Does Entrepreneurial Experience and Strategy Really Matter for ICT Performance? A Greek Cross-Border Empirical Study

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Abstract: Small and medium-sized enterprises (SMEs) adopt Information and Communication Technologies (ICTs) on a global scale in order to derive the undeniable benefits accruing from their use. The critical question arising here is which SMEs benefit from the adoption of ICTs. Thus, the purpose of this study is to find out why some SMEs reap more benefits than others from the adoption of ICTs, and which factors determine the successful use of ICTs. This paper analyses the influence data from the adoption of ICT in the Greek SME sector. In particular, SMEs were asked to rate the influence on the 'improvements of existing production procedures', 'enhancement of productivity' and 'reduction of labor costs' from the adoption of ICT. The ordinal regression method was used to model the relationships between the ordinal outcome variables and the predictor variables concerning ICT-Strategy (implementation of a specific strategy for the adoption and use of ICTs) and entrepreneurial knowledge-experience on ICT. A joint methodology using a fully-structured questionnaire and in-depth interviews was selected as the primary research instrument in order to paint as broad a picture as possible of the issues surrounding the application of ICT. The three ordinal regression models indicate that predictor variables such as the presence of specific strategy and entrepreneurial knowledge on ICT are associated with the influence of the ICT-usage. Furthermore, the results of the study reveal that strategy plays a major role in the adoption and the appropriate use of ICT by SMEs. In addition, the prior entrepreneurial experience-knowledge of ICT was significantly associated with the ICT performance. Both variables provide strong evidence that the technology performance must be a result of rational planning and knowledge. This study makes a major contribution in two ways. Firstly, it has demonstrated how the strategy and entrepreneurship are inter-related parts of the ICT adoption process. Secondly, the information and communication technologies make the difference and offer tangible and intangible benefits only if properly applied.

Keywords: ICT-strategy, entrepreneurial experience, ICT-performance, ICT-adoption, ordinal regression

1. Introduction

SMEs have been and will remain the backbone of any country's economy. In fact, small businesses play important role in economies by creating jobs and contributing to the socio-economic development (Khong Sin Tan et al. 2010; Wolcott *et al.*, 2008). The current economic environment where SMEs and the businesses as a whole develop their action appears to be unprecedentedly turbulent. The latter is dominated by three powerful influences: globalization, the knowledge and information revolution, and structural change in organizations (Hamilton, 2002). Today's information revolution is stimulated by Information and Communication Technologies (ICTs). ICTs change the way with which companies trade with their suppliers as well as with their customers, while they are important catalysts for far-reaching innovation processes in many sectors. The Global Information Technology Report 2006-2007 argues that there is growing evidence that ICT is driving innovation by allowing creative thinking and responsive problem-solving; with this way, it ensures the overall distribution of never-before-seen opportunities. Access to the global networked economy consists the cornerstone of the development of economies and societies (Dutta and Mia, 2007).

Therefore, Information and Communication Technologies become more and more widespread in businesses of all sizes. As is the case with all technologies, small businesses are slower than the large ones to the adoption of new ICTs. Potential small business benefits as well as firm and sector-specific strategies drive the adoption and use of ICTs (OECD, 2004: 4). In this context, the basic prerequisite that stems from the use of ICTs, equally including the rest of all technologies, is not only their acquisition by the SMEs, but also their correct and functional use (El Louadi, 1998).

In an attempt to understand SMEs success, the characteristics of individual entrepreneurs, such as their age, gender, work and educational experience and managerial knowledge are essential to manage growth and performance. Older and more mature owners are more successful. Having a higher level of education and long-lasting experience is also instrumental in growth-focused SMEs

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(Roper, 1999; Storey, 1994). According to organizational behavior and management information systems research, there is substantial evidence suggesting that an individual's attitude toward the adoption and use of a new technology in the workplace is her/his perceptions about the usefulness of this technology (Davis, 1989; Davis *et al.*, 1989; Mathieson, 1991; Taylor and Todd, 1995).

