ANALYSIS OF FINANCING SOURCES FOR START-UP COMPANIES

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This paper presents the development of start-up companies, their types and potential sources of financing with special emphasis on financing ventures in Croatia. The expected scientific contribution supports the defining stages of development for start-ups, as well as their financing sources at each stage. The goal of the research was to investigate whether Croatia has made a shift from traditional to newer methods of financing. Scientific and research contributions of the paper are reflected in the fact that there is a relatively small number of papers, especially in the domestic literature, that address these issues. Therefore, this research can contribute to a better understanding of the financing strategy of entrepreneurial ventures. Presented and interpreted results could be a useful basis and encouragement for a further research in this and similar topics related to the start-up scene at the local as well as the global level.

1. INTRODUCTION

Start-up companies are newly founded companies or entrepreneurial ventures that are in the phase of development and market research. They are usually, but not necessarily, associated with high-tech projects because their product is mostly software which can be easily produced and reproduced. Additionally, technology-oriented projects, by their very nature, have the

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greatest potential for growth (mashable.com, 2013). An interesting fact shown by the research is that technology-oriented start-ups are typically located in major urban centres. The reason is attributed to the need for a market that exceeds the local level (Baptista, Mendonça, 2009). However, there are more and more start-up companies in traditional industries and business sectors. At the international level, there is more and more research associated with the importance and ways of financing entrepreneurial ventures (formal and informal), especially in the period of intense globalization. A research by Korostelevae and Mickiewicz (2010) proved that financial liberalization affects the overall financial investment in start-ups, using either external or internal financing sources. The data from the GEM (Global Entrepreneurship Monitor) research from 2001 to 2006 showed at the level of 54 countries that the total investment in start-up companies depended on the economic development of the country. As GDP per capita increases, greater financial opportunities for investment in entrepreneurial activities are being created.

1.1. Research questions, research methodology and expected scientific contribution

Primary data collection was conducted through questionnaires that were sent by e-mail to previously selected start-up companies in Croatia. A problem, which also presents the main limitation of the research, is that there is no registered database of start-up companies. Starting from the collected and analyzed previous research data on a global level and a defined set of research problems, several research questions and hypotheses were formed:

1. What are the financing sources used by Croatian start-up companies?
2. What stage are the Croatian start-up companies at, and do they use different financing sources at various developmental stages?
3. Which financing opportunities do start-up entrepreneurs in Croatia prefer: informal or formal, traditional or modern?

The hypotheses are as follows:

H1. There is a statistically significant relationship between the level of development of the company and financing mode used by Croatian start-ups.

H2. There is a significant relationship between professional experiences in entrepreneurship of the start-up managers and the choice of financing methods.

The hypotheses are observed under the assumption that more experienced managers, recognizing the potential of their project and product opt for different methods of financing.

The data was gathered using a questionnaire containing questions on financing, development and business activity of Croatian start-ups. The questionnaire, designed using Google Docs, was sent along with a cover letter to the previously selected Croatian start-up addresses. Content analysis, descriptive statistical analysis and Chi-square tests were used to analyze the gathered data. These methods helped process the gathered data and establish the basic characteristics of the sample. Data analysis was performed using Microsoft Office Excel and statistical software package SPSS 19.0.

The expected scientific contribution helps to define development stages of start-up companies as well as the source of their financing at each stage. The research goal was to show whether in Croatia the shift from traditional to newer ways of financing entrepreneurial ventures has been achieved. The contribution is reflected in the fact that there are a relatively few papers, especially in the domestic literature, which explore these issues. Therefore, the conducted research can contribute to a better understanding of the financing strategy of the entrepreneurial ventures. The presented and interpreted results could be a useful basis and impetus for further research on this and similar topics related to the start-up scene at the local as well as the global level.

2. DEVELOPMENT STAGES AND FINANCING OF START-UP COMPANIES

According to Maurya (2012), start-up companies throughout their life cycle go through three stages of development. The first stage is the *Problem/Solution Fit* which investigates whether the market even has a problem that needs to be solved. In this case, the idea is not the most important element. It can even be quite cheap, but its implementation can be expensive. It is important to align the solution to the associated problem, as well as to see if the start-up wants to develop something that the customers/users need and something they will actually use and whether they are willing to pay for it, and finally whether the problem can be solved at all. The second phase *Product/Market Fit* has to answer the question of whether the implemented idea is really what the users need. After the first phase, in which it is necessary to investigate the existence of the problem, the purpose of solving the problem and the possibility of building a prototype or a partial solution, in the next phase it is essential to test and analyze different metrics to determine the extent to which the new product

addresses specific customer issues. The third phase is *Scale* and it involves the expansion and growth of start-up companies, which leads to an increase in the number of employees, to an increased market shares or to higher income. The ideal time for fundraising is after phase 2 (*Product/Market Fit*), or once the market has been tested to see the potential for future start-up growth (scaling follows in the third stage). After the second phase, the start-up's founders as well as potential investors have the same goal - the expansion of the business.

