



INCUBATOR'S PERSONALIZED SUPPORT FOR RISING START-UPS

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Abstract: *One of the first rules that show up as a need for young entrepreneurs, who are trying to convert their entrepreneurial projects into the real product, is funding. Apart from the angel investors or venture capitalists, rising number of crowdfunding platforms appear to be an attractive source for collecting alternative financial funds. The most important thing is to present your venture idea and make it attractable to the investors. By providing a co-working space and support in all developmental phases during the entrepreneurial process, incubation processes are helping entrepreneurs to prepare their pitches and present themselves in the best possible way. Investigating influence of motivation among the entrepreneurs, our study has shown that incubation processes enhance intrinsic motivation, and therefore, meet basic psychological needs for autonomy, competence and relatedness, that are leading toward effective results. We have applied gender perspective and the results showed the importance of incubation processes especially for female entrepreneurs. Technology is developing at the fast pace, and there is a growing number of entrepreneurial projects that need these supportive mechanisms to rise.*

Key Words: *Entrepreneurship, business incubators, motivation, crowdfunding*

1. INTRODUCTION

Following industrial and technological development, most of the world's economies are encouraging entrepreneurs to found start-up companies and work on the innovation in diverse areas of the product/service development. With a technological development that has a very fast pace, the growing number of start-up companies is present. Unfortunately, the success rate is not in coherence with the number of start-ups, however, everyone is working on this rate's improvement.

Throughout the literature, there are mostly two important factors that are influencing people to start entrepreneurial life. Therefore, we have opportunity and necessity driven entrepreneurs. Taking the gender perspective, female entrepreneurs are mostly belonging to the latter group, as they have difficulties to adjust their working hours (at the employers) with family obligations (childcare). Starting their own venture allows them to

work from home and organize their time. According to the GEM report for 2016/17, female entrepreneurs are emphasizing necessity as a motive for founding start-up for 20% more than male entrepreneurs.

Even though being an entrepreneur provides a lot of benefits, the number of female entrepreneurs is much lower with respect to the number of male entrepreneurs. One of the main obstacles women are facing is funding. Funding sources from one side depend on the level of country development. Therefore, in developed countries such as USA, for instance, the number of venture capitalists and angel investors is much higher than the number of investors in the developing or underdeveloped countries. There is a big gap in venture capital funding rates between women and men led business, and the studies have shown that only 15% of the funded business between 2011 and 2013 funded by venture capitalists in the USA, had a woman in the team, while only 3% had a woman CEO [4]. This situation is changing with a rising number of online platforms that allow entrepreneurs raising funds from a large number of individuals [5]. This way of collecting funds represents crowdfunding. Even though this is a very attractive way of raising funds for young entrepreneurs, the manner of presenting a project is highly important and this is where the supportive mechanisms have significant impact.

In order to develop innovative and successful companies, it is necessary to create entrepreneurial ecosystem. What characterizes entrepreneurial ecosystems is the appropriate culture, availability of funding, acquisitions and human capital development, the creation of a market for new products and services, and the development of institutional and infrastructural support [4]. By creating the awareness of the creation of favourable entrepreneurial ecosystems, the motivation for the development of support programs, as well as the initiatives for promoting entrepreneurship, is encouraged, which leads to an increase in entrepreneurial activity. One of the instruments that distinguish as important for supporting entrepreneurship development and creation of entrepreneurial ecosystem is incubation process. By providing working space, mentoring and networking activities, incubators are helping entrepreneurs to step up into the world of entrepreneurship wisely, decreasing the failure rate of the start-ups. This is why we chose incubation context as a base for investigating motivation

of entrepreneurs and influence of mentors they are collaborating with. For this purpose we decided to apply, for the first time in the entrepreneurship research self-determination theory. Emphasizing the importance of personality on the one hand, and environmental factors on the other, this theory enables the creation of a model of motivational factors that influence the behaviour of the individual, in our case the entrepreneur. Development of the certain type of motivation, will lead to a less or more effective outcomes. In this way we will try to give an answer on the rising question, whether incubation process positively affects entrepreneurs, taking the gender perspective.

