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PROTOTRON – PUTTING FRESH IDEAS INTO PRACTICE

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STPs filling the gaps

Author:
Martin Goroško, Estonia,
Marketing & PR Manager
Tallinn Science Park Tehnopol

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Author: Martin Goroško, Tallinn Science Park Tehnopol, Marketing & PR Manager

Executive summary

STPs are struggling to provide innovation supporting services because the public support for service providing is diminishing. The most innovative ones in the synergy of STP-s are definitely the startup companies with global breakthrough ideas. But the problem is that there are limited services available for startup companies and the main expectations of a startup company are more investment oriented. In 2012 Tallinn Science Park Tehnopol, Tallinn University of Technology and Swedbank founded a private financial fund called Prototron. The main aim of the fund is to fill the financial gap between the great business idea and first round seed investment. Prototron is financing startup companies, students, inventors and spin-offs in building the first working product example, prototype. Since launching the fund, Prototron has attracted 300,000 euros for investments, and packed 17 different projects with total amount of 185,000 euros. It is a fine example of successful cooperation between a STP, university and private sector companies.

Driving the innovation in a STP: importance of startup and spin-off companies

The role and importance of startup and spin-off companies in the synergy of the effective STP has been increasing during the recent years. Although for the last decade the STPs have been focusing on the real-estate development and business development services, the role of new looming technologies and entrepreneurs cannot be overlooked. That is mainly due to the fact that these new businesses are the key drivers of innovation, global cooperation, and cooperation with the R&D centers or universities. Startup and spin-off companies represent the fast moving and active community within the STP, that can be used (if well-managed) as a sustainable source for innovation.

Innovation is something that appears when right conditions meet. If you put together fresh ideas, creative minds and money the innovation must be guaranteed, right? Even though innovation is something that is difficult to evaluate, estimate and evoke, it is a clear source for new and groundbreaking businesses in the constitution of an established and sustainable STP. Incubation centers and acceleration programs are not very profitable for STPs and the management or financial support to startup companies by an STP or a university is limited. There are plenty of innovation centers, incubators and acceleration programs that are providing office rental services, mentoring and coaching services, event series or other supporting services especially for startup or spin-off companies. But that does not satisfy all the relevant needs of a startup company. Very often the most needed service for startup companies are financial ones: help in finding finances, public grants, direct investments etc. Due to different reasons these are not the services that a STP is likely to provide, and that is the main reason why new businesses do not consider a traditional STP as the first choice in order to boost their business.

Providing financing services is related to high growth potential as well as it is related to very high risks. STPs do not have the capacity to act as VC-s due to lack of knowledge, financial instruments and in order to keep the focus and balance with the main activities: real-estate development, R&D activities, knowledge transfer, business development services etc. Still providing financial services can be attractive and a good opportunity for an STP to tighten the involvement with the startup community and to monitor the processes of innovation. So it can be concluded that new business ideas with high growth potential are great source for innovation for the STPs, but it is difficult to

attract startup business to the ecosystem if the STPs are not fulfilling one of the most crucial need of a startup – financial instruments.

Financing opportunities for innovative ideas

There are different financial instruments available for businesses in their different operation stage. Most recognized opportunities for startup companies are founder's investments, loans, public grants, and investments from business angels or VC funds. These are the main investment opportunities that the startup company can use for product development, team building and international growth. STPs are mostly providing the network access to VC funds and business angels as these instruments require less involvement and have the needed knowhow for strategic investments. But still, as the researches show, there is a financial gap between different stages of investments that inhibit the development of a startup or spin –off company and even does not give the opportunity to new and innovative ideas to grow into sustainable business.

The main development phases of an innovative startup company are idea phase; product development and client feedback phase; and expansion, strategic investment phase. Most important phases that determine the sustainability and success rate of an innovative business are definitely moving from idea phase to product development and client feedback phase. During this phase the startup company has limited resources of time and money that can be invested in product development and initial market validation. This phase also is characteristic to startup or spin-off companies only and can be handled as a crucial part in creating new innovative ventures all around the world. It is also one of the less attractive phases for external investor, because the product is not yet defined and there is no client feedback or market validation available. So the entrepreneurs are basically investing all their efforts to reaching the investor readiness phase and underfinancing is one of the most common reasons why the startup companies are failing during this period.