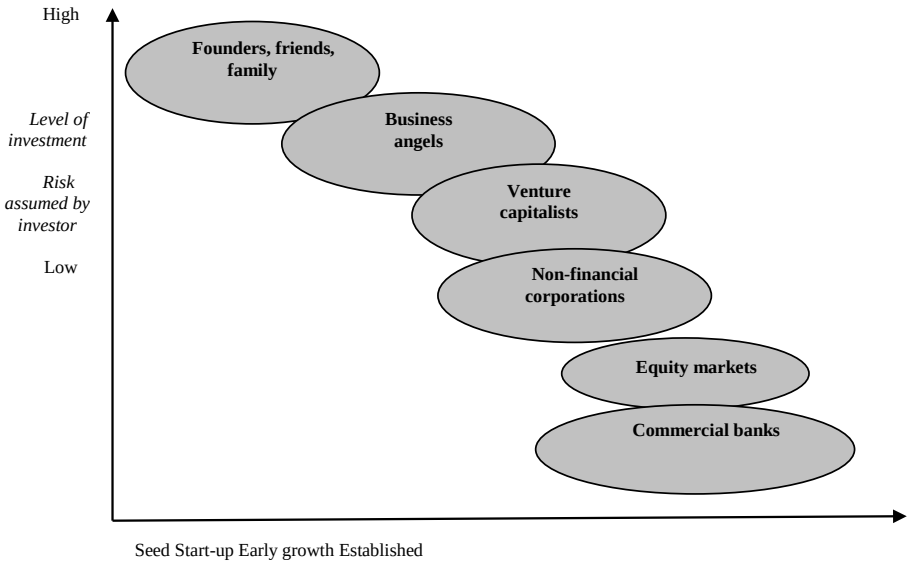
According to Nivi and Naval from Venture Hacks[1] (Maurya, 2012): *"Traction is a measure of your product´s engagement with its market. Investors care about traction over everything else"*. The term *traction,* therefore, implies either that the company has a „good" number of users, or that their number is growing every day (though perhaps start-up is still not profitable) or the start-up's income increases daily.

As opposed to Maurya who distinguishes three stages of development in start-up companies, according to Marmer, Hermann and Berman (2011), there are 6 stages of start-up development. The first stage is *Discovery* and its aim is to check whether it makes sense to solve the problem detected on the market, and whether there will be any interested parties for using the solutions which the start-ups plan to develop. This phase lasts from 5 to 7 months. The second phase is *Validation,* where start-ups try to get confirmation of whether the users are interested in their product. This phase lasts from 3 to 5 months. The third phase is *Efficiency*, in which start-ups enhance their business models and seek to increase the number of users. This phase lasts from 5 to 6 months. The fourth phase is *Scale* (7 to 9 months), which coincides with the third phase according to Ash Mauryau. There are also the fifth phase *Profit Maximization,* and the sixth phase *Renewal or Decline*. Going through many phases of development, the company ceases to be a start-up when it becomes profitable and goes public (by the first issue of shares) (Škoić, 2011).

According to Cvijanović, Marović and Sruk (2008) financing the development of the company can be displayed according to the phases of development. They distinguish five phases, namely: 1. experimental or seed; 2. start-up; 3. expansion; 4. recapitalization, and 5. buyout - selling a majority stake of the company. In the experimental phase, entrepreneurs often use their own funds or funds received from family and friends. In the initial phase of the development possible sources of financing are as follows: loans, business angels, and venture capital funds. In the expansion phase, the most common

[1] Venture Hacks (venturehacks.com) is a blog written by Nivi and Naval, the initiators of startups, investors in new entrepreneurial ventures, students, and blog advisors.

sources of funds are venture capital funds and loan funds. At the buyout stage, private equity funds play an important role.



Source: Vasilescu (2009).

Figure 1. Financing sources according to company's development phases

The whole concept of start-ups has enabled the creation of the so-called cyberspace or virtual reality space, which facilitated companies to invest and establish an online business at minimal cost. Minimum investments reduce the risk and enable a faster adaptation or even liquidation of companies. On the other hand, online business allows the establishment of passive start-ups that still do not have a product or service ready for the market, but are present on the Internet and have their own websites. This approach is good because it allows the entrepreneurs of start-up companies to analyze the market state, whether there is a need for their product or service, and whether it is worth investing in it (Kiškis, 2011).

A research carried out by Startup Genome Report[2] showed that more than 90% of young companies (start-ups) failed. Among 3,200 respondents, only 1 out of 12 companies survived and succeeded introducing their product or

[2] See: Marmer, M., Hermann B.L., & Berman R. (2011). *Startup Genome Report 01, A new framework for understanding why startups succeed*. http://www.wamda.com/web/uploads/resources/Startup_Genome_Report.pdf. Accessed 20 April 2013.

service to the market where it continues to develop and make a profit by carrying out its initial vision[3]. Many entrepreneurs fail and get lost on the way from start-up to achieving business success and creating profit, and therefore daily, new theories, methods and ideas that provide guidance are created and represent a guideline for entrepreneurs on how to react and achieve success in uncertain conditions (Zlatarek, 2012). An important contribution to understanding start-ups is a thesis by Kählig (2011).

Most start-up companies fail because they cannot implement the product in the way they planned to, they work on the implementation of the wrong product for too long and in doing so spend a significant amount of money – both for marketing and sales, just to sell the wrong product (Nobel, 2011).

