectual knowledge in a better way by combining the internal and external sources. In one sentence, the open innovation is the purposeful utilization of inflowing and outflowing of the knowledge and the extension of market for external use of innovation" (Molnár & Németh 2009).

In this meaning the open innovation space is a space where the targeted use of inflowing and outflowing knowledge happens for acceleration the inner innovation and using the external innovation, and where committed people wishing to do something may expand and change their knowledge and ideas. Under the present economic conditions as well as because of the connections between the education and work, it is very important that what knowledge the students have when finishing their trainings with their profession (Oláh-Hutóczki 2012). HUB is one of the open innovation spaces.

The complex context of National Innovation System (NIS) means the features determining the speed of the innovation spread improving the scientific and technical progress for nation economies. OECD carried out a significant effort to get to know these systems. According to examinations, the activity of the scientific sphere, enterprises as well as mediator and consultant institutes between two institutional groups is relevant, but several other institutes may play a role. During the operation of the National Innovation System, the most important processes include the creation, applying and spread of innovation knowledge. The operation conception of National Innovation System has already further refined, and draw attention to the so-called Triple Helix (Government-University-Industry) model or Quadro/Quadruple Helix (Government-University-Industry-Civil sector) model, which is already used in western countries (Pakucs et al. 2006). The selection of the experts was based on this Helix model.

"The "Triple Helix" is a spiral model of innovation that captures multiple reciprocal relationships at different points in the process of knowledge capitalization. Nowadays the Triple Helix model is added with the civil sector, and this is so called Quadro (Quadruple) Helix model (see on Figure 1.). Already, the newest Helix model has been appeared. It is the "Pentagonal Helix model".

"Two additional groups of partners will make cluster development much more effective, especially for internationalisation. These groups are People/Users and Access to Finance. People/Users cover both skills within the cluster and user-driven agenda. Specific skills are necessary for effective internationalisation to meet the needs of users as well as businesses. Access to Finance includes all types of finance, not merely grants, eg. venture capital, business angels, banks etc. At the various stages of cluster internationalisation, different levels of finance will be required that will come from a variety of sources. There is also an overlap with People (Skills) as some sources of funding will provide specialist expertise as well. The two additional groups of partners thereby create the "Pentagonal Helix" (Tactics 2012).



Triple Helix Model



Quadruple Helix Model

Figure 1. Helix Models

Source: own construction according to 12 Manage, 2013

The first dimension of the triple helix model is internal transformation in each of the helices, such as the development of lateral ties among companies through strategic alliances or an assumption of an economic development mission by universities.

The second is the influence of one helix upon another, for example, the role of the federal government in instituting an indirect industrial policy in the Bayh-Dole Act of 1980. When the rules of the game for the disposition of intellectual property produced from government sponsored research were changed; technology transfer activities spread to a much broader range of universities, resulting in the emergence of an academic technology transfer profession.

The third dimension is the creation of a new overlay of tri-lateral networks and organizations from the interaction among the three helices, formed for the purpose of coming up with new ideas and formats for high-tech development.

The triple helix denotes the university-industry-government relationship as one of relatively equal, yet interdependent, institutional spheres which overlap and take the role of the other. There has been a movement from separate institutional spheres, which represent, at least in ideology, the United States situation. There has also been a shift from the model of the state compassing industry and academia, in its strongest form in the former Soviet Union but versions could also be found in Latin American and European countries" (Etzkowitz 2002).

One of the major advantages of using as a tool for economic development is the way that it brings together businesses, aca-

