

ICLTIBM 2017
**7th International Conference on Leadership, Technology,
Innovation and Business Management**

**THE ROLE OF INNOVATION TYPES ON LEARNING
ORIENTATION AND NEW PRODUCT DEVELOPMENT**

Cemal Zehir (a), Saniye Yıldırım Özmutlu (b)*
* Corresponding author

(a) Yıldız Technical University, 34349, Istanbul, Turkey
(b) Namık Kemal University, 59030, Tekirdag, Turkey, saniyeyildirim@nku.edu.tr

Abstract

This study aims at predicting that learning orientation will have different effects when it comes together with types of innovation, investigating the links among variables and demonstrating the impact of new products on company performance with companies focusing on different types of innovation and the effective use of innovation skills on a quantitative study. The fact that innovation types were not used as a tool variable affecting new product development performance and it has not been revealed what kind of an effect the intermediary role of innovation types has on learning orientation and company performance of new products in studies investigating the relationship between learning orientation and different orientations has led us to do this work. Field research of this study was carried out in cross-sectional time range and by quantitative methods. To test the model, a questionnaire was developed for manufacturing industry companies, which are innovative organizations, and correlations and regression analyses were conducted with the collected data. Innovation types play a role in the relationship between learning orientation and company performance of new products.

© 2019 Published by Future Academy www.FutureAcademy.org.uk

Keywords: Learning orientation, Innovation, Innovation types, New product development performance.

1. Introduction

Organizations are in a continuous learning orientation. However, learning orientation is not alone enough to improve an organization's development and competence. This study tries to find out how relationships between learning orientation and types of innovation have an impact on new product development performance, which makes it unique. Furthermore, the fact that there has been no study carried out on this subject neither in foreign nor in domestic literature is an indication of the authenticity of this study.

A learning-oriented organization's increasing its learning orientation, and when considered together with the intermediary role of innovation types, what kind of an effect it has on the development of innovation types of organizations and therefore new product development performance has led us to this work. What is more, another reason that has led us to this study is although there are a lot of studies on different orientations and innovations in the literature, these studies did not examine the intermediary role of innovation dimensions in terms of learning orientation. Also, in studies examining the relationship between learning orientation and different orientations, innovation types are not used as a variable that influences new product development performance.

Handling learning orientation together with innovation types and its impact on new product development performance is very important for organizations. An examination of Turkish literature suggests that there have mostly been studies examining the bilateral relations. Some of the relevant studies in Turkish literature have focused on subjects such as Yavuz (2010) investigation of innovation-performance relationship in enterprises, innovation strategies and organizational performance relationship in enterprises Kılınç et al. (2013), effect of innovation activities on business performance, Harmancıoğlu (2012), the theoretical meta-analysis of the innovation literature in developing new products Biçkes and Özdevecioğlu (2016), impact of organizational learning on financial performance in enterprises and intermediary role of innovation. As a result of our research, it has been observed that several studies examined the relationship between learning orientation and innovation performance. There are a number of studies that examined the relationship between different orientations and the capabilities of organizations (Day, 1994; Celuch et al., 2002; Morgan et al., 2009; Lisboa et al., 2011; García-Villaverde et al., 2013; Gabler et al., 2015; Ciunova-Shuleska et al., 2016; Jaakkola et al., 2016); Baker and Sinkula (1999b), and there are also extensive studies on how organizations vary in their search for different orientations. However, no findings and conclusions regarding the relationship of the learning orientation to the types of innovation and examining them together and their relationship with the learning orientation and the new product development performance have been found. It has been found out during the literature review that there is a lack of a direct study on the subject and of studies examining the subject in different ways and with different orientations. Therefore, the results and the findings of this work will make a significant contribution to further studies. In addition, it is expected that examination of the impacts of learning orientation on new product development performance and the intermediary role of innovation types will contribute to the literature to a large extent.

2. Literature Review and Theoretical Framework

2.1. Learning Orientation

Within intense competition environment, organizations need to focus on learning. The fact that organizations today acquire new information, are sensitive to the environment, follow new technological developments closely and adapt to this process shows that information has now been one of the most important sources of raw materials.

Learning is a process that leads individuals to develop new approaches, to acquire new knowledge, and to make continuous efforts to share it (Liu, Dubinsky, & Shi, 2002). Argyris (1994) argues that learning can only take place as a result of the conversion of a new knowledge into a different form. From this point of view, learning can be conceptualized as individuals' increasing their both actual and conceptual capacities in order to optimize their behavior. Learning orientation in organizations supports the management of knowledge as well as promotes creativity, promotes the emergence of new knowledge and ideas, and enhances the ability to understand and enforce these (Aragón-Correa et al., 2007). According to McGill and Slocum (1993), organizational learning is "the process of activities where organizations recognize what they achieve from their experiences and improve mental models to make meaning of these experiences".

According to Garvin (1999), organizational learning is related to the process in which organizations improve their actions and in order for organizations to learn, they need to change their potential behavior or improve their current behavior. In cases where there is no learning, organisations tend to repeat their previous practices. In such a case, both the possibility of an improvement will decrease, and learning will be ephemeral since it will happen as a result of coincidences.

Learning orientation is one of the basic features of advanced organizations. Such organizations create an environment for their employees where they can develop their ideas and express themselves. In addition, learning-oriented organizations attach much importance to open-mindedness (Calantone, Cavusgil, & Zhao, 2002). The learning orientation is the creation and use of information about consumer needs, market changes and competitors on an organizational scale in order to provide a competitive advantage (Calantone et al., 2002). Hult et al. (2003) separated learning orientation into four sub-dimensions: team orientation, system orientation, learning and collective memory orientation.