3. TYPES OF START – UP COMPANIES

According to Marmer, Hermann and Berman (2011), who conducted an analysis on more than 650 web start-ups across the USA (Silicon Valley), Internet start-up companies can be divided into three basic types. The first type of the start-up companies is called "*The Automizer*" whose characteristics are being focused on customers, attracting customers who show interest in a product, fast performance, common automatization processes that were previously performed manually, a large market, struggle on the existing market, use of new technologies, strong technology-oriented developers, etc. A subtype of this type of Start-up Company is called "*The Social Transformer*" to which belong the start-ups that are characterized by the existence of a critical mass, increased subscriber growth, and networking. These start-ups typically create new ways to connect people and therefore need more capital. Business people and teams meet more frequently in this type of start-up than in an IT-oriented one.

Another type of start-up companies is "*The Integrator*" which belongs to start-ups characterized by high security, early profit, targeting small and medium-sized enterprises as well as smaller markets, high probability that it will keep small teams even after scaling (growth and expansion), etc.

The third type is called "*The Challenger*", characterized by start-up companies having very high sales, as well as customer dependence, and also by complex and rigid markets, repeatable sales processes, more time in relation to the first and second type, in need of more capital, business-oriented teams. This

[3] See: Zimo.com. *Zašto Startup kompanije ne uspijevaju*? Zimo Infografika, (2011). http://www.zimo.co/2011/11/15/zasto-startup-kompanije-ne-uspjevaju-infografika. Accessed 8 February 2013.

type also has a large number of users and needs large teams in case of start-up scaling, etc. Cassar (2004) stated in his research that the financing and collection of investments at the initial stage of development, as well in the expansion phase will depend on the characteristics and features of each type of enterprise.

4. FINANCING SOURCES FOR START-UP COMPANIES

One of the most important steps in starting an entrepreneurial venture is to ensure an adequate financing source. Analyzing the mobilization of financial resources, Kotha and George (2012) showed that entrepreneurs with previous experience in start-ups are able to raise more funds (from both formal and informal sources) compared to entrepreneurs without any experience. Start-up projects and start-up companies are most interesting to those investors who can significantly accelerate the development of the project or product through their investments as well as contribute to strong business relationships which investors tend to have and which are essential for the expansion of start-up products. In his research, Atherton (2012) demonstrated that multiple factors influenced the decision of a start-up founder on the financing source (formal or informal). At the same time, it is possible to observe very high disparity between the highly capitalized and undercapitalized start-ups. Finding investment funds to launch or expand a start-up is one of the biggest obstacles faced by many entrepreneurs (Berger, Cowan, Frame, 2011). In their paper, researchers Paul, Whittam and Wyper (2007) proved that start-up founders first turn to internal financing sources (their own funds), and afterwards they use external financing sources.

Sometimes it is good to try to found start-up companies independently, without third party investment, which is called *bootstrapping* (″to pull oneself up by one's bootstraps″). In reality, this is a very difficult task, but it is one of the foundations of entrepreneurship (Lopac, 2007) and represents a creative financing strategy (Lahm, Little, 2005). *Bootstrapping* (Worrell, 2002) implies that the entrepreneur has certain income at the beginning, which is only possible if the start-up does not require a big investment and if no financial investment has to be covered by third parties. The advantage of this approach is that entrepreneurs have full control of their company (lack of co-owners), while on the other hand, the drawback is that the entrepreneur can be in some kind of isolation if he/she is young and less experienced and there is no help from experienced partners and business contacts (Lopac, 2007). Many authors point out that *bootstrapping* is a method of transforming human capital into financial

capital, which involves a certain level of investment from external sources (Lahm, Little, 2005).

Freear, Sohl and Wetzel (1995) identified four types of *bootstrapping*. These are: 1) bootstrapping product development, 2) bootstrapping business development, 3) bootstrapping to minimize the need for (outside) capital financing, 4) bootstrapping to minimize the need for capital. A survey carried out on 214 start-up companies showed that bootstrapping has a positive impact on increasing the added value for the company (Vanacker, Manigart, Meuleman, Sels, 2010). Recent studies show that the *bootstrapping* and *lean* start-ups are complementary approaches. This is confirmed by the fact that both approaches use techniques that seek to eliminate all surpluses through maximization of existing resources before investing more funds from external sources (Maurya, 2012). In addition to bootstrapping, there are other various sources of financing start-up projects which are divided into traditional and new methods of launching start-up companies.

4.1. Traditional methods of financing start-ups

Traditional methods represent a logical sequence for start-up companies to start raising money, and most start-up companies enter the entrepreneurial world in this way. If the start-up project founders do not have their own financial resources and cannot independently raise the start-up without external investments they usually turn to the traditional financing sources such as (Kovačić, 2011): bank loans, 3F (i.e. Friends, Family and Fools), seed investments, business angels and venture capital investments.

