

[DOI: 10.20472/BMC.2015.001.024](https://doi.org/10.20472/BMC.2015.001.024)

SALIH YEŞİL

Kaahmramanmaraş Sütçü İmam Üniversitesi, Turkey

AHMET KAYA

Akdeniz Un,versty, Turkey

EXPLORING THE LINK BETWEEN INNOVATION CAPABILITY AND FINANCIAL PERFORMANCE

Abstract:

Today's global and uncertain business world transform the way business is conducted. Companies need to pay attention to the innovation and innovation capabilities for the survival, success and growth. Innovation provides several strategic advantages (e.g., better performance outcomes, efficiency, productivity and competitive advantages) to all types of organisations.

This study focuses on innovation capability and explores its effect on firm financial performance. The hypothesis is drawn from existent related literature. Data is collected from fifty four SMEs operating in Gaziantep city of Turkey and tested through correlation and regression analyses. The results reveal that innovation capability is positively related to sales growth but not to the return on assets. The findings and implications are discussed in relation to theory and previous empirical studies.

Keywords:

Innovation, Innovation Capability, Performance, Financial Performance, SMEs

JEL Classification: O31, L25, M10

Introduction

Today's global, fast changing and uncertain business world transform the way business is conducted. Companies need to pay attention to the innovation and innovation capabilities (Garcia, 2008) because innovation is mostly viewed as essential to the survival, success and growth of organisations (Wolfgramm, 2011). Innovation creates value, flexibility, and competitive advantage (Canatone et al., 2002; Günday et al., 2009; Knight and Cavusgil, 2004; Rubera and Kirca, 2012; Wolfgramm, 2011).

Innovation capability is an important construct for organisations for better performance outcomes (Calantone et al., 2002; Panayides, 2006; Peeters and Potterie, 2004; Rubera and Kirca, 2012; Terziovski and Samson, 2007). Innovation capability has been previously linked to organisational performance outcomes (Rubera and Kirca, 2012) and innovation performance (Erdil et al., 2004; Terziovski and Samson, 2007). Rubera and Kirca (2012) argued that although the findings regarding the positive implications of organisational innovativeness on firm performance has been found in various studies, there are also studies that report negative or insignificant results. Some studies also draw attention to the fact that there are insufficient studies related to testing the relationship between firm innovativeness and performance outcomes (Capon et al., 1998; Calantone et al., 2002).

The present study further investigates innovation capability-firm performance relationship and formulates hypothesis, tests it based on the data collected through surveying SMEs located in Gaziantep city of Turkey. Theoretical underpinnings for the hypothesis is taken from the existent literature on innovation and innovation capability and performance. The result of this study is expected to shed light on the implications of innovation capability over firm performance and also understanding how to enhance firm performance. Considering the insufficient studies and inconsistent results regarding the link between innovation capability-performance relationship, and the use of objective performance indicators rather than subjective measures along with conducting the current study in a developing country with SMEs, this study has the potential to bring important insights into the related literatures.

Theoretical Background

In this section, innovation, innovation capability and firm performance are explained in detail. This section serves as a basis for the following hypothesis development section.

Innovation and Innovation Capability

Innovation has been regarded as essential for the survival, success and growth of organisations (Wolfgramm, 2011). Neely and Hii (1998:8) simply defined innovation as "the exploitation of new ideas". Innovation is also defined "as the development and implementation of new ideas by people who over time engage in transactions with others within an institutional order" (Van De Ven, 1986:590). Innovation means the generation, acceptance, and implementation of new ideas, processes, products, or services (Calantone et al., 2002). According to Palangkaraya et al., (2010:3) innovation is "the introduction of new forms of production (processes and products) into the workplace and it may be conceptualised either as a change in the input output algorithm, or as a form of firm investment". Innovation involves various activities aimed

at providing value to customers and a satisfactory return to the organisations (Ahmed, 1998). Organisations view innovation as a means toward achieving and sustaining strategic competitive advantages (Martins and Terblanche, 2003; Terziovski, 2007; Özgenc, 2006; Salaman and Storey, 2002:147). Similarly Scholl (2005) argued that growth and competitiveness depend on the innovation capability and performance of the organisations. Innovation in organisations requires building innovation capability (Garcia, 2008).

