Evaluation of Financial Instruments for Social Innovation Development

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ABSTRACT

The paper analyzes the relationship between financial instruments used by social enterprise, and its performance and social innovation activity. To evaluate this relationship we study 34 social enterprises, and measure their profitability, innovation activity, management quality, mission fulfillment, financial sustainability, client loyalty, share of debt in liabilities, share of crowdfunding and government support, social innovation activity and importance of innovation process, both evaluated according to expert opinion. We evaluated the suggestion that structure of capital, as well as level of social innovation activity and its importance to social enterprise's management are related to company performance, and moderation of financial instruments might lead to higher social business efficiency. Quantitative evaluation was performed by means of correlation, regression and cluster analysis performed by means of SPSS Statistics.

Keywords: Social innovation, social enterprises, financial instruments, enterprises development, efficiency.

1. INTRODUCTION

A number of researchers stressed attention on the influence financial instruments have on innovation development in conventional enterprises, and both qualitative and quantitative studies came to a conclusion on importance of the relationship in question. On the other hand, a number of studies evaluated companies' performance in relation to innovation process; hence allowing to connect financial instruments, company performance and innovation.

At the same time there is growing research interest to social enterprises and social innovation, which is considered one of the key drivers of future economic development. Still, existing research on social enterprises emphasizes the influence of financial instruments chosen by social enterprise on its performance, or the relationship between innovation activity of social business and its economic and social outcomes, while the relationship between the three factors in under-researched. In this paper we evaluate the relationship between financial instruments used by socially oriented company, its innovation activity and performance, in order to estimate optimal structure of financial instruments which should be implemented to achieve maximum innovation activity and high quality performance of social enterprise.

2. LITERATURE OVERVIEW

Investigation of sustainable development processes in relation to innovation can be easily found in existing

literature, where innovation is considered to be one of the main drivers for development. The early stages of this research start with Kondratyev, who evaluated economic cycles, and indicated the importance of technological changes at the very beginning of each new long-term cycle [14]. These findings were confirmed by Schumpeter [22], who assess innovative process as the main factor driving economic development; moreover, Shumpeter indicated that without a number of innovations humanity would not have proceeded towards current state of development. According to Mensch [17], innovation is closely related to the pace of economic growth on each level, starting from the level of single enterprise up to macroeconomic level – in his works it is also outlined, that lack of innovation leads to non-sustainability of economic agents on each of the mentioned levels. The work of Ikudzhiro H. and Takeuchi H. [12] outline that company success is defined mainly by its ability to create new knowledge, which is later disseminated throughout the organization and becomes a basement for systems, product and services development – and hence higher competitiveness of the developed products and services. To put this together, one can understand, that socio-economic system development is significantly influenced by innovation and new product development.

A number of studies had paid attention to the relationship between motivation to innovate and company performance, and to relationship between innovative process and new product performance on the market, which stated a few important factors that either mediate or moderate this relationship. Thus, the scholars revealed importance of organizational culture and creativity as drivers of innovation process [16], or assessed innovation development process as a leveraging tool to enhance company success [11], or outlines the significance of innovation transparency and open innovation in achievement of high economic growth rate [19]. Influence of innovation on company performance was also assessed from managers' point of view: in this case scholars had considered the influence of adapted learning process onto innovation development process [8], assessed multiple dimensions of innovative process and relevant motivation [5], or evaluated results of innovative strategy implementation [1].

Close results were achieved for the case of social innovation, which is defined by Stanford Business school as a "novel solution to a social problem that is more effective, efficient, sustainable, or just than current solutions" [10]. Hence social innovation differs from the other types by the main goal of its implementation: social innovation aims to solve social problem, and this type of innovation is mainly implemented by social enterprises. The main characteristics of social enterprise call for relevant type of innovation. These are: (1) its main goal is to drive important societal change (social mission); (2) it implies exercising business processes and discipline, innovation, and determination in seeking business solutions to social problems; (3) it entails the pursuit of economic efficiency; (4) it is motivated by strong ethics; and (5) it involves the creation of value beyond resources currently under the entrepreneur's control [9, 25]. Social innovation is developed in accordance with these principles, and should allow an enterprise to acquire higher social results while ensuring economic sustainability.

Investigation of the specific features guiding innovation in Central and Eastern Europe allows to evaluate specific features of enterprises performance in the economic setting of the region. Existing studies pay attention to innovation dynamics [15], including innovation in the corporate social responsibility sector, innovation activity management [24] and stress the importance of measuring instrument in innovation process evaluation [23]. Still, a lack of quantitative analysis can be seen in the field of studies; the researchers are mainly interested in innovation process description rather than definition of major challenges which are different from European or North American settings, where quantitative data is available. This is also true for social innovation studies, which are less frequent and also avoid implementation of quantitative methods.