Bank loans are probably one of the oldest formal financial sources for many entrepreneurs and genuinely mean that an individual or company can take a loan from one or more banking institutions. Most start-up companies seek to avoid bank loans as they are usually related to complex procedures and are given based on company`s or individual`s credit history and property. Since start-ups are usually founded by young people who, in many cases do not own property, it is hard to get a bank loan. Åstebroa and Bernhardt`s research (2003) shows a very high and positive correlation between bank loan and sustainability of the start-up company. Nevertheless, an unconditional correlation between bank loan and sustainability is negative. The reason for this negative correlation is a growing number of start-up companies that have received some other form of investment and at the same time successfully exist in the market. A recent research on a very large data panel (9,715 start-up companies over the period 2007-2009) shows that high-tech start-ups are unlikely to use bank loan and it is

much harder for them to get one compared to the start-up companies in other industries (Brown, Degryse, Hoewer, Penas, 2012).

3F - Friends, Family and Fools – before they turn to external formal financing sources (business angels, different funds or banks) entrepreneurs should try to collect their initial funds from those people who are closest and familiar to them such as friends and family (informal sources of financing) before they turn to external investments such as business angels, various funds or banks (Krishnan, 2010). This is the "first line" of investors and it is often called "*Fools*" because they invest their money into start-up companies although all data shows that a great number of start-up companies fail within the first three years of doing business. However, before turning to larger and more powerful investors, it is important that the start-up companies receive initial investments. This shows that the entrepreneur believes in his idea and that his family and closest friends are also ready to take the risk and invest in their business idea. Potential risks of such a financing are disagreements that may occur in the families or between friends if the project fails in the end (Lopac, 2007).

Seed investments are also known as initial investments that help start-up companies in expanding their business. Start-up companies engaged in technology development with rapid growth potential due to the nature of their business often explore seed investments in order to accelerate their growth and the development of their products (Brezak Brkan, 2010). A very popular way of funding start-up companies and receiving seed investments are private investors who want to invest their capital into potentially successful businesses (Brezak Brkan, 2010). It is rather common that seed investments are collected at the earliest stage of fundraising and they usually include personal savings and funds from family members and friends (smallbusiness.chron.com, 2013).

Business angels are investors who help entrepreneurs to realize their business ideas. In addition, business angels help by sharing their knowledge, experience and financial resources not only with start-ups but also with established businesses that already have a track record but are temporarily in financial difficulties. The greatest value of business angels is the so-called "smart funding" that includes providing skills, expertise and business contacts, while most common reasons for investing are acquisition of profit, encouraging entrepreneurship, business activity and creating new value[4]. Before investing in a company takes place, a contract defines the relationship between the start-up

[4] See: Croatian business angels network – o nama. http://crane.hr/onama. Accessed 21 February 2013.

founder and the business angel as an investor. The contract generally contains an investment value, the investment time period, the investment price and an exit strategy from the company (Cvijanović, Marović and Sruk, 2008). Sharpe, Cosham, Connell and Parnell (2009) conducted a study in the UK which proved that business angels have a major role in funding high-tech start-ups in their early stages. One of the reasons for that is the governmental support through tax exemption of their investments.

Giurca Vasilescu (2009) believes that business angels are the most important link between funding and developing companies, from the start-up stage to the stage in which companies are ready to be on the capital market. Moreover, business angels provide financial and managerial support which is the additional option for survival of the companies.

Table 1 shows a comparison between the number of Business Angels Networks in the US and Europe. Europe has more Business Angels Networks, but in the US each network has more members (a higher number of business angels). For instance, in Europe there are 75,000 Business Angels Members and in the US there are 259,480. Individually made investments (i.e. per each round) as well as total invested funds are higher in the United States.

Table 1. Comparison between the number of Business Angels Networks in the US and Europe

2009	Europe	US
Business Angels Networks	391	340
Estimated number of Business Angels Members	75,000	259,480
Investment per round	€ 199,193	€ 218,131
Total funds invested in 2009	€ 3-5 billion	€ 17.7 billion
Total amount invested through the network according to the survey data	275,882 K (863 companies)	No information
Total funds invested by the VC in 2009	€ 4 billion (615 companies)	€ 1.7 billion (312 companies)

Source: EBAN Secretariat (2010).

According to the EBAN Secretariat research, in 2009 almost € 18 billion of invested funds were invested in the US while in Europe it was between € 3 and 5 billion. However, an interesting fact is that according to the same data, the total invested funds by VC funds were higher in Europe (€ 4 billion) than in the US (€ 1.7 billion).

Venture Capital investments or risk capital investments can come from individuals, companies or funds that invest in individual companies in order to help their development. Venture Capital investments are not the same as bank loans because after investing Venture funds seek for a corresponding part of the ownership in the company, while banks enter into a financing for an exactly determined time period and with precisely defined interest rates. Venture Capital (VC) is not affected by company`s cash flow and it does not create any costs, while bank loans are always time-limited and during the entire repayment time they burden the company`s cash flow (Rakar, 2006).

In Croatian legislation, the Venture Capital funds are also called risk capital funds with a private offering. Venture capital funds are focused on high-risk projects with potentially high return on investments. Their main activity is providing financial assistance to start-up companies, and in accordance with this looking for young, creative and innovative people who want to start a business (Jozić, 2011). Generally, it refers to funding a firm in the early as well as the expansion stages of development (Cvijanović, Marović and Sruk, 2008).

