

INNOVATION CENTRES AND THEIR SIGNIFICANCE IN A COMPETITIVE ENVIRONMENT

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Abstract: Innovation management is an important part of an overall management in a company, depending on it from point of existence and prosperity. It is broad knowledge and process system, useful tool not only in company management, but in a whole social system. The aim of this article is mainly current situation in selected area, there is an analysis and implication of author's own thoughts, their presentation and their explanation and expressing an opinion on development of start-ups in businesses in Slovakia. This is all discussed within the context of knowledge and experience from abroad and in connection with conditions and their development in European Union. On the basis of statistical verification, we verified the links and the dependence between the data obtained from the survey.

Keywords: *innovation, incubators, start-up*

1 Introduction

In current conditions of development, where elements of globalisation and internalisation are strongly presented and there is a stress on involvement of governmental institutions, but also internal innovation process of business units, the centre needs to be shifted corresponding cultural development in organisations and management of business development. It needs to be emphasised and explained, that innovation process should be understood as development of new products, from point of acquiring or exercising of innovation to introducing the product on a market. It is a preparation and continual application of innovation changes in given process. The outcome of innovation process might be utilised change, or realised innovation. Research and results of the study in general confirmed that innovation process may be divided into three main parts:

- Creation of invention,
- Creation of innovation,
- Penetration of innovation.

Each of these parts has its own internal solution. This will not be further discussed in this context. Content and expectations are given by theory and practice of businesses. It needs to be added that during innovation process there is a decrease of thoughts, initiatives and ideas. This attribute belongs to innovation process standards. Not even "thought through" business plan must be an accelerator of innovation process changes of a business unit. Mistakes in business calculations may regard costs of innovation process, lifecycle of product, marketing, financial analysis, human resources. We believe that within this process, marketing analyses have the greatest meaning. Those include consumption needs and need for products, market research, and competition, production potential, quality, scientific and technological development. Marketing preparation of innovation in a business should come to so called production and business marketing. Management of project in innovation development is closely connected to innovation development. Management of projects contribute to acceleration of scientific and technological development in following ways:

- Connects all phases of innovation process from the moment of deciding when innovation will be realised to its implementation.
- Induces clear responsibility for the whole innovation.
- Executes strict preparation for all phases of innovation process.

- Controls of fulfilment of planned objectives and aims of innovation project are responsibly secured and top management of given organisation can be promptly informed.
- Accelerates innovation realisation.
- Successful deployment of innovation.

When we look into a linguistic aspect of a word incubator, we will find out it comes from Latin. In medicine it is a machine maintaining the same temperature and other conditions for life of underdeveloped organs. Expertly it means artificial hatchery. In economics, incubators proved themselves as an institute preventing needless business failures of starting companies on a very competitive market. Their aim is to create certain business connection between newly created innovation companies and later own commercialisation of production on a market. They help new small businesses to overcome first difficult years of their existence. Incubators are known in the world under numerous terms such as, innovational, technological, business centres or scientific and technological parks, or technopolis.

2 Literature review

In scientific literature we can find such terms as "scientific park" or "innovation centre". In summary, they are workplaces that support effective flow of innovation process from results of science and research till practice, further there is successful development of small innovation companies, transfer of technologies and high-tech provided by their own background, services of all kinds. Szabo et al. (2017) emphasize the importance of information technologies in all sectors of the economy. The growing importance of information technologies in business adds to the dependence of subjects on information technologies. Good and accessible information today has a strategic economic and social importance for management and is an important element of innovation.

Here belong also so-called establishment centres, whose mission is to help in forming new small and medium businesses, creating space for these businesses, so they would have a chance to survive starting phase and further development. They offer variable spaces, common administration and further services, consulting services in management, research and consulting institutions. Small starting businesses have advantageous financial conditions (tax allowance, lower rent, active loan support). Start-ups are young, starting, quickly and dynamically growing businesses expected to develop quickly and exponentially and to achieve high return of invested means in a relatively short time and therefore their business is often built on innovations, improvement of high technologies and formation of user applications (Ljudvigová and Slávik, 2017). Those businesses are requested to achieve technical and technological standards using their technologies in time period of two or three years.