However, the influence of prior entrepreneurial experience in ICTs along with the importance of an existing strategy for Information Communication Technologies should be taken into consideration taken that not only research in this area is scant, but such an understanding will also assist the design of strategies for the enhancement of the ICTs performance among the SMEs. Within this context, the purpose of this study is to empirically explore how the production of small and medium sized enterprises in Greece is influenced by the adoption of ICTs. Equally important for this study remains the investigation of the prior entrepreneurial managerial experience and the implementation of an ICT-strategy along with the understanding of whether they can influence the overall ICT-performance or not.

The aim of the present paper is to model, by means of ordinal regression analysis, the relationship between ICT-performance in production when implementing an ICT-Strategy and having the entrepreneur prior experience-knowledge in ICTs.

The rest of the article is organized as follows. In the following section, the relevant literature is discussed. It constitutes an illustration of the approach deployed for the purposes of this study in relation to earlier work in the field, rather than an exhaustive review of the accumulated literature. The next section presents the methodology of the study. The interpretation of the findings of the field-work research occupies the main part of this article. The final section proposes further studies and discusses some general implications and conclusions based on our findings.

2. Literature review

More than 20 years have passed since McMillan's (1986) plea to redirect research efforts toward the study of habitual entrepreneurs. This call has not been ignored: common and uniform definitions of novice, serial, portfolio, and habitual entrepreneurs are accepted in the literature (Birley and Westhead, 1993; Westhead and Wright, 1998; Ucbasaran et al, 2006). The objective of this differentiation has always been to acknowledge the entrepreneurial heterogeneity in terms of previous experience. McMillan (1986: 242) mentioned that habitual entrepreneurs "have had many an opportunity to attempt a business, analyze the attempt, and after several attempts recognize their mistakes and correct them in subsequent ventures – they build 'an experience curve' for entrepreneuring". Hence, differentiating between experienced and inexperienced entrepreneurs should not only distinguish between novice and habitual entrepreneurs, but also make a distinction on the basis of their characteristics and, more importantly on their performance. In accordance with McMillan's approach, Storey (1994), Burke *et al*., (2002), and Westhead *et al*., (2005) argue that entrepreneurs with some managerial experience are likely to form firms, which grow faster than individuals without a respective experience.

Prior owner's experience and knowledge seem to play an important role in adopting new technologies. Previous studies in large organizations have established the importance of top management support in facilitating successful ICT adoption. (Koellinger, 2008; Earl, 1996; Daft, 1998). In SMEs, the focus has fallen on the support of the owner/manager because the majority of small businesses are managed by an owner who also acts as the general manager. Additionally, SMEs tend to have a flat organizational structure, with the management to perform multiple organizational tasks in the daily running of the business, take the majority of decisions, and have full control over the organization's resources. Owner support is therefore essential for establishing appropriate ICT targets, identifying critical business information needs and allocating the requisite financial resources (Jones, O. & Tilley, F. 2003). DeLone (1988), Yap *et al*., (1992) and Windrum and Berranger (2002) have highlighted the importance of owner/manager support in the implementation phase. Support in decision-taking in ongoing implementation is important, not only for indicating serious commitment but also for ensuring effective delegation and staff direction. Empirical researches conducted by Palvia and Palvia (1999) and Chapman *et al*., 2000 have found that the age and experience of the owner is the single most important factor governing successful ICT adoption.

Further to this, Blackburn and McClure (1998) claimed that owner-managers appeared to be a key underlying influence of use. They suggested that owner-managers attitude, knowledge, experience

and readiness to train others in their organizations, combined with their overall managerial approach to the business, are often more influential factors than business size and sector in understanding the use of ICT. In addition, they demonstrate that while contributions from the researchers in the fields of organizational management or information technology may be useful, such work regularly does not present a comprehensive picture of the owner manager ICT experience.