One of the largest commercial banks in the Nordic region, Swedbank, has conducted a research in 2010, that clearly indicated that due to the limited financial instruments that are available in idea or product development phase are the main reason why the success rate of startup companies is so low. The studies showed that even though there are public grants available for starting a new venture, the gap between idea and first external investment is the most crucial problem that startup companies are facing. It is referred that the investment gap reduces the amount successfully executed great business ideas up to 50%. In Estonia, out of 1,500 startup companies created in one year, approximately 1,000 companies fail because of insufficient funds available for product proof concept development. In the universities about 70% of IP based product ideas do not find a marketable outcome because of the limited resources that can be invested in building a prototype. This is a problem for STPs as well it is a problem for region´s economic performance.

Knowledge transfer vs knowledge inflow

STPs mostly operate the business incubators and provide different spin-off services for larger corporations. The target groups of STPs incubation services are students, startup entrepreneurs and corporation potentially spinning out their R&D or new business activities. In order to reach the target groups, STPs normally direct their marketing and awareness efforts to the universities. According to the standard model of the cooperation between a STP and university, knowledge transfer from the academia to entrepreneurial community is one of the key activities to increase the amount of innovating companies. That is the main reason why universities are expected to train the entrepreneurial skillset and have the students ready to enter the startup community. STPs are ready to invest their knowhow and experiences to support the growth of these young entrepreneurs. But in real life there is a problem that universities and STPs are facing in knowledge transfer when it comes to startup incubator.

The students are great at generating ideas, new product concepts and initiatives, but these projects lack of touch with real-life. The idea cannot evolve because there is no real product that you can present to your potential client or investor and after a while the knowledge and the enthusiasm is just being put on hold.

Meanwhile STP-s struggle to get innovation out of universities. The incubation process for start-up companies or business services for SME-s are too advanced for good ideas. STP-s expect to work with startup entrepreneurs or real companies. Still the approval of the business scale of the idea requires

client feedback, testing and additional funding. STP-s are constantly putting their efforts (often inefficiently) to train the students in the universities. But the outcome may be disputable due to the lack of product based business development and real-life testing.

That leads to miscommunication and misunderstanding in the process of knowledge transfer. The effectiveness of transferring real marketable knowledge from the universities or larger corporations to startup ecosystem needs to have a motivator. That can be the financial grant that helps the startup entrepreneurs to run the prototype building and market validation process. The grant also enables to lead the knowledge transfer to sustainable knowledge inflow, because investment capacity operates as an attractive opportunity to innovative students or entrepreneurs.

In 2012 Tallinn Science Park Tehnopol in very close cooperation with Tallinn University of Technology and Swedbank put together all the right conditions for creating innovation and established a prototyping financial fund called Prototron. The aim of Prototron is to hunt down technology based product ideas, select the best out of best and to finance the development of their first working product – the prototype. The project succeeded in turning the knowledge transfer procedure to knowledge inflow and made the STP services more understandable and attractive to young entrepreneurs.

Case study: launching the financial fund Prototron

The idea of developing a low bureaucracy financial structure for students, inventors, scientist, entrepreneurs and spin-off companies started in 2012, when Tallinn Science Park Tehnopol started negotiations with different possible partners. The focus of the new fund was directed specifically to technology based new products and services. To keep the fund as open and easy for different target groups the constitution of the fund was set to be private investment based.

Pretty soon Swedbank launched the market research that showed the needed financial instrument in the specific field of building the prototypes. This outcome quickly led to the mutual understanding that put the cornerstone to created financial fund called Prototron. In order to attract student interest towards the project, Tallinn Science Park Tehnopol included Tallinn University of Technology, one of the largest technical universities in Baltic region, to the project. Tallinn Science Park Tehnopol acted as the project initiator and coordinated the fund development between Swedbank and Tallinn University of Technology. The work allocation for the Prototron fund was set in the end of 2011 as follows:

- Tallinn Science Park Tehnopol (STP) – holder of the fund Prototron. Assigned tasks related to marketing and communication; finding suitable teams to submit their projects; managing the evaluation of the ideas; selecting the best projects to receive funding; monitor the prototype building process; evaluating the outcome and help in finding business potential to the idea; growing the ideas to global companies.
- Tallinn University of Technology (university) – student awareness and intellectual property management. Assigned tasks related to rising the student awareness of technology entrepreneurship; involvement of students to intellectual property projects at university´s disposal; managing the intellectual property issues during the course of prototype building.
- Swedbank (financing institution) – financing the main operations and investments of the fund Prototron. Assigned tasks related to marketing and communication activities; financing the operations of the fund and finding investment resources to supported projects.