Synonym of establishment centres are incubators that help with the start of small innovating companies to prove themselves on a market and decrease their risks. In practice, incubators have different forms, the most common are these:

Public and non-profit incubators. They are financed by government or non-profit institutions with priority aim of economic development of regions (share of these incubators in USA reaches 49%).

University academic incubators. They tend to be built close to universities and are related to university research. They differ in significant share of own sources and clearly educational aim when achieving economic development in a region (their share in the USA is 17%).

Private incubators. They are set up by professional entrepreneurs individually, mostly from their own resources, then there are

capital businesses of risky capital with aim to partake on innovative business of companies with residence in these incubators. They focus on transfer of technologies and application of technological novelties. This way, new profession of incubator businesses is created (share of private incubators in the USA is 20%).

Incubators with profitable development of ownership. They are aimed at acquiring profit from property rental and from services provided. Primary condition of candidate acceptance is their ability to pay the rent.

Incubators as non-profit corporations. They focus on creating new working possibilities. The condition for acceptance is potential to create conditions for unemployment decrease in a region.

Academic incubators. They are created on a base of commercialisation of university research and cooperation of faculties with an industry. The motive for acceptance is technological intensity of company from the point of connection with the university.

Profitable capital incubators. They are created by strong investors with an aim to broaden possibilities for investment businesses.

To offset the risks associated with start-ups, European governments increasingly support them through incubators: organizations that provide start-ups with a broad range of services and resources needed for survival and growth (Aerts et al, 2007; Bergek and Norrman, 2008; Bruneel et al, 2012). It is estimated that there are currently over 1000 European incubators, 85% of which is located in Western European countries, and that their number has seen a fivefold increase between 2007 and 2013 (Aerts et al, 2007). Accordingly, incubators are considered to be 'the mainstays of high-technology industrial development in Europe' (Oakey, 2012), and 'an institutionalized component of the EU's and its member states' national innovation systems' (Ahmad and Ingle, 2013).

The efforts of Western European policy makers to support start-ups through incubators are in line with a global trend: the number of incubators increases rapidly around the world, which has led to a diverse global population of incubators and related start-up support initiatives (Aerts et al, 2007; Chandra et al, 2012). This provides an 'immense opportunity' for incubators all over the world to learn from each other and improve themselves (Ahmad and Ingle, 2013; Aernoudt, 2004; Tavoletti, 2013; Terjesen et al, 2013).

From the current perspective it is obvious, that in a practice there is no clear line between individual forms of innovative workplaces or new incubator companies. They share a common activity, directed towards establishment of prospering innovative companies. As a kind of superior term it is used in science-technology parks, which subsumes also mentioned types. In Slovak conditions, there is acceptable such solution, that the term science-technology park is a term superior to all other types of parks, centres and it includes these three main types:

- Science park (centre),
- Technological park (centre),
- Business-innovation centre (in countries of EU as well as in Slovakia called Business Innovation Centre - BIC).

If we were to find out causes of establishment of current centres, we would get to two important moments.

First phase leads us to urgent need to solve unemployment issue, which appears in different regions and countries due to various structural changes and crises. For example, establishment of the first business incubator ever. It happened in the USA in 1957, when company Massey-Ferguson dismissed 2000 employees in a town with 17 000 inhabitants, unemployment level rose over 20 %. Empty industrial objects with an area over 70 000 m² were

purchased for a very favourable price by Joe Manccuso with a promise to provide for the town different industrialist and start production. He could not find anybody. Later, he came up with an idea to divide object into smaller parts and offer them to small businesses. He not only rented empty spaces, but also organised committees and help to young entrepreneurs, such as how to obtain starting capital. How was term incubator created? One of first tenants owned company dealing with chicken hatchery. Joe Manccuso, inspired by this idea, named his business centre an incubator. From that time, he "hatched" in his incubator more than 600 companies, all have been successfully developed and contributed to employment as well as economic development of town Batawia as well as its surroundings.

Second phase directs us to maybe distant need of solving problems of difficult and timely implementation of results into technological research and development into practice. There was a broad gulf between university science and industrial practice that was very difficult to overcome. There is another example from American practice, where unsatisfied university graduates as well as university assistant staff started founding small flexible companies, in very simple conditions, but with a huge enthusiasm, they applied theoretical knowledge into specific and commercially usable form. These companies made a history as "garage companies".