Neely and Hii (1998) argued that innovation literature at the firm-level can be divided into three streams -diffusion, organisational innovativeness and process theory studies. Each stream deals with the phenomenon of innovation with different research question, unit of analysis, and dependent variable used. Organisational innovativeness research looks at the factors that contribute to an organisation's tendency towards innovation. The unit of analysis here is the organisation itself (Neely and Hii, 1998). Initially the concept was used for analysing innovation at the level of the individual. The construct organisational innovativeness soon emerged when researchers started looking at the organisation as a unit of adoption (Neely and Hii, 1998).

Innovation capability is referred to the organisational characteristics that provide support and help to execute innovation strategies (Burgelman et al., 2004). The innovation capability consists of abilities to create and carry new technological possibilities through to economic practice. The term covers a range of activities from capability to invent to capability to innovate and to capability to improve existing technology beyond the original design parameters (Kim, 1997:9). Neely and Hii (1998:23) defined innovative capacity as "the potential of a firm, a region or a nation to generate innovative outputs". Lawson and Samson (2001:384) defined innovation capability as "the ability to continuously transform knowledge and ideas into new products, processes and systems for the benefit of the firm and its stakeholders". Wang and Ahmed (2004:2) defined innovative capability as "a firm's ability to develop new products and/or markets, through aligning strategic innovative orientation with innovative behaviours and processes".

Innovation capability is related to a variety of factors and thus is affected by different internal and external factors (Bullinger et al., 2007; Egbetokun et al. 2007). While innovation is a complex concept, research identifies five key areas that influence the ability of organisation to innovate. These influences relate to leadership; opportunistic behaviour; culture and change; learning; and networking and relationship building. Neely and Hii (1998) argued that innovative capacity considered as firm potential to generate innovative output; this potential is dependent on the synergetic interrelationships of the culture of the firm, internal processes and external environment. Internal sources of finance, a large and growing market, and firm-specific management choices—in terms of competitive posture, internal work routines and attitude towards learning and communication—are consistently found to be associated with innovative firm.

Innovation capability has organisational implications. Innovation capability creates value for organisations in a number of areas such as creating new product and services, being more adaptive and flexible, exploiting new ideas, being better able to learn, and enhancing competitiveness in a changing business world (Neely and Hii, 1998; Shan and Zhang, 2009; Terziovski, 2007). Innovation capability has been linked

to organisational performance outcomes (Panayides, 2006; Rubera and Kirca, 2012) and innovation performance (Erdil et al., 2004; Terziovski and Samson, 2007). Panayides (2006) found that innovativeness is an important determinant of logistics service quality and in consequence customer value and firm performance. Through a meta-analysis, Rubera and Kirca (2012) showed that firm innovativeness indirectly affects firm value through its effects on market position and financial position. Moreover, the findings reveal that innovativeness is positively related financial position and firm value. Terziovski and Samson (2007) found that innovative capability is positively related to innovation performance. These findings indicate that innovative capability is an important construct that affects both firm and innovation performance. In this study, the role of innovation capability on firm performance outcomes is explored.

Firm Performance

Salem (2003) argued that organisational performance and its measurement is an important concept for both private and public sector all over the world. Similarly Henri (2004) claimed that performance measurement in the practical and theoretical spheres has attracted growing attention in recent years. Several disciplines have contributed to the development of current knowledge regarding the performance measurement (organizational theory, operation and production management, strategic management and finance) (Henri, 2004). Richard et al (2008:1) further note that “organizational performance is the ultimate dependent variable of interest for researchers concerned with just about any area of management”.