The partners of Prototron agreed that the first down payment to the financial fund should be set as 150,000 euros that will be amplified by 2014 by additional 150,000 euros by other interested parties

or by increasing the founder's share of the fund. Prototron fund was set to be as opened and flexible as possible in order to not scare off the potential teams that have limited business experience. To really help the young entrepreneurs to start with their business the founders agreed not to take any equity nor cut from the future income of the project that is packed by the fund. The terms for submitting the innovating idea to the fund was set to be bureaucracy free and agile, so it is legally not inhibit to the team presenting the project. The main value for the founders of the fund were set as: marketing and viability in startup community, quality pipeline of innovative business ides to the incubators and accelerator programs; turning university IP portfolio into real working businesses; attracting external companies to invest to the fund in order to boost spin-off projects inside the company.

The consortium of partners signed the agreement of launching the financial fund Prototron in august 2012. Prototron fund was launched by the patron of the fund, Mr. Toomas Hendrik Ilves, the president of Estonia.

Process of Prototron fund

Applying for Prototron funding is really simple. Prototron is opened for students, entrepreneurs or spin-offs; there are no limitations for the amount of money needed for building the prototype (because we believe that there is always money available if the idea is good enough). Prototron supports the ideas in the field of ICT, electronics, bio- or health technologies, mechatronics and green technologies. The main criteria for successful applicant are defined as follows - absolutely new idea, business potential, scalability and strong team. All the ideas will be assessed by business experts and the final decision is made by expert panel. After positive feedback from the expert panel the finances will be given to the team.

The process of Prototron can be divided into following steps:

1. Prototron application form is always opened, but the evaluation of submitted ideas will be conducted after 3-month cycles. The applicant must go to www.prototron.ee website and fill in the simple application form. The application form gathers data about the team presenting the idea; business potential of the created product or service; progress that has been achieved so far; needed time schedule for building the prototype; needed size of investment for building the prototype. If the team has submitted the prototype idea, all forms will be gathered together by field of business and directed to preliminary evaluation by field specific business experts.
2. There are more than 30 field specific experts involved in pre-evaluation process of the Prototron fund. The experts give the score on the scale of 1 to 5 to each and every project. Low scored projects receive a comprehensive feedback by the experts and the project is sent for mentoring sessions to incubators or acceleration programs. The top-scoring teams will be grouped together ant they are asked to prepare a 7 minutes pitch to Prototron main expert panel.
3. Preparing the elevator pitch to Prototron expert panel will be trained with the help of incubation specialist. If the expert panel of Prototron comes together after every 3 months the teams will be ready to present their idea in the best possible way. Each team presents the core essentials of their prototype idea to expert panel that makes the decision whether to pack the project or not. The expert panel combines the business leaders and representatives of the financial fund founders and has extinctive experience in working with startup companies. If the project is approved by the panel the team is asked to sign the financing contract with Prototron fund in order to proceed with the project development.
4. After approval the money will be transferred to the winning team and a media event will be organized to introduce the upcoming projects of Prototron. Each team starts to build the prototype in accordance with the time schedule that they presented. Incubation and STP teams are monitoring the progress and giving advice on product or business development if it is needed. Automatically all the winning teams will be approved to STPs incubation program and there are different mentors or business coaches involved to develop the idea into a sustainable business model.
5. If the prototyping phase has ended the teams are asked to present the outcome to the Prototron expert panel. The outcome could either be successful launch of innovative new product or the failure that proves that the idea does not really work as planned. It helps to

assess really quickly and cost efficiently if the idea has a real business potential or nor. Successful teams will be presented to the investors and they are able to attract second round of finances to grow their business. The involvement in incubation program remains as long as required. The teams do not have to pay back the invested money whether they succeed or fail.