Their business inexperience had some negative aspects, such as a high rate of company failures: 50 % of them did not survive two to three years and 80% did not survive from four till five years. How was the phenomena of "Science Park" created? We could not find out exactly which American university first came out with an idea to create more dignified conditions for their activities. It is said, it was University City Science Centre of Philadelphia, which in the 60's years built a centre with functions of an incubator. There were other centres created nearby universities, they were named Science parks.

Currently, not only in the USA, but also in the EU we can observe that business incubators copy many elements from science parks. There is a higher interest to include preferably such companies that are innovation and technology oriented and which are anticipated to be big competitor. It means, that these companies start their business plans more often from offers of university centres of technology transfer.

Science-technology parks located nearby universities are getting closer to business incubators, because here is still more often exercised commercial side and requirements for every high-tech company to be successful on a market. Therefore, management of science parks must focus on marketing, searching for consumption possibilities or organising common expositions at exhibitions and fairs. In Slovakia, business incubators can help to:

- create new work places with high added value,
- strengthen competitive ability of Slovakia and earn "hard" money,
- commercialise accessible technology,
- develop experience in system of free business.

In accordance with opinion of ours as well as foreign experts, business innovation as well as birth of business incubators in our country should incline especially to fields of technological business.

One of the most serious causes of economic development, improvement of Slovak economic is generally low effectivity of production system caused by lower level of technologies. Success of economic reform is conditioned by creation of capital resources, by quick technical development and wide application of modern technologies. Overall process will be successful in production sphere only under assumption that in our production-economic units will be realised high-tech, progressive and outstanding technologies corresponding world level. One of the main processes securing modern technologies in business sphere and their transfer. It is process of realising technical solutions,

applied knowledge and experience in field of creation and information supplies in field of practical application or transfer from one application area into another one. It must be understood also as a process of mutual influence of science-technical potential on one side and sphere of business management on the other side. It should be a permanent movement (flow) of tangible and informational values such as:

On a vertical line (from basic through possible applied research till development of new products and processes) including individual phases of research, development, production preparation till realisation phase,

On horizontal line (e.g. between two or more production businesses, between different workplaces of research etc.) monitoring completion of individual disciplines participating on final production.

Concluding this part, we would like to add that incubators are places supporting start-up establishment, places where start-ups are hatched. They also offer support start-ups in a long term. It takes a certain time for an idea to become a functioning start-up. Incubator offers support to start-ups mainly during first three years of their existence, via external guidance and leadership, lower rent for office spaces, infrastructure. Incubators tend to be connected to science-technical parks or universities.

3 Methodology and data

The aim of this article is mainly current situation in selected area, there is an analysis and implication of author's own thoughts, their presentation and their explanation and expressing an opinion on development of start-ups in businesses in Slovakia. This is all discussed within the context of knowledge and experience from abroad and in connection with conditions and their development in European Union. On the basis of statistical verification, we verified the links and the dependence between the data obtained from the survey.

To verify association we apply Pearson's χ^2 -test of independence. Essence of the test is comparison of theoretical frequency agreements with real measured frequencies and balancing of difference importances between them.

Condition of the test is for the scale of elective file to be bigger than 20, it means $n > 20$, and for all theoretical frequencies to be at least 5, it means $E_{ij} \geq 5$.

Tab. 1 Pearson Correlation Coefficients

Pearson Correlation Coefficients, N = 22				
	Growing importance of start-ups in crisis situations	Growing knowledge would precede uncertainty, so original ideas would be involved in this process ending	Start-ups in the exercise of its activities relies solely on its certainty	Relations with the start-ups is based on high risk
Growing importance of start ups in crisis situations	1.0000	-0.2301	0.1254	-0.323
Growing knowledge would precede uncertainty, so original ideas would be involved in this process ending	-0.2301	1.0000	0.1573	0.4180
Start-ups in the exercise of its	0.1254	0.1573	1.0000	-0.2879

activities relies solely on its certainty	0.5403	0.4528		0.1629
Relations with the start-ups is based on high risk	-0.3233	0.4180	-.2879	1.0000
	0.1015	0.0268	0.1629	