One of the obstacles hindering the effective use of ICTs in the SMEs is the lack of official planning, programming and methodology. Most of the planning time is wasted on survival techniques that the SMEs will develop, and as a result, the time allocated to information technology projects is minimal or non-existent (Pollard & Hayne, 1998). This was also indicated by the study conducted for the Technology and the Internet in the SMEs by Dandridge and Levenburg (2000), in which many small and medium-sized enterprises are seem to have websites just because they have to. A second serious obstacle is the lack of experience in ICTs, as well as in the possibilities offered in the intra-business procedures. Moreover, apart from the technical knowledge and possibilities, the bibliography focuses its attention on the importance of the use of these technologies (Chapman et al., 2000, Yap et al., 1992). The use includes, in essence, the strategic understanding of the opportunities in the market, provided by the new ICTs, their application in the enterprise and, of course, their ability to successfully lead to the creation of competitive advantages (Tetteh & Burns, 2001). As OECD Report (2004: 21) argues, SMEs lack managerial understanding and skills for ICT and e-business. Successful integration of e-business requires many firms to restructure their business processes, to change organisational structures and to redefine their core competence and positions in the value chains. Therefore, e-business tools cannot be successfully introduced and used without the visionary power and the strategic decisions regarding how to apply ICT technologies to their business processes.

In the literature, there is on the fact that strategic management -as a field of enquiry- deals with large businesses (Berry, 1998, Beal, 2000). However, some researchers declare that it is inappropriate for SMEs to develop strategic management as they lack the appropriate resources for such practices while they have found after empirical research that there is no significant relationship between strategic planning and performance of small enterprises (Cragg & King, 1988, Shrader et al, 1989, Watts & Ormsby, 1990). On the other hand, some researchers found that strategic management in small enterprises improves the performance (Robinson, 1982; Bracker et al, 1988; Smith, 1998). When the businesses grow, strategic management is essential for survival and long-term success (Stone, 1999, Wolf, 2000).

Information and Communication Technologies Strategy is a dynamic activity that needs to be carried out as the business strategy is reviewed to ensure that ICTs are providing effective support for the firm. The issue for many SMEs is that the business strategy is often implicit and emergent (Levy, & Powell, 2005). As Turban et al. (2000) argue, the environment changes are influenced by market requirements, technological changes and pressures that force small firms to respond to these changes. Major technology strategies are recommended for SMEs attempting to compete in the contemporary global environment. Relative to large businesses, smaller firms that make effective use of ICT opportunities may also find that they can be more innovative, faster in responding to environmental demands and more capable of quickly changing or adapting business models to gain competitive advantage. A corollary of this, Taylor and Murphy (2004) pointed the strength of ICT in transforming business organization and operations, while Brynjolfsson et al. (2000) found that these complementary technological and organizational changes enhance the market value of the firms. Indjikian & Seigel (2005) also highlighted that the way with which technology is used, changes organizational structure, design and control systems. Within this context, the study conducted by Olugbode et al. (2008) reveal that the introduction of fully and integrated ICT systems have reduced operating and transaction costs, increased turnover and enhanced profitability

Finally, for the categorization of the SMEs, the European Commission (2003) definition for small and medium-sized enterprises was adopted. According to this new official definition, the basic condition for an enterprise to be recognized as a small and medium one is to respect the limits regarding Staff headcount and financial ceilings (annual turnover or annual balance sheet). The new definition introduces three different categories of enterprises (micro, small and medium). Each corresponds to a type of relationship that an enterprise might develop with another. This distinction is necessary in order to establish a clear picture of an enterprise's economic situation and to exclude those that are not genuine SMEs. The definition categorizes SMEs in the following three categories:

- The category of micro, small and medium-sized enterprises (SMEs) are made up of enterprises, which employ fewer than 250 persons and, which have an annual turnover not exceeding 50 million EUR, and/or an annual balance sheet total not exceeding EUR 43 million.
- Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 10 million.
- Within the SME category, a micro-enterprise is defined as an enterprise which employs fewer than 10 persons and whose annual turnover and/or annual balance sheet total does not exceed EUR 2 million.