In their research, Dean and Giglierano (1990) showed that VC funds seek to reduce the funding risk by focusing their investments in a particular development stage and by focusing on just one development stage, in relation to making new investments at further stages. By analyzing more than 470 Silicon Valley start-up companies, Davila, Foster and Gupta (2000) proved that companies which had been using Venture funds as the financing source generally grew faster than those that had used some other financing source. Their study also confirmed a research conducted by Hellman and Puri (2000) in which they, among other, proved that innovative companies used venture capital investments more often than the imitating companies.

On a sample of 391 Italian start-up technology companies, Colombo and Grilli (2005) conducted a study on the correlation between the size of start-up companies and potential funding sources. The research showed that start-up companies funded by their own resources, family members or friends are not any smaller in size compared to the start-ups funded by bank loans.

This result can be explained by a usual limit on the amount of bank loan which makes this type of funding inefficient when funding start-ups. Some earlier researches also showed that greater role and importance are attributed to the external funding sources, such as private equity funds (Carpenter, Petersen, 2002).

4.2. New methods of financing the start-up firms

As investment methods in the start-up companies are changing and evolving, some new methods of financing start-up projects and companies are known today. In this chapter the emphasis is on the so-called *seed* accelerators that offer financial injections and mentoring and represent an opportunity for all start-up companies and teams who are willing to learn and succeed in the start-up world (Lopac, 2007). Although there is no satisfactory level of research and literature about these new investment programs, some research shows that today there are more accelerators than start-ups themselves and this is considered to be a positive change in the economic structure of the high-tech industry[5].

According to Christiansen (2009), one of the most common reasons for starting seed accelerators is a possibility and a need for creating a new ecosystem and increasing the number of start-ups through investment programs, which will increase the number of companies and in the long run employment. Christiansen (2009) also mentions three elements for recognizing successful accelerators. Those are: 1) the intersection of highly qualified people that are experienced both in operating start-ups and angel investing, 2) a clear technology or industry focus, 3) a very distinct and compelling reason for existence. The US is a centre of start-up companies, nevertheless most recently Europe opened up and strives to give as higher support as possible to Internet, technological and mobile start-ups. London, Berlin and Vienna are the best European start-up accelerators. Some of the world's most successful accelerators and recognized online platforms for fundraising are (Lopac, 2007): Y Combinator, TechStars, CRV QuickStart, Seedcamp, Start-upbootcam, Fundable (crowdfunding) and others.

Y Combinator, TechStars are the most suitable approaches for younger entrepreneurs. It is one of the world's most successful seed accelerators. It was founded in 2005 and today it is a model program for developing many new accelerators. Since it was founded, it helped launch more than 140 new start-ups (Christiansen, 2009). *TechStars* was founded by business angels from Colorado.

CRV QuickStart - Charles River Ventures QuickStart is a U.S. venture company which facilitates entrepreneurs to take a loan. The difference from a bank loan lies in the fact that if the start-up company achieves a second round of investment, the initial loan is converted into majority holding. If the company

[5] See: Empson, Rip, *Economic Impact Of Startup Accelerators: $1.6B+ Raised, 4,800+ Jobs Created, 2,000 Startups Funded*. http://techcrunch.com/2012/11/27/economic-impact-of-startup-accelerators-1-6b-raised-4800-jobs-created-2000-startups-funded/. Accessed 21 March 2013.

does not achieve a second round of investment, then the start-up company must return the loans taken (Lopac, 2007).

Seedcamp is an investment program for companies in their early stage of development. Apart for the initial capital, it offers an opportunity of mentoring start-ups by experts in the field of seed investments (initial investments) that help start-up companies to expand their business. This program also offers experts in the field of product development, human resources, PR, marketing, lawyers, journalists, etc.[6] As opposed to *TechStars* and *Y Combinator, Seedcamp* is initiated by business angels and venture capital funds. It is important to emphasize that when VC funds decide not to finance some project/start-up, this presents an important distress signal to other potential investors (Christiansen, 2009).

Start-up bootcamp is an accelerator program for start-up companies and it is being held at various European locations several times per year (Copenhagen, Madrid, Dublin, Amsterdam and London). It gathers a wide network of mentors and partners which help selected start-up companies with the implementation of their idea. Start-up bootcamp is a selective program, meaning that around 300 projects in Europe and worldwide register for the program and usually about 10 projects per program are selected. Start-up bootcamp provides networking and mentoring and it is also an associated member of *Techstars* program in the US (Maršić, 2012).

Fundable is an online platform for gathering investments into small companies[7], i.e. a form of collecting development funds that are used for different purposes and in various amounts; it is a form of collecting donations for charities and interesting projects in general. Each entrepreneur can raise funds from future clients before the project is even developed. In case of a failure, money is returned to those who contributed, while Fundable ensures that all the transactions are made fairly (Lopac, 2007).

