Innovation Activities and Financial Performance: The Case of Kosovo

Arbnora Latifaj
ANG&Partners, Kosovo

Abstract

The aim of this research is to investigate the impact of innovation activities and its determinants on firm performance. For the empirical analysis of the study we use Business Environment Enterprise Performance Surveys (BEEPS) firm-level data conducted by the World Bank and the European Bank for Reconstruction and Development (EBRD) in 2013-2014. To examine the relationship between innovation activities and its determinants to firm performance we applied multiple regression analysis and descriptive statistics on 202 companies from Kosovo. Moreover, empirical evidence results of neighbouring countries were compared to our findings for each determinant and its effect on firm performance. By investigating the innovation-performance relationship we found sufficient evidence that supports the main hypothesis. As for the innovation determinants our results indicate that factors as domestic ownership, age, and training affect the tendency of firms to innovate, thus positively affecting firm performance.

Keywords: innovation activities, firm performance, ownership structure, training
JEL classification: O31, L25, G32, M53

Introduction

Following global trends and innovations in order to achieve sustainable success has become a sure path to success in developed economies. Considering that creativity is the driving force behind innovation, hiring workforce that presents creative and critical thinking has become crucial for organizations. Rapid technological innovations have also obliged organizations to follow these trends, otherwise these organizations would continue doing business their own way and wait for the expiration date on their business. Furthermore, it is not only businesses that benefit from innovations, but consumers as well.

One of the ways to measure the results of innovative services or products is through customer feedback, which is measured the best through firm specific financial indicatives. It is claimed that an increased financial performance is observed among firms capable of using innovation to improve their processes or differentiate their products in relation to their competitors. So, we would assume that a well-known company introducing a new service or product would have much more demand for its product because of the reputation, the market share, and other positive market indicators that the company has gained from the past. However, there is not much evidence if the same holds for SME's. Bigliardi (2012) in her research paper presents her results by asserting that "results suggest that in SMEs the level of technology adopted to develop innovation does not impact on the financial performance". Therefore, the results of a big company usually do not reflect the same for the market overall.

The aim of this paper is to investigate the impact of innovation activities and its determinants on firm performance using BEEPS 2013-2014 firm-level data. To examine the relationship between innovation activities and its determinants to firm performance authors apply multiple regression analysis.

Theoretical Aspect and Literature Review of Innovation Activities and Firm Performance

Theoretical Review on Innovation Activities and Firm Performance

Schumpeter (1934) was the first to construct a theory on innovation, and its importance to economic development. His concepts on innovation and entrepreneurship are considered his most distinctive contributions to economics. However, despite the fact that Schumpeter was the first to present the notion of innovation ("new combinations"), Sledzik, (2013) points out that his views on the topic changed over time.

This can be noticed from his two different publications in different times. So, in his first book "The Theory of Economic Development" he emphasized the function of entrepreneurs as vital to carrying innovations. He viewed the occurrence of discontinuous and "revolutionary" change as the core of "economic development," which did not let the economy fall in a static mode. Whereas, three decades later in his book "Capitalism, Socialism, and Democracy" (Schumpeter, 1942), he maintained that this dynamic capitalism was executed to fail because it would end in creating monopolistic structures, which then will result in disappearance of the entrepreneur.

The contemporary literature on innovation employs the definition of the OECD on innovation, which is also an organization known for its strategies and manuals on innovations. According to that "innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace, organization or external relations" (OECD, 2005). So, innovation is acknowledged as key to economic development, because through the implementation of new working methods potentially it leads to more productivity and competitive gains.

Through innovation, new knowledge is created and diffused; expanding the economy's potential to develop new products and more productive methods of operation. During economic downturns, innovation is the single most important condition for transforming the crisis into an opportunity (Hadzimustafa et al., 2008).

Since there have been decades from analyzing innovation as a notion and its effect on firm performance, there have also studies been done on the different innovation strategies that firms undertake to achieve their performance goals. The right innovation strategy can help firms to overcome the problems they encounter concerning striving for a sustainable competitive advantage.