Source: Authors

4 Risk management in innovation creation

Risk management plays an important role in innovation creation. It is connected with decision making. The level of risk, when making decision grows, especially due to lack of experience, certainty. Business model should be result of many persuasive or maybe contradictory opinions, flows and factors that may influence requested result. They may prevent or restrain execution of decision making, which will not be approved in "higher article". Requested result is actually deciding between assumed and real result. In relation with innovation projects (business modes) come forward two main categories of risk in Slovakia:

- Technical risk,
- Commercial risk.

Risk of ingeniousness. Use of innovation principles in practice may result in difficulties or time of their use will be very long. Problems may appear in process conceptions, wrong estimation of operation of various mechanisms, in control, choosing of materials, stock, technology advances, space arrangement etc. Moreover, conditions of market and required specifications may change (disturb) phases of research and engineering.

Science risks. They result from the fact, that some principles are not good and sufficiently exercised, or that their importance was not understood correctly.

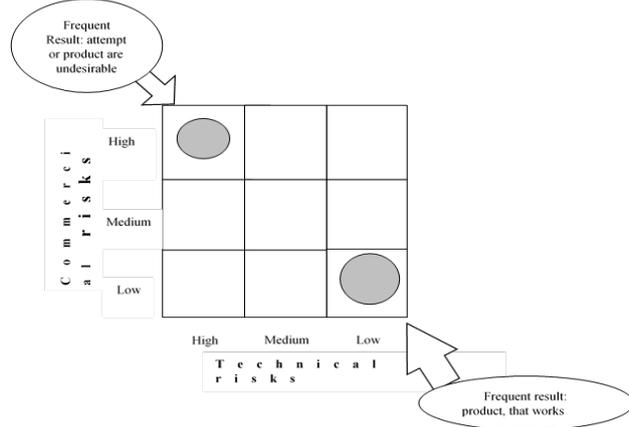
Production risks. In final phases (prototype preparation, test series) were revealed difficulties and problems with delivery, costs of stock and materials, specialised work power, facilities or energy rise.

Unpredictability and obsolescence. Innovation project (business model) may become obsolete due to quick technical development or unpredictable appearance of competitive product on a market.

Commercial risk involve excessive valuation of supplier, alteration is orders, pressure caused by competition and different attitude of customers. Important moment is also entering market in time when there are no favourable conditions created.

Methods for estimation of stated kinds of risk are presented in Tab. 2. It is a matrix, where in three levels are lined technical and commercial risks. If the proposal is situated on left top, company requires marketing expertise. On the contrary, in case the proposal fits matrix on the right down, it is necessary to exercise technological expertise. Tab. 4 shows variability of possible risks in time when innovation intentions are materialised, beginning with explorer phase till test series and product commercialisation.