Team orientation; There are a number of conditions for learning orientation to positively impact an enterprise's performance. In order for the data and knowledge that companies have to improve enterprises' performance, it is necessary to transfer these data and information to all units and top management within the company and to affect all the elements from strategy creation activity to daily activities within the company (Hacıoğlu, 2012).

System orientation; Fiol and Lyles (1985) underline that learning contributes to the development and improvement of the activities of organizations and regards learning as a system orientation and a tool for organizational development.

Learning Orientation; It is about the development of new information in the organization (Cohen and Sproull, 1996; Crossan et al., 1999). Huber (1991) defines learning orientation as the expansion of new knowledge or understanding that has the potential to influence behavior through values and beliefs within

organizational culture. Slater and Narver (1995) also adopt this definition and argue that learning orientation and learning result in new behaviours (Argyris & Schon, 1978).

Collective memory orientation; Establishing communication and collaboration in the organization that is valuable, rare and difficult to be imitated by competitors contributes to the production of organizational knowledge and storing it in a common memory, thus paving the way for long-lasting sustainable competitive advantage (Slater & Narver, 1995; Keskin et al., 2016).

2.2. Types of Innovation

Organizations need to first identify the content of the innovation in order to determine what innovation they have and do not have. An innovation is about an organization's internal applications, organizational structure and functioning of the organization, the development of a new or significantly improved product or service on external relations, a process, a new marketing method or a new organizational method (OCDE, 2005; Acosta, Acosta, & Espinoza, 2016).

Product and Service Innovation; Adner and Levinthal (2001) stated that the purpose of product innovation is attracting new customers and that organizations change new products or existing products according to customer needs and introduce these products to the market. Ettlíe and Reza (1992) believe that a product innovation is an important contributor to the success of the company because new product development and product innovation is an indication of the existence of an important strategy to increase the market share and performance of a company.

Process Innovation; Process innovations involve the commercial transport of a good or service in new ways as well as the application of new production methods. The primary goal for process innovations is to reduce the unit costs of manufactured products. Another important goal is to maintain or improve the quality of the products produced (Tavassoli & Karlsson, 2015).

Management Innovation; It is the change in the routine work of organizations aiming to improve their productivity, profitability, flexibility and creativity by using knowledge in organizational innovation (Birkinshaw et al., 2008; Volberda et al., 2013). It is also shown that organizational innovations are "a productive ground for innovation" and are beneficial in various ways (Volberda et al., 2013). Examples of management innovation can be listed as introduction and implementation of new strategies and introduction of information management systems that improve knowledge to search, adopt, share, encode, store and disseminate knowledge among employees (Tavassoli & Karlsson, 2015). This type of innovation is beneficial since it reduces the tensions for companies that will implement process innovation (Hollen et al., 2013).

2.3. Relation of Learning Orientation to Innovation Types

Many studies mention a number of factors that are considered to provide the innovation ability to businesses. These studies frequently emphasize that businesses' having a learning-oriented nature and showing the characteristics of a learning organization are very important in being innovative (Hurley & Hult, 1998; Calantone et al., 2002, Avcı, 2012). Garvin's (1993) definition of learning orientation is the changes in the learning direction of a company are the product of "attitudes that are carefully raised, commitments and accrued management processes". Learning orientation offers important opportunities for

organizations to provide and manage the knowledge that constitutes the infrastructure for the formation of innovation (Dishman & Pearson, 2003; Vokaca & Rezgui, 2000). In addition, learning-oriented businesses have gained the abilities to adapt themselves to environmental change. Therefore, learning orientation develops innovation capabilities of businesses and is considered to be an important means of increasing their performance and competitiveness.

Learning orientation is a mechanism that affects the ability of an organization to challenge its old assumptions and facilitates new techniques and methods (Lee & Tsai, 2005). Learning-oriented organizations are able to perceive environmental expectations more easily as they lay the foundation for both innovation and creativity and are able to create new products according to the expectations of the society.

As the organizations' approach to learning orientation increases, their guiding and leading roles also develop. Learning orientation constitutes the existence of a constant new search and inquiry. Thus, continuous learning and continuous inquiry contribute to the formation of innovations and differences. Different dimensions of learning orientation trigger the development of innovation types. Learning orientation increases the rate of internal and external change within an organization. However, it takes a long time to direct an organization to learning orientation.

2.4. New Product Development Performance

In today's world where technological developments are taking place fast and competition is accelerating, organizations attach great importance to innovation in their products and services or to form new product and service groups. Variables such as intense competition environment in the market, constant changes in consumer desires and preferences, i.e., behaviour, technological developments, preferring new products in terms of marketing, improving existing products and the creation of new brands encourage new product development. These variables are constantly pushing companies to develop new products and introduce them to markets. Factors that push businesses into developing new products can be listed as competition conditions, the end of the product lifecycle, changes in consumer needs and expectations, and new technologies. New product development is very important for companies' performance and growth (Frambach et al., 2003). The work conducted by Awwad and Akroush (2016) suggested that the dimensions of new product development performance are related to the level of customer acceptance of the new product, the level of technical performance of the new product, and the level of profitability of the new product.