Considering both, simple and complex strategies, we come up to a total of sixteen different strategies. But, Haned et al. (2014) claim, theoretical and empirical studies have devoted minor attention to other innovation strategies than those related to technological innovation. And this is considered a major limitation since nowadays the success of a firm in the market depends on the willingness to innovate, and all the firms cannot lie on the technology to maintain their market share.

Relationship between Innovation Activities and Financial Performance of Firms

The earliest research models on firm innovation and performance were based on the Cobb-Douglas production function. The "enriched" function they used to model production was of the form:

$$Y_{it}=A_t K^{\alpha}_{it} RD^{\beta}_{it} L^{\gamma}_{it} u^{it} \quad (1)$$

where *Y* denotes the firms' production output (measured in terms of turnover), K and RD physical and knowledge capital stocks, respectively. *A* represents the technology in use, where *t* is the time index and u^{it} represents the systematic component of the unmeasured factors, assumed to be randomly distributed. *α, β,* and *γ* are the parameters of interest (Vezzani et al., 2013).

Based on the literature research done by now and some of the empirical evidence, we saw that – regardless on the type of innovation- it always had a positive impact in financial performance.

There are also numerous studies investigating the issue of the innovation-performance relationship for the Balkan states. To start with, a study with empirical results in Macedonia done by Hyrije Abazi-Alili (2014) investigates the impact of ownership structure, innovation activities and firms' performance using firm-level data on 60 privatized enterprises in Macedonia for the period 2001-2010. Based on Alili's (2014) investigation it resulted that "innovation activities, firm size and restructuring are the main factors that influence the productivity of privatized firms".

Research Methodology

For the empirical analysis of this study the firm-level data of Business Environment Enterprise Performance Surveys (BEEPS) conducted by World Bank/EBRD are employed. EBRD uses a large dataset in their surveys, where it includes many European countries and the Balkan Region as well. However, for the purpose of this research we are going to use the data of Kosovo out of the overall dataset. It was collected in 2013-2014 and it provides a large number of observations which consist of 202 firms. For the categorization of firms on the number of employees we used the European Union definition. The size distribution of the Kosovo sample is: (i) micro 35%; (ii) SME's with 63%; and (iii) large are 2%.

The descriptive statistics of the data for 2013-2014 are provided below in two separate tables. Depending on the variables, (i) continuous or (ii) dichotomous, the tables 1 and 2 present the data.

Table 1
Descriptive Statistics of Continuous Variables

Variables	Obs.	Mean	Std. Dev.	Min	Max
Productivity (natural logarithm - Sales per employee)	179	10.16	1.16	7.14	13.34
Foreign ownership	202	0.24	3.45	0	49
Domestic ownership	202	99.26	7.82	0	100
Age (years since establishment)	202	14	9.20	2	62
Size	202	29.14	46.43	3	360
Skilled Workers (% employees with a university degree)	200	17.95	20.33	0	100

Source: Authors' work using BEEPS 2013-2014

Referring to the table, we notice that the maximum number of firms that have shares of private foreign owners is 49. This can be considered positive evidence with respect to the openness of business environment to foreign nationals. The sample is made of 202 observations and we are having almost 50% of the firms owned by or having the shares along with foreign citizens. Another independent variable as Age provides us with the result of having still in the market firms as old as 62 years old. It is a positive indicator, since it is a presumption of the firms' effort to remain in the market by following current trends.

