Academic Entrepreneurship on the Internet

Jaroslav Jandos
Prague University of Economics
Faculty of Informatics and Statistics
W. Churchill Sq. 4, 13067 Prague 3,
E-mail: jandos@vse.cz

Abstract:
The aim of this paper is to contribute towards clarification of academic entrepreneurship on the Internet. Several practical cases, implemented by students of our University, are presented in order to present the wide scope of these entrepreneurial activities.

Keywords: academic entrepreneurship, entrepreneurship on the Internet, entrepreneurial process, Internet marketing, e-procurement, SaaS

1. Introduction
There is no single universally accepted definition of entrepreneurship. This situation is reflection of the fact, that entrepreneurship is multidimensional concept. We use Davidsson (2005) definition “Entrepreneurship is the creation of economic activity that is new to the market. This includes the launching of product, service or business model innovations, but also imitative entry i.e. the appearance of a new competitor. This concept thus includes all independent start-ups, imitative as well as innovative as well as established firm’s introduction of product and service innovations as well as their expansion into new markets. Also „independent“ as well as „corporate“ entrepreneurship are acknowledged."

Academic entrepreneurship, i.e. entrepreneurship viewed from academic perspective, is defined by Chrisman, Hynes at al. (1995) as “the creation of new business ventures by university professors, technicians or students”. It is closely related to university spin-off, which is seen by Shane (2004) “as a new company founded to exploit a piece of intellectual property created in an academic institution”.

Internet presents favorable conditions for entrepreneurial activities, namely for innovations by high speed of development of its technologies and applications as well as by its great reach, enabling fast innovation spread-out for instance from enterprise to country to industry worldwide (Turban, 2008). IT (Information technology) and IS (Information Systems), namely Internet, provide also favorable conditions for development of new business models, thus supporting entrepreneurial activities.

Academically rooted Internet start-up ventures are the typical cases of Internet entrepreneurial ventures. Hoverer most sources consider only Internet start-ups founded as e-shops, selling (physical or digital) products, which we consider to be a serious scope limitation. The aim of this paper is to present not only these Internet related entrepreneurial activities, but also other activities – extending the scope in two directions – selling not only products, but also services and Internet related activities not only as new ventures (i.e. Internet start-ups) but also as innovative Internet related activities in traditional enterprises. This situation is illustrated by...
four cases of Internet related academic entrepreneurial activities, executed (some fully, others particularly) by students of our University.

The cases are the following:
Case 1 – Internet start up, e-shop selling physical good
Case 2 – Internet start up, e-shop selling digital goods
Case 3 – Internet start up, selling service (Software as a Service- SaaS)
Case 4 – service based on Internet use for marketing in existing traditional enterprise (SME)

They all may be regarded as (trivial) example of university spin off, where the piece of intellectual property is the knowledge in the given area created (also) in academic institution.

2. Cases

2.1 Case 1 – Internet start up, e-shop selling physical good

Entrepreneurial idea: selling specific collector card games over the Internet
Outcome of entrepreneurial process: foundation of a new internet-based venture (Internet start-up) for implementation of entrepreneurial idea.

Start-up is micro SME, involving only the founder, who has generated the idea, implemented and is managing the venture. Entrepreneurial activity is basically “one man show”. Founder generated the idea, implemented the product while being a student at our University, Faculty of Informatics and statistics, department of Information technologies and has also written thesis on this subject. Time span from initial idea generation till start of micro SME business activities on the Internet was about 6 months. Initial funding was provided by founder’s own resources, but the costs were low. Micro SME started its activities on the Internet in 1999, with return of initial investment within 1,5 year. After 2,5 years of successful activities the venture (including software, client database, further collaboration with venture founder) was acquired by card games manufacturer who use it as another marketing/commercial channel. Acquisition of client database resulted in relatively low cost of acquiring new consumers by manufacturer.

2.2 Case 2 – Internet start up, e-shop selling digital goods

Entrepreneurial idea: selling holidays over the Internet
Outcome of entrepreneurial process: foundation of a new internet-based venture (Internet start-up) for implementation of entrepreneurial idea.

Two master students (one of them student in the last year of master studies at our University, Faculty of Informatics and statistics, department of Information technologies) initially generated the idea and participated in implementation of e-shop. Time span from initial idea generation till start of business activities on the Internet was about 13 months. Initial Funding was provided by founders own resources. Business expanded very rapidly, requiring more resources for expansion. About 2 years after starting the business international capital was brought in. Since than the business is continuing to expand very rapidly both in volume of trade as well as in product portfolio, which includes also air-
tickets, car rental, hotel accommodation. At the moment The venture is the largest, as the volume of trade is concerned, seller of holiday packages in the Czech republic. Internet activities are complemented by client centers in number of Czech towns.

