

Macro Environment and Innovation in Service Sector. The Evidence from Albanian Context

Dorjana Feimi¹ (PhD), Vasilika Kume¹, (Prof.Dr), Enida Pula¹, (PhD)

Abstract:

Innovation is considered as one of the best practices to achieve economic growth as well as overcome socio-economic challenges. It is an important factor to drive a better performance in a globalised economy. Recent studies have proven that innovations significantly contributes to the success and growth of a business. This paper aims to identify the connections between the various innovative practices with the macroeconomy in the services sector in a developing economy. The study will specifically focus on the Albanian services sector including banking and telecommunication. The methodology used combines primary and secondary data together. Secondary data is retrieved from an extended literature review on management and innovation which has also served as a basis for the hypothesis of this study. Meanwhile primary data is retrieved from the surveys distributed and completed by 170 companies in the banking and telecommunication sector.

Results showed that government policy, financial resources and the cooperation between academics and the industry are not statistically significant to innovation practices in the developing Albanian economy. Whereas, market dynamics are not only statistically significant but also have a positive impact on innovation. Therefore by improving these external factors, innovation can also flourish further.

Keywords: (innovation practices, services sector, macro-environment, Albania)

1. Introduction

Innovation is an important factor to drive a better performance in a globalised economy. Recent research has concluded that innovation is an important factor in the development and success of business. The competitive environment has evolved and changed in most countries and for most companies (irrespective of size and industry). Service and production are both based on the latest advanced technology and knowledge. Competition is now globalised and is heavily dependent on innovation. (Szirmai , Naude & Goedhuys 2011). Nowadays, companies have widely recognized the importance of innovation as a strategic tool to survive competition in order to guarantee success and longevity of their business. Moreover, companies also rely on innovation to adapt smoothly to any market changes. Companies must develop new strategies and business models in order to deliver innovative products and services meanwhile keeping up with new technology and findings. (Chirico & Salvato 2008). Innovation is considered as an important factor in achieving companies' growth despite their size, which has a significant impact on the creation of economies of scale and competitive advantage and inducement of change. (Drucker 2003) Joseph Schumpeter's study (1934) on innovation

focused on the production industry and intensive patenting in developed economies. Market and economy revolutions have induced massive changes that have clearly demonstrated the importance of innovation. (Hjalager 2010). Hertog (2010) suggests that these arise as a result of market reforms and more investment which collectively offer more growth opportunities for companies. This paper aims to identify the connections between the various innovative practices with the macroeconomy in the services sector in a developing economy. Consequently the research question is "What factors of the macro environment affect innovation practices?". The study will specifically focus on the Albanian services sector including banking and telecommunication.

2. Literature Review

Macro-environmental factors are the external factors that can directly affect the firm attitude towards innovation, by stimulating or hindering its activities in innovation (Avlonitis & Gounaris 1999). Macro environment is seen as a four-dimensional structure, represented by: government supported, financial resources, academic-industrial cooperation, and market dynamics. Literature however, is not well integrated to explain the environmental factors that affect the growth of innovation in higher levels. It includes national and regional systems of innovation and ecosystems (Teece 2010). Nelson (1993) also argues that national and regional ecosystems in support of innovation business should be clearly defined. These ecosystems are expressed at NIS (National Innovation System) that depend on the policies and guidelines, ranging from "taxes, direct subsidies, public education and training facilities, research and development institutions, infrastructure, regulations for financial support, standards for public procurement "(Gregersen, 1992, p.144). While firm-level innovation depends on the government, legal system, talent and skills of individuals, research and educational institutions, financial institutions, domestic market, suppliers and the presence of firms in similar industries (Teece 2010). The firm is considered to be a crucial component of the innovation system. Also, innovative system components are public agencies, financial institutions, educational institutions and research (OECD 1999). This is one of the reasons why the system of services is taken as the theme for this study. However, the study of the national system of innovation and innovative capacity can provide a better understanding of access to resources and competences of the external environment in order to bring innovation to the firm. Further, the structure, competition and market dynamics play an important role in determining the innovation at the company level (Broome 2007; Teece 2010). National innovation system is not one of its strengths, such as government agencies and non-governmental organizations in the Albanian market, to generate a business model that promotes innovation, although research in recent years have reached the conclusion that innovation is considered to be an important engine of economic performance and its growth in the future. Factors that lead to innovation are considered critical for policymakers in Albania. A government can support research projects to "create technological environments with multiple sources of new technology by encouraging new businesses" (Teece, 2010, p.688). Walters, Kadragic, and Walters (2006) argue that the role of education is the key to improve the capacity building of knowledge, innovation, and strengthen academic-industrial cooperation for socio-

economic development. Studies have shown that the dynamics of the market, interaction and competition, is also an important factor of external environment. The nature of the market and competition interactions can affect the innovative ability of the company to adapt to the local market and its competition (Martinez Romano, Gamero & Tamayo 2011). Given the discussion above, the macro environmental factors that will be analyzed in this study are: government support, financial resources, academic-industrial cooperation, and market dynamics.