Tab.2 Methods for estimation of stated kinds of risk



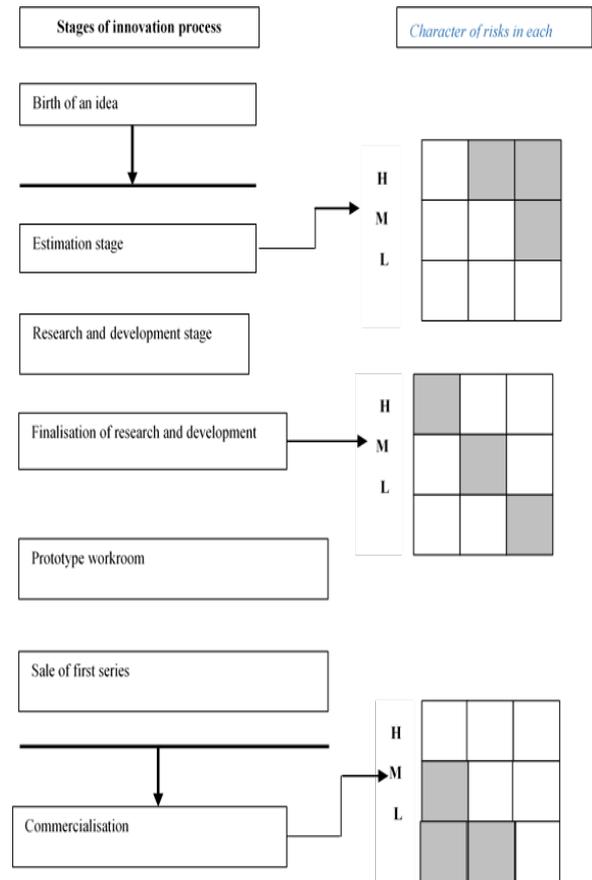
Source: Authors

Tab.3 A degree of product novelty or technology and a market

Proposal	Traditional	Improved	New
Technology			
Traditional		Risk rises	
Improved			
New			

Source: Authors

Tab. 4 Variability of possible risks in time when innovation intentions are materialised, beginning with explorer phase till test series and product commercialisation



Source: Authors

Different attitude towards risk estimation is given by a degree of product novelty or technology and a market - Tab. 3, or innovation intensity - Tab. 5, where relationship between technology and conception (business model proposal) is described. Of course, level of risk rises with insufficient knowledge of markets, or with low knowledge of technical or technological possibilities.

Tab. 5 Innovation intensity

Product Technology	Known	Unknown
Market		
Known		Risk rises
Unknown		

Source: Authors

Innovation projects or business models in start-ups are necessary to orient in a way that knowledge would precede uncertainty, so original ideas would be involved in this process ending in successful commercialisation. In innovation projects (business models) are risky following eventualities: kind of knowledge

process, process of knowledge application into invention - innovation formation, as well as process of knowledge realisation itself. Important moment, as well as tool to reduce risk in start-up development in Slovakia is usage of so called risk capital. Starting forms in Slovakia are as follows:

Seed capital represents risk capital provided for research, development and other help offered in cases such as formation of business model, before company exists as autonomous legal subject.

Venture capital works on bases of partner relationship between entrepreneur and professional (private) investor.

Start-up capital presents finances provided to companies with an aim to finance research and development of certain product (process) and its launch on a market.

Other forms or options for risk reduction are usage of reserve fund of organisation, set up of individual funds form no divided profit (e.g. risk fond), or utilisation of fundamental property (primary capital, primary property, statutory fond) to even up permanent losses not covered by e.g. reserve fund.

4 Empirical data and analysis

In field of innovation and support of young innovators, there is currently a trend of Start-ups. Uniqueness of start-ups in comparison with profit oriented companies is in their innovativeness. Objective of start-ups in comparison with business companies is not in earning as much as possible, but putting needs of consumer first and searching for empty space on a market. Main idea of start-up is to build something new. Some businesses understand motivation as profit coming from the activity of start-up. 57% of asked companies state that establishing a start-up means creating product or service that could change a sector and bring something new for consumers in utility factories and services provided.

Problem regarding establishing and functioning of start-ups is their financing. Slovak start-ups finance their business mainly from private savings. Abroad, situation is solved in financing way of "donors", who invest into business and take part on their profit in case of success. Risk of return of invested money is high, but in case of success, the profit is multiple times higher. Solution could be found for to start financing starting businesses, or also accepting tax stimulations.

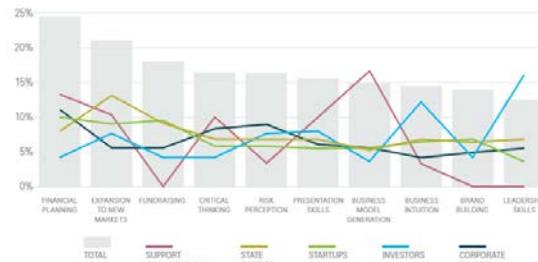
In accordance with research results, strength of Slovak start-ups lays in technical skills. There are also creative skills such as generating ideas and product design. Stated facts are displayed in Fig. 1, which shows strengths of Slovak start-ups.

