

A SURVEY ON GREEK ENTREPRENEURS' PERCEPTIONS REGARDING THE DETERMINANTS OF THEIR BUSINESS INNOVATIVE BEHAVIOR: THE CASE OF EPIRUS REGION

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ABSTRACT

Innovation is generally considered as a key success factor for businesses in terms of improving and retaining their competitive advantage. In order to investigate Greek entrepreneurs' perceptions about the determinants of their business innovative behavior a questionnaire survey was carried out in the Region of Epirus. The sample selection focused mainly on the most competitive and innovative businesses in that area. Entrepreneurs perceive that the lack of financing in general and particularly for new investments, as well as, the high risk of failure are the most important factors that hinder the attainment of innovative actions. They also deem that most important success factor for innovative entrepreneurship is the high level of education and skills of business human resources. Additionally, respondents stated that the successful implementation of innovative activities is playing a crucial role in their business survival in terms of obtaining and maintaining competitive advantage. Around two thirds of the respondents claimed to have achieved innovative actions during the last three years with regard to reorganizing their business operations and improving their production process. Results indicate potential policy actions that could positively impact on the successful implementation of entrepreneurship innovative activities as well as individual firm actions that may enhance their performance.

Keywords: innovative behavior, entrepreneurship, determinants, survey, Greece.

1. Introduction

It is widely accepted that the assumption and successful implementation of innovative ventures is crucial for any company in order to develop and maintain a competitive advantage (Siccote et al, 2012; Sarri et al, 2012; Bargheh et al, 2012). This is supported by a great number of researches around the world which proved that there is strong positive relationship between the achievement of innovative actions and high business performance (Hull et al, 2008; Spanjol et al., 2011; Lin et al, 2007; Calantone et al., 2002).

Despite the significant role of innovation for the successful operation of contemporary companies there is no a consensus on its definition. However, almost everybody considers that innovation represents something new (Grønhaug and Kaufmann, 1988). Most researches regard innovativeness as the enterprise's disposition to engage in and support new ideas and create new processes (Wiklund et al, 2005). It could be supported that nowadays companies are forced to secure continuous innovative achievements in order to adjust to a rapidly changing business environment, characterized by ever increasing product and technological change, deregulation, global competition, demographic changes and political instability (Sarri et al, 2010).

There are two main streams of innovation, namely the product and the process innovation (Nybak et al, 2008; Kubeczko et al., 2006). Kubeczko et al. (2006) define product innovation as the successful changes in the output of an enterprise or organization, while process innovation refers to either technological innovations or change in the organization.

Given the great importance of innovativeness for entrepreneurship a number of studies and surveys, even recently, have been conducted in Greece (Chletsos, 2008; Petrakis, 2008; Sarri et al, 2010; IOBE 2015; 2014; 2012, Kyritsis, C. and Chytis, E. 2013, Vasileiou et al, 2013). Sarri et al (2010) investigated the importance of entrepreneur training regarding creativity and innovation and they concluded that entrepreneurs and managers of SMEs acknowledge the significance of creativity and innovation, considering their high positive relationship and their impact on the development of their business. Their study also revealed that the most important obstacle that companies encounter concern financial resources, experience, time, infrastructure and not risk averse.

IOBE (2015; 2014; 2012) conducts since 2003 the annual survey on entrepreneurship in Greece, using of a representative sample of 2000 respondents 18-64 years, under the research program of the Global Entrepreneurship Monitor (GEM). The report for the period 2012-2013, in addition to the main business indicators analyzes the perceptions and motivations for entrepreneurship, the demographic and qualitative characteristics of business endeavors. A part of these surveys is dedicated to the innovativeness of entrepreneurial ventures and the 2012-13 Report (IOBE 2014) revealed that 16.28% of male entrepreneurs claimed that their product/service is considered new and innovative from all their customers, while the corresponding percentage for women entrepreneurs is only 9.52%.