The study is structured in a following way. First part of the paper is covering the role of incubation processes and self-determination theory from the theoretical perspective. Secondly, we are presenting research methods and study results, and finalizing the paper with conclusions.

2. THE ROLE OF INCUBATION PROCESSES

Incubation processes could be considered as a so called „umbrella“ that includes every organization that provides co-working space, shared administrative services and all necessary instruments and support that are helping start-ups to develop [3]. American National Association of business incubators is defining them as supportive instruments of the economic development, created for acceleration of the growth and success of entrepreneurial ventures. Main aim of incubation processes is to stimulate entrepreneurship and provide all necessary support, especially in the early phases of the start-up development. Incubators are aiming to maximize potential entrepreneurial agency by providing services and support that will encourage talent and process development. One of the services they are providing is a co-working space at a low rental rate, networking access, support for business managing and development, marketing, financial and administrative services. With networking events they are facilitating funding access as they are connecting entrepreneurs with potential investors. Furthermore, creation of close relationships among the peers and with their mentors is leading to high levels of trust and personalization that might be essential for project's efficiency. Combination of different resources, services and skills is creating a synergy among the incubator users and an enhancing business environment.

Business incubators are significant instrument especially in the early stages of the entrepreneurial cycle that starts with a nascent stage continues in a seed stage and results in a business creation. They can also be considered as buffer mechanisms as they are providing necessary resources for overcoming potential problems and risks coming from the environment. In this way, entrepreneurs can focus on their projects and work on reaching effective outcomes. Even though there are different types of incubators, they all have same basic characteristics: (i) maintaining the spirit of entrepreneurship (ii) providing preferred terms by the best network service providers, enabling entrepreneurs to enjoy a certain economy of scale (iii) enabling access to

other companies- networking events [13]. Most of these processes is ending with a „demo“ day, when entrepreneurs have opportunity to present their venture (to pitch) in front of the potential investors. Most of the previous incubation-based studies focus on incubator topics such as incubator development [10],[3], configuration [22],[10], and influence [3],[1]. So far, we have not found a study that explores motivation within the business incubator.

3. SELF-DETERMINATION THEORY

Self-determination theory (SDT) is a motivational theory whose principal assumption is that people have a desire to develop and grow, reaching the highest level of their potential [7]. It is universal theory that is connecting intrinsic and extrinsic motivation through the process of internalization, aiming that satisfaction of basic psychological needs leads to the optimal outcomes. According to the SDT, degree of development of an individual depends on the satisfaction of three basic psychological needs: need for autonomy, need for competence and need for relatedness [18], [19], [6]. Those needs are innate and necessary for development of the person's potential. The satisfaction level of those needs is important, not their intensity. Even though it is considered that these needs are universal, the level of their satisfaction is varying and it influences accomplishment of the individual outcome.

Up to our knowledge, there is not a study investigating self-determination theory in the context of entrepreneurship. However, these two areas of research and pretty interrelated. Namely, entrepreneurs are voluntary and independently starting the ventures by the action they are undertaking (autonomy). In order to develop, maintain and improve start-up, entrepreneurs have to be competent to accomplish it (competence) with a good business network (relatedness). Type of the motivation present and developed in the entrepreneurial context is influencing level of satisfaction of three basic needs, and ultimately leads to the successful outcomes or failure. Investing the type of the motivation and the degree of the need satisfaction within the context of business incubators, will help us to learn more on their influence on the entrepreneurs, especially from the gender aspect.