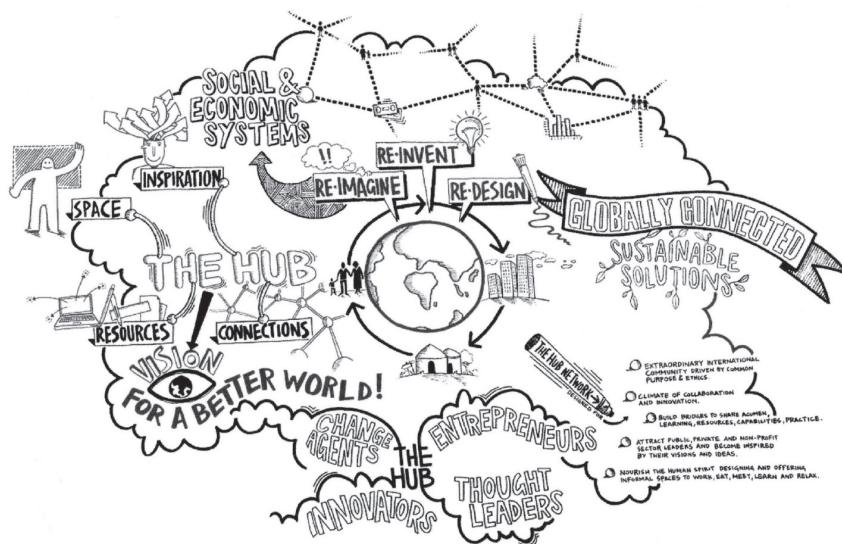


Figure 2. The Operation Principle of HUB

Source: HUB GMBH, 2012

demia and the public sector. “Triple Helix” brings together the key partners who can drive innovation and competitiveness for the benefit of businesses, especially SMEs. However, the “Triple Helix” is now too restrictive. Two additional groups of partners will make cluster development much more effective, especially for internationalisation. These groups are People/Users and Access to Finance. People/Users cover both skills within the cluster and user-driven agenda. Specific skills are necessary for effective internationalisation to meet the needs of users as well as businesses. Access to Finance includes all types of finance, not merely grants, eg. venture capital, business angels, banks etc. At the various stages of cluster internationalisation, different levels of finance will be required that will come from a variety of sources. There is also an overlap with People (Skills) as some sources of funding will provide specialist expertise as well. The two additional groups of partners thereby create the “Pentagonal Helix”.

“As a consequence of the changes in the economy, that affected the European Union, and regional policy, rural population has to be adapted to the new environment. The problem of employment can be solved by being employed, self-employed or working as a family member. The demand for workers can be satisfied from unemployment if there are people with appropriate qualifications and in proper number. If the number of workforce is not enough, commuting or migration would be the solutions. If the number of jobseekers satisfies the demand but the qualification of these inhabitants does not fit the labour market, people need to have appropriate education. However in these fast changing economic and technical conditions, employed people can lose their jobs if they are not able to adapt” (Pakurár M., Oláh J. & Katonáné K. J. et al. 2010). It can be a good solution for this problem, to create a HUB.

The HUB was founded in 2005 to create a dedicated space to inspire, connect and empower people who want to realize enterprising ideas for a sustainable impact. The idea was simple, because there are plenty of people, with good ideas

for a “better world” (The operation principle of HUB shows the Figure 2.). The available environment seems to be missing which help these people to get support from similar thinking people and to realize action from the intent and impact from the action.

The founders of the HUB borrowed ideas from the best labs, start-up incubators in order to create a student and knowledge-centered place where a unique social innovation ecosystem may be built. A place where every necessary tool is available for a new enterprise to grow and develop for the sake of sustainable development with the condition that the founders take charge of passing the new experiences, the appropriate knowledge, connections, money and information from the market. Besides these the place should be appropriate for meetings, for being inspired and exchanging different ideas of different people” (HUB GMBH 2012).

The idea has been spreading like wildfire and resulted in the emergence of a global movement to create HUBs across five continents. Till October 2012 more than 30 HUBs were opened and their number may be much more today from London to Melbourne, Johannesburg to Sao Paulo, and San Francisco to Singapore. The HUB gives possibilities to build a thriving community of “impact creators” in the city. Founding a HUB is a long-term commitment of at least 5 to 10 years and requires a full dedication to meet all the challenges that will emerge along the process. The managers of the network give plenty support for this. HUB is a physical, virtual and social space, in order to overview the changes in the world. The place and the community are for helping the materialisation of this change in the world by offering a unique mix of infrastructure, connections, inspiration and learning of people (IMPACT HUB Global Network 2012.).

HUB actually consists of three distinct elements (It is shown on Figure 3.)

- Vibrant community: passionate and entrepreneurial people who share the basic intention and realize a positive change.
- Source of inspiration: provides the content by providing thought-provoking events, innovation labs, learning spaces, incubation and discussion of the relating fields.
- Inspiring space: that offers a flexible and highly functional infrastructure to work, meet, learn and connect (HUB GMBH 2012).



Figure 3. The Elements of HUB

Source: HUB GMBH, 2012

2. Material and methods

My research was based on three hypotheses as follows:

- Debrecen has already had an already developed open innovation space.
- It is reasonable to establish a HUB in Debrecen operating as open innovation space.
- The HUB should be opened for every enterprise sector.