This study aims to contribute to the existing knowledge on entrepreneurs' perceptions regarding the determinants of their business innovative behavior. In this light, our paper proceeds as follows: In the next section we briefly describe the methodology employed and then the empirical data derived from the questionnaire survey are analyzed. Our work ends with our conclusions, recommendations and limitations that we see in our examination.

2. Approach

2.1. Method

Based on a literature review a draft questionnaire, consisting of six sections, was initially developed in order to fulfil the aim and objectives of this study. The participants' self-assessment for their business innovative performance was explored by five statements (Nybak, 2008; IOBE 2014). Respondents were also asked to confirm whether or not their enterprise has achieved each of the proposed innovations during the last three years.

Four factors were selected in order to investigate the factors that determine the successful assumption and implementation of innovative actions, specifically:

- the factors constraining the achievement of innovative actions (Darroch, 2005; Sarri et al, 2010; Petrakis, 2008;
- the factors facilitating the achievement of innovative actions (Sarri et al, 2010; de Jong et al, 2006; Romero et al, 2012; Chaston et al, 2012;
- the expected results of innovative actions (Petrakis, 2008), and
- the sources of information for innovative actions (de Jong et al, 2006; Romero et al, 2012; Petrakis, 2008; Bargheh et al, 2012; Moica et al, 2012)

A five point Likert Scale was used for the first three sections, where respondents were asked to report their level of agreement or disagreement with the statement from strongly disagree (1) to strongly agree (5), while (2) was appointed to rather disagree, (3) to neither agree nor disagree and (4) to rather agree. For the section regarding the sources of information for innovative actions a five point Likert Scale was also employed, where participants mentioned the degree of significance of each source from not at all (1) to extremely (5) significant, while (2) was appointed to a little, (3) to rather and (4) to very significant.

Moreover, the last section of the questionnaire included the socio-demographic characteristics of participants and their businesses (Chaston et al 2012; Petrakis 2008; Sarri et al, 2010; Romero et al, 2012).

Next, the draft questionnaire was further discussed with 5 entrepreneurs and two professors of the TEI of Epirus in order to select the most important and relevant items for each construct, in an effort to end up to a comprehensive, but as short as possible questionnaire. Finally, the questionnaire was pretested by 10 entrepreneurs in order to detect and eliminate weaknesses in functionality and comprehensibility.

2.2. Sample

A convenience sample of 140 businesses, among the most innovative and competitive, from the four Regional Units of the Epirus Region was used (Table 1). The main stratification criteria were the Regional Unit where the enterprise is located, the sector involved, the size and the share of exports to total sales. The last criterion was selected, as it is generally deemed that export companies tend to be more innovative and competitive than the rest of their sector, given the additional obstacles they usually have to overcome.

The average age of the participants is much lower than of the actual population of entrepreneurs. Moreover, the portion of the sampled companies in the form of a legal person is almost more than twice of the total population of companies. The size of the sampled enterprises, in terms of the number of employees, is clearly greater than the whole population, as the share of the very small businesses in the sample is only 76%, against 97% of the population. Moreover, the educational level of participants is much higher than the population, as the percentage of the graduates from Universities and TEIs is more than double of the population. 25% of companies in the sample are engaged in export activities, compared to 1.57% of Greek companies. Finally, a quarter of respondents reported that their enterprises applies a quality assurance system.

Table 1. Sample characteristics (% of respondents, N=140)

Respondent					
Sex		Age		Education	
Male	68,57	18-24	6,4	MSc/PhD	10,7
Female	31,43	25-34	31,4	University/ College	45,0
		35-44	29,3	High School	22,9
		45-54	17,1	Secondary School	21,4
		55-64	15,7		
Company					
Legal status		Sector		Exports (of total sales)	
Sole proprietorship	64,3	Primary	15,7	0	75,00
General partnership	15,7	Manufacturing	22,1	0,01% - 5%	14,29
Limited partnership	3,6	Commerce	32,9	5% - 10%	6,43
Ltd.	4,3	Services	20,0	11% - 25%	2,86
S.A..	8,6	Tourism	9,3	26% - 50%	0,71
Other	3,6			> 50%	0,71
Regional Unit		No of employees		Quality Assurance System	
Ioannina	42,9	1-9	75,7	Yes	26,43
Preveza	21,4	10-49	21,4	No	73,57
Arta	19,3	50-249	2,1		
Thesprotia	16,4	>250	0,7		