4. THE STUDY

Data was collected using the survey that was conducted on the sample of 200 entrepreneurs that are developing entrepreneurial ventures (start-ups) in various incubation centers, namely: Business Incubator Novi Sad (Republic of Serbia) - 36 respondents (29 males and 7 females), Startit Centre in Novi Sad (Republic of Serbia) - 25 respondents (14 males and 11 females), ICT Hub in Belgrade (Republic of Serbia) - 34 respondents (28 males and 6 females), Business Centre in Banja Luka - BRIO Academy (Republika Srpska) - 29 respondents (17 males and 12 females), Business Centre in Bar (Montenegro) - 6 respondents (6 females), Technology Venture Launch Program (Silicon Valley, USA) - 46 respondents (34 males and 12 females) and 24 respondents (14 males and 10 females) who did not name

their business incubator. The sample consisted of 32% of female and 68% of male respondents ranging from 24-55 age. The survey was conducted through paper-and-pencil and online filling the questionnaire. Given the different geographic locations, some incubators preferred responding online because they thought that in this way more entrepreneurs would participate as they develop their ideas using information technologies. Participation in the research was voluntary and did not involve any compensation. Data collection lasted 12 months and the response rate was 70%. The incubator's database was created by online research, and they were randomly contacted.

Research instruments were including three different scales: General Motivation Scale, Scale of satisfaction of psychological needs at the workplace and the scale that was measuring the influence of the mentor, shown in the Table 1.

Table 1. *Research instruments*

Instrument	Constructs	Source
General motivation scale	intrinsic motivation to learn, intrinsic motivation to accomplish something in life in general, intrinsic motivation to experience stimulation, extrinsic motivation for identification, extrinsic motivation for introjection, external motivation for external regulation and amotivation	Guay, Mageau & Vallerand (2003)
Scale of satisfaction of psychological needs at the workplace	psychical needs for autonomy, competence and relatedness with other people in the context of the workplace	Kasser, Davey, & Ryan, 1992; Ilardi, Leone, Kasser & Ryan, 1993; Deci, Ryan, Gagne, Leone, Usunov, & Kornazheva, 2001
Sport Climate Questionnaire (SCQ) - mentors' influence	15 items that measure the autonomy support of the respondent's mentor (coach) in the context of business incubators	http://selfdeterminationtheory.org/pas-sport-climate/

5. RESULTS

Before applying the statistical processing of data, we have tested for the reliability of the used scales. Table 2 shows the reliability indicators of scales. We have determined that all scales have good reliability.

Table 2. *Scale reliability*

Scale	Cronbach α
General motivation scale	0.826
Scale of psychological needs	0.673
Scale of mentor influence	0.952

For testing the potential statistically significant difference among the gender (1-m, 2-f) across all variables that are indicated to be tested in the study, we have applied multivariate analysis of variance (MANOVA). The study results are shown in the Table 3. It can be concluded that statistically significant differences between male and female respondents exist regarding intrinsic motivation to learn ($F = 4.403, p = .037$), which is more present in females ($M = 6.25, SD = 0.436$) than in males ($M = 6.06, SD = 0.66$). There are also differences in the intrinsic motivation to experience stimulation ($F = 12.03, p = .001$), which is significantly higher in females ($M = 5.52, SD = 0.67$) than in males ($M = 4.93, SD = 1.26$), while the level of intrinsic motivation to accomplish something in life in general is in the border region ($F = 3.89, p = 0.05$). A significant difference is also present in the extrinsic motivation for external regulation ($F = 14.82, p = 0$), which is less pronounced in females ($M = 2.94, SD = 1.04$) than in males ($M = 3.68, SD = 1.36$). In other variables, there are no gender differences.

Table 3. *Multivariate analysis of variance (MANOVA): testing gender differences*

	N	Mean	Std. Deviation	Std. Error	F	p
Intrinsic motivation to learn	1 2 Tot	136 64 200	6.06 6.25 6.12	.664 .436 .606	.057 .055 .043	4.403 .037
Intrinsic motivation to accomplish something in life in general	1 2 Tot	136 64 200	5.51 5.77 5.59	.911 .750 .869	.078 .094 .061	3.897 .050
Intrinsic motivation to experience stimulation	1 2 Tot	136 64 200	4.93 5.52 5.12	1.260 .666 1.137	.108 .083 .080	12.033 .001