Henri (2004) notes that many confuse ‘performance’ and ‘performance measurement’; former represents an outcome whereas the latter is a measurement tool. Doing the work as well as achieving the result is commonly referred to as performance (Salem, 2003). Performance is defined as “the outcomes of work because they provide the strongest linkage to the strategic goals of an organization, customer satisfaction and economic contributions” (Salem, 2003:2). Organizational performance is considered as “the most important criterion in evaluating organizations, their actions, and environments” and used to evaluate firms continually and compare them to rivals by researcher and managers (Richard et al., 2008:1). Marcoulides and Hect (1993) argued that firm performance reflects the extent of goal achievement in the organization's workforce, capital, marketing, and fiscal matters.

According to Richard et al., (2008), previous studies conceptualised organisational performance as multidimensional including predominately stakeholders, heterogeneous market circumstances, and time. Financial performance (profits, return on assets, return on investment, etc.), market performance (sales, market share, etc.) and shareholder return (total shareholder return, economic value added, etc.) constitute three specific areas of firm outcomes reflecting organizational performance in general (Richard et al., 2008). Although similar organisational performance indicators are used in empirical studies, different indicators are preferred depending on the discipline and research context.

Looking at the previous empirical studies related to subject under study reveals that different performance indicators are commonly used. Peeters and Potterie (2004) noted that there are numerous empirical studies assessing the impact of innovation on

firms' performance. They differ in terms of dependent variables (e.g., sales growth, profit margins, productivity). For instance, Kemp et al., (2003) looked at the innovation and performance link and used four different performance indicators: turnover growth, employment growth, profit and productivity. Thornhill (2006) used revenue growth as performance indicator in his research. Rubeka and Kirca (2012) looked at the previous researches and claimed that innovativeness was associated with various performance outcomes, including a firm's market position (sales, market share, sales growth), financial position (overall profitability, return on assets [ROA], return on investment [ROI], return on equity [ROE]), and firm value in the stock market (stock market performance, Tobin's q, market capitalization, market-to-book ratio). More specifically Calantone et al., (2002) looked at the firm innovativeness and firm performance and used return on investment, return on asset, return on sales, and overall profitability as performance indicators. There are also studies using subjective measures rather than objective performance indicators (e.g., Panayides, 2006). In this type of research, respondents evaluate different performance indicators such as profitability and market share, and compare them with their competitors and/or industry average.

In order to measure the firm performance, objective measures rather than subjective measures were preferred in this study. Financial measures such as sales growth and return on asset or assets as performance indicators were used.

Hypothesis Development

Innovation Capability and Firm Performance

This study concentrates on the link between innovation capability and firm performance. Referring to the Hurt et al., (1977), Calantone et al., (2002) argued that two perspective are used in term of conceptualising the firm innovativeness. The first perspective regards innovativeness as a behavioral variable, that is, the rate of adoption of innovations by the firm. The second perspective looks at the organization's willingness to change as innovativeness. First perspectives is taken in this study as in several studies (Calantone et al., 2002; Lin, 2007; Panayides, 2006).

Innovation can help organisations to build up competitiveness, which in turn lead to better business performance (Vincent et al., 2004; March-Chorda et al., 2002). Kemp et al., (2003) argued that the growth of total sales may be higher for innovating firms than for non-innovating firms. Findings from the study of Vincent et al., (2004) show that innovation is a significant driver of different types of organizational financial performance. Based on their findings, they suggested that innovation is a mechanism through which organizations can achieve a competitive advantage. Günday et al., (2009) reported the positive effect of innovaiton on firm performance. In reviewing the literature, Garcia (2008) argued that innovation definitions are confused and the link between innovation and business performance remains to be proven. Palangkaraya et al., (2010) found that the estimated correlation coefficient is only significant at the 10 per cent significance level and noted that the correlation between product innovation and productivity is not as clear cut as theory suggests.