At the same time, a number of studies in Central and Eastern Europe setting had noted that social innovation is mainly performed by non-profits, and outlined the importance of financial sources for the process. The role of financial sustainability itself is present in existing literature, and includes the studies on risks provoked by external funding resources and streams [20], challenges which concern inter-relation between funding and quality of social enterprise's brand [18], competing for funding in the social sector [7], different structure of investors' risks [4], or financial risks which occur as a result of company's failure to achieve social goals [20]. Achievement of social goal, as outlined by several studies, comes as a result of appropriate financial tools implementation [13], or ability to gain the result both short-term and long-term financial sustainability play equally important role [3] which leads to stakeholder interest in both financial model and mission impact [1].

At the same time, it was assessed that non-profits (which are leaders in social innovation performance) depend on government and other external support, and the quality of both fundraising process and strategies [3], and their correlation with the needs of community [6] and mission development and fulfillment [18]. These facts highlight the existing necessity of evaluate the influence of chosen financial instruments to social enterprise performance, and the role of social innovation in the process – both in case of social result achievement and implementation of financially sustainable business models of new product or service development process.

3. METHODOLOGY

For the purpose of this study we had evaluated performance of 34 social enterprises, and measured their profitability, innovation activity, management quality, mission fulfillment, financial sustainability, client loyalty, share of debt in liabilities, share of crowdfunding and government support, social innovation activity and importance of innovation process, both evaluated according to expert opinion. The companies are operating in services, but in different fields of services (education, culture, art, tourism etc.).

The main methods of quantitative evaluation were used for the purpose of this study, including correlation and regression analysis and cluster analysis. Quantitative evaluation was performed with SPSS Statistics software (version 22.0).

We have set the following set of hypothesis to assess by quantitative evaluation in this study.

Hypothesis 1. Financial sustainability is strongly related to social business profitability, innovation importance and social innovation rank.

Hypothesis 2. Profitability is strongly related to social innovation activity (rank measured by expert evaluation).

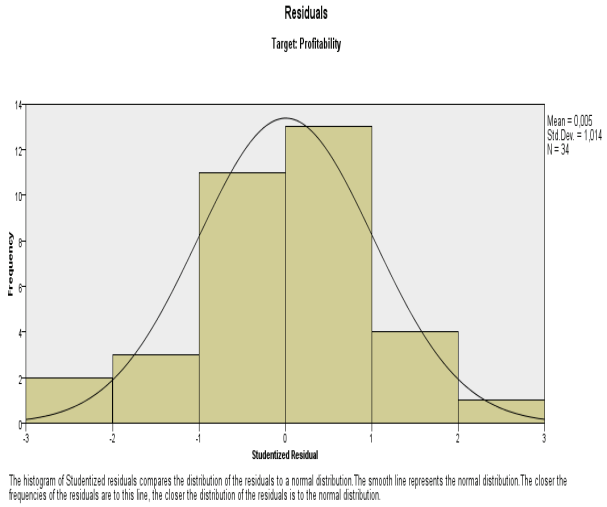
Hypothesis 3. Social innovation activity is strongly related to mission fulfillment and, client loyalty and innovation importance.

Hypothesis 4. Debt share and crowdfunding share are strongly related to social innovation activity and mission fulfillment.

On the first step of the analysis we defined the possibility to perform correlation and linear regression analysis by graph evaluation of social business performance target indicators, which included profitability ratio and mission fulfillment. For both target indicators it was proven that regular statistical tools can be used for evaluation (see Fig.1 for profitability assessment).

Similar results were achieved by graph analysis of mission fulfillment, another important factor used to evaluate social enterprises' performance. On the basis of these findings we performed correlation analysis, which revealed a number of significant relationships that can be find in Table 1.