Extrinsic motivation for identification	1	136	5.50	1.095	.094	1.105	.295
	2	64	5.66	.672	.084		
	Tot	200	5.55	.981	.069		
Extrinsic motivation for introjection	1	136	3.93	1.314	.113	1.676	.197
	2	64	4.20	1.595	.199		
	Tot	200	4.02	1.412	.100		
Extrinsic motivation for external regulation	1	136	3.68	1.360	.117	14.820	.000
	2	64	2.94	1.037	.130		
	Tot	200	3.44	1.310	.093		
Amotivation	1	136	3.04	1.167	.100	1.228	.269
	2	64	2.86	.941	.118		
	Tot	200	2.99	1.100	.078		
NEED FOR AUTONOMY	1	136	4.62	.808	.069	1.836	.177
	2	64	4.47	.503	.063		
	Tot	200	4.57	.726	.051		
NEED FOR COMPETENCE	1	136	3.85	.842	.072	.886	.348
	2	64	3.73	.623	.078		
	Tot	200	3.81	.779	.055		
NEED FOR RELATEDNESS	1	136	4.70	.659	.057	1.027	.312
	2	64	4.59	.729	.091		
	Tot	200	4.67	.682	.048		
INFLUENCE OF THE MENTOR	1	136	5.05	1.346	.115	.662	.417
	2	64	4.89	1.210	.151		
	Tot	200	5.00	1.303	.092		

Further analysis that was performed is related with investigating correlation among the tested variables. As shown in the Figure 1, most of the constructs representing intrinsic and extrinsic motivation are positively correlated with each other. Strong correlation is present among the intrinsic motivation construct, highlighting the importance of each part of the intrinsic motivation. Intrinsic motivation to learn is not correlated only with extrinsic motivation for external regulation, while the other two types of intrinsic motivation have positive influence on all three types of extrinsic motivation. Within extrinsic motivation constructs, extrinsic motivation for identification does not influence extrinsic motivation for introjection, while its higher levels are leading to the decreasing levels of amotivation. Amotivation does not have influence on intrinsic motivation to learn and extrinsic motivation for introjection.

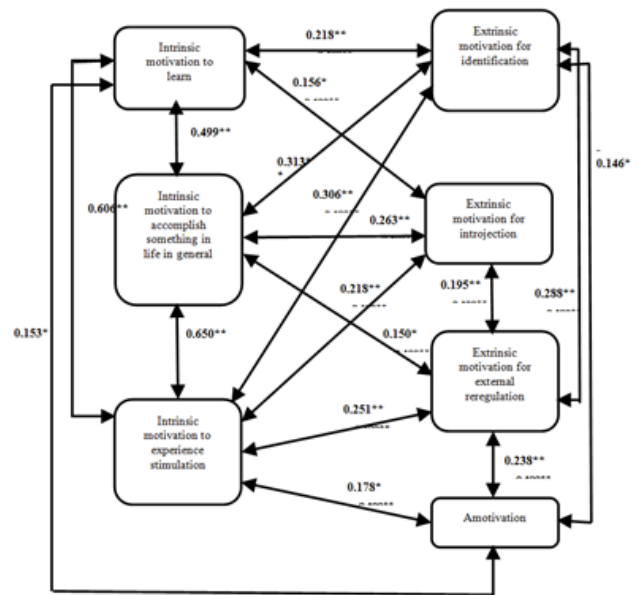


Figure 1. Correlation among the motivation constructs

Correlation between motivation, basic needs and mentors influence is shown in the Figure 2. Higher levels of need of autonomy are positively influencing all types of motivation, apart from intrinsic motivation to learn. Interesting result is that higher levels of need for competence are decreasing intrinsic motivation to learn, while it does not affect other types of intrinsic motivation. It is positively correlated with extrinsic motivation and amotivation. As we could expect, mentor's influence is positively correlated with intrinsic motivation to experience simulation and extrinsic motivation for external regulation. All of the three basic psychological needs are positively correlated with each other, such as with mentor's influence.

