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**LEARNING ORIENTATION AND ABSORPTIVE CAPACITY AS
DETERMINANTS OF INNOVATIVENESS AND FIRM
PERFORMANCE**

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Abstract

Learning orientation and absorptive capacity of firms are hotspot subjects in social sciences and management especially in recent years because of their role on knowledge production, management and made valuable which determine the competitive advantage in the information age. Besides, knowledge is a key ingredient for innovation and performance. Considering the incomplete picture in previous researches, the aim of this study is to investigate the effect of both learning orientation and absorptive capacity on firm innovativeness. This study also examines the effects of learning orientation, absorptive capacity and firm innovativeness on firm performance. Based on the analysis of the data which is collected from 102 firms operating in automotive main and supply industries in Turkey by survey method, we found that: (i) commitment to learning affects firm innovativeness and intraorganizational knowledge sharing affects firm performance, (ii) assimilation affects firm innovativeness, transformation and exploitation affect firm performance and acquisition affects both firm innovativeness and firm performance.

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Keywords: Learning orientation, absorptive capacity, innovativeness, firm performance.



1. Introduction

The current business environment is global, hyperdynamic and therefore unpredictable (Efrat, Hughes, Nemkova, Souchon, & Sy-Changco, 2018). In such conditions, it has become important for firms not just to gain competitive advantage but to achieve a sustainable competitive advantage (Ranjith, 2016). Firms need to learn, change in behavior and improve their performance because of survival in this dynamic and changing environment (Slater & Narver, 1995). In this respect, innovativeness stands out as a decisive key to survive for firms. It is emphasized that innovativeness important to have a sustainable competitive advantage (Baregheh, Rowley, & Sambrook, 2009). Besides learning orientation has dealt with in the literature as a key antecedent of innovativeness (Hult, Hurley & Knight, 2004; Rhee, Park & Lee, 2010). Learning-oriented firms can predict changes in environment and market (Calantone, Cavusgil, & Zhao, 2002) through they can adapt environment faster and be more innovative by comparison with their competitors. Absorptive capacity has also attracted considerable attention in that it provides many advantages from knowledge acquired from the environment. As a dynamic capability, it is vital competence for firms. In spite of numerous studies which examine the notion that learning orientation and absorptive capacity promotes many organizational processes and outputs, there is no extensive research which demonstrates the relationships among learning orientation, absorptive capacity, firm innovativeness, and firm performance. Thus, this study will be complementary to previous studies and what's more, this study will provide an overall and clear understanding of these constructs and their relations.

This paper proceeds in the following manner. First, literature comprising learning orientation and absorptive capacity is presented briefly. Next, in the hypotheses development section, arguments regarding our research model are developed and proposed research model is presented. This is followed by the section where measures and sample are introduced and empirical research is explained in detail. The discussion and implications are then presented and also limitations and recommendations for future researches are offered. Finally, the conclusion is given.

2. Background

2.1. Learning Orientation

Many researchers working on various disciplines such as organization theory, innovation management, and economics have focused on the concept which is learning due to its role in being able to cope with and even take advantage of rapid changes (Dodgson, 1993). Learning not only enhances the knowledge and competencies of employees but also enables the organization to grow and develop, transforms the organization more flexible and dynamic form (Saadat & Saadat, 2016). Learning, therefore, is essential for firms and organizational learning got attention in the literature. Argyris (1977) defined organizational learning as a process in which errors are detected and fixed. It is based on routines, depend on previous experiences, and focus on targets (Levitt & March, 1988). Learning orientation is a concept about knowledge creation and utilization activities in the organization and leading to competitive advantage (Calantone et al., 2002). It is a set of organizational values that affect firm's tendency to create and utilize knowledge (Sinkula, Baker & Noordewier, 1997). According to Lee and Tsai (2005), learning orientation is a mechanism and it affects firm's capacity to challenge the old suppositions and encourage new techniques and procedures. Commitment to learning, shared vision, open-mindedness and

intraorganizational knowledge sharing are dimensions of learning orientation (Calantone et al., 2002). Commitment to learning makes it possible for firms to realize dynamic learning (Liu, Luo & Shi, 2002) and it is determinative of whether a firm is to encourage a learning culture (Sinkula et al., 1997). Shared vision is an organizational value encouraging employees to actively participate in developing, spread and carrying out of firm's objectives (Wang & Rafiq, 2009). Open-mindedness refers to being an eagerness to be able to go over and assess the firm's ongoing routines and to be open to new ideas (Nguyen & Barrett, 2006; Baba, 2015). Finally, intraorganizational knowledge sharing is the dissemination of knowledge to all departments in a firm and also enhances organizational memory and namely, it is about not only getting information but also review systematically and structuring the information (Calantone et al., 2002).