Figure 1. Distribution of profitability residuals for the sample



4. MAIN FINDINGS

Table 1. Results of correlation analysis

	1	2	3	4	5	6	7	8	9	10	11
1. Profitability	1										
2. Innovation activity	-,022	1									
3. Management quality	,166	,382*	1								
4. Mission fulfillment	,119	,178	-,091	1							
5. Financial sustainability	-,063	,041	-,038	,339*	1						
6. Client loyalty	,065	,128	-,077	,292	,766**	1					
7. Debt share	,103	-,058	,481**	-,124	-,373*	-,217	1				
8. Crowdfunding share	,142	-,090	,458**	,368*	-,189	-,055	,299	1			
9. Government support	-,130	-,013	,140	,034	-,132	-,117	-,012	-,146	1		
10. Social innovation activity	,898**	-,078	-,174	-,077	,141	,046	-,217	-,229	,212	1	
11. Innovation importance	-,137	,377*	-,409*	,475**	,475**	,367*	-,431*	,424*	,252	,237	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlation analysis

The results in Table 1 indicate, that social business profitability is strongly related to social innovation activity no other relationships to this factor were proven statistically significant. At the same time mission fulfillment has strong positive relation to financial stability (assessed as share of company own capital), crowdfunding share, and importance of innovation as evaluated by company management. Still, there is no significant relationship between innovation activity and profitability and mission fulfillment; but innovation activity is related to innovation importance, and this factor has a strong positive correlation with mission fulfillment and client loyalty. Thus, hypothesis 1 is partly supported, hypothesis 2 is supported, while hypothesis 3 is not supported by correlation analysis.

Another important outcome from correlation analysis is strong correlation between innovation importance and both debt share and crowdfunding share. These findings support the hypothesis 4 in different ways: it is revealed, that crowdfunding share is positively related to mission fulfillment and is not related to social innovation activity, while debt share is strongly and negatively related to innovation importance and might thus influence social innovation development. Thus hypothesis 4 is partly supported by correlation analsyis.

Automated linear regression analysis

In accordance with revealed possibility to perform linear regression analysis we evaluated both profitability and mission fulfillment as dependent variables to define the most significant factors that influence them out of all 9 factors assessed in this study. The results of linear regression analysis can be seen on Figures 2 and 3.

Figure 2. Profitability linear regression analysis results

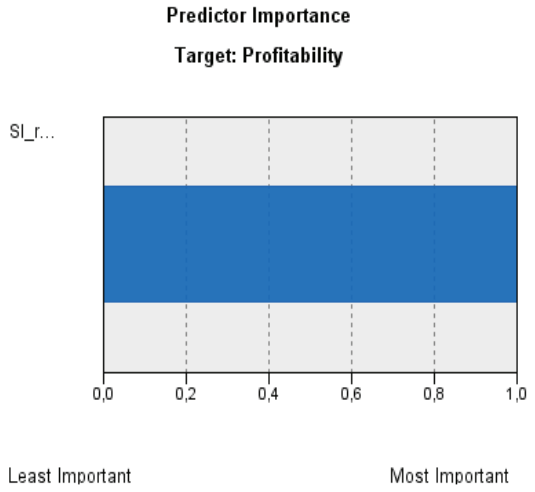
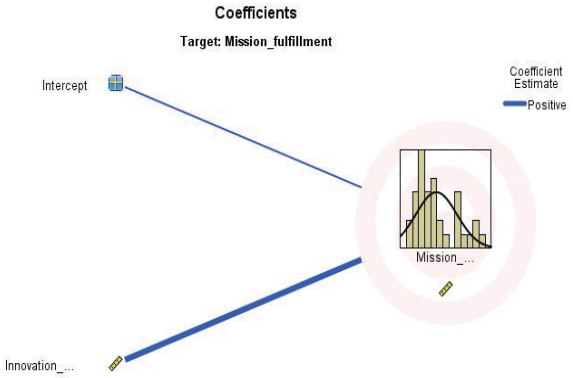


Figure 3. Mission fulfillment linear regression analysis results



Both figures indicate only one factor which defines the behavior of dependent variable: in case of profitability this factor is social innovation activity, in case of mission fulfillment the most significant factor appears to be innovation importance (the level assessed by company management).

Linear regression model of profitability created in accordance to linear regression analysis results, can be seen in Table 2. R squared for this model is 0.807, so the single independent variable explains 80.7% of profitability variance for the chosen sample.

Table 2. Profitability regression model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5,743	,278		20,668	,000
	Social innovation activity	,116	,010	-,898	-11,555	,000

Regression model of mission fulfillment can be seen in Table 3.

Linear regression model for mission fulfillment created in accordance to automated linear regression analysis results, has relatively low level of statistical significance. Regression analysis leads to statistically insignificant models when financial sustainability, and shares of crowdfunding, debt and government support were used as independent variables. Thus it can be defined that financial instruments used to support social businesses might play mediating or moderating role (as can be seen from the results of correlation analysis) which has to be further investigated.

Cluster analysis

At the final step of the research we have performed cluster analysis to define different types of social enterprises regarding their innovation activity, performance and capital structure. The results of hierarchical analysis can be seen on Figure 4.