My primary research relating to the open innovation space was carried out by Delphi survey.

„The Delphi method was developed in the USA in the 1950s, in order to reveal the major future tendencies of the development of the science, the expected events and their probable time. The essence of the method is asking experts in the fields in several turns and analyzing the average opinion of the expert group and the distinct opinions as well. By feeding back the results of certain turns the experts may get information on the opinion of the professional community and in this way they have the opportunity to correct their opinions. The construction of the questionnaires is in the center of a problem, or in the focus of an opportunity, a solution or a forecast.

Delphi involves an iterative survey of experts. Delphi may focus on forecasting technological or social developments, helping to identify and prioritize policy goals or determining expert opinion about some aspect of affairs that cannot be measured directly by conventional statistical means. A dialectical process, Delphi was designed to provide the benefits of a pooling and exchange of opinions so that respondents can learn from each others’ views, without the sort of undue influence likely in conventional face to face settings.

The Delphi exists in two distinct forms:

1. “Delphi exercises”

The most common version is the paper-and-pencil one which is commonly referred to as a “Delphi Exercise”. A small monitor team designs a questionnaire which is sent to a larger respondent group. After the questionnaire is returned the monitor team summarizes the results and, based upon the results, develops a new questionnaire for the respondent group. The respondent group is usually given at least one opportunity to re-evaluate its original answers based upon examination of the group response. To a degree, this form of Delphi is a combination of a polling procedure and a conference procedure which attempts to shift a significant portion of the effort needed for

individuals to communicate from the larger respondent group to the smaller monitor team. This form is known as conventional Delphi. I worked with this form of the Delphi.

2. “Delphi conference”

“Delphi Conference”, replaces the monitor team to a large degree by a computer which has been programmed to carry out the compilation of the group results. The process is a real-time communications system. It requires the fact that the characteristics of the communication should be well defined before Delphi is undertaken, whereas in the Delphi exercise the monitor team can adjust these characteristics as a function of the group responses. This form is labeled with real-lucres Delphi. (Turoff M. & Linstone H.A. 2002)

The selection of the experts for filling in the questionnaires was based on the Helix model. The distribution of the experts within the model is the following:

- 3 persons from the government sector
- 4 persons from the business sector
- 4 persons from the academy/university sector
- 2 persons from the civil sector. Actually they rather belong to the business sector. In Hungary the role of the civil sphere is unfortunately minimal. Those who deal with civil activities as hobbies come from one of the sectors.

The number of experts may seem low for the correct statistical analysis. But the main aim of questionnaires informed the experts, principally those may have vote in the decision of creating of HUB.

The experts were asked in two turns regarding two major topics when compiling the questionnaire:

- on the HUB in general
- from the point of view of HUB Debrecen

15 to 30 questions were asked in the two topics. The table 1 shows the distribution of the questions in the two turns.

3. Result and discussion

3.1. Experiences with the Delphi

- Delphi was capable of proving my research in this way it may be an appropriate tool for the examination of a thing being realized in the future.
- It is not an easy method, it is used quite rarely.

Table 1. Distribution of the Delphi survey questions in the two turns

On the HUB in general	From the point of view of HUB Debrecen
I wished to reveal the knowledge and opinions of the experts relating to the topic in this question group as well as to draw attention to my research topic. I looked for the answer such questions, for example: What does HUB mean for them? How do they interpret it? What influencing factors do they consider important when creating a HUB? Do they accept the formed opinions? Do they agree with the rules set by the HUB Network?	My questions focused on Debrecen to reveal the views of the experts about the conditions set by the Network, to discover the fact whether the HUB may be realized or not and to examine to what extent the HUB drew their attention. Would you create a HUB if you had possibilities? Would you join the community if it was founded? Does the creation have any dangers? What expectations should the founders and users meet? For what sector would you make the HUB open?

Source: own survey, 2013

- The personal interview is more effective, but takes much more time at the same time. If time is relevant in the research, it is practical to use the Delphi conference being the other form of Delphi.
- When using Delphi, not only forming the questions is a relevant aspect but the targeted selection of experts, by which the research may be based. I worked with 13 persons. According to literature sources, the ideal number ranges from 10 to 30 persons. My primary aim was to draw attention and getting information on their views on the realization. Without the opinions of the selected experts the questionnaire helping in strengthening my research would not have been successful.