2.5. Hypothesis Development

Depending on the model, our hypotheses have been formed as follows:

H₁: Learning orientation has an impact on innovation types.

H₂: Learning orientation affect positively new product development performance

H₃: Innovation types have an intermediary role in the impact of learning orientation on new product development performance.

The research model is shown below in Figure 01.

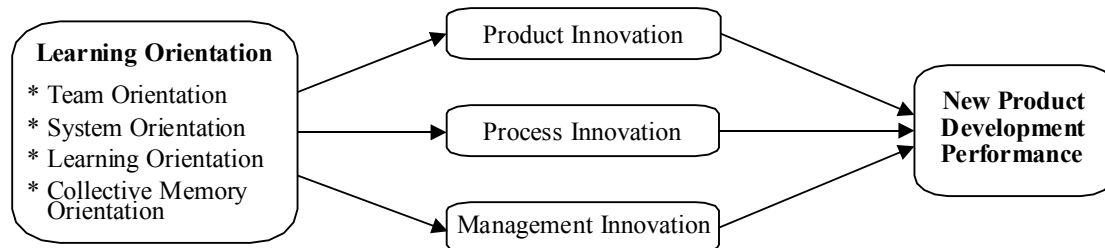


Figure 01. General Research Model

3. Research Method

3.1. Sampling and Data Collection

The aim of this study is to investigate the intermediary role of innovation types and the effects of learning orientation on new product development performance. The universe of this study is in manufacturing industries companies while the sample of the study is companies with high performance in manufacturing industries selected by simple random sampling method from companies. The main reason for the development of the survey for manufacturing industries companies is that these companies exhibit an innovative approach and have the ability to innovate in an increasingly competitive environment by closely following technological changes. In addition, these companies take into account the needs of the customer and the market, support new knowledge with creativity, are in constant struggle to gain market share focusing on the market, know what they must do and constantly demonstrate new product development performance.

The managers of 141 high-performance companies working in the manufacturing industry in Turkey in between 1850 and 1917 were interviewed face-to-face and reached via e-mail and were requested to answer the research questionnaire to obtain the data of this study. The questionnaires of the survey were applied to 512 middle and upper-level managers. Since it was foreseen that difficulties such as time and cost may be encountered in delivering surveys to all the participants in the universe of the study, simple random sampling method based on probability was preferred as the sampling technique. As the data collection method, the field survey of the study was carried out at cross-sectional time range and by quantitative methods. Relational screening method, one of the screening models, was chosen as the research model. In our study, data were obtained through questionnaires, one of the primary data collection methods. The participants were also contacted face to face and through e-mails.

The demographic variables on the questionnaire were formed with nominal and sequential scales. 5 point Likert scale was used in the study to find out at what rate participants agreed with the questions in the questionnaire. The participants were asked to choose between 1 (strongly disagree) and 5 (strongly agree). The questionnaire to be used in the collection of data consists of four sections: The first section is about demographic information, the second section is about learning orientation, the third section is about innovation types, and the fourth section is about determining the perceptions for the new product development performance.

3.2. The Scales Used in the Research

The Learning Orientation Scale, used by Hult et al. (2003) includes sub-dimensions of team orientation, system orientation, learning orientation and collective memory orientation. The Cronbach Alpha value of this scale, which included 19 items, was found to be 0.87.

New Product Development Performance Scale developed by Awwad and Akroush (2016) includes questions related to the level of acceptance of new products by customers, the level of technical performance of the new product and the level of profitability of the new product. The number of items in this scale is 7 and the Cronbach Alpha value of the scale is 0.61.

Innovation Types Scale, used in the study conducted by Vaccaro et al. (2012) includes sub-dimensions of Product/Service innovation, management innovation and process innovation. The Cronbach Alpha value of this scale, which included 18 items, was found to be 0.76.

3.3. Analysis

After the questionnaire survey, questionnaire data were analysed by using SPSS package program and analysis of demographic information, factor analysis, reliability analysis, correlation and regression analyses were performed.

4. Findings

4.1. Company Information

According to the obtained survey data, the questionnaires were applied to 14 firms established between 1850 and 1949, 104 firms established between 1950 and 1999 and 23 firms established in 2,000 and later years. According to the obtained data, a total of 141 companies, 55 companies that employed between 40 and 500 people, 51 companies that employ between 501 and 5,000 people, 35 companies that employ between 5001 and 150,000 people were included in the survey. The classification according to the activity of the companies was made as the producers of food, clothing, furniture, office (electrical machinery devices), wood (paper-printing), metal goods, chemical-petroleum, medicine-medical, automotive, metal and stone-based product manufacturers and others. When it was evaluated in terms of limiting the scope of activities of companies, 15 companies were regional, 25 were national and 101 were internationally active.

4.2. Factor Analysis

In this study, Kaiser-Meyer Olkin and Bartlett tests were applied to test the suitability of the dataset to factor analysis of the independent variable learning-centeredness questions. KMO value as the result of analysis made was 93.5% ($0.935 > 0.50$) and has been above the expected level. In the Bartlett test, significance at the 0.000 significance level was analysed and the significant outcome was indicative of the presence of a high correlation between the variables.