3. Results

The lack of financing for new investments and the high failure risk are considered as the most important factors that hinder the achievement of innovative actions (Table 2). Specifically, the participants in the survey at a percentage of 85% and 73%, respectively, (rather or strongly) agree with the relevant statements, while the mean value of answers is 4.18 and 4.06, respectively. Indeed, only about 6% of respondents disagreed (rather or strongly), that these factors hinder the achievement of innovative actions.

The next inhibitory factors, in terms of significance, are considered to be a) the lack of necessary infrastructure and b) the high innovative cost, where the percentage of those who agree is almost 65% and the average of answers is around 3.8 for both these statements. The percentage of those who disagree is only 14% and 9%, respectively.

The difficulty of finding cooperative partners, the uncertainty of demand for innovative goods or services and the lack of information on customer needs, are considered to hinder the achievement of innovative actions to a rather moderate extent, since the average of answers ranges between 3.34 and 3.47. Specifically, 46% to 50% of respondents agreed (rather or strongly), with the relevant statements, only 5% strongly disagreed and 11.4% to 19.3% rather disagreed.

The lack of skilled staff was evaluated as the least significant obstacle for the achievement of innovative actions. However, it should be mentioned that the participants views are quite diverse, as the standard deviation gets its largest price, 1.36, in relation to the other factors, and the mean value is 3.16, approaching the answer "neither agree nor disagree".

Considering the above, we realize that the entrepreneurs think that the major obstacles for achieving innovative actions are related to financial issues and, in general, to the unprecedented difficult economic situation which has affected the entire Greek economy, something that was largely expected. Consequently, they consider that it is both extremely difficult to ensure adequate funding, and secondly, even in case that funds are found, the high failure risk discourages them from assuming innovative actions. As a consequence to the above, they also believe that the high cost of innovation and the lack of necessary infrastructure are extremely significant discouraging factors in undertaking innovative business activities. Regarding the problems of the microenvironment, such as the difficulty of finding cooperative partners, the lack of information on customer needs and the lack of skilled staff, even though there is considerable dispersion of opinions, are generally considered not to significantly prevent them from undertaking innovative business activities. But, it is particularly interesting that the participants do not think that the uncertainty of demand for innovative goods or services is an important inhibitory factor, which can possibly be explained by the relatively stable consumer preference for innovative goods.

Table 2. Factors constraining the achievement of innovative actions: % of valid answers and descriptive statistics

	1	2	3	4	5	Mean	Std. dev.
Lack of financing for new investments	0.0%	5.7%	10.0%	45.0%	39.3%	4.18	.83
High risk of failure	2.1%	3.6%	20.7%	32.9%	40.7%	4.06	.98
Lack of the necessary infrastructure	3.6%	10.7%	22.1%	31.4%	32.1%	3.78	1.12
High cost of innovation	.7%	7.9%	24.3%	41.4%	25.7%	3.84	.93
Lack of skilled staff	11.4%	28.6%	15.7%	21.4%	22.9%	3.16	1.36
Difficulty of finding cooperative partners	5.0%	17.1%	27.9%	28.6%	21.4%	3.44	1.15
Uncertain demand for innovative goods or services	5.0%	11.4%	31.4%	35.7%	16.4%	3.47	1.06
Lack of information on customer needs	5.0%	19.3%	29.3%	30.0%	16.4%	3.34	1.12

The survey revealed that the main factors favoring the achievement of innovative business actions are related with the education of the business staff (Table 3). Specifically, 40% of participants in the research mentioned that they totally agree with the relevant statements regarding to a) the continuous training of employees and b) the educational level of those who make the decisions, while the percentage of those who rather agree is more than 31% for both. The average of answers is nearly 4, corresponding to "rather" agree.