3.2. The Influencing Factors of Creating a HUB

From the point of view of the realization I found important to investigate who and what the most important influencing factors are during the creation. In the questions I took the influ-

encing factors of innovation institutes and ecosystems as well as the expectation set by the HUB Network into consideration. I detail these results in the followings.

Within the influencing factors relating to “who” three big groups were classified such as the institutes, enterprises and civil sector (Figure 4.).

According to the respondents the most important influencing factor was the civil sector when creating a HUB. The result is surprising, but may be thank to the fact that besides the representatives of civil organizations and the operators of the community places the civil sector included the founder/founders, users and purchasers as well. The ratio of the founder/founders, users and purchasers was proved to be relevant (=4) within the sector. The ratio of the other participants was moderately important.

The distribution of the importance within the institutional sector is illustrated in Figure 5.

It did not reflect the expected result. Within the institutional influencing factors (Figure 5), I found the role of the European Union, the Hungarian Government, Ministries and Local Government very important. The importance of my topic was also strengthened by the Horizont 2020 Strategy of the European Union. Nowadays it would be hard to create such spaces without the financial support of the European Union. I think there are many subsidy sources helping in creating innovation spaces but they relate to mainly physical, infrastructural realization and not to improving the provided service. The EU realized the importance that the improvement of the knowledge capital should be aimed during the R&D investments.

In case of enterprises (Figure 6), the roles of small and medium enterprises (SME), multinational enterprises, spin-offs and start-ups were important. Family and friends have the smallest role. The reason why they were listed here is the fact that in start-up ecosystems firstly family, friends and other supporters are the primarily investors and the other investors come next.

The next figure (Figure 7.) illustrates the influencing factors of a HUB creation relating to “what”.

The distribution of influencing factors („what”) (Figure 7.) within the factors is the following:

- Within the economic regulations, the subsidies were outstanding (4 = important).
- Social resources were considered in average 4 (=important).
- The human side was considered in average (4=important) as well. Within the human factors, the roles of active contact person, a sense of mission and credibility were outstanding.

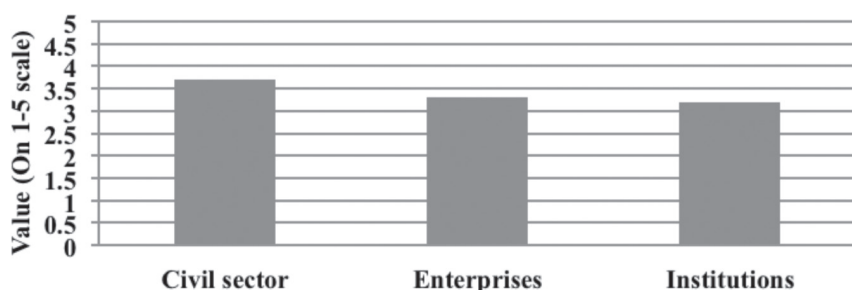


Figure 4. Influencing Factors of HUB Creation in Debrecen (Who?) (2013, Debrecen)

Source: own survey, 2013.

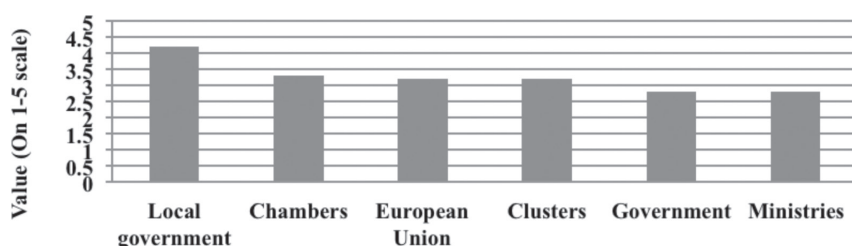


Figure 5. Judgment of Importance of Institutions for Creation a HUB (2013, Debrecen)