On the other hand, there are also theoretical arguments suggesting the positive relationship between firm innovativeness and firm performance (Scholl, 2005; Calantone et al., 2002; Günday et al., 2009) as well as innovation performance

(Terziovski and Samson, 2007). For instance, Scholl (2005) claims that growth and competitiveness depend on the innovation capability of the organisations. Günday et al., (2009:2) noted that growth, market share increase and competitiveness are the main outcomes of firm innovativeness. Although theoretical arguments explicitly indicate the relationship between firm innovativeness and firm performance, this relationship has not been sufficiently studied and tested (Capon et al., 1998; Calantone et al., 2002). Previous studies reported the positive effect of innovation capabilities and firm performance. For instance, Han et al., (1998) found that organization's innovativeness in banking industry positively influences its business performance. Calantone et al., (2002) reported that firm innovativeness is positively related to firm performance. Panayides (2006) found that innovativeness are key organisational capabilities that influence positional advantage (logistics service quality) and firm performance. According to the results of Peeters and Potterie (2004), innovative capability positively influences labor productivity. Based on their research Peeters and Potterie (2004:12) concluded that "organizational capabilities associated with the innovation process can therefore be viewed as critical strategic tools for firms seeking to build competitive advantage and long-term performance"

This study also argues that firms can improve performance outcomes through their innovation capabilities. Based on the the information provided above, the following hypothesis is suggested;

H:1 Innovation capability of the firms positively affect firm financial performance

Methodology

Sample and Data Collection Instrument

The participants consisted of managers from fifty four SMEs. The firms are located in Gaziantep city of Turkey. There are approximately 1000 firms and maybe more registered at Chamber of Commerce of Gaziantep. We were able to reach the contact information of around 300 firms and sent them questionnaire via mail or personal contact. Fifty four usable questionnaires were returned with a 18% response rate.

Measures

The questionnaire items were derived mainly from previous studies and modified to fit to the nature of this study. Innovation capability items were taken from Lin (2007) and Calantone et al., (2002). Performance was measured by using sales growth and return on assets (ROA). The information regarding financial data was obtained from the companies through personal contact. The necessary calculations were made by the researchers to use in the analysis. A likert type scale with five response options ranging from strongly disagree to strongly agree was used for measuring innovation capability.

Data Analysis

All analyses were performed based on the data collected through a survey by using regression and correlation analyses, available in SPSS.

Results

Descriptive Results

The firms surveyed in this study operate in textile sector (%47), food sector (%33), and service sector (%13) and others (%7). The firms participated in this study tend to be SMEs with employees less than 250. According to the descriptive statistics, %83.3 of the participants are male and % 16.7 are female. This result supports the notion that managerial positions are still dominated by males in Turkey. The ages of the respondents vary between 20-25 (%14.8), 26-30 (%31.5), 31-35 (%29.6), 40 and more (%7.4). The participant managers seem to be young. Educational level distribution is as follows; high school (%29.6), associate degree (%22.4), bachelor degree (%29.6), and post graduate degree (%18.4). The work tenure of the respondent: 1 and 5 years (%45), 6-10 years (%35.2), 10 and more years (%19.8). Respondents tend to be experienced in their respective sector.

Preliminary Analyses and Results

Correlation among the main variables of this study were performed and presented in Table 1. According to the Table 1, there is a significant correlation (.299, $p < .05$) between innovation capability and sales growth. There was no correlation between innovation capability and ROA. It is also clear from the table that sales growth is positively correlated with ROA. The correlation analysis results give support to the research hypothesis (H1).

Table 1: Correlation Coefficients, Mean and Standard Deviations of the Main Variables of the Study

	Mean	S. D.	1	2
<i>Sales Growth</i>	.26	.35		
<i>ROA</i>	.05	.11	.281*	
<i>Innovation Capability</i>	3.459	.562	.299*	-.003

N= 54 * $p < .05$

Main Analysis: Results of Regressions Regarding the Link between Innovation Capability and Firm Financial Performance

To test the hypotheses of this study, the regression analysis was performed in two steps and shown in Table 2 and 3. Control variables were entered during the first step, and the main independent variable was added in the second step. The results in both tables reflect that innovation capability is positively related to sales growth (beta=.319, $p < .05$) in table 2, but not ROA in table 3. This result provides evidence for the hypothesised relationship between innovation capability and firm performance.