2.2. Absorptive Capacity

Absorptive capacity is an ability of organizations about their usage of external knowledge and it can enable the organization to make a difference between the competitors that recognize same new knowledge (Cuervo-Cazurra & Rui, 2017). It was introduced first by Cohen and Levinthal (1989) as an ability of organization. Besides it is a unique competence that because it makes it possible to gain commercial benefit from the knowledge which acquired from outside (Stulova & Rungi, 2017). Zahra and George (2002) defined absorptive capacity as a series of organizational processes that include acquiring the knowledge from outside, assimilating the getting knowledge, transforming it and exploiting new knowledge. It should also be noted that this process involves the dynamic interaction of the four dimensions mentioned and each dimension promotes the advancement of another one consistently (Kocoglu, Akgün & Keskin, 2015). Acquisition capacity is a firm's ability to recognize and acquire new knowledge on the track from information sources around (Fosfuri & Tribó, 2008). R&D investments and prior experiences and knowledge are determinative in terms of especially the acquisition which is the first step of the absorptive capacity process (Noblet, Simon & Parent, 2011). Assimilation capacity is a firm's ability to expand the existing knowledge base by adding newly acquired information (Delmas, Hoffmann & Kuss, 2011). It is necessary to that the firm can grasp and make sense of new knowledge to assimilate it (Albort-Morant, Henseler, Cepeda-Carrión & Leal-Rodríguez, 2018). Transformation capacity is a firm's ability to adapt to new knowledge and to associate with existing knowledge (Fosfuri & Tribó, 2008). It consists of transforming knowledge, combining existing knowledge with new knowledge, revising the knowledge by adding or dropping and internalizing the conversing knowledge (Noblet et al., 2011). Finally, exploitation capacity is a firm's ability to utilize and commercialize new knowledge acquired, assimilated and transformed before (Delmas et al., 2011).

3. Hypothesis Development

3.1. Learning Orientation, Firm Innovativeness, and Firm Performance

Learning is important for firms in that learning organizations make a difference according to their competitors and that their level of novelty of innovation is higher (Amara, Landry, Becheikh & Ouimet, 2008). Learning provides information to the firm about their clients, competitors, and environmental changes (Serna, Martínez & Martínez, 2016). Thus, it plays a role in strategically determining the firm's steps and ultimately in achieving competitive advantage. Firms which are learning oriented tend to give

importance to communication channels and use high technology which decreases the administrative cost (Beneke, Blampied, Dewar & Soriano, 2016). If a firm has a high level of learning orientation, it not only gathers and warehouse knowledge but also it process knowledge (Calantone et al., 2002). Furthermore, learning-oriented firms are able to develop intangible assets which are more innovative (Rhee et al., 2010). It enhances innovation, as well as has an impact on performance. Because on the other hand, learning orientation eases the creation of the many fundamental capability and resources which are determinative for firm performance (Calantone et al., 2002). It ensures that this provides superior outputs, superior growth, and profitability and as a natural consequence competitive advantage (Slater & Narver, 1995). The hypotheses we developed based on these arguments are as follows:

H1: Learning orientation is positively related to firm innovativeness.

H2: Learning orientation is positively related to firm performance.

3.2. Absorptive Capacity, Firm Innovativeness, and Firm Performance

Absorptive capacity is a concept that is used in many theories such as dynamic capability, social cognition, organizational learning, resource dependence, knowledge, and networks (Apriliyanti & Alon, 2017) and is defined a set of organizational assets. (Crescenzi & Gagliardi, 2018). It allows the firm to catch up on the market opportunities and be proactive (Cohen & Levinthal, 1989). This may enable firm for market skimming. Along with this, absorptive capacity supports the firm's development of new capabilities (Chang, Chen & Lin, 2014) and generation of new knowledge (Todorova & Durisin, 2007) which are prerequisite for increased both innovation and performance. It is also an important determinant of the sustainable competitive advantage as a dynamic capability (Lewandowska, 2015; Delmas et al., 2011). Since only firms with high absorptive capacity may be able to sustain their innovative approaches and activities in rapidly changing market conditions (Ali, Kan & Sarstedt, 2016). The hypotheses we developed based on these arguments are as follows:

H3: Absorptive capacity is positively related to firm innovativeness.

H4: Absorptive capacity is positively related to firm performance.