Table 2
Descriptive Statistics of Dichotomous Variables

Variable	Obs.	Yes	No
Innovation activities	202	62.38%	37.62%
Invest in R&D	202	20.79%	79.21%
New logistical or business support processes introduced over last three years	187	24.60	75.40
Time spent to develop new about products/services each	183	77.05 %	22.95%
Training	201	52.74%	47.26%
Knowledge mng sys	106	90.57%	9.43%
Collaborations	105	75.24%	24.76%
Outsourcing	105	54.29%	45.71%
New management practices/ marketing methods introduced over last three years	202	65.35%	34.65%

Source: Authors' work using BEEPS 2013-2014

Table 2 presents descriptive statistics for dichotomous variables. To start with, in the case of Innovation Activities the paraphrased question was "In the last three years, has this establishment introduced new products or services?" *Innov_act* is equal to one if the answer to question is 'yes' and zero otherwise. According to the survey data, 62.38 % of firm respondents have undertaken innovation activities. It is worth noting the difference on the results of Investment in R&D compared to the results of Innovation Activities. A large majority (79.21%) of firms responded with "no" on investments in R&D, which shows that those two not necessarily have a direct effect on each other, meaning that more investment in R&D does not intend more efforts to innovate. Furthermore, we notice a tendency of firms to invest on knowledge management systems; 90.57% is the result which indicates that it is a factor that affects

innovation activities. 65.35% is the percentage of firms that have invested in new marketing methods recently; this indicates that companies in Kosovo pay specific attention to the way they present their products/services to the consumer.

Results

As previously mentioned, empirical investigation on the impact of innovation activities and other factors to firm performance will be provided. The general model to which we refer for the regression analysis is written as follows:

$$lnprod_{it} = \beta_0 + \beta_1 Innov\_act_{it} + \beta_2 Size_{it} + \beta_3 DOMowner_{it} + \beta_4 Know\_spill_{it} + \beta_5 Skilled\_workers_{it} + \beta_6 Age + \beta_7 Agesq_{it} + \beta_8 Outsourcing_{it} + \beta_9 Knowl\ mng\ sys + \beta_{10} Training_{it} + \beta_{11}\ Top\ MNG\ exp_{it} \quad (2)$$

The effect of specific variables, such as innovation activities (which present product or process innovations), size, ownership structure, knowledge spillovers, knowledge of management systems, on the probability to impact labour productivity of a firm *'i'* in period *'t'* are examined.

In order to ensure that the results are robust, we have generated the logarithm of productivity (*lnProd*) which will be used as a variable for easier comparison with independent variables, and it is a convenient way to express large numbers. The specification estimates 202 observations. The regression coefficients and corresponding p-values of the regression model with the empirical results of productivity model are presented in Table 3.

Table 3
Regression Results of the Productivity Model

Independent Variables	Dependent Variable: Labour Productivity (lnProd)	
	Coefficients	ρ-values
Innov_act	0.679**	0.020
Size	0.000	0.505
DOMowner	0.022***	0.000
Know_spill	0.257	0.255
Skilled_workers	0.005	0.332
Age	0.122**	0.047
Agesq	-0.022*	0.092
Outsourcing	-0.100	0.639
Knowledge_mng_sys	0.414	0.381
Training	0.696**	0.013
Top_MNG_exp	0.009	0.450
Constant	5.215***	0.000
Observations	202	

Note: *** p<0.01, ** p<0.05, * p<0.1
Source: Authors' work using BEEPS 2013-2014

Discussion

Considering the results of the statistical models applied one can say that the results of the productivity model show positive and significant impact of innovation activities on

firm performance. The methodology used shows the impact of the determinants of innovation on labour productivity. Thus, the variables employed in the productivity model, which are previously analyzed as determinants of innovation, can be interpreted as having additional positive or negative effect on labour productivity.

The results show that in addition to its indirect impact from the predicted values of innovation, ownership also positively contributes to the improvements of labour productivity. On the other hand, foreign private ownership was excluded from the model and not elaborated due to its insignificance.