In Table 1, the Kaiser-Meyer-Orkin and Bartlett tests were applied to test the suitability of the dataset to factor analysis on independent variables of questions about learning centeredness (team, system, learning and shared memory orientation). As a result of the analysis made, the value of KMO was found to be 93.5%

(0.935 > 0.50). The Bartlett test was achieved at the significance level of 0.000, which is significant, and the significant outcome is indicative of the presence of a high correlation between the variables. Once the data set is found to be suitable for analysis, the number of factors should be determined. According to the results of the questions of factor analysis on the independent variable of learning-centeredness, four factors above the value of 0.50 < have been identified. According to this conclusion, the first factor accounts for 64.261% of the total variance; the sum of first two factors accounts for 70,656% of the total variance; the sum of the first three factors accounts for 75.916% of the total variance and the sum of four factors accounts for %80.425 of the total variance.

Table 01. Factor Load of Independent Variables: Learning Orientation

	Component			
	1	2	3	4
It is possible to see a strong team spirit at every stage of our enterprise.			.772	
Inter-unit teamwork is a widely used method in our enterprise.			.815	
There is unity of purpose among employees in our enterprise.			.664	
We take care to explain and share our vision with each other in the enterprise as a whole.			.508	
Every unit knows how much it adds to our enterprise.		.729		
All activities within the enterprise are clearly and obviously defined.		.784		
It is clear who is doing a business and is known by everyone		.842		
The place and importance of all activities within the enterprise are known by everyone.		.772		
The learning ability in our business is seen as the basic key of progress.	.579			
Learning as a means of development is among the core values of the business.	.728			
If we give up the importance we give to learning, our future would be endangered.	.768			
The resources allocated to training in our enterprise are seen as investments, not as expenses.	.744			
The importance attributed to learning in our enterprise is increasing day by day.	.755			
We have a special mechanism that enables everyone to share the experience gained in our enterprise.				.687
We are not allowed to forget what we have learned from previous experiences by often having discussions on them.				.787
The prominence of the sharing and accumulation of knowledge in our company is constantly emphasized.				.667

Extraction Method: Principal Component Analysis.

In Table 2, the Kaiser-Meyer-Olkin and Bartlett tests were applied to test the suitability of dependent variable innovation types (product innovation, management innovation, and process innovation) and factor analysis of the data set on questions about the market performance of new products. As a result of the analysis made, the value of KMO was found as 89.9% (0.89.9 > 0.50). The Bartlett test was analyzed to be meaningful at the significance level of 0.000 as shown in table-3, and the significant outcome is an indication of the presence of a high correlation between the variables. Based on the factor analysis of the dependent variable innovation types and the questions regarding the market performance of the new products, four factors above the value of 0.50 were obtained. According to this result, the first factor

accounts for 50,461% of the total variance, the first two factors account for 64,037% of the total variance, the first three factors account for 72,618% of the total variance and the total variance of the four factors is 76,987%.

In Table 3, Cronbach's alpha values of the reliability analysis of each sub-dimension of the data set are obtained. The results with a mean factor load of more than 0.7 for a factor are the demanded condition and this is obtained as a result of the analyses made. The results obtained indicate the convergent validity of the scales (Bagozzi et al., 1991). Sub-dimensions (product, management, and process innovations) of variable innovation types and Cronbach's Alpha values for new product market performance were calculated by sub-dimensions of independent variable learning orientation (team, system, learning and shared memory orientation). Cronbach's Alpha values calculated for each sub-dimension of dependent and independent variables were analyzed above 70% and it was determined that the scale was a reliable scale according to these rates. Correlations values were calculated to determine the relationship between variables after determining that the scales used were reliable. According to Pearson's correlation analysis, p (probability) value of all variables is determined as 000 [$p < .001$] and correlation values of all variables are between $r = 0.292$ and $r = 0.795$ value range. It was found that the highest correlations were between team orientation and learning orientation [$r = 0.795$] and shared memory orientation and team orientation [$r = 0.755$] and it was determined that there was a positive and significant correlation between these variables. The lowest positive correlation was found to be between management innovation and learning orientation [$r = 0.333$] and management innovation and product innovation [$r = 0.755$] and there was a significant and positive correlation between these variables. After the existence of the relationship between variables was detected, regression analysis was conducted to test hypotheses and to determine the direction of the relationships.

Table 02. Factor Load of Dependent Variables: Innovation Types and New Product Market Performance

	Component			
	1	2	3	4
The quality of our products is high.	.794			
Compared to the sector, our guarantee system in our products has a high success.	.816			
The technology we use in our products is high.	.826			
We have the ability to develop new products.	.793			
We have the ability to change and develop your existing products.	.793			
We have the ability to adapt new ideas and methods to the production / manufacturing process.	.805			
The level of modernity and development of the machinery and equipment we use in the production process is high.	.830			
Our managers' knowledge of technical aspects of our activities is high.	.716			
Our rules and procedures change constantly.			.828	
We regularly make changes to the duties and functions of our employees.			.865	
The new management system is applied regularly in our business.			.803	
Our wage and salary policies have changed in the last 3 years.			.686	
In our enterprise, the communication structure between the organization and the departments is regularly restructured.			.736	
We regularly change certain items in our organization.			.791	

Process innovations have been made in our business for the last 3 years.				.764
Initiatives carried out in our business are introduced by the managers.				.677
Process innovations in our business are developed by managers and employees.				.754
All of our employees are involved in process innovations in our business.				.671
In general, our customers are more satisfied with our new products.		.766		
New products better fit our target market / customers.		.802		
The loyalty of our customers is increasing.		.853		
We are attracting more new customers with our new products.		.845		
Our new products are more successful on the market than before.		.800		
Our customers are encouraging other people to take our new products		.850		
The number of new products we offer is increasing.		.822		

Extraction Method: Principal Component Analysis.