Next factors facilitating the innovative business actions were found to be a) the belief of the entrepreneur that only with innovative actions will be able to deal with the competition, b) the intense competition in the industry, c) the cooperation with other companies or suppliers seeking innovative actions d) the participation in

exhibitions and e) securing financing for new investments. The mean value of answers ranges between 3.78 and 3.86, approximating to “rather” agree, which was the mode value. The percentage of those who agree (rather and strongly) ranges from 55% to 70%, while less than 11% disagree (rather and strongly).

The existence of the necessary infrastructure, with a mean value of answers 3.68, is considered to contribute less in the achievement of achieve innovative business activities. Although the standard deviation takes the largest value (1.11), in comparison with other relevant factors (0.89 to 1.06), both the median and the mode were “rather” agree.

From the above analysis it is evident that all the proposed facilitating factors for innovative business actions are considered by the entrepreneurs to be important, although there is some classification. In particular, the education of the enterprise’s human resources is the most important factor, which was expected, since the adoption and successful implementation of innovative business activities presuppose a high level of knowledge, as well as the predisposition to continuous improvement and adjustment to the changes of the business environment. Consequently, the entrepreneurs’ belief that only with innovative actions they will be able to face the competition, as well as the intense competition in the industry, urges them to assume innovative business activities. But it is worth mentioning that entrepreneurs have largely understood that nowadays their performance is directly dependent on their cooperation with the other actors of the supply chain, and therefore, they recognize that they should strive for cooperation with other companies or suppliers seeking innovative actions. Consistent with their perceptions about the factors hindering the achievement of innovative actions, the participants felt that both securing financing for new investment and the existence of the necessary infrastructure play a significant role in the successful implementation of innovative actions, albeit to a lesser extent compared to the aforementioned factors.

Table 3. Factors facilitating the achievement of innovative actions: % of valid answers and descriptive statistics

	1	2	3	4	5	Mean	Std. dev.
Existence of the necessary infrastructure	4.3%	12.9%	18.6%	39.3%	25.0%	3.68	1.11
Educational level of the decision makers	2.9%	7.1%	20.7%	31.4%	37.9%	3.94	1.06
Securing financing for new investments	2.9%	8.6%	25.7%	33.6%	29.3%	3.78	1.05
Cooperation with other companies or suppliers seeking innovative actions	1.4%	5.0%	23.6%	45.7%	24.3%	3.86	.89
Participation in exhibitions	1.4%	7.9%	25.0%	37.9%	27.9%	3.83	.97
Continuous staff training	1.4%	5.7%	20.0%	32.1%	40.7%	4.05	.98
Intense competition in the industry	0.0%	11.4%	22.9%	31.4%	34.3%	3.89	1.01
Entrepreneur’s belief that only with innovative actions will be able to face competition	2.1%	5.7%	22.9%	41.4%	27.9%	3.87	.96

Respondents appreciate that the expected results from the successful implementation of the innovative actions are diverse and extremely important for improving the competitive position and consequently, the viability of their businesses (Table 4). About half of the respondents strongly agree and additionally 40% of them “rather” agree that the market share of their business will increase as a result of the assumption and successful implementation of innovative actions, while only 4% disagreed (strongly or rather).

Respondents also more than “rather” agree that the expected results of the successful implementation of innovative actions include a) the improvement of the products or services quality, b) the entry into new markets, c) the reduction of total costs per unit produced, and d) the increase of products or services range. Specifically, the mean value of answers ranged between 4.06 and 4.16, and the percentage of those who disagree (rather or strongly) does not exceed 7%.