2.3 Case 3 – Internet start up, selling service (Software as a Service- SaaS)

Entrepreneurial idea: to provide software application for support of e-procurement, see “product” below, delivered over Internet under conditions (especially cost-wise) that are attractive even for SMEs

Outcome of entrepreneurial process: foundation of a new internet-based venture (Internet start-up) for implementation of entrepreneurial idea.

Start-up is micro SME, involving only the founder, who has generated the idea, implemented “the product” and is now managing the venture. Entrepreneurial activity is basically “one man show” with some assistance of university professor especially in the phases of idea generation and new venture marketing. Founder generated the idea a implemented the product while being a student in the last year of master studies at our University, Faculty of Informatics and statistics, department of Information technologies and has also written diploma thesis on this subject. Time span from initial idea generation till start of micro SME business activities on the Internet was 12 months. Funding was provided by founder’s own resources, but the costs was low. Micro SME started its activities on the Internet in May 2007.

Product

Application software for real time reverse e-auction, which is used by buyer in e-procurement, delivered by SaaS delivery model.

Product orientation – expected customers: product is oriented especially (by low cost of its use – see below), but not exclusively, towards Czech SMEs acting as buyers. At the moment the product is targeting only the Czech SME market. Expansion to foreign markets is easy from technological point of view, and would be a matter of business and marketing evaluation. However it is not currently considered.

Product cost for user (i.e. buyer): cost per use. The cost (about 250 euro per use) is by far the lowest at the Czech market, for reverse auctions SaaS with all required functionality. This is considered to be its main competitive advantage.

Product benefits for user are two-fold

- from business point of view - the use of reverse auction in procurement results in buyer price reduction. Several reverse auctions were executed for Czech SMEs with participation of between 2 and 12 sellers selected by buyer, resulting in buyer price reduction of between 5 and 39 percent.

- from software use point of view – user need not buy the application software (yearly licence etc.) for reverse auction nor take care about the hardware/software environment for its processing.

It is a bit early to evaluate the profitability of the venture as it is less than year “old” and only at the launching stage of entrepreneurship process. However at the time being it is doing well, ”not being in red”.
Procurement refers to the processes used by buying party in locating, purchasing and moving materials/services from suppliers to the buyer’s point of need. E-procurement is implementation of procurement functionality using application software (applications). In modern e-procurement, which is subject of our attention, Internet, Internet-related standards, Internet (web) applications or services are used.

Our process based conceptual model of e-procurement, presented in (Jandos, 2005), consists of three hierarchical e-procurement processes, further sub-divided into phases, which may be supported by applications (i.e. software programs). Strategic e-procurement process, sub-divided into phases - e-procurement strategy formulation, e-procurement strategy update Tactical e-procurement process, sub-divided into phases - requirement specification, determination of the way of requirement solution, suppliers identification and selection, contracting. Operational e-procurement process, sub-divided into phases - ordering, delivery acceptance and payment. Phase “suppliers identification and selection” in tactical e-procurement process, which is center of our attention, results in selection of one supplier with whom the buyer sings contract in the next phase.

On line reverse e-auction is the mechanism often used by buyer for this purpose, as it provides, in comparison with other mechanisms, the following buyer’s benefits: lower purchasing (buying) price, lower transaction costs, shorter time to conclude the contract, great transparency of the process. Reverse auction is dynamic pricing mechanism, which allows the buying party to buy materials/services for the lowest price at the current market conditions. Reverse e-auction is often used by buyer in e-procurement, typically for single item auctions, as single attribute e-auction – where the attribute is the price of materials bought. Buyer admits into e-auction only pre-selected (typically based on RFP (Request For Proposal) or e-RFP) sellers who fulfill all buyer’s requirement. In this case the auction is also the mechanism of final seller selection by buyer. In reverse real-time e-auction all auction participants (sellers) are connected to auction mechanism for the whole period of auction execution, which is typically between half an hour and few hours. In our case the auction mechanism is implemented as software program (executed on SaaS server) to which all sellers are connected, during auction execution, over Internet from the locations of their enterprises. All sellers “see” typically their bidding position and their bidding price (i.e. buyer’ purchasing price) and can react accordingly. The seller with the lowest bid at the time of auction termination wins the right to sign the contract with buyer.

Financial benefit of reverse auction for buyer is given by purchasing price reduction, equal to (“purchasing price at auction beginning” minus “lowest bid in auction”) minus buyer auction cost. For SME acting as buyer both purchasing price and price reduction are often low in absolute value, as they often buy smaller lot of goods i.e their volume of purchase is low. In this case low auction cost is for them of utmost importance, as for higher auction cost their financial benefit could be negative in many cases and there would be no reason for them to run the auction.