Source: own survey, 2013

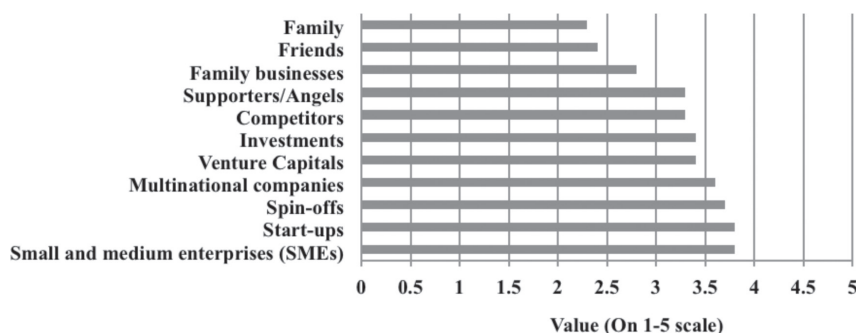


Figure 6. Judgment of Importance of Enterprises for Creation a HUB (2013, Debrecen)

Source: own survey, 2013

- Relating to financial resources the existence of foreign capital was relevant (4=important) for a HUB creation.
- Regarding physical resources the existence of assets was more important than that of real estates.
- In case of a macro space, the geographical approach and the regional location are equally important (5=very important) factors when creating a HUB.
- In macro space the experts found the infrastructural development and the availability of inspiring environment important (4), the other factors were moderately important.
- Among the environmental influencing factors the satisfaction of demands and the existence of international market were considered important (4).

Within the distribution in the first turn the experts found the human, the physical and financial sides equally important. All these have to be together. According to the basic letter of the HUB, the HUB group has a huge relevance thus I could have found the human side very important, too.

To my mind, the founders and the operators being the group who gives content to the HUB will be responsible for the whole process. THE HUB Network set strict frames for this, as the group determines the operation. Besides keeping the set aspects, even the interests of the city and the strategic operation should be taken into consideration. Its existence and operation will bring changes and results at the level of the region; this is why it is important to harmonize with the interests of the city management. Furthermore, it is important that the participants should understand the fact that it is not a hindering organization but the coordination of innovation initiatives of similar views, it focuses on collaboration as thinking and operation in a group form is more effective than the individual efforts.

I asked the experts whether they would open a HUB in Debrecen, if the opportunities were given. 11 persons answered yes to this question.

The experts highlighted the following dangers when creating a HUB. To my opinion, these are rather challenges than dangers, which can be solved.

- Inner characteristics of the founders: (e.g. disinterest, closeness (in behavior and thinking), bad fixation).
- Political resistance.
- There are many livelihood innovators.
- Lack of cooperation.
- Lack of the possible coordinator.
- We do not dare to take over the already operating experiences.
- The patterns are not accepted, everything is made in a "Hungarian way".
- A lot of organizations are present in the market having a big lobby power, which may hinder the operation.
- The subsidy side may be insufficient.

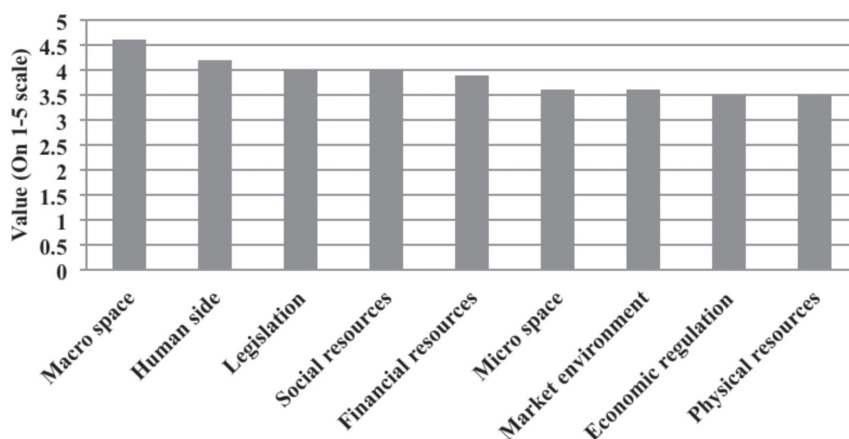


Figure 7. Influencing Factors of a HUB Creation (What?) (2013, Debrecen)

Source: own survey, 2013.

- There is not a proper consensus between the partners to manage such a space. Even the stronger relationship between the University of Debrecen and the Enterprise sector is insufficient, which would otherwise be important to create such a space.
- The experts definitely agree with the fact that the role of an organizing and coordinating power is important, because the presence of a single organization power is essential for the creation of this space.
- They have not found the fully committed person for the foundation, which was considered as a danger, as without this person the HUB cannot be operated.