Fig. 1 Strengths of Slovak start-ups



Source: <http://www.startupers.sk/prehľad-slovenskeho-startup-ekosystemu-vsetko-co-potrebuje-vediet-o-slovenskych-startupoch-za-rok-2014/>

Fig. 2 Weaknesses of Slovak start-ups



Source: <http://www.startupers.sk/prehľad-slovenskeho-startup-ekosystemu-vsetko-co-potrebuje-vediet-o-slovenskych-startupoch-za-rok-2014/>

5 Results and discussion

79 % of start-up establishers in Slovakia have higher education of second and third degree. In comparison with starting entrepreneurs in USA it is only 43 %. In-between national start-up establishers, the majority are men, when 76 % of asked do not have in founding team a single woman. Almost two thirds of respondents stated that they work in two or three membered team and only 17 % of starting businessmen work alone.

Fastest developing industry in start-up establishment is a field of information technologies. Newly found start-up project in field of information technologies came from Google. It is creation of application Google classroom aimed for education sector to make work of both students and teachers simpler. The tool is supposed to improve communication between teachers and students outside school facilities. Application allows to go through subjects, create them, or even erase. It mediate look into classroom and basic settings or posting comments. Classroom could be a very strong tool, which can move educational system forward, especially in Slovakia.

Another news was introduced by Samsung, which tries to increase safety on roads using see-through truck. It is technological idea - improvement of safe traffic on roads, specifically in case there is a truck in front of us. Concept or study of ART Lebedev received the name Transparentus and Samsung now works on its innovations. The thought is based on placing camera in front part of the car. This projects situation ahead of a truck, on a screen in the rear part of the truck. This way it is simple to inform drivers driving behind trucks about possibility to overtake in parts with particularly low visibility. However, it opened the question about success of this innovation on a market. From the point of investigation return we can assume high risk, as implementation of this innovation brings extra investments.

Right after information technologies and electrotechnical industry there is car industry with high importance for start-ups. Flying car is being developed. It is an experimental development of key components of innovative vehicle for movement on the ground as well as in the air.

Thanks to the research we found out that out of asked respondents, 69 % type of experimental company start-up (mainly concentrate on creative work, unexplored and untried new products, models, designs or technologies and services) does not exist. Number of Slovak companies that create new innovative work places of start-up type represent 31 % out of asked respondents. Main causes of failure of mentioned work places in Slovak companies are mainly barriers in establishing start-up kind of business, tax duties, low risk tolerance, that is expressed in a way that Slovak market is not an ideal sample for entering product on a market. Also we can point out that knowledge of start-ups is still in phase of expansion. First step of start-up establishment is a new idea, which comes from deficiency, or need of consumers, in case of need or need for quick solution of a problem and is strongly connected to technological progress. Difference between usual business and

start-up when it comes to implementation phase of business establishment is variability, exchange of phases. The most valuable about start-up is not the thought itself, idea of experimental workplace, but the team of people, who works on this thought and help to form it. In case, company wants to break through and succeed on new markets must bring new innovative ideas, difficult to copy. These ideas, knowledge and thoughts are in result product of science and development. As key points are considered phases of implementation starting from development, through service, design of a product until marketing and finance. Considering analysis of answers of companies, we can state that the foundation of successful establishment of start-up work places is to invent successful product, launch it on a local market and after the demand grows expand the product internationally.

6 Conclusions

Business model design is critical for a start-up. A successful design must be developed and tested with limited resources and under conditions of great uncertainty related to both internal and external factors. At the same time, this lack of definition is an excellent opportunity for business model innovation. In this paper, we present the Innovation Pivot Framework, a practical tool aimed at assisting entrepreneurs in identifying alternative uses of their innovation and deciding which applications and target markets they should pursue first. This process leads to a formulation of the source of competitive advantage based on the innovation envisioned. This tool may be useful both at the first moment of a start-up's conceptualization and when the new venture needs to redefine its competitive advantage. Beyond the area of entrepreneurship, it could also be an effective analysis tool to achieve better business model designs in well-established companies.

In order to release correct innovation project (business model) in which it is suitable to invest financial and other means and effort with an aim of final commercialisation, becomes an important requirement for business and management of every organisation (production, guidance, services, etc.) in an environment of globalisation and internalisation of markets and customers.