The new definition is the result of wide-ranging discussions between the Commission, Member States, business organizations and experts as well as two open consultations on the internet. The changes reflect general economic developments since 1996, and a growing awareness of the specific hurdles that SMEs confront. Based on the findings from the literature review, an empirical study has been carried out among 54 Greek SMEs to identify the emerging forms of organizations based on ICTs.

3. Research methodology

A joint methodology of fully-structured questionnaire and in-depth interviews was selected as the primary research instrument in order to gain as broad a view as possible of the issues surrounding application of ICT. This methodology was applied among a spectrum of SMEs from 4 out to 51 Greek geographical areas (States/provinces) which fulfilled the criteria of GDP-sharing, working population and total number of population. A total of 100 companies was selected and letters were sent out requesting an interview, while follow-up telephone calls by the researcher negotiated access to each business. Fifty-four SMEs positively responded. The main reason why the authors have attempted to use a combination of techniques was to minimize bias and error and overcome any ambiguities.

The survey questionnaire was divided into four parts. Part one deals with the adoption and use of ICTs and part two covers questions addressed to evaluate the degree of emphasis placed on strategic and operational planning of ICTs and evaluate whether the strategic process was systematic and formal. Part three covers the financial information while the last part was based on general information about each firm. Personal interviews were conducted with the person deemed to be most knowledgeable on the ICTs developments within the firm. For that reason, the interviewees ranged from director or owner-manager and IT personnel to general managers. Only one interview per company was conducted. A mix of closed and open-ended questions was included to conduct the structured interviews. This provided a collection of quantitative and qualitative data, and enabled comparisons based on rating, ranking and individual contextual analysis. On average, the interviews lasted one hour and 15 minutes based on a fully structured questionnaire. Completed questionnaires were coded and analyzed using the SPSS 17.0 (Statistical Package for Social Sciences).

A stratified random sample of SMEs was drawn from four industry sectors according to classification of economic activity by NACE (rev. 1.1). The criteria of total selection of industry sectors and SMEs-according to their two-digit NACE code allocation- were the attendance index of SMEs in each industry sector, contribution index of each industry sector in Gross Value Added and E-Business Index. The data for two first indices were found by National Statistical Service of Greece and ICAP databases, while the last Index was adopted by *European E-Business Report 2003* (Robinson, 2003). The final allocation of our sample (n=54) according to industry sector and firm size is illustrated as follows (Table 1):

Table 1: Distribution of Interviews by firm size and sector

Industry Sector	Sub-sector – two digits allocation	Micro Firms (0-9)	Small Firms (10-49)	Medium Firms (50-249)	Total
Other Services	K 70, K 72, K74	13	8	2	23
Manufacturing	D15, D 22	2	5	2	9
Wholesale Trade	G 52	7	3	3	13
Hotels	H 55	1	6	2	9
Total		23	22	9	54

4. Empirical analysis and findings

The ordinal regression method was used to evaluate the relationship between ICT performance of the overall production procedures in Greek SMEs (enhancement of productivity, improvements of existing production procedures, reduction of labor costs) and the variables concerning prior entrepreneurial experience-knowledge in ICTs and implementation of a specific strategy for the adoption and use of ICT.