I think Debrecen may be prepared for a HUB creation, but the timing of its foundation is very crucial. In my opinion the proper knowledge is available, as the University of Debrecen could serve sufficient knowledge basis, and there are several enterprises, that would be able to operate it. It might be a danger that it would be the first initiative in the country and due to its novelty, other initiative of higher lobby power would get subsidies and fame. Till the process has not started, it is difficult to see real dangers.

All in all, I find Debrecen capable of creating and operating a HUB, if its conditions harmonize with the management of the city. As this is an initiative focusing on development of the society, and there are several participants in the society, none of them must be neglected and everyone should be involved and made interested in it. The advantages from this should be highlighted and the fact that it is a strengthening and complex initiative.

I thought that one of the conditions set by the Network cannot be fulfilled, which was even asked from the expert. According to the founders of the HUB, the „HUB may be operated if it attracts at least 200 members, who work for sustainable solutions for nowadays' challenges and who are mainly social entrepreneurs. It means that they are owners of innovative enterprises, who have the opportunity to reach a system-levelled effect" (HUB GMBH 2012).

Even the experts' opinions strengthened that the knowledge is available for the creation of the HUB, but only 7 ex-

perts agreed with the number of the innovation enterprises, which is understandable as Debrecen does not have 200 innovative enterprises. If we focus on the social entrepreneurs who are open for operation, the number of 200 may be reached in Debrecen. Relating to this number, minimal number would not be set, and at the beginning only 10 to 20 persons would be enough, and the other may be attracted later to reach or exceed the 200.

Regarding the question whether they would make the HUB open for everybody, 9 experts would open it, and 4 of them would open the HUB to a certain sector. One of my hypothesis, by which the HUB should be opened for every enterprise sector, was strengthened by the respondents. Figure 8. shows, the role and relevance of the different sectors when creating a HUB.

The experts would recommend the HUB to the sectors above mentioned, to people who work for these sectors, who have an idea or for starting a business. They recommend for those whose major aim is not the rapid profit gain and for the University of Debrecen, for students, lecturers and researchers and innovative small and medium enterprises operating in Debrecen.

According to my first hypothesis Debrecen has already had opened innovation spaces, which is illustrated in a map (Map 1.). The map shows the open innovation spaces. There are quite a lot such spaces in Debrecen, and majority of them concentrated in the city centre. I would also place the HUB there and would operate independently from every created space to avoid the identification.

My second question focused on whether it is reasonable to create a HUB in Debrecen. The survey strengthened this as 11 persons answered yes for joining. This shows that they feel the advantages of the HUB and the fact that by the HUB the innovation potential of the city may be developed. As even Figure 8 illustrated they rather find the creation of a sector specified HUB more practical than opening it for every sector.

I gathered the information necessary for reaching the aim, and got to know the fact that how the market think relating to the idea. A further research, perhaps a Delphi conference, may be a good opportunity to get more information for the realization.

On the basis of the results, my recommendations for the future are the followings:

- It is worth examining the aspects of a HUB creation step by step.
- The potential of the city should be investigated and the intention for creation should be indicated toward the Network.
- Organizing a Delphi conference to get to know the opinion of the market
- Forming a founder group, who will deal with this field in the future

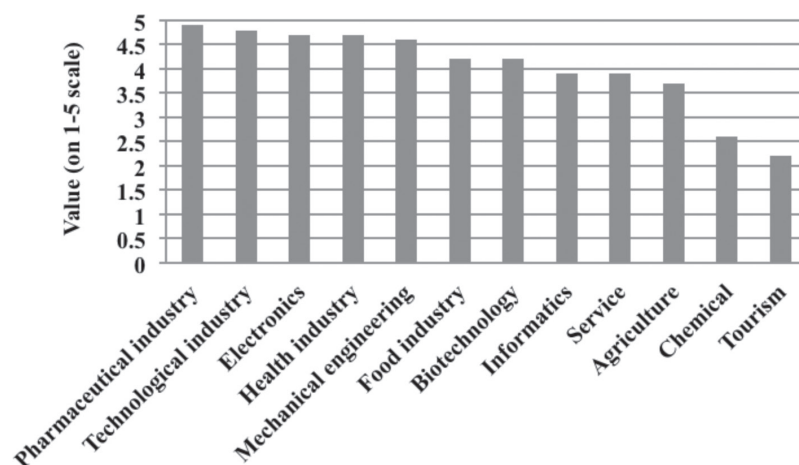


Figure 8. Judging the relevance of sectors when creating a HUB (2013, Debrecen)

Source: own survey, 2013

- Creating a co-working place, a community working place. This is helped by the fact that the Team Academy Debrecen has already been an open innovation space in Debrecen. As both HUB and Team Academy may be linked to a global network and the foundation of both of them is linked to a license agreement, which may go with significant advantages for the members.