The hierarchical analysis reveals three main clusters; their characteristics can be seen in Table 3. The results indicate, that highest profitability is achieved in the second cluster which uses relatively high share of debt and crowdfunding, and contains less financially stable businesses than other clusters. This cluster also has low mission fulfillment.

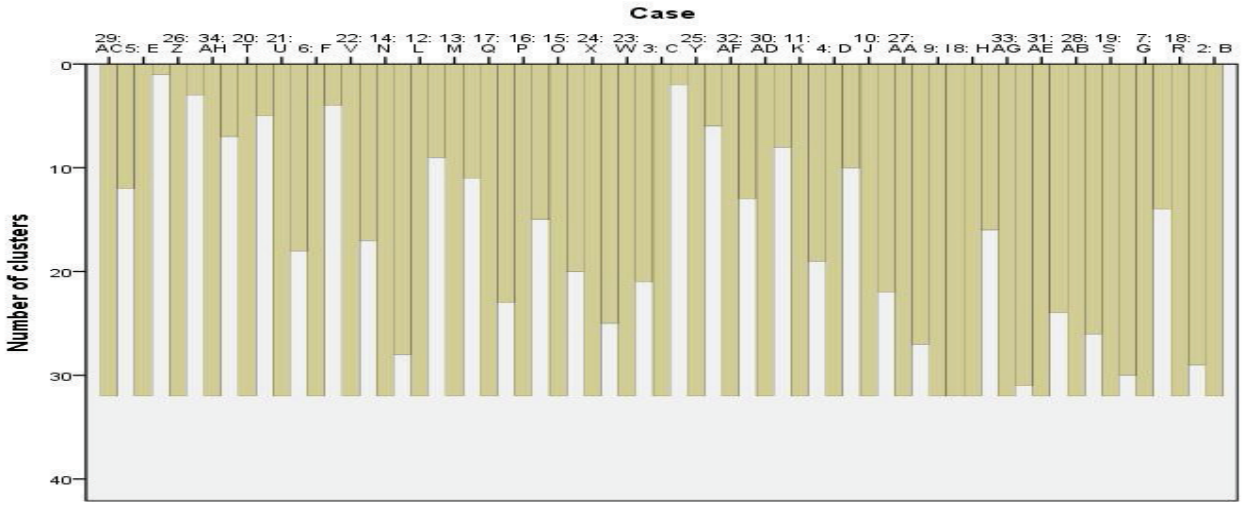
The third cluster has both relatively high level of mission fulfillment and profitability, and this cluster is featured by low level of debt and the highest financial stability. Finally, the first cluster has the lowest profitability ratio, and higher debt share, than the third cluster (though financial stability is almost the same). Mission fulfillment is also relatively high in this case.

Table 3. Final centers of the clusters

	Cluster		
	1	2	3
Profitability	2,25	3,16	2,97
Innovation actvity	24,42	19,78	59,67
Management quality	64,09	71,14	57,00
Mission fulfillment	34,60	21,21	39,00
Financial_sustainability	43,41	32,92	44,17
Client loyalty	32,26	26,37	30,00
Debt share	4,38	6,81	3,88
Crowdfunding	4,46	5,12	4,81
Government support	52,81	47,24	56,51
Social innovation activity	33,25	20,61	15,67
Innovation importance	74,42	36,60	86,20

These results allow stating that use of conservative financial tools in social enterprises that implement social innovation leads to more balanced results than the use of aggressive financial policy, which partly supports hypothesis 1.

Figure 4. Social enterprises hierarchical cluster analysis



5. CONCLUSIONS AND LIMITATIONS

Our research allows development of a number of conclusions, which extend existing knowledge about social innovation, use of financial instruments and social enterprises performance.

First, there is no direct relation between the structure of social enterprises capital and its financial sustainability and innovation activity and company performance. However, capital structure and financial sustainability seem to moderate relationship between social innovation and social business performance. Second, mission fulfillment has strong positive relation to financial stability (assessed as share of company own capital), crowdfunding share, and importance of innovation as evaluated by company management. There is no significant relationship between innovation activity and profitability and mission fulfillment; but innovation activity is related to innovation importance, and this factor has a strong positive correlation with mission fulfillment and client loyalty. Hence, innovation activity seem to influence social business performance in a positive way, and this relationship can be leveraged by implementation of different financial tools. The latter is

supported by significance of debt and crowd funding share in terms of their relation to mission fulfillment.

The main limitation of our study is the sample size, which includes only 34 social enterprises from Central and Eastern Europe. Due to the limited sample it might appear that the findings of this research are relevant only to the case of social businesses from this area.

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