The ordinal logistic regression (OLR) model was selected as a statistical procedure used when the dependent response variable is ordinal categorical and the independent variables may be categorical, interval or ratio scale. At this point, we have to clarify that even when categories of the dependent variable are ordered, that does not mean that an OLR model is necessarily the most appropriate, especially if categories are ordered on more than one dimension, such as strength of opinion and direction, or if categories can be ordered in different ways (Norusis, 2008: 69). In our case, each dependent variable used in the three different OLR models is ordered on one dimension only, allowing the use of ordinal regression method. In particular, the three dependent variables for ICT-influence on production operations were measured on an ordered, categorical, and five-point Likert scale: *Very Positive* (1), *Fairy Positive* (2), *Neither Positive Nor Negative* (3), *Fairy Negative* (4), *Very Negative* (5). The two variables used as predictors were dichotomous: Prior entrepreneurial experience-knowledge (coded 0 = *Yes,* 1 = *No*) and Implementation of a specific strategy for the adoption and use of ICT (ICT-Strategy) (coded 0 = *Yes,* 1 = *No*). The variables of each ordinal regression model are illustrated as follows:

Table 2: Variables used in the ordinal regression models

	$\mathbf{Y}$: Dependent (Response) Variable	Independent (Explanatory) Variables	
		$\mathbf{X}_1$: Independent Variable 1	$\mathbf{X}_2$: Independent Variable 2
ORL Model 1	Enhancement of productivity	Prior entrepreneurial experience-knowledge	Implementation of a specific strategy for the adoption and use of ICT (ICT-Strategy)
ORL Model 2	Improvements of existing production procedures	Prior entrepreneurial experience-knowledge	Implementation of a specific strategy for the adoption and use of ICT (ICT-Strategy)
ORL Model 3	Reduction of labor costs	Prior entrepreneurial experience-knowledge	Implementation of a specific strategy for the adoption and use of ICT (ICT-Strategy)

The ordinal logistic model is written as follows:

$$\ln\left[\frac{\mathbf{P(Y \le j)}}{\mathbf{1-P(Y \le j)}}\right] = \alpha_j - \sum_{k=1}^{2} \beta_k \mathbf{X_k}$$

where,

The index j runs from category 1 (very positive) to category 4 (fairy negative) and refers to the subcategories of each response variable.

$\mathbf{Y}$ The response variable, which takes integer values from 1 to j.

$\mathbf{X_k}$ The k predictor variables associated with the observed changes in the dependent variable.

α_j The intercept of the regression equation or threshold for each cumulative probability.

β The coefficients of the predictor variables or else the locations of the model. The threshold α_j and the regression coefficient $\beta_{..}$ are unknown parameters to be estimated by means of the maximum likelihood method.

As regards the overall-model test of the null hypothesis, for each of the three models, that the location coefficients for all of the predictor variables are 0, it yields from Table 3 a significance level less than .05. Therefore, we can determine that the baseline intercept-only model does not perform better than the model with the predictors.

Table 3: Models-fitting information

		-2 Log Likelihood	**Chi-Square**	**df**	**Sig.**
Model 1: Enhancement of productivity	Intercept Only	52.827			
	Final	36.004	16.823	2	**.000**
Model 2: Improvements of existing production procedures	Intercept Only	49.544			
	Final	37.910	11.634	2	**.003**
Model 3: Reduction of labor costs	Intercept Only	45.729			
	Final	35.324	10.405	2	**.006**
Link function: Logit					

The test of parallel lines was designed to make judgment concerning the model adequacy. The null hypothesis stated that the corresponding regression coefficients were equal across all levels of the outcome variable. The alternative hypothesis stated that the corresponding regression coefficients were different across all levels of the outcome variable. The chi-square test results are:

- Model 1 - Enhancement of productivity: $\chi^2 = 5.277$ with d.f. of 6, and p = .509
- Model 2 - Improvements of existing production procedures: $\chi^2 = 9.697$ with d.f. of 6, and p = .138
- Model 3 - Reduction of labor costs: $\chi^2 = 4.104$ with d.f. of 6, and p = .663

As we can see, the assumption of parallelism cannot be rejected because the level of statistical significance for each model is large indicating that there was no significant difference in the corresponding regression coefficients across the response categories.