52.74% of firms answered "Yes" regarding the question of trainings offered to their employees. Moreover 90.57% of firms claimed to have invested in knowledge management systems, and 65.35% have invested in new marketing methods in the last 3 years. Considering these specifics it is evident that firms make efforts to follow the latest trends in the industry where they operate. However, only 24.60% answered to have introduced new logistical or business support processes over last three years. If we draw a line upon these numbers we notice that businesses lack in taking concrete steps toward innovation activities. They invest in their workforce and technology, but they lack in actions which would bring something new by them in the market. Based on the results one can assume that these efforts are made only to adopt innovations that have already occurred in the market. A low percentage of 20.79% investment in R&D directs us toward such an assumption. Or there may be other constraints to innovation, as the high costs and limited access to funding from bank credits or equity finance.

The regression results using BEEPS data for 2013-2014 in Kosovo show that innovation activities, domestic ownership, age, and training are significant and positively related to firm performance. Summarizing these facts it is evident that private firms in Kosovo have increased their performance. However, descriptive statistics using dichotomous variables show that innovation activities and performance have not increased as much as the companies' efforts to innovate.

Conclusion

This paper investigated the determinants of innovation and its effect on financial performance of firms in Kosovo. The empirical results affirmed that innovation and some of its determinants affect positively firm performance. Product and process innovations lead to increase in sales productivity. The research also proved that domestic ownership, age of the firm, and training are indicators of firm innovativeness and better performance.

The regression analysis was executed with the independent variables as: innovation activities, size of the firm, domestic ownership, knowledge spillovers, skilled workers, age and age squared, outsourcing, knowledge managements systems, training of the employees and top management experience. However, six out of eleven indicators resulted insignificant in the model; therefore, we did not elaborate on them. While innovation activities, domestic ownership, age and age squared, and training resulted as factors that significantly affect firm productivity in Kosovo.

Finally, a result worth mentioning was the ownership structure, which for the foreign ownership resulted to lack any impact on labour productivity, while domestic ownership strongly affects the latter. It was surprising considering the investments that foreigners have done in Kosovo after the war of 1999, which are plenty, but yet it resulted that they do not have a special impact on company performance in Kosovo.

References

1. Abazi-Alili, H. (2014), "Innovation Activities and Firm Performance: Empirical Evidence from Transition Economies", Journal of Contemporary Economic and Business Issues, Vol. 1, No. 2, pp. 5-18.
2. Bigliardi, B. (2013), "The effect of innovation on financial performance: A research study involving SMEs", Innovation, Vol. 15, No. 2, pp. 245-255.
3. Business Environment Enterprise Performance Surveys (BEEPS) firm-level data; World Bank and the European Bank for Reconstruction and Development (EBRD) in 2013-2014.
4. Hadzimustafa, Sh., Rexhepi, G. (2008), "Measuring Innovation in The 21st Century", in proceedings of the International Conference: Economic Integration into the EU, University of Tirana, Tirana, Albania.
5. Haned, N., Mothe, C., Nguyen-Thi, T. U. (2014), "Firm persistence in technological innovation: the relevance of organizational innovation", Economics of Innovation and New Technology, Vol. 23, No. 5-6, pp. 490-516.
6. OECD (2005), Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data.
7. Schumpeter, J. A. (1934), The Theory of Economic Development, Economic University Press, London.
8. Schumpeter, J. A. (1942), Capitalism, Socialism and democracy, Harper and Brothers.
9. Sledzik, K. (2013), "Schumpeter's View on Innovation and Entrepreneurship", in Hittmar, S. (Ed.), Management Trends in Theory and Practice, Faculty of Management Science and Informatics, University of Zilina, pp. 89-95.
10. Vezzani, A., Montresor, S. (2013), "The production function of top R&D investors: Accounting for size and sector heterogeneity with quantile estimations", JRC Working Papers on Corporate R&D and Innovation No. 02/2013, Joint Research Centre (Seville site).

About the authors

Arbnora Latifaj holds a Master degree in Finance at South East European University, Faculty of Business and Economics. She finished her graduate studies at AUK-Prishtina. She is currently working as Senior Consultant at ANG & Partners in Kosovo. The author can be contacted at **al22334@seeu.edu.mk.**