5. START-UP COMPANIES IN CROATIA

Croatian start-up scene is not very developed (Kovačić, 2011). One of the reasons is the fact that Croatian start-up companies still focus on Croatian market, which is not enough for being successful, which especially the case with web start-up companies (Lopac, 2007). Focusing just on Croatian market can bring success only when those start-up companies are closely linked to the

[6] See: *Welcome to Seed*. http://www.seedinvestments.co.za/. Accessed 21 April 2013.
[7] See: Fundable.com, http://www.fundable.com/. Accessed 21 March 2013.

geographical area. However, in the last several years it has become evident that the start-up culture has been expanding successfully, and a proof for that are entrepreneurship incubators such as ZIP Factory and CISEx. The goal of Zagreb Entrepreneurship Incubator (ZIP) is education and assistance to entrepreneurs in launching their projects[8]. On the other hand, the Association of Croatian Independent Software Exporters (CISEx) gathers Croatian software producers on the international market, and their goals are, along with industry promotion, the development of education programs, promoting investments into the software industry, organizing conferences, developing cooperation programs with the academic community, recruitment development and other useful projects[9]. In his paper *˝Institutional Support for "start-up" entrepreneurial ventures in Osijek˝* (Business Incubator Osijek Case), Medić (2004) states that it is necessary to create proper environment conditions *"that will affect businesses development, stimulate and facilitate survival and success of the entrepre--neurial ventures."*

5.1. Possible financing sources of Croatian start-up companies

A possibility of attracting investments for start-up companies are lower in Croatia than abroad. However, that does not mean that it is impossible to find investors. Due to a centralized bank system, Cvijanović, Marović and Sruk (2008) believe that business angels, as a possible financing source of entrepreneurial ventures in their early stages, are not present as much as classical bank loans or some other forms of borrowing. The reasons for this are the lack of information (although this has been changing in recent years), and the fear of losing the authority and the ownership position of the business venture initiator. Some of the possible financing sources in Croatia are:

Business Innovation CROatia (BICRO) - Business and Innovation Agency of Croatia is a government agency whose task is financing innovative and technological projects in Croatia. In 2006, BICRO launched a program *"Promoting entrepreneurship based on innovation and new technologies"*, consisting of five sub-programs and including government incentives for entrepreneurship[10].

[8] See: Zagreb Entrepreneurship incubator. http://zipzg.com/tag/zip-factory/. Accessed 19 April 2013.
[9] See: Croatian independent software exporters. http://www.exportboomers.com/CISEx/Udruga-CISEx. Accessed 21 February 2013.
[10] See: Poslovno inovacijska agencija Republike Hrvatske. Business Innovation Croatian Agency. http://www.bicro.hr/. Accessed 20 April 2013.

Business angels in Croatia - operate within CRANE Association (Croatian Angel Network). They represent a point where entrepreneurs of the start-up companies can find potential investments for their ideas and projects. Business angels in Croatia are a network of private investors interested in investing in productive and innovative companies in very early stages of their development. The CRANE mission is: "*Connecting ambitious entrepreneurs and their innovative projects with investors who will invest their money, expertise, skills and know-how in those projects.*" [11] Croatian business angels offer investments that range from €20,000 to 250,000, as well as technical and business knowledge, knowledge of specific industries and know-how. They also cooperate with business angel networks in Europe and the United States (European Business Angel Network - EBAN) and with venture capital funds in the region and in Europe[12].

Croatian Private Equity and Venture Capital Association (HVCA) - private equity and venture capital investments make an important strategic development and growth guideline of entrepreneurial activities and enterprise. The idea behind this organization is promoting development and investment culture in the Republic of Croatia and its region[13]. According to data collected by Cvijanović, Marović and Sruk (2008), PE/VC market in Croatia is not developing at the desired pace and it is falling behind other countries in the region. The lack of entrepreneurial interest is mentioned as one of the reasons for such financing methods. The members of this association in Croatia are: Alternative Private Equity, Honestas Private Equity, Nexus Private Equity, Questus and Prosperus–Invest. In December 2010, these five funds joined the Government's initiative for strengthening investment activities in Croatian market, and they raised HRK 1.075 billion of private equity. Thereby, Croatian infrastructure significantly developed, and it will continue collecting and managing venture capital in future[14].

Private real estate - Croatian entrepreneurs still consider investing and/or selling their own real estate as drastic and extreme ventures, unlike their

[11] See: Croatian business angels network – o nama. http://crane.hr/onama. Accessed 21 February 2013.
[12] See: Croatian business angels network – o nama. http://crane.hr/onama. Accessed 21 February 2013.
[13] See: Hrvatska Private Equity i Venture Capital Asocijacija, *Predstavljeni fondovi za gospodarsku suradnju* (2010). http://www.cvca.hr/novosti/vise/?id=295. Accessed 21 February 2013.
[14] See: Hrvatska Private Equity i Venture Capital Asocijacija, *Predstavljeni fondovi za gospodarsku suradnju* (2010). http://www.cvca.hr/novosti/vise/?id=295. Accessed 21 February 2013.

counterparts in the United States and other Western countries. Croatian entrepreneurial mentality still considers such ventures to be appropriate only in cases of emergency. However, it is significant that entrepreneurs have enough confidence in their own ideas and their implementation so that they are willing to hypothecate their own property (Lopac, 2007). Otherwise, it is unlikely that someone else, who initially is not familiar with the project, would do that.