3.3. Firm Innovativeness and Firm Performance

Innovation as a process multi-phase refers to transforming the new ideas into product, process, and service which are new or improved (Baregheh et al., 2009). It is not only an output but a process and even a mindset (Kahn, 2018). Innovativeness refers to being willing and enthusiastic about promoting creativity and novelty (Lumpkin & Dess, 2001). There are many studies about innovation and innovativeness and they emphasize on importance and influence of them. The congruence of these studies is that organizations need to be innovative for not only gaining the competitive advantage but also sustaining it (Baregheh et al., 2009). Furthermore, growth, profitability and market value are expected to be higher in innovative firms. (Cho & Pucik, 2005). The hypothesis we developed based on these arguments is as follows:

H5: Firm innovativeness is positively related to firm performance.

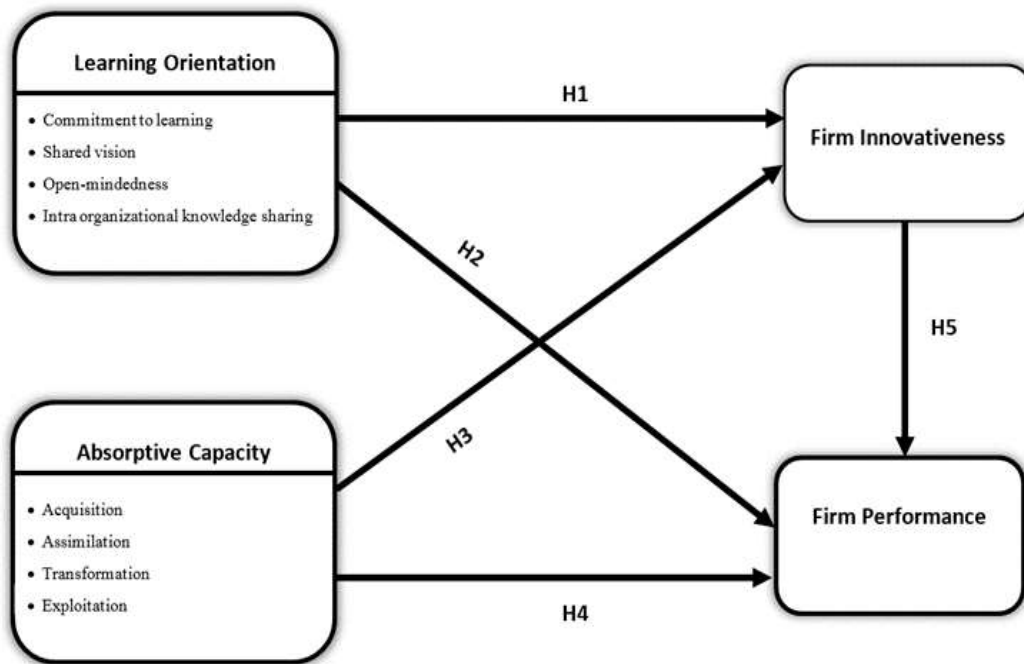


Figure 01. Proposed research model

4. Research Method and Analysis

4.1. Measures and Sampling

Multi-item scales translated and adapted from prior studies to test the hypotheses. All constructs were measured using a 5-point Likert scale. Learning orientation scale was adopted from the study of Calantone et al. (2002) and it consists of 17 items. The scale for absorptive capacity consists of 19 items and it was adopted from the study of Camisón and Forés (2010). For the firm innovativeness, the scale which consists of 6 items was adopted from the study of Calantone et al. (2002). Finally, the scale to measure firm performance was adopted from the study of Ellinger, Ellinger, Yang, and Howton (2002) with 11 items.

The survey method is used to collect the data to test research model and hypotheses. Parallel translation method is used to be sure that all the items translated correctly. For this purpose, first the items translated from English to Turkish and then retranslated from Turkish to English. After the translation was confirmed, the final version of the survey was subjected to the pilot study by disseminating to 20 respondents who are employees in the industry to test suitability. According to their notifications, it was verified that the survey was fully understandable. Later, Istanbul Chamber of Commerce database was used for the selection of the companies, 400 firms were contacted and 320 of them agreed to participate in the survey study. However, there were 118 returns and 16 of them deleted because of inconsistent and incomplete information. As a result, 102 usable returns left and the response rate was 31.8%. From 102 firms, 231 mid-level and senior executives who are knowledgeable of firm structure, culture and scope completed our survey. The sample consisted of participated firms operating in automotive main and supply industries in Istanbul and Kocaeli in Turkey.