4. Conclusion

I examined the entrepreneurship ecosystem in Debrecen regarding the open innovation spaces. According to my hypotheses Debrecen has already had open innovation spaces, but it does not have any operating HUB. „The HUB is a global platform, where people from all corners of the Planet connect and engage in collaborative action to realize enterprising ideas for a better world”(HUB GMBH 2012).

Furthermore, I studied the fact that why the creation of HUB in Debrecen is reasonable concerning every sector, and what characteristics this space may have. In order to analyze my hypotheses, I used questionnaires made by Delphi survey. During the process experts of this field were asked in two turns. Selecting the experts occurred on the basis of Triple Helix model.

My hypotheses were strengthened by the answers in the questionnaires, thus hypotheses have to be formed to theses and later to operational aspect.

My hypothesis that is Debrecen has already had evolved spaces was proved by the opened innovation map of Debrecen (Map 1.).

In the future I would develop an innovation package to operate these spaces, which may form a frame for the operation and after meeting the proper conditions, they could get compensation in return by probating their comparative advantages.

In my mind it is important to highlight the fact that the present strategic planning from 2014 to 2020 may serve a proper basis for the realization of similar initiatives.



Map 1. Open innovation spaces in Debrecen (physical way)

Source: own survey, 2013

Physical open innovation spaces in Debrecen

1. Debrecen City Hall; The Mayor's Office, Piac Street 20.
2. Hajdú-Bihar County Trade and Industry Chamber, Vörösmarty Street 10.
3. ÉÁRFÜ, North Great Plain Regional Development Agency, Széchenyi Street 31.
4. INNOVA, North Great Plain Regional Development and Innovation Agency Nonprofit Ltd.-Group of cluster of North Great Plain, Kürtös Street 4.
5. University of Debrecen (UD), University square 1.
6. UD Knowledge and Technology Transfer Office, University Square 1.
7. Medical and Health Sciences Centre (Campus of Clinical Research Centre; University Campus of Medical and Health Sciences) Nagyerdei Boulevard 98.
8. Hungarian Academy of Sciences, ATOMKI Institute for Nuclear Research, Bem Square 18/C
9. University Campus of Centre of Arts, Humanities and Sciences, Kassai Road 26.
10. Silicon Field Regional IT Cluster; **Debrecen INFO PARK IT Development and Innovation Ltd.**, Kassai Road 26.
11. University Campus of Centre for Agricultural and Applied Economic Sciences, Böszörményi Road 138.
12. Pharmapholis Innovative Functional Food Cluster; Innovative Food shop (I-Bolt); Innovative Science Club (Innovative I-Club), Böszörményi Road 138.
13. Team Academy Debrecen, Mórícz Zsigmond Road 4.
14. University Campus of Faculty of Engineering, Ótemető Street 2-4.
15. West Industrial Park, Határ Road 1.
16. IT Services Hungary Kft. Vezér Road Topographical Lot Number 0204/15
17. British Telecom, Vár Street 3.
18. TEVA Hungary Pharmaceutical Ltd., Pallagi Road 13.
19. Medisor, Electronics Ltd. (Handheld instrument production), Fűredi Road 98.
20. DBH Investment Group Ltd., Arany János Street 55.
21. Xanga Investment and Development Group, Halköz 3/A
22. MODEM, Centre for Modern and Contemporary Arts, Baltazár Dezső Square 1.
23. Youth Centre House, Simonffy Street 21.
24. Frei Café, Fórum Shopping Center, Csapó Street 30.
25. Roncsbár (Local pub), Csapó Street 27.
26. Főnix Incubator House and Business Centre, Csapó Street 42.
27. Cívus Incubator House, Piac Street 77.
28. Botanical garden; evolving Scientific Theme Park, Mórícz Zsigmond Road
29. IND Llc, (Laparoscope production) Bartók Béla Road
30. Globus Canning Industry Ltd., Monostorpályi Road 92.

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