Bank loans and other debt instruments - business banks offer loans to entrepreneurs independently or in cooperation with the Croatian Bank for Reconstruction and Development (HBOR). In addition to regular bank loans, there are also other various subsidized loans (from ministries), aids and leasing funds (Cvijanović, Marović and Sruk, 2008).

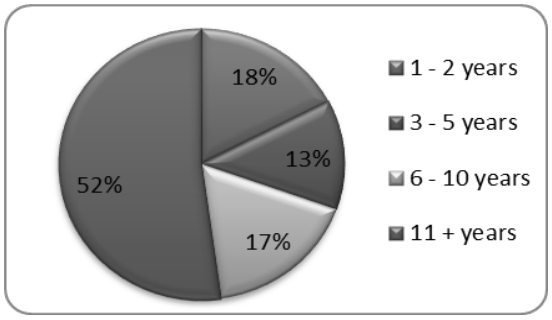
International investments and EU programs - Croatian entrepreneurs have high quality ideas, so they can certainly find potential investors abroad, i.e. international investments. However, very often Croatian entrepreneurs have neither the knowledge, experience, nor the courage to search for international investments (Lopac, 2010). Thanks to some successful projects, Croatia is known in the world and in the region of Central and Eastern Europe (CEE region) and has good chances of getting the investments[15]. In addition, there is a series accession and pre-accession EU assistance programs which help with the issue of competitiveness.

6. EMPIRICAL RESEARCH RESULTS

The aim of start-up research was to define the profile of start-up founders, financing ways and the development stage of Croatian start-ups. Authors, through an independent search of available sources, detected 42 start-up firms in Croatia and sent a questionnaire to their e-mail addresses. A total of 23 Croatian start-up companies or more precisely 54.76% responded. This sample is considered representative and it is assumed to reflect the characteristics of the entire population, i.e. all start-up companies in Croatia. By analyzing results and applying descriptive statistics, specific statistical characteristics of the population regarding the financing of the business have been perceived. Below are the results of the research and answers to the research questions and hypotheses. Research results indicate that most of the founders of start-up firms are male (96%), the majority are between 25-34 years old (65% of respondents), and have been present in the world of entrepreneurship for more than 6 years (69%). Start-ups are mostly located in the capital of Croatia, Zagreb (57%),

[15] See: Rep.hr., *Hrvatski StartUpi su „in" i nižu uspjehe*. http://rep.hr/vijesti/poduzetnistvo/hrvatski-startupi-su-in-i-nizu-uspjehe/3452/. Accessed 21 February 2013.

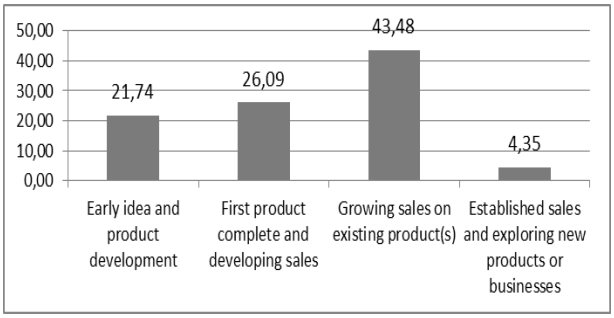
followed by other large Croatian cities - Split, Rijeka, Varaždin, Osijek and Pula. One Croatian start-up founder is based in Slovenia, one in Switzerland and one in the UK, while one did not reveal his location. Out of all the respondents who completed the questionnaire, a total of 52% said they had been entrepreneurs for 11 years, 17% had been entrepreneurs between 6 and 10 years, 13% for 3-5 years, while 17% of respondents had 1 to 2 years of professional experience (see Figure 2).



Source: Research results.

Figure 2. Professional experience of Croatian start-up founders

The results of the research showed that 22%, i.e. 5 Croatian start-up firms are just at the beginning, or have an idea that they seek to develop into a final product or service. Furthermore, 43% Croatian start-up companies are in the stage where the emphasis is put on increasing sales of existing products or services, and 26% of start-ups are in the stage in which the first product or a service is completed, and the current goal is to develop sales of these products/services (see Figure 3).



Source: Research results.

Figure 3. Development stage a Croatian start-up companies

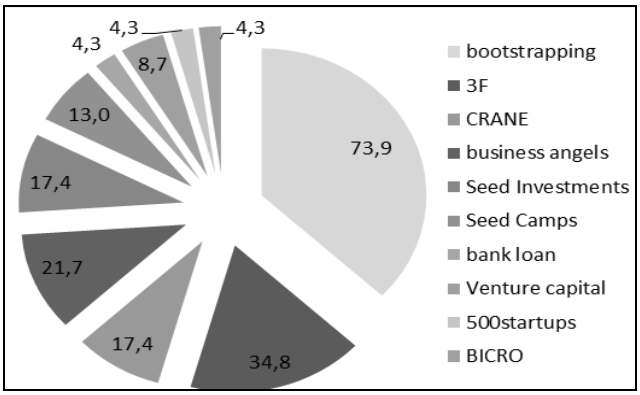
Some of additional challenges that Croatian start-up face at the beginning are (according to the empirical research results):