In terms of improving the flexibility of production or service, more than 47% of survey respondents “rather” agree that it is included in the expected innovation results. Both the mean value and the mode was 4 (rather agree), while only 3% disagree (strongly or rather).

In conclusion, the entrepreneurs consider that the taking up and the successful implementation of innovative actions is a key factor for obtaining and maintaining competitive advantage and, therefore, to improve the efficiency of their businesses. For all the expected innovation results, which were evaluated by the entrepreneurs, the percentage of those agreeing (rather or strongly) was too high. However, the most expected results

are the increase in market share and the entry into new markets. This follows as a consequence of the expected improvement of both the effectiveness, by improving the quality of products or services, increasing the products or services range, and the efficiency, by reducing the total cost per unit produced.

Table 4. Expected results of innovative actions: % of valid answers and descriptive statistics

	1	2	3	4	5	Mean	Std. dev.
Increased range of products or services	0.0%	7.1%	12.9%	42.9%	37.1%	4.10	.88
Entering into new markets	0.7%	5.0%	17.1%	31.4%	45.7%	4.16	.93
Increased in market share	0.7%	2.9%	9.3%	38.6%	48.6%	4.31	.81
Improved product or services quality	0.7%	2.1%	7.9%	56.4%	32.9%	4.19	.73
Improved flexibility of production process	0.7%	2.9%	22.1%	47.1%	27.1%	3.97	.82
Reduced total cost per unit	1.4%	4.3%	21.4%	32.1%	40.7%	4.06	.96

The respondents consider that the most important source of information for innovative business activities are the conferences and the exhibitions, as 35% of them claim to be very important and 41% extremely important (Table 5). The percentage of those who think that these are a little or no at all significant amounts to only 9% and the mean value is corresponding to "very important".

The internal sources, the consultants, the customers and the suppliers, namely the supply chain network of the enterprise are the next most important sources of information on potential innovative actions, for which respondents tend to consider them very important, as the mean of answers range from 3.70 to 3.78. The percentage of those who felt that each of these sources are very or extremely important exceed 60%, while the percentage of those who perceive them as a little or not at all important in any case was less than 14%.

Research institutes, journals and competitors are considered as very or extremely important sources of information for innovative actions by 60% of participants, with an average of 3.63, 3.56 and 3.49, respectively. It should be noted that the percentage of those who think these to be a little or not at all significant amounts for each of these three sources to 20%, and thus a relative divergence in opinions was observed.

Higher education institutions (Universities and TEIs) and the Chambers of Commerce were among the sources that fewer than half of the participants claimed to be very or extremely important sources from which they could draw information on innovative business operations. For both these sources the percentage of respondents that stated to a little or not at all significant exceeds 25% and the average is only about 3.3.

It is apparent from the above that entrepreneurs consider conferences and exhibitions to be the most important source of information for innovative business activities. The next sources in terms of significance are those that constitute the wider supply chain network of the enterprise. Research institutions and scientific journals are clearly regarded as more important sources of information than the higher education institutions, which indicates that the cooperation between Universities - TEI and business should increase significantly in the future. Moreover, a significant proportion of the participants judge competitors as a relatively good source of information. The Chambers of Commerce are the latest in terms of importance resource for innovative actions, which is rather surprising, given their institutional role and the information dissemination activities they often organize. Possibly, these results may be due to the non-verification of the participants' expectations from the Universities - TEI and the Chambers of Commerce.