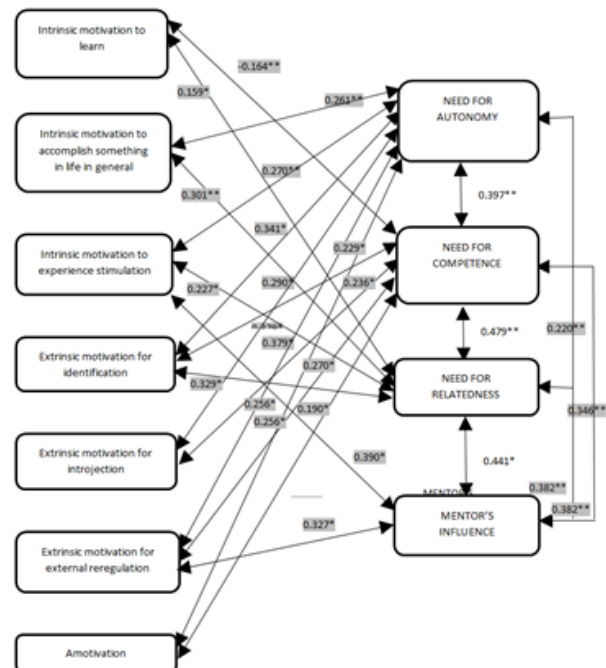


Fig. 2. Correlation among the motivation, basic needs and mentor's influence

6. CONCLUSION

Even though entrepreneurship has traditionally framed as masculine career [2], in the recent years there is a rising number of women who are deciding to start their own venture. There are many socio-cultural factors that are influencing women to take the risk and become more entrepreneurial. Lower social expectations and environmental support are one of these factors that are making women to be less likely to start business [20]. For this reason, incubation processes can have incremental influence on women, to become more confident, to learn and be encouraged to found a start-up.

Literature has shown that autonomy support that refers to the collaboration with a mentor has great impact on entrepreneurs [9]. This impact is especially important for nascent entrepreneurs that only have an innovative project with high potential, and huge desire to found a startup. Autonomy supportive mentors are aiming to provide a feedback that relates to the project's improvement and development. However they have to be very cautious as there is a thin line between informational and controlling feedback, that could have different and in some cases negative influence. By building a close and quality relationship with mentors, entrepreneurs are creating a sustainable value that leads to the high levels of personalization and efficiency at the end. Positive feedback is one kind of support for competence and connectivity that will speed up the motivation in the general sense, but it also increases and intensifies intrinsic motivation and integrated internalization only if it is directed towards the support of autonomy [18],[11]. Analysis of our data has shown that increased influence of mentors leads to an increase in all three basic needs, such as to the increase of intrinsic motivation to experience stimulation and extrinsic motivation for external regulation. According to the self-determination theory, satisfaction of all three basic needs is leading to the effective outcomes. Due to its direct correlation, this means that mentor's influence should also lead to the effective outcomes.

Among all tested variables, significant difference is found in intrinsic motivation to learn and intrinsic motivation to experience stimulation that is more pronounced in female than a male entrepreneurs. Due to its correlation with mentor's influence, our study supports the importance of mentor's influence especially for female entrepreneurs. This is why, the attention should be made on creating personalized relationships between the mentors and entrepreneurs, According to the postulates of self-determination theory, higher levels of intrinsic needs are promoting satisfaction of the basic needs, that the correlation of the tested variables also showed support for. What we can conclude is that incubation processes are extremely important instruments for supporting entrepreneurship, which can lead to an increase in the number of female entrepreneurs.

The theory of self-determination has not been applied so far in the field of entrepreneurship, although it provides a unique opportunity to explore the impact of both internal and external motivation on the behavior of entrepreneurs. For these reasons, this study has a dual significance, both theoretically, contributing to the

expansion of the application of SDT in the field of entrepreneurship, and practical, because by encouraging intrinsic motivation, which has been shown to be more pronounced in women, it can achieve sustainability and development of start-up as well as significantly increase the number of women in the world of entrepreneurship.

7. REFERENCES

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