3. Methodology and hypotheses

According to the purpose of this study there are following the qualitative and quantitative methods. The study is based on a sample of 170 companies of the telecommunications industry and the banks. This sample of 170 owners / managers of banking and telecommunications industry is taken from the database of the Bank of Albania and Authority of Electronic and Postal Communications (EPCA). The study used a cross-sectorial approach and a structured questionnaire, self-administered study and data collection. Drawing on an extensive literature review of the management of business and innovation, the study builds conceptual model and assumptions. The questionnaire was developed over a period of six months, where the questions used to measure variables in the questionnaire initial study are based on a wide review of relevant literature and discussions in pilot group of individuals (ie including owners /managers companies and academic researchers). The data obtained from the questionnaires to investigate the proposed hypothesis are empirically tested using multiple linear regression.

The hypotheses based on relationship between the macro environment and innovations is:

H1: Government supported, financial resource, academia-industry collaboration and market dynamics have a significant positive effect on the service sector's innovation practices.

4. Results and discussion

To test this hypotheses and answering the research question presented above is used multiple analysis regression.

$$\hat{Y} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_{i,n} + \epsilon_i$$

To determine which of the factors affecting the innovation practices, we realized the analysis of multiple regression, where in this case as the dependent variable practice innovation and independent variable have: government supported, collaborations of academic-industrial, financial resources and market dynamics. Initially conducted descriptive statistics of independent variables. It used the Linker's scale to measure these variables 1 = "Not at all agree" to 7 = "strongly agree". These descriptive statistics is shown in table below. As shown by the following data (Table 1), say that the higher the value the higher is the interest to use these factors.

Table 1 Descriptive statistics for the variables under consideration*

Variablat	Min	Max	Mes	Std.Dev
Government supported	1.00	7.00	3.0132	1.73774
Financial resource	2.00	7.00	4.3333	1.23135
Academia-industry collaboration	2.00	7.00	5.2588	1.15833
Market dynamics	2.00	7.00	6.0702	1.09479

Note: * Independent variable of makro environmental

In the case of analysis regression, an important element is the uses of the correlation analysis, initially to evaluate how connected are with each other independent variables with each other. According to Hair et.al (2006), the values of the correlation between (-0.7) and (0.7) do not cause problems to continue further. In case of the correlation did not prove beyond these borders. Below there are the correlations between the four variables (see Table 1) and there is no multicollinearity.

Through multiple regression equation we can express the relationship between independent variables and the dependent variable:

$$Y = \beta_0 + \beta_1 \beta_2 x_1 + x_2 + x_3 + \beta_3 \beta_4 x_4$$

Where we:

Y = the dependent variable, "practices of innovation"

X1 = independent variable "government supported"

X2 = variable independent "financial resources"

X3 = independent variable "academia-industry collaboration"

X4 = independent variable "market dynamics"

We used multiple regression to test the relation between practices innovation and macro environment. According to the model of multiple regressions, only one of the variables, which is "dynamic market" resulted significant, see the following table (Table 2). Variables "government policies", "financial resources" and "academic-industrial cooperation" which did not result significant fled analysis, see the following table (Table 3).

Table 2 Regression analysis of the external environment* on the dependent variable of innovation practices

Model	R ²	R ² adjusted	Value of t	P
	.515	.497		
(constant)			1.347	.181
Government policies			1.208	.230
Financial resource			1.822	.071
Academia-industry collaboration			0.707	.481
Dynamic market			9.785	.000

Note: * government policies, financial resource, academia-industry collaboration, dynamic market

While variable "dynamic market" which was again statistically significant analysis underwent multiple regression.