Table 4: Pseudo R-squares

Model 1: Enhancement of productivity	Cox and Snell	.296
	Nagelkerke	.309
	McFadden	.112
Model 2: Improvements of existing production procedures	Cox and Snell	.219
	Nagelkerke	.230
	McFadden	.082
Model 3: Reduction of labor costs	Cox and Snell	.191
	Nagelkerke	.201
	McFadden	.069
Link function: Logit		

Finally, the pseudo R-square measures (Table 4) evaluate the success of the model in explaining the variations in the data, which is an indication of the strength of associations between the response variable and the independent variables. The pseudo R-square for McFadden, Nagelkerke, and Cox and Snell can be considered satisfactory, as the values of pseudo R-square measures are usually much smaller than the R-square of a linear regression model.

Table 5 presents the parameter estimates, standard error, Wald statistic and the significance level for each OLR model. In particular, in Model 1, the regression coefficient of *ICT-Strategy* appears to have

a negative sign. The negative sign indicates that the small firms implementing a specific strategy plan for the adoption and use of ICTs are much less likely to present negative ratings of enhancement of productivity than the firms with no strategy plan. As regards the variable that depicts the prior owner's experience, we can see that the relevant regression coefficient has a negative sign. This means that the small firms' owners, who have prior experience and knowledge in ICTs are less likely to assign negative ratings of enhancement of productivity than those with no experience. The estimates in the output are given in units of ordered logits, or ordered log odds. So, for Model 1 we would say that for a one unit increase in *ICT-Strategy* i.e., going from 0 (Yes) to 1 (No), we expect a 2.071 decrease in the log-odds scale of *Enhancement of Productivity*, given all of the other variables in the model are held constant. The ratio of the odds for lower and middle (1: very positive – 2: positive – 3: neither positive nor negative) to higher scores (4: fairy negative – 5: negative) for those firms implementing an ICT-Strategy plan and those not implementing an ICT-Strategy plan is exp(2.071) = 7.93. In addition, for a one-unit increase in *Prior Owner's Experience,* we expect a 1.385 decrease in the log-odds scale of *Enhancement of Productivity*, given all of the other variables in the model are held constant. The ratio of the odds for lower and middle (1: very positive – 2: positive – 3: neither positive nor negative) to higher scores (4: fairy negative – 5: negative) for those owners having prior experience and knowledge in ICTs and those not having is exp(1.385) = 3.99.

In Model 2, the signs of the two predictors are negative. That means, the small firms that have implemented an ICT strategy and the firms owners, who have prior experience and knowledge in ICTs are associated with lower (in our case positive) scores on the rankings of the enhancement of productivity. For a one-unit increase in *ICT-Strategy,* we expect a 1.547 decrease in the log-odds scale of *Improvements in Production Procedures,* and for a one-unit increase in *Prior Owner's Experience,* we expect a 1.374 decrease in the log-odds scale of *Improvements in Production Procedures,* given all of the other variables in the model are held constant.

In Model 3, the coefficients of *ICT-Strategy* and *Prior Owner's Experience* have negative signs and they are also significantly different from 0, indicating that these variables are strongly related to the observed changes in reduction of labor costs during the study period. The small firms implementing a specific strategy plan for the adoption and use of ICTs are much less likely to assign negative ratings in the reduction of labor costs than the firms with no strategy plan. The small firms' owners, who have prior experience and knowledge in ICTs are less likely to assign negative ratings in the reduction of labor costs than those with no experience. For a one-unit increase in *ICT-Strategy,* we expect a 1.105 decrease in the log-odds scale of *Improvements in Production Procedures,* and for a one-unit increase in *Prior Owner's Experience,* we expect a 1.781 decrease in the log-odds scale of *Reduction of labor costs,* given all of the other variables in the model are held constant.