4.2. Measure Validity and Reliability

After the data collection, exploratory factor analysis by using a principal component analysis with varimax rotation is used to assess the validity of measures. The results of exploratory factor analysis were presented in Table 1. 6 items were eliminated because they were not loaded any factor or load to more than one factor. The remaining 47 items loaded on 9 factors and their factor loadings are greater than 0,50. Open-mindedness which is a dimension of learning orientation was excluded since any factor did not load on it. Furthermore, the Kaiser-Meyer-Olkin value which shows the sample adequacy is 0,893 and Bartlett's test of Sphericity result is significant ($\chi^2= 4750,993$, $p=0,000$). As a result, items were found to be appropriate to measure our variables.

Table 01. Factor Loadings of Learning Orientation, Absorptive Capacity, Firm Innovativeness, and Firm Performance

	1	2	3	4	5	6	7	8	9
Shared Vision1	,732								
Shared Vision2	,707								
Shared Vision3	,700								
Shared Vision4	,684								
Shared Vision5	,650								
Shared Vision6	,631								
Assimilation1		,640							
Assimilation2		,632							
Assimilation3		,625							
Assimilation4		,615							
Assimilation5		,559							
Assimilation6		,554							
Transformation1			,820						
Transformation2			,782						
Transformation3			,593						
Transformation4			,581						
Transformation5			,556						
Exploitation1				,804					
Exploitation2				,763					
Exploitation3				,626					
Exploitation4				,569					
Know_Sharing1					,698				
Know_Sharing2					,664				
Know_Sharing3					,630				
Know_Sharing4					,568				
Innovativeness1						,805			
Innovativeness2						,691			
Innovativeness3						,646			
Innovativeness4						,571			
Commit_Learning1							,755		
Commit_Learning2							,726		
Commit_Learning3							,699		
Commit_Learning4							,516		
Acquisition1								,704	
Acquisition2								,680	
Acquisition3								,651	
Acquisition4								,517	
Performance1									,813
Performance2									,752
Performance3									,738
Performance4									,696

Performance5	,682
Performance6	,678
Performance7	,672
Performance8	,662
Performance9	,612
Performance10	,551
Total Variance Explained: 63.026% KMO: 0,893	

Following the factor analysis, standard deviations and means for each factor were calculated and correlation analysis applied. In addition, Cronbach's Alpha is used to measure reliability. All the Cronbach's Alpha values for variables exceed 0,7 which is minimum value acceptable (Nunnally, 1978). Table 2 shows the values of standard deviations, means, correlation coefficients and Cronbach's alpha.

Table 02. Means, Standard Deviations, Factor Correlations and Cronbach's Alphas

Factors	Mean	S.D.	1	2	3	4	5	6	7	8	9
Commit_Learning	3,6578	,81968	(,819)								
Shared Vision	3,6165	,73440	,572**	(,853)							
Know_Sharing	3,5934	,86831	,528**	,675**	(,857)						
Acquisition	3,3713	,74954	,380**	,489**	,404**	(,785)					
Assimilation	3,3912	,71731	,515**	,449**	,450**	,586**	(,810)				
Transformation	3,2235	,74301	,310**	,301**	,355**	,379**	,492**	(,776)			
Exploitation	3,3940	,78532	,480**	,370**	,364**	,462**	,493**	,476**	(,796)		
Innovativeness	3,6144	,76682	,461**	,421**	,367**	,453**	,504**	,271**	,358**	(,728)	
Performance	3,4515	,69242	,376**	,396**	,269**	,616**	,471**	,413**	,506**	,379**	(,875)

* $p < 0.05$, ** $p < 0.01$, The values in parentheses are Cronbach's alpha.

4.3. Test of Hypotheses

Regression analysis is used to test hypotheses. Table 3 and 4 show the results of regression analyses. According to regression analysis results, commitment to learning is positively related to firm innovativeness ($\beta = .196$, $p = .004$). Hence H1 is supported partially. Acquisition and assimilation which are dimensions of absorptive capacity are related to firm innovativeness (respectively, $\beta = .172$, $p = .009$; $\beta = .249$, $p = .000$). So H3 is also supported partially. As seen in Table 4, intraorganizational knowledge sharing is related to firm performance ($\beta = .164$, $p = .009$). Therefore, H2 is supported partially. Firm performance is positively related to acquisition ($\beta = .422$, $p = .000$), transformation ($\beta = .138$, $p = .011$), and exploitation ($\beta = .203$, $p = .000$). Thus, H4 is supported with the exception of assimilation. On the other hand, there is no relationship between firm innovativeness and firm performance. So, H5 is not supported.