SaaS application delivery model may be simply seen as software that is owned, hosted, delivered and managed remotely by provider. From users point of view - lower costs, relatively to other software delivery models, and no need of maintenance (hardware, software, data) – are the main benefits of SaaS as an application delivery model. These benefits are especially attractive for SMEs, acting as users, as they often have limitations in financial resources as well as in
providing IT specialists for hardware and software maintenance and generally lack IT skills and strategy.

2.4 Case 4 – service based on Internet use for marketing in traditional enterprise (SME)

Entrepreneurial idea: to provide service for traditional SME, supporting its expansion into new international markets by Internet marketing.

Outcome of entrepreneurial process: execution of service in SME. Service is based on the method using innovative way of Internet marketing for support of established traditional SME expansion to new international markets. Method is innovative certainly from established SME point of view, but most likely in bigger dimension, and is specified and implemented in SME by consulting team, set up for this purpose, consisting of students of our University.

Entrepreneurial idea was generated by two university professors and two industry specialists on IT and business in about three months. Time span from idea generation till the start of the first service implementation in SME was 4 months. This time was used mainly for setting-up consulting team and locating suitable SME. First service implementation included also development of the method. It took less then six months and was sponsored by industry sponsor, who also covered the costs of specialist/project manager working on the project part time. One university professor worked on the project for free as occasional consultant. Two further service implementations were of shorter duration, included student team only and were funded by SMEs themselves.

Service benefits for SME are two-fold

− from business point of view – SME may find new buyers of SME products in new international markets, even though it does not have own specialists for international marketing, including Internet marketing. SME is getting the service for fraction of costs of professional consulting with perhaps lower, but good, quality

− from the point of view of acquiring knowledge - some SME employees are trained by working with members of consulting team so that later they may execute some simpler tasks themselves.

The service

Service is based on consulting and support of SME penetration of new international markets by student consulting team, using specific method developed for this purpose. Consulting team includes 4 masters students with background in ICT, marketing (2) and training and appropriate language skills - and part time professional project manager (only for first implementation). Students are working in the team part time and are paid by University. Individual phases of method are implemented as processes, proposed and managed by consulting team. All external commercial activities are carried out by SME, consulting team works in the background. Also training of SME employees is included.

The method

Specific and innovative marketing approach is used in the method
Internet advertising (banners, search engine marketing etc.) is not used at all. Only active approach to marketing by team, including market analysis, is adopted.

- info on particular potential business partner ("lead"), acquired by team from various free sources, traditional as well as Internet, is made more accurate until the responsible person is found, who is then contacted.
- for ethical reasons the responsible person at potential buyer is typically first contacted by short phone call in order to find out whether he/she agrees with product info being sent to him/her (i.e. “permission-based promotion”).
- marketing info including product info is delivered to potential buyers typically by e-mail. At later stage for each promising potential buyer “tailored” presentation of SMEs products on SMEs web-site, developed by the consulting team for this purpose (i.e. 1:1 marketing), is provided.

Method consists of the following 6 phases:

Phase 1 Intro – phase. SME’s analysis, Project – Start-up
Phase 2 Business model documentation
Phase 3 Selection of new (potential) markets
Phase 4 Market research
Phase 5 Internet marketing plan development
Phase 6 – Internet marketing plan execution, support of SME sales

The emphasis is on the use of Internet supported direct marketing (permission based e-mail) and 1:1 marketing.

Practical results
Service was first implemented for Czech traditional production medium SME. In the project with duration of less than 6 months, which included also development of the method, three new international contracts have been concluded with the value over 2 million Euro. Four students worked about 1500 hours on the project, resulting in costs of about 15 000 Euro. Two further deliveries of similar service with the same student team were successful. After that the team was broken down because of students finishing their studies and the new team was not set up.

3. Conclusion

Internet presents number of positive attributes, from the point of view of innovative entrepreneurial activities. Therefore there is no surprise, that it is used as basis of entrepreneurial activities in general and of academic entrepreneurship on the Internet, which is the subject of our paper, in particular. Several cases, implemented by students of our University, are described. They illustrate wide scope of entrepreneurship on the Internet, which goes far beyond setting-up new e-shop venture on the Internet, which is by many sources considered as typical (or perhaps the only one) result of entrepreneurial activities on the Internet. They differ in number of attributes including product/service complexity, venture “size”, venture development in advanced phases of entrepreneurial process (venture growth) etc.
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References