Conversion Method: Varimax with Kaiser Normalization.^a

Table 03. Means, Standard Deviations and Correlation Coefficients of the Study Variables

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
Team Orientation	3,8503	,72407	(,934)							
System Orientation	3,9037	,67114	,743**	(,926)						
Learning Orientation	4,0447	,66873	,795**	,725**	(,916)					
Collective Memory Orientation	3,6947	,75758	,755**	,691**	,725**	(,835)				
Product Innovation	4,1697	,67196	,668**	,708**	,716**	,638**	(,952)			
Management Innovation	3,2127	,75927	,364**	,362**	,333**	,442**	,292**	(,904)		
Process Innovation	3,7854	,69765	,719**	,726**	,732**	,749**	,672**	,537**	(,918)	
New Product Performance	3,9959	,65798	,417**	,478**	,537**	,548**	,637**	,411**	,595**	(,960)

Note.**. Correlation is significant at the 0.01 level (2-tailed). Cronbach's alpha are in parentheses on the diagonal of the correlation matrix.

In Table 4, examining the 1A model it can be seen that the system orientation (.0001 .001) and learning orientation (.001) among the four dimensions of learning orientation have significant influences on product innovation in the regression analysis. The existence of a positive (0.338) relationship between product innovation and system orientation is revealed, and from the value of t, this relationship appears to be statistically significant [t = 3.824, P = 0.000]. The existence of a positive (0.343) correlation between product innovation and learning orientation is revealed and it is seen that this relationship is statistically significant with t value [t = 3,494, P = 0,001]. However, team orientation (p> .05) and shared memory orientation do not appear to have a significant influence on product innovation. When the 1B model is examined, it is seen that in the regression analysis made, among the four dimensions of learning orientation, the shared memory orientation (.004 <.01) has a significant effect on the management innovation. There is a positive (0.370) correlation between management innovation and shared memory orientation, which is statistically significant with t value [t = 2.938, P = 0.004]. However, it seems that team orientation (0.786> .05), system orientation (0.374> .05) and learning orientation (0.733> .05) did not have a significant influence on management innovation. When the 1C model is examined, it is seen that in the third regression analysis, among four dimensions of learning orientation; system orientation (.001 <.01), learning

orientation (.001 < .05) and shared memory orientation (.0001 .001) have significant effects on process innovation. There is a positive (0.263) correlation between process innovation and system orientation and from the value of t, it appears to be statistically significant [t = 3.303, P = 0.001]. The existence of a positive (0.227) correlation between process innovation and learning orientation is revealed, and from the value of t, it appears to be statistically significant [t = 2.568, P = 0.011]. (T = 4.157, P = 0.000). However, team orientation (0.341 > .05) appears to have no significant influence on process innovation. Thus, the results of the regression analysis made assume the effect of the learning orientation on the types of innovation (H1 hypothesis).

Table 04. Regression Coefficients of the Effect of Learning Centeredness on types of innovation

Model		Standardized Coefficients	t	Sig.
		Beta		
1A	(Constant)		3,695	,000
	Team Orientation	,064	,611	,542
	System Orientation	,338	3,824	,000
	Learning Orientation	,343	3,494	,001
	Collective Memory Orientation	,108	1,201	,232
Model		Standardized Coefficients	t	Sig.
		Beta		
1B	(Constant)		3,744	,000
	Team Orientation	,040	,272	,786
	System Orientation	,111	,893	,374
	Learning Orientation	-,047	-,342	,733
	Collective Memory Orientation	,370	2,938	,004
Model		Standardized Coefficients	t	Sig.
		Beta		
1C	(Constant)		1,300	,196
	Team Orientation	,090	,956	,341
	System Orientation	,263	3,303	,001
	Learning Orientation	,227	2,568	,011
	Collective Memory Orientation	,335	4,157	,000

Model 1A. Dependent Variable: Product Innovation; Adjusted R²= ,584; F= 50,117

Model 1B. Dependent Variable: Management Innovation; Adjusted R²= ,179; F= 8,638

Model 1C. Dependent Variable: Process Innovation; Adjusted R²= ,663; F= 69,756

Table 05. Regression Coefficients of the Effects of Learning Orientation on New Product Market Performance

Model		Standardized Coefficients	t	Sig.
		Beta		
2A	(Constant)		5,803	,000
	Team Orientation	-,286	-2,196	,030
	System Orientation	,151	1,363	,175
	Learning Orientation	,372	3,028	,003
	Collective Memory Orientation	,391	3,484	,001

Model 2A. Dependent Variable: New Product Market Performance; Adjusted R²= ,348; F= 19,682

In Table 5, in the regression analysis of 2A model, among the four dimensions of learning centeredness; team orientation (.030 <.05), learning orientation (.003 <.01) and shared memory orientation (.001) have significant influences on new product market performance. There is a negative (-0.286) correlation between new product market performance and team orientation [t = -2,196, P = 0.030]. The existence of a positive (0.372) correlation between the new product market performance and the learning orientation is revealed and it appears to be statistically significant from the value of t [t = 3.028, P = 0.003]. The existence of a positive (0.391) correlation between the new product market performance and the shared memory orientation appears to be statistically significant from the value of t [t = 3.484, P = 0.001]. As a result of the analyses carried out, the H2 hypothesis which states that the learning orientation affects the new product development performance positively is supported.