Table 03. Results of the Regression Analysis – Learning Orientation, Absorptive Capacity, and Firm Innovativeness

Independent Variables	Dependent Variable: Firm Innovativeness	
	β	Sig.
Know_Sharing	,009	,893
Commit_Learning	,196**	,004
Shared Vision	,104	,158
Acquisition	,172**	,009
Assimilation	,249**	,000
Transformation	,030	,619
Exploitation	,35	,575
	R ² = ,346	F= 20,591
		Sig= ,000

* $p < 0.05$, ** $p < 0.01$

Table 04. Results of the Regression Analysis – Learning Orientation, Absorptive Capacity, Firm Innovativeness, and Firm Performance

Independent Variables	Dependent Variable: Firm Performance	
	β	Sig.
Know_Sharing	,164**	,009
Commit_Learning	,059	,331
Shared Vision	,118	,075
Acquisition	,422**	,000
Assimilation	,017	,794
Transformation	,138*	,011
Exploitation	,203**	,000
Innovativeness	,058	,284
	R ² = ,476	F= 30,945
		Sig= ,000

* $p < 0.05$, ** $p < 0.01$

5. Discussion and Implications

This study examines the effect of learning orientation and absorptive capacity on firm innovativeness and firm performance. According to results of the analysis, it is determined that commitment to learning positively influences firm innovativeness. Previous researches (Calantone et al., 2002; Hult et al., 2004; Keskin, 2006; Hsu, Cheng & Lin, 2017) reveals the positive relationship between learning orientation and innovativeness. By looking at the results, it is important to promote a learning culture in a firm (Sinkula et al., 1997) is a decisive factor to enhance innovativeness. Furthermore, Baker, and Sinkula (1999), Calantone et al. (2002), Vij, and Farooq (2015) found that learning orientation effects firm performance positively. According to our analysis results, only one dimension of learning orientation, which is intraorganizational knowledge sharing is related to firm performance. That's why firms need to encourage employees to share their knowledge with each other, and so they can improve their

organizational memory (Calantone et al., 2002). It can be concluded that learning orientation, as a result, supports both firm innovativeness and firm performance. Hence, importance should be given to learning within the organization, a learning culture should be developed and knowledge sharing, especially within the firm, should be promoted.

Secondly, it is demonstrated that absorptive capacity positively influences firm innovativeness and firm performance. These findings are consistent with the previous researches (e.g. Tsai, 2001; Flatten, Greve & Brettel, 2011; Cepeda-Carrion, Cegarra-Navarro & Jimenez-Jimenez, 2012). Absorptive capacity makes it possible for firms to benefit from the new external knowledge (Stulova & Rungi, 2017). Thus having a high-level absorptive capacity provides enhancement of both innovativeness and performance.

Finally, there is no relationship between firm innovativeness and firm performance, as analyzed. Surprisingly, it is inconsistent with previous studies. However, it does not mean that innovativeness does not affect performance according to these results. Innovativeness may lead to superior performance through other factors which are determinant for high firm performance.

5.1. Limitations and Further Researches

As with all other empirical studies, there are some limitations in this study. First of all, the generalisability of the sampling is a limitation. Secondly, our study is inclined to common method bias because the data for all the variables were collected from the same respondents with a survey. This possible problem was tested with Harman's single-factor test (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). This test demonstrated that there were nine-factor having eigenvalues greater than 1 and the first factor accounted for approximately 19% of the total variance. Although the test indicates that common method bias is not a major concern for this study, there is still the possibility of this problem appearing. Finally, this research was conducted on automotive main and supply industries in Kocaeli and Istanbul in Turkey. The results of a research may differ when the sampling is in different regional, cultural and sectoral conditions. In spite of these limitations, this study provides significant implications both theoretically and practically.

This study will be a prelude and a guide for future studies. Researchers can investigate the change of these relations according to environmental and technological uncertainty. Future studies may also consider the relationship between other strategic orientations such as entrepreneurial orientation and our model. Additionally, researchers can integrate organizational factors which are decisive for innovativeness and performance into the model. Lastly, product and process innovation and innovation performance may be investigated in addition to firm performance.

6. Conclusion

This study contributes to the literature by revealing the effect of learning orientation and absorptive capacity on firm innovativeness and firm performance within the context of the Turkish automotive main and supply industries. The findings demonstrate that learning orientation and absorptive capacity are important factors that enhance firm innovativeness. It is also showed that both learning orientation and absorptive capacity positively influence firm performance. According to these findings, it is suggested that firms should promote learning in the firm and encourage employees for learning in order to achieve high

innovativeness. It is also advised firms to encourage employees for knowledge sharing behavior in order to have a high performance. Moreover, it is recommended that firm should enrich their knowledge base continuously, review their environment regularly and notice, acquire and care about new knowledge to increase both innovativeness and firm performance.

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