Table 3 Regression analysis of the "dynamic market" on the dependent variable of innovation practices

Model	R ²	R ² adjusted	Value of t	P
	.460	.455		
<i>(konstant)</i>			4.561	.000
<i>Market dynamic</i>			9.771	.000

From this regression analysis it shows that the independent variables explained 45.5% of the variance of the dependent variable "innovative practices", and say, this is not the result of chance (adjusted R = 0.455). The regression model, the value F (1,114) = 95.465 is significant (p = 0.00) for level control (0.05) because in this case we have p = 0,000. The assessment that is made by the statistical test for the control of individual regression coefficients have the same result (t1 = 9,771 and p = 0,000). Using the standardized regression weights, multiple regression equation can be represented as follows:

"Innovative practices" = 1613 + 0633 "market dynamics"

This means that government policies, financial resources and academic-industrial collaborations don't have a significant positive effect on innovation practices. The dynamics of the market has a significant positive effect on innovation practices.

Conclusions

The answer to the research question "What factors of the macro environment affect innovation practices?" was given after the analysis and interpretation of results.

The results showed that the government supported policies, financial resources and academia-industry collaborations are statistically not significant in relation to the innovation practices in Albania services sector. This result may be due to the limited efficiency of the institutional support programs and services transparent by local agencies to align policies, infrastructure, systems support services sector in need of innovation. Justification for the impact of the weak of financial resources is that there are many difficulties for the services sector in the Albanian market to obtain access to grants, loans, and capital from government agencies and financial institutions, as well as transparency efficient financial standards and accountability.

The rational weak for academia-industry collaborations rationale is that there are difficulties for the services sector in the Albanian market to recruit qualified graduates because of the gaps between the skills of graduates in local academic and research institutions, low participation in collaborative research and technology transfer activities between academia and industry.

Market dynamic is statistically significant and positive effect on innovation practices. The justification for the effect is that are ahead for this sector: understanding market requirements and consumer orientation, the effectiveness of anti-monopoly policy and healthy competition, availability market data and transparency. Consequently, by improving these external factor, innovation practices within the services sector can grow healthily.

References

- Avlonitis, G & Gounaris, S 1999, "Marketing orientation and its determinants: An empirical analysis", *European Journal of Marketing*, vol.33, no.11/12, pp.1003-1037.
- Broome, B 2007, "Driving Arizona's global economy", *Economic Development Journal*, vol.6, no.2, pp.26-32.
- Chirico, F & Salvato, C 2008, "Knowledge integration and dynamic organizational adaptation in family firms", *Family Business Review*, vol.21, no.2, pp.169-181.
- Drucker, P 2003, "The discipline of innovation", in *Harvard Business Review on the Innovative Enterprise*, Harvard Business School Press, Cambridge.
- Gregersen, B 1992, "The public sector as a pacer in national systems of innovation", in *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*, ed. B Lundvall, Frances Pinter, London, pp.124-145.
- Hair, JF, Black, WC, Babin, BJ, Anderson, RE & Tatham, RL (eds) 2006, *Multivariate Data Analysis*, Pearson Education, Upper Saddle River.
- Hertog, S 2010, *Benchmarking SME Policies in the GCC: A Survey of Challenges and Opportunities*, Euro Chamber, Brussels.
- Hjalager, A-M 2010, "A review of innovation research in tourism", *Tourism Management*, vol.31, pp.1-Dosi, G 1988, "Sources, procedures and microeconomic effects of innovation", *Journal of Economic Literature*, vol.26, pp.1120-1171.
- Martinez-Roman, J, Gamero, J & Tamayo, J 2011, "Analysis of innovation in SMEs using an innovative capability-based non-linear model: A study in the province of Seville (Spain)", *Technovation*, vol.31, no.9, pp.459-475.
- Nelson, AJ 2011, "Managing collaborations at the university-industry interface: An exploration of the diffusion of PCR and DNA," Paper presented to the Davis Conference on Qualitative Research, Davis, 01 October.
- OECD (2010) *The OECD innovation strategy: Getting a head start on tomorrow* .
- Schumpeter, JA 1934, *The Theory of Economic Development*, Harvard University Press, Cambridge.
- Szirmai, A, Naude, W & Goedhuys, M 2011, *Entrepreneurship, Innovation, and Economic Development*, Oxford University Press, Oxford.
- Teece, D 2010 "Technological innovation and the theory of the firm: The role of enterprise-level knowledge, complementarities, and dynamic capabilities", in *Handbooks in Economics*, eds BH.
- Walters, T, Kadragic, A & Walters, L 2006, "Miracle or mirage: Is development sustainable in the United Arab Emirates", *Middle East Review of International Affairs*, vol.10, no.3, article 6/10