Table 5. Sources of information on innovative actions: % of valid answers and descriptive statistics

	1	2	3	4	5	Mean	Std. dev.
Internal sources	3.6%	9.4%	18.7%	44.6%	23.7%	3.76	1.03
Suppliers	4.3%	8.6%	22.9%	41.4%	22.9%	3.70	1.05
Customers	3.6%	9.3%	25.7%	28.6%	32.9%	3.78	1.11
Competitors	11.5%	10.1%	19.4%	36.0%	23.0%	3.49	1.27
Consultants	5.0%	8.6%	23.7%	28.8%	33.8%	3.78	1.15
Universities - TEI	9.4%	15.8%	27.3%	26.6%	20.9%	3.34	1.24
Research Institutions	6.5%	12.9%	20.9%	30.2%	29.5%	3.63	1.22

Conferences - Exhibitions	2.9%	5.8%	15.1%	35.3%	41.0%	4.06	1.03
Scientific Journals	5.0%	14.4%	24.5%	31.7%	24.5%	3.56	1.16
Chamber of Commerce	11.5%	15.8%	22.3%	36.0%	14.4%	3.26	1.22

The reorganization of the operation of the company and the existence of significant changes in the way goods/services are produced are the innovative actions which most of the respondents stated that they achieved during the last three years, at a percentage of 68% and 65%, respectively. 57% of the participants reported that the company's products/services are perceived by the customers perceive as something significantly different, while 53% of them claimed that it has significantly changed the way in which the company cooperates with other companies and its suppliers and that there were significant changes in the way products are marketed. Therefore, most businessmen believe that they adopted and successfully implemented innovative actions over the last three years, which explains their belief that only with innovative actions they will be able to face competition.

Table 6. Achievement of innovative actions during the last three years: % of valid answers

	Yes	No
There have been significant changes in the way in which the products/services are produced	65,0%	35,0%
There have been significant changes in the way products are marketed	52,9%	47,1%
The company has been reorganized	67,9%	32,1%
The way in which the company cooperates with other companies and suppliers has significantly changed	53,6%	46,4%
The company's products/services are perceived by customers as something significantly different	57,1%	42,9%

4. Conclusions, Recommendations and Limitations

The education level of entrepreneurs and employees contributes significantly in undertaking and successfully implementing innovative actions. Therefore, the knowledge-intensive investment business plans should be treated favorably in terms of both being approved and included in the subsidized investment programs, and securing funding by financial institutions. Special treatment should also be awarded to the innovative business ventures of young entrepreneurs, especially those of 30-45 years old, who combine relevant experience with relatively high educational level and the availability and strength for hard and tedious work, which are the prerequisites for the successful implementation of innovative ventures.

Entrepreneurs have a rather neutral view on the contribution of Universities and TEIs in gathering information for innovative actions by ranking them in the penultimate position of information sources significance, slightly above the Chambers of Commerce. However, the continuous training of personnel and the educational level of those who make the decisions are considered by entrepreneurs as the most important factors that contribute to the successful implementation of innovative ventures. Therefore, the further strengthening of the role of higher education institutions and their cooperation with the local business community, including through the Chambers of Commerce, would contribute significantly to the development of the entrepreneurship with mutual benefits for both the businesses and the academic community. The University and the TEI located in Epirus may further contribute to the development of qualifications and skills of young people of Epirus, reduce internal migration most potential workforce and may attract leading scientists from the rest of Greece. Therefore, everyday and strategic issues concerning business operations will be approached in a more professional, continually updated and methodical way.

High-quality education that takes into account both scientific progress and the reality of the local business community will also contribute to the significant reduction and the control of the risk of failure of innovative business ventures, better use of existing and future infrastructure, even in discovering innovative solutions with the existing limited equipment, and thus reduce the cost of adopting innovative actions, which is often considered to be very high. It will also contribute to building a shared understanding of the operation of the entire supply chain and that the success of a company depends directly and to a large extent on achieving and maintaining a competitive advantage from the entire supply chain.

The enhanced role of the University and TEI will contribute greatly to the adoption and mainly to the successful application of innovative ventures by enterprises, given, of course, that the academic and the business

community realize the many mutual benefits of cooperation, as it happens in economically developed countries. In this case it would be much more feasible to improve the communication with customers, to enter into new markets, to improve the effectiveness of the company's products and to reduce the production cost per unit. Besides, it should be mentioned that firms' profit margins are already very low and their further shrinking will simply shorten the companies' exit time from the market.

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