Table 06. Regression Coefficients of the Effects of Learning Orientation on Product Performance by Influence of Innovation Types

Independent Variables		Standardized Coefficients	t	Sig.
		Beta		
3A	(Constant)		4,470	,000
	Team Orientation	-,319	-2,663	,009
	System Orientation	-,021	-,200	,841
	Learning Orientation	,197	1,678	,096
	Collective Memory Orientation	,336	3,249	,001
Intermediary Variable	Product Innovation	,509	5,176	,000
Model		Standardized Coefficients	t	Sig.
		Beta		
3B	(Constant)		4,814	,000
	Team Orientation	-,294	-2,312	,022
	System Orientation	,128	1,181	,240
	Learning Orientation	,381	3,180	,002
	Collective Memory Orientation	,315	2,785	,006
Intermediary Variable	Management Innovation	,206	2,759	,007
Model		Standardized Coefficients	t	Sig.
		Beta		
3C	(Constant)		5,609	,000
	Team Orientation	-,321	-2,544	,012
	System Orientation	,049	,445	,657
	Learning Orientation	,284	2,345	,021
	Collective Memory Orientation	,261	2,276	,024
Intermediary Variable	Process Innovation	,386	3,356	,001

Model 3A. Dependent Variable: New Product Market Performance; Adjusted R²= ,452; F= 24,088

Model 3B. Dependent Variable: New Product Market Performance; Adjusted R²= ,378; F= 18,034

Model 3C. Dependent Variable: New Product Market Performance; Adjusted R²= ,394; F= 19,186

In Table 6, regression analysis was conducted to test the mediating role of innovation types on the influence of learning orientation on new product development performance and to determine the direction

of the correlation. In this analysis, which was conducted to test the mediating effect of innovation types on the effects of learning centeredness on the development of new product market performance, new product market performance was taken as dependent variable and learning centeredness and its dimensions, which are the independent variables, were analysed together with innovation types.

In Table 6, when the 3A model is examined in Table 6, product innovation, which is among the intermediating variable innovation types, reduced the beta value of the system orientation ($\beta = -0.21$); and a beta value of the learning orientation ($\beta = 0.179$) among the dimensions of the learning centeredness. Sigma values of system orientation was ($p = 0.841 > .05$) and learning orientation was ($p = 0.096 > .05$). The intermediating dimension has not been taken into consideration in previous analyses because the impact on the new product market performance is insignificant. In shared memory orientation dimension, values changed as ($\beta = 0.336, P = 0.001$) and became insignificant with the addition of product innovation to the analysis. As a result of this data, it has been found that the product innovation among the innovation types is partly mediating the effect of learning orientation on new product market performance ($R^2 = .452$).

In Table 6, when the 3B model is examined, market performance of new product has been taken as a dependent variable in this analysis, and the dimensions of the learning centeredness, which is the independent variable, is analysed together with the intermediate variable management innovation among the innovation types. Since the intermediate variable management innovation reduces the beta value of the shared memory orientation ($\beta = -0.315$) among the dimensions of learning centeredness and makes it meaningless ($P = 0.006 < .05$) and as a result of the fact that the dimensions of learning orientation, which are the dimensions of team orientation, system orientation, and learning orientation, were not taken into consideration in the previous analyses due to the fact that their effect on new product market performance was meaningless; then, the influence of learning orientation on new product market performance was not found to be mediated by management innovation.

In Table 6, when the 3C model was examined, new product market performance was taken as a dependent variable, and the dimensions of learning centeredness as an independent variable were analysed together with process innovation from the variable innovation types. Process innovation among the intermediating innovation types reduced and the beta value of the system orientation among the dimensions of learning orientation ($\beta = -0.049$) ($P = 0.657 > .05$) and made it insignificant; the effect of the system orientation within the dimension of learning centeredness on the new product market performance was found to be mediated by partial intermediating effect of the process innovation. The mediator variable process innovation reduced the beta values of the learning orientation ($\beta = .284; P = 0.021 < .05$) and the shared memory orientation ($\beta = .261; P = 0.024 < .05$) and the team orientation ($\beta = -.321; P = .261; P = 0.024 < .05$). But because of the inability to make P values meaningless, there was no mediating effect of process innovation on the impact of team, learning and shared memory orientation within the dimensions of learning orientation on new product market performance.

In this study, the role of learning centeredness on new product market development performance is mediated by partially product innovation and process innovation among the innovation types. According to the results of the study, the effect of learning centeredness on new product market performance is not mediated by the mediating variable of management innovation.

5. Conclusion and Discussions

The findings of the study were obtained from a series of analyses by using these questionnaires on small, medium and large scale enterprises operating in the manufacturing sector in Turkey and looking at the relationship between learning orientation, innovation types and new product market performance. Striking results were obtained from the data. Obtained results include the following items; the influence of learning centeredness on new product market performance is mediated by partially by product and process innovation, among types of innovation. As a result of the findings, the effect of system orientation, which is the sub-dimension of learning centeredness, on the effect of new product market development performance is mediated by both product innovation and process innovation partially.

As a result of the analyses made, the H1 hypothesis is supported (learning orientation is influential on innovation types), and the hypothesis H2 (learning orientation affects new product development performance positively) is supported at a high rate and hypothesis H3 (learning orientation is mediated by innovation types under the influence of new product development performance) is supported and it is determined that innovation types have a partial intermediating effect.