Table 5: Parameter estimates

			Estimate	**Std. Error**	**Wald**	**df**	**Sig.**
Model 1	Threshold	Enhancement of Productivity = Very Positive	-3.911	.849	21.228	1	.000
		Enhancement of Productivity = Fairy Positive	-2.855	.778	13.467	1	.000
		Enhancement of Productivity = Neither Pos. Nor Negative	-1.640	.697	5.540	1	.019
		Enhancement of Productivity = Fairy Negative	.346	.679	.260	1	.610
	Location	**ICT-Strategy= Yes**	**-2.071**	.611	11.497	1	**.001**
		ICT-Strategy= No	0[a]	.	.	0	.
		Prior Owner's Experience =Yes	**-1.385**	.654	4.488	1	**.034**
		Prior Owner's Experience = No	0[a]	.	.	0	.
Model 2	Threshold	Improvements of production procedures = Very Positive	-3.067	.792	15.017	1	.000
		Improvements of production procedures = Fairy Positive	-1.931	.723	7.139	1	.008
		Improvements of production procedures = Neither Pos. Nor Negative	-.818	.672	1.485	1	.223

		Improvements of production procedures = Fairy Negative	1.113	.764	2.121	1	.145
	Location	**ICT-Strategy= Yes**	**-1.547**	.588	6.913	1	**.009**
		ICT-Strategy= No	0[a]	.	.	0	.
		Prior Owner's Experience =Yes	**-1.374**	.676	4.131	1	**.042**
		Prior Owner's Experience = No	0[a]	.	.	0	.
			Estimate	**Std. Error**	**Wald**	**df**	**Sig.**
Model 3	Threshold	Reduction of labor costs = Very Positive	-4.355	.924	22.216	1	.000
		Reduction of labor costs = Fairy Positive	-3.567	.867	16.926	1	.000
		Reduction of labor costs = Neither Pos. Nor Negative	-2.445	.803	9.281	1	.002
		Reduction of labor costs = Fairy Negative	-.892	.725	1.514	1	.219
	Location	**ICT-Strategy= Yes**	**-1.105**	.564	3.848	1	**.050**
		ICT-Strategy= No	0[a]	.	.	0	.
		Prior Owner's Experience =Yes	**-1.781**	.716	6.184	1	**.013**
		Prior Owner's Experience = No	0[a]	.	.	0	.
Link function: Logit.							
a. This parameter is set to zero because it is redundant.							

5. Conclusions, implications and further research

This paper has dealt with the impacts of implementation of a specific strategy for the adoption and use of ICTs and entrepreneurial knowledge-experience on ICT on the ICT performance of the overall production procedures in Greek SMEs, by using ordinal logistic regression. The results indicate that the implementation of an ICT-Strategy was significantly associated with better results in overall production procedures, attesting the fact that the adoption and use of new technologies must be a result of strategic thinking and planning. This result is aligned with a recent empirical study published by the Journal of Information Technology, which has shown that advances in ICT systems present many opportunities for contemporary businesses to redefine their strategic objectives and enhance or transform products, services, markets, work processes and business communication (Coltman et al. 2007). In addition, owner's experience and knowledge in ICTs have played a major role in improving production procedures and in creating the base for a working environment, which will significantly contribute to development and smooth functioning.

The three ordinal regression models conducted to production area of SME, provide strong evidence that both ICT-Strategy and owner's experience really matter for ICT-Performance. ICT-strategy is the process by which the owners/managers determine the small firm's mission and objectives, implement and adopt the right technologies to achieve their goals and evaluate the results. The new era of entrepreneurship has to take into serious consideration, both, strategy and experience-knowledge in ICT. Strategy and experience seem to be crucial for successful adoption and performance of ICTs. They are becoming a new category of generic competency in the context of overall management of business processes. Without a doubt, this particular study commits itself to further research; initially, in more industrial sectors and sub-sectors (two-digit NACE codes) so as to identify as many factors affecting ICT-performance as possible, and secondly, so as to investigate the kind of information and communication technology systems greatly contributing to the development and performance of SMEs.

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