Each control, every decision step in innovation project (business model) it should meet these objectives:

Release resources for further studies of semi - finished new product, process. Verify latest achievements of requested quality results. Investigate possibility of suggested progress in the next step. Set priority solutions (advantageous source assignment). Innovation project (business model) should be finished by assessing implementation success of its solution, so detailed and persuasive answers for these questions were obtained:

- What main results might be achieved by realisation of innovation project (business model)?
- What comes from observations of these results with project objectives?
- What was success, what was not, what would be appropriate to do differently?
- What lesson comes from realisation of innovation project?
- What other precautions are necessary to improve competitiveness of new product?

What really are start-ups? Given term appears very often in business environment. Many, however, do not know what this English term describes, or what project can be addressed as a start-up and which „only“ a starting business is. Even though this term has started to appear in Slovakia only recently, its meaning and popularity started to raise very evenly. Especially young and innovation thinking businessmen have found themselves in this concept, where there is no condition to only purchase, produce, fixed to stone shops.

Find universal definition for start-up project models is clear or slightly difficult. However, in general they are understood as innovative, therefore very quickly developed, especially technologically oriented companies with global potential and

high level of "scale" and ability, or possibility of sudden expansion reacting to actual needs and possibilities of development of market and costumers.

Characteristic attribute of start-ups are as follows:

- Low starting costs,
- Innovation in certain area,
- Higher business risk on one side, potentially higher return of investments on the other side.

Important is also legal framework. Legal order of Slovak Republic is not familiar with the term start up, this should be chained shortly. From the legal point it is understood as newly started business (or the business in the process of establishment), which will attempt to materialise or materialises certain thought into productive (process) form. Added value should lead to exceptionality on a market and problem solving, where solution have not been found yet. From the long-term point, emphasis is put on ability to scale company based on products, processes, services with them aim to provide them later on a market.

Start-up project (business model) must include:

- Technological or research base,
- Information technologies for sale,
- Offer services.

Practise has showed so far, that start up projects with more people participating on them have bigger chance to succeed on a market, compare to those who start to establish business on their own. Work in a team is however more important than work of an individual. Due to a stated reason, success of a business is influenced not only by creating the team but also by correct relations within team. In this paper, we will not discuss any other incentives, questions that exist in this situation and are tractate. It will be the next step of our research: e.g. possible new forms of start-ups, establishment of a start-up, investor relations, failures, causes of start-up failures, etc.

Big challenge for exercising and development of start-ups in business in Slovakia are so called Eco-innovations. Even in this field it is held, that thought, idea or simply creative thinking might be, even must be immanent part of a business. Due to living conditions of a planet getting worse, which is mainly fault and way of not respecting rightfulness in creation and protection of environment, it is necessary to support development of start-up ecosystem in Slovakia, in a sense of prepared governmental conception. It can be achieved by stimulating of business environment, system of state support and forming or improving legislation in this area. We believe these matters may activate Slovak subjects and individuals with unique ideas, attract foreign subjects with innovative ideas, also make investing into start-ups more attractive and form adequate image of Slovakia in international context.

Outlined and stated way of start-up development in general, but also in connection with ecosystem in Slovakia faces many barriers, obstacles and blocks. For example, poor offer of financial and non-financial tools, insufficient connection of start-up community with science institutions or universities. Another barrier is also low level of mutual cooperation of individual members of Slovak start-up ecosystem, non-sufficient business skills, low motivation and also low interest in entrepreneurship as a career choice. These barriers need to be overcome in Slovakia.

Enterprises are forced to research and development to compensate for other activities, such as alternatives. The creation of start-ups, start-up offices. This form of alternative research and development companies also require substantial capital. The most commonly beginning of start-ups interested large corporations, which have a fixed market background and profitable. Start-up businesses to create workplaces of the problem, and quickly when needed alternative solutions tasks. A good initial idea or ideas that the firm may obtain participation

of workers in decision-making respectively. Rationalization proposals. Another proposal is to acquire know-how and new technologies to improve the image of your own company, penetrate new markets, strengthen competitiveness and reduce business risk. Compared to the old-ump are more convenient form strategic alliances mainly because spreading the risks inherent in the start-ups borne by the company itself. The main disadvantage of strategic alliances in comparison with start-up the unwanted outflow of know-how, which is caused by working together and deciding on strategic enterprise.

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