The findings are consistent with the literature on innovation, learning orientation and new product performance. Although there is a large number of studies that examine firm performance and learning orientation relationship and the relationship between innovation, market orientation and firm performance (Baker & Sinkula, 1999a; Hurley & Hult, 1998; Gatignon & Xuereb, 1997; Atuahene-Gima et al., 2005; Langerak et al., 2004; Wang, 2008); The intermediating effect of innovation types on the relationship between the learning orientation and the new product market performance is being investigated for the first time and this makes the study different from other studies. This survey has been applied to companies operating in manufacturing industry in Turkey. Ongoing studies can be extended by obtaining more questionnaires and working with different orientations. Future study can be performed to determine the competitiveness of the new product to gain market advantage and the impact of the new product performance and the components of market orientation on firm performance.

References

- Acosta, B., Acosta, M., & Espinoza, B. (2016). Understanding innovation based on company optics: interpretation mistakes on the types of innovation developed. *RAI Revista De Administração E Inovação*, 13(4), 295-304.
- Adner, R., & Levinthal, D. (2001). Demand heterogeneity and technology evolution: implications for product and process innovation. *Management Science*, 47(5), 611-628.
- Aragón-Correa, J. A., García-Morales, V. J., & Córdón-Pozo, E. (2007). Leadership and organizational learning's role on innovation and performance: Lessons from Spain. *Industrial marketing management*, 36(3), 349-359.
- Argyris, C. (1994). Good communication that blocks learning. *Harvard Business Review*, 72, 77-86.
- Argyris, C., & Schon, D. A. (1978). *Organizational learning: A theory of Action perspective*, reading, MA. Addison-Wesley.
- Atuahene-Gima, K., Slater, S. F., & Olson, E. M. (2005). The contingent value of responsive and proactive market orientations for new product program performance. *Journal of Product Innovation Management*, 22(6), 464-482.
- Avcı, U. (2012). Öğrenme yönelimliliğın yenilik performansı üzerine etkisi: Muğla mermer sektöründe bir inceleme [The Effect of Learning Orientation on Firm Innovativeness: An Investigation in the Marble Industry in Muğla]. *Uluslararası Yönetim İktisat ve İşletme Dergisi*, 5(10), 121-138.
- Awwad, A., & Akroush, D. M. N. (2016). New product development performance success measures: an exploratory research. *EuroMed Journal of Business*, 11(1), 2-29.

- Bagozzi, R. S., Youjae, Y., & Lynn, W. P. (1991). Assessing construct validity in organizational research. *Administrative Science Quarterly*, 36(3), 421-458. <https://doi.org/10.2307/2393203>
- Baker, W. E., & Sinkula, J. M. (1999a). The synergistic effect of market orientation and learning orientation on organizational performance. *Journal of the Academy of Marketing Science*, 27(4), 411-427.
- Baker, W. E., & Sinkula, J. M. (1999b). Learning orientation, market orientation, and innovation: integrating and extending models of organizational performance. *Journal of Market-Focused Management*, 4(4), 295-308.
- Biçkes, D. M., & Özdevecioğlu, M. (2016). İşletmelerde örgütsel öğrenmenin finansal performans üzerindeki etkisi ve inovasyonun aracılık rolü [The Effect of Organizational Learning of Financial Performance in Firms: The Mediating Role of Innovation]. *Akademik Sosyal Araştırmalar Dergisi*, 4(25), 8-28.
- Birkinshaw, J., Hamel, G., & Mol, M. J. (2008). Management Innovation. *Academy of Management Review*, 33(4), 825-845.
- Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial Marketing Management*, 31(6), 515-524.
- Celuch, K. G., Kasouf, C. J., & Peruvemba, V. (2002). The effects of perceived market and learning orientation on assessed organizational capabilities. *Industrial Marketing Management*, 31(6), 545-554.
- Ciunova-Shuleska, A., Osakwe, C. N., & Palamidovska-Sterjadovska, N. (2016). Complementary impact of capabilities and brand orientation on SMBs performance. *Journal of Business Economics and Management*, 17(6), 1270-1285.
- Cohen, M. D., & Sproull, L. S. (1996). *Organizational learning*. Thousand oaks, CA: Sage publications.
- Crossan, M. M., Lane, H. W., & White, R. E. (1999). An organizational learning framework: From intuition to institution. *Academy of Management Review*, 24(3), 522-537.
- Day, G. S. (1994). The capabilities of market-driven organizations. *The Journal of Marketing*, 58(4), 37-52.
- Dishman, P., & Pearson, T. (2003). Assessing intelligence as learning within an industrial marketing group: A pilot study. *Industrial Marketing Management*, 32(7), 615-620.
- Ettlie, J. E., & Reza, E. M. (1992). Organizational integration and process innovation. *Academy of Management Journal*, 35(4), 795-827.
- Fiol, C. M., & Lyles, M. A. (1985). Organizational learning. *Academy of Management Review*, 10(4), 803-813.
- Frambach, R. T., Prabhu, J., & Verhallen, T. M. (2003). The influence of business strategy on new product activity: The role of market orientation. *International journal of research in marketing*, 20(4), 377-397.
- Gabler, C. B., Richey, R. G., & Rapp, A. (2015). Developing an eco-capability through environmental orientation and organizational innovativeness. *Industrial Marketing Management*, 45, 151-161.
- García-Villaverde, P. M., Ruiz-Ortega, M. J., & Canales, J. I. (2013). Entrepreneurial orientation and the threat of imitation: the influence of upstream and downstream capabilities. *European Management Journal*, 31(3), 263-277.
- Garvin, D. A. (1993). Building a learning organization. *Harvard Business Review*, 71 (4), 78-91.
- Garvin, D. A. (1999). *Öğrenen Bir Örgüt Yaratmak, içinde: Bilgi Yönetimi*. Mess Yayınları, İstanbul
- Gatignon, H., & Xuereb, J. M. (1997). Strategic orientation of the firm and new product performance. *Journal of Marketing Research*, 34(1), 77-90.
- Hacıoğlu, G. (2012). Pazarlama Performans Ölçütleri: Bir Literatür Taraması [Marketing Metrics: A Literature Review]. *Yönetim ve Ekonomi*, 19(1), 59-75.
- Harmancıoğlu, N. (2012). Inovasyon süreci: yeni ürün geliştirmede inovasyon literatürünün teorik meta analizi [Innovation Process: A Meta-Analysis of Research on Innovation in New Product Development]. *Girişimcilik ve İnovasyon Yönetimi Dergisi*, 1(1), 1-29.
- Hollen, R., Van Den Bosch, F. A., & Volberda, H. W. (2013). The role of management innovation in enabling technological process innovation: an inter-organizational perspective. *Eur. Manage. Rev.*, 10(1), 35-50.
- Huber, G. P. (1991). Organizational learning: the contributing processes and the literatures. *Organization Science*, 2, 88-115.
- Hult, G. T. M., Snow, C. C., & Kandemir, D. (2003). The role of entrepreneurship in building cultural competitiveness in different organizational types. *Journal of Management*, 29(3), 401-426.
- Hurley, R. F., & Hult, G. T. M. (1998). Innovation, market orientation, and organizational learning: an integration and empirical examination. *The Journal of Marketing*, 62(3), 42-54.