Table 2 Regression Results

Independent Variables	Dependent Variable: Sales Growth			
	Step 1		Step 2	
	β	t	β	t
<i>Sector</i>	.030	.218	.048	.365
<i>Number of employees</i>	.227	1.667	.249	1.909
<i>Innovation Capability</i>			.319*	2.445
R^2	.053		.154	
ΔR^2	.016		.104	
F	1.431		3.040*	

N= 54 *p < .05

Table 3 Regression Results

Independent Variables	Dependent Variable: ROA			
	Step 1		Step 2	
	β	t	β	t
<i>Sector</i>	-.035	-.250	-.035	-.248
<i>Number of employees</i>	.043	.309	.043	.304
<i>Innovation Capability</i>			-.002	-.013
R^2	.003		.003	
ΔR^2	-.036		-.057	
F	.076		.050	

N= 54 *p < .05

Conclusion and Discussion

This study aimed to explore the role of innovation capability on firm financial performance. The hypothesis regarding the link between innovation capability and firm financial performance is tested based on the data collected from fifty four SMEs operating in Gaziantep in Turkey.

Results from both correlation and regression analyses indicate that innovation capability affects firm financial performance. Innovation capability is positively related to sales growth, supporting research hypothesis. However, the result regarding the link between innovation capability and ROA were not confirmed in this study. The results provide evidence regarding the theoretical arguments in the literature (Calantone et al., 2002; Panayides, 2006; Peeters and Potterie, 2004; Rubera and Kirca, 2012; Terziovski and Samson, 2007) and also support previous empirical findings (Calantone et al., 2002; Han et al., 1998; Panayides, 2006) .

This finding reinforces the importance of innovation capability for the firms. Innovation capability has been regarded as an important way of increasing organisational performance and competitiveness (Calantone et al., 2002; Neely and Hii, 1998) and innovation performance (Erdil et al., 2004; Terziovski and Samson, 2007). Moreover, our findings support the notion that innovation capability is an important determinant of firm performance. The result further provides insight regarding the inconsistent result

(Rebeka and Kirca, 2012) and support the previous studies that found positive link between firm innovativeness and firm performance. Organisations that seek to improve their performance outcomes need to pay attention to innovation capabilities. They need to continually invest in innovation capabilities and foster workplace environment in which innovations can easily be created. Peteers and Potterie (2004) suggest that organisations can improve their innovative capabilities through corporate culture, work organization, ideas generation tools, and project selection process etc.

Organisational capabilities are important determinant of organisational performance (Knight and Cavusgil, 2004; Wang and Ahmet, 2007). Innovation capabilities as one of the organisational capabilities has been shown in this study as an important variable in determining the organisational performance. Organisations need to pay attention to their various capabilities in order to survive in today's fast changing, volatile, and competitive business environment. As suggested by Peteers and Potterie (2004), innovative capabilities can be important strategic tools to build competitive advantage and long-term performance. Firm with innovative capability is likely to perform better than the other firms that lack such capabilities. Achieving high performance organisations depend on creating capabilities whether innovation related or other types that can help them to understand customer needs, competitors' actions, and technological development, and act upon them to create innovations.

By showing the significant effect of innovation capability on firm performance, this study supports the conception pointed out by Lawson and Samson (2001) that "the innovation capability construct has the potential to be developed to make a significant contribution furthering knowledge in the management of innovation". Thus, innovation capability construct need to be further studied in terms of its conceptualisations, measurement, antecedents and implications.

This study can not escape from the limitations that need attention when evaluating the results. One limitation is that participated SMEs come from one city with relatively small sample size. Therefore, this creates barriers to generalise the findings to the other contexts. It is then recommended that further studies may involve relatively big sample and different cities or regions if possible. Our study included two firm performance measures, thus, future research may include other broader objective measures (Rubeka and Kirca, 2012). Future studies may also look at the role of mediator between firm innovativeness and firm performance (Rubeka and Kirca, 2012). Researchers took some measures to tackle common-method biases inherent in this type of research. Following Podsakoff et al., (2003), researchers ensured the respondents with information in the front page of the questionnaire regarding the confidentiality of their individual responses. In order reduce respondents' concern about being evaluated; we also assured the participants that there was no right or wrong answers to questions in the questionnaire.

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