All the projects that Prototron is packing remain in the portfolio an there are different marketing and promotional events where the outcome and success stories can be presented. The founders and supporters of Prototron financial fund can have the visibility if the teams are presenting themselves and the teams are using Prototron brand if they present their businesses.

Outcome of the Prototron fund

Since Prototron was launched in August 2012 the fund has attracted more than 800 really good quality prototype applications. Till now the Prototron fund has financed 17 ideas to take the shape by giving out the grants in total sum of 185,000 euros. 8 teams have successfully launched their product and are now active entrepreneurs. Some examples of the projects that Prototron has financed are the following:

1. Language Accelerator – the team has developed and launched an innovative language learning platform that enables to learn every language sufficiently within 200 hours. The team of engineers have been using the language analyzes to find out the needed vocabulary that the student wishes to learn. After that the algorithm proposes the most suitable learning program and starts monitoring the progress. Solution is multi-platform and usable in different devices.
2. High Mobility – the team has developed e new generation multimedia and controlling system that can be used in modern cars. The dashboard of a traditional car is developed by car manufactures and enormous amount of money is invested to develop the software and hardware. High Mobility takes the platform that is familiar to the user (like Android or iOS) and replaces the traditional dashboard with hardware familiar to the user (phone or tablet). The platform enables to control all the functions of the car as well as manages the multimedia center of the car. The prototype is now developed in corporation with Mercedes Benz and Volvo manufactures.
3. Shaka – the team has developed a wind and temperature measuring tool that can be connected with smartphones. The wind measuring tool enables surfers, golf players or sailors get the instant whether information that will be stored in cloud service and can be accessed everywhere in the world. The team has sold over 10,000 wind meters internationally.
4. Flydog – the team has developed a marine sensor that is putted into the oceans to gather the information from remote areas. The wireless sensors transmit the data about water temperature, condition, pollution etc. to the controlling centers in harbors and there is no more the need to send out ships to monitor the sea perimeter.
5. Code2Kids – a e-learning platform to children in different ages. The team has developed a learning tool that enables children to study coding and programming starting from basic operations to complicated algorithms.
6. Antelope Surgical – the team has developed software that is mostly used in hospitals in order to conduct complicated surgeries. The software enables to monitor the precise position of operation tools in order to prevent injuries to the patient during the operation.

The size of the fund has now reached to 300,000 euros with the help of different supporters in private sector. Prototron is the first and the only financial fund in the world that is supporting the building of prototypes without taking equity of the projects.

Value and outcome for the founders of Prototron

Prototron initiative has been acknowledged in Estonia and in other different countries around the world. The financial fund has won different competition in finding the right supporting structures for startup companies and innovative business ideas.

The quality of the fund can be assessed according to the project that have won the grant; by media attraction; and by new fund members willing to support the initiative. Prototron has been

mentioned in different publications for more than 4,000 times and the teams that have received the financial support have been accepted to well-known business incubators and acceleration programs. Right now the fund is having negotiations with multiple financial institutions, telecommunication corporations and production companies that are willing to support the initiative by investing in the pool of the fund.

Tallinn Science Park Tehnopol has granted a high quality pipeline of innovative businesses, the university has finally found a way to capitalize their IP and give hands-on experience to students; Swedbank has good value for money marketing outcome.

There are also different negotiations going on with the universities and STPs in different countries who would like to start similar funds. Prototron brand can also be introduced in different countries via the companies that are supporting the initiative. With the help of Swedbank the preparations of running the program in Latvia and Lithuania are in progress.

Conclusion

Prototron initiative is a good example to emphasize the role of STP in between the private sector and university to catalyze innovation. It is crucial to understand that it is really difficult to initiate such project by the university or by private sector alone. STP has an extinctive knowledge of how to find scalable business ideas, how to generate market behind the ideas and how to keep the team of entrepreneurs on track. In addition STP-s play neutral role in terms of negotiation ions between universities and private sector companies.

Prototron represents the example where STP and university have attracted the interest and financial support from the private sector instead of financing the activities from public sector grants. That represents the new era of sustainable STPs that can be adopted in different regions to achieve different purposes.