- Jaakkola, M., Frösén, J., Tikkanen, H., Aspara, J., Vassinen, A., & Parvinen, P. (2016). Is more capability always beneficial for firm performance? Market orientation, core business process capabilities and business environment. *Journal of Marketing Management*, 32(13-14), 1359-1385.
- Keskin, H., Zehir, S., & Ayar, H. (2016). Pazar yönelimi ve firma performansı ilişkisi: farklılaştırma stratejisinin aracı rolü [Relationship between market orientation and firm performance: The Mediating Role of Differentiation Strategy]. *Dogus University Journal*, 17(1), 111-127.
- Kılınç, İ., Öztürk, E., & Mesci, M. (2013). Yenilik faaliyetlerinin işletme performansına etkisi: yat limanları üzerine bir değerlendirme.
- Langerak, F., Hultink, E. J., & Robben, H. S. (2004). The impact of market orientation, product advantage, and launch proficiency on new product performance and organizational performance. *Journal of Product Innovation Management*, 21(2), 79-94.
- Lee, T. S., & Tsai, H. J. (2005). The effects of business operation mode on market orientation, learning orientation and innovativeness. *Industrial Management and Data Systems*, 105(3), 325-348.
- Lisboa, A., Skarmeas, D., & Lages, C. (2011). Entrepreneurial orientation, exploitative and explorative capabilities, and performance outcomes in export markets: a resource-based approach. *Industrial Marketing Management*, 40(8), 1274-1284.
- Liu, S., Dubinsky, A. J., & Shi, Y. (2000). Change to survive: China's new state-owned enterprise, *An International Journal of Business, and Social Policy*, 12(2), 87-97.
- Mcgill, M. E., & Slocum, J. W. (1993). Unlearning the organization. *Organizational Dynamics*, 22(2), 67-79.
- Morgan, N. A., Vorhies, D. W., & Mason, C. H. (2009). Market orientation, marketing capabilities, and firm performance. *Strategic Management Journal*, 30(8), 909-920.
- OCDE (2005). *Manual De Oslo: Guía Para La Recogida E Interpretación De Datos Sobre Innovación* (3rd Ed.). Madrid: Grupo Tragsa.
- Slater, S., & Narver, J. (1995). Market orientation and the learning organization. *Journal of Marketing*, 59, 63-74.
- Tavassoli, S., & Karlsson, C. (2015). Persistence of various types of innovation analyzed and explained. *Research Policy*, 44(10), 1887-1901.
- Vaccaro, I. G., Jansen, J. J., Van Den Bosch, F. A., & Volberda, H. W. (2012). Management innovation and leadership: The moderating role of organizational size. *Journal of Management Studies*, 49(1), 28-51.
- Vokaca, M., & Rezgüi, Y. (2000). Organizational learning and innovation in the construction industry. *The learning organization*, 7(4), 174-184.
- Volberda, H. W., Van Den Bosch, F. A., & Heij, C. V. (2013). Management innovation: management as fertile ground for innovation. *European Management Review*, 10(1), 1-15.
- Wang, C. L. (2008). Entrepreneurial orientation, learning orientation, and firm performance. *Entrepreneurship theory and practice*, 32(4), 635-657.
- Yavuz, Ç. (2010). *İşletmelerde inovasyon (yenilikçilik) stratejileri ve örgütsel performans ilişkisinin Çanakkale Seramik AŞ işletmesi örneğinde boylam analizi yöntemiyle incelenmesine dönük bir araştırma* (Master's thesis). Çanakkale Onsekiz Mart Üniversitesi Sosyal Bilimler Enstitüsü.