- *Adverse market and the need to create your own product or service (survival);*
- *It is hard to stay focused, spend rationally and coordinate all important segments which are essential for development (back-end + front-end + user validation);*
- *It is difficult to find investors for a start-up which is still not yielding profit, as well as potential users;*
- *The focus should be on users and user needs, instead of investors or the particular start-up industry;*
- *Product marketing - or making your product or service visible to the general public;*
- *Gaining market share;*
- *Persuading early adopters to try the product or service;*
- *Finding the right mentor;*
- *Defining a good quality business plan;*
- *The greatest challenge is to learn and understand that the solution offered by your own start-up is not the only solution offered in the world.*

Researching the ways of raising the necessary funds has shown that 83% of start-up firms in Croatia are financed informally in the beginning, including self-funding (bootstrapping), as well as by financial support of friends and family (3F - Friends, Family and Fools). Out of 83% only 6 firms searched for additional financial aid, and received it mainly from CRANE (15%), Business angels (10%) and seed camp (15%). Also, as evidence from other research confirms, Croatian start-ups first reach into their own financial savings. As much as 74% of them stated they started with the bootstrapping method.

From the total number of respondents, 43% of start-up companies received investments from business angels (Croatian and foreign ones), 17% attracted seed investments, 9% of investments were venture capital or venture capital investments, while 4% used bank loans, BICRO investment (Business - Innovation Centre in Croatian) and 500 Start-ups, being one of Europe's largest start-up accelerator/ investment funds (see Figure 4).

Observing the traditional versus the new sources of financing, most Croatian start-ups opt for the traditional sources, while only 21% sought financial support in newer methods of financing such as Seedcamp, 500 start-up and BICRO.



Source: Research results.

Figure 4. Sources of financing a Croatian start-up companies

To test the hypothesis if there is significant evidence of relationship between the development stage of start-up and their financing method chi-square test of independence was used. Previous research and evidence from around the world indicate a change in funding depending on the development stage of the start-up company. The analysis of start-ups in Croatia has shown that there is no evidence that at various development stages company uses a different level of funding, and therefore the null hypothesis is accepted (Chi-square = 19.327, df = 30, p-value = 0.932) (see Table 2).

Table 2. Results of the chi square test: relationship between financing methods and corporate development

		Stage of business
Financing methods	Chi-square	19.372
	df	30
	Sig.	.932

Source: Research results.

Analyzing the relationship between professional experiences of entrepreneurs and the method of financing, no significant relationship has been found. This means the null hypothesis is accepted with scores of Chi-square = 30.090, df = 30, p-value = 0461 (see Table 3).

Table 3. Results of the Chi square test: relationship between financing methods and professional experience

		Professional experience
Financing methods	Chi-square	30.090
	df	30
	Sig.	.461

Source: Research results.

In conclusion, Croatian start-up companies prefer traditional and informal financial sources with emphasis on private financing and financial assistance of friends and family. Only after they pass the first stage of development, founders gain enough courage to find financial support from other funding sources, such as business angels, either foreign or Croatian ones, and seed investments, although the level of development of the company and the experience of managers are not necessarily associated with the financing method.

7. CONCLUSION

It is well known that a very small number of start-up companies succeeds, and continues to develop and make a profit after the market launch of products and services. Start-up companies which are mainly defined as newly founded companies are usually associated with high-tech projects, and are often lost on the way from the founding the start-up to achieving a business success. In the research of the start-up scene in Croatia the basic limitation is the sample size. Data on the number of start-up companies is based solely on the information gathered by searching the information received from the CRANE association and Netokracija website. The lack of earlier research against which the results could be compared to is also a limiting factor.

Despite these limiting elements, this analysis has shown compliance with the ways of financing start-ups in the world, i.e. the Croatian start-up companies prefer traditional and informal financial sources with emphasis on private financing and financial assistance from friends and family. After surviving the first experimental phase, the entrepreneurs gain enough courage to find financial support from other funding sources, such as business angels and seed investments, although the level of company development and the experience of entrepreneurs are not necessary associated with the financing methods.

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ANALIZA IZVORA FINANCIRANJA START-UP PODUZEĆA

Sažetak

U ovom se radu prezentira razvoj start-up poduzeća, kao i njihovi tipovi te potencijalni izvori financiranja, s posebnim naglaskom na financiranje novih poduzeća u Hrvatskoj. Očekivani znanstveni doprinos rada odnosi se na utvrđivanje razvojnih faza start-up poduzeća, kao i izvora njihova financiranja po prepoznatim fazama. Cilj je istraživanja utvrditi je li u Hrvatskoj došlo do pomaka od tradicionalnih prema novim metodama financiranja, što je posebno značajno s obzirom da u literaturi postoji samo mali broj radova o navedenoj problematici u Hrvatskoj. Stoga bi ovo istraživanje moglo pomoći u boljem razumijevanju poduzetničkih poduhvata, a njegovi rezultati poslužiti kao temelj i ohrabrenje za buduća istraživanja ove i sličnih tema, povezanih sa „start-up scenom“ – kako na lokalnoj, tako i na globalnoj razini.