



An Investigation of Mediator Roles and the Effects of Learning Organization Approach and Intellectual Capital on Organizational Ambidexterity and Organizations' Entrepreneurial Orientation: A Comparison of the Service and Production Sectors

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Abstract

In this study, it is aimed to investigate mediator roles and the effect of a learning organization approach and intellectual capital on organizational ambidexterity and entrepreneurial orientation for the service and production sectors. Snowball and judgemental sampling was used and an online survey form was created as a data collection tool. The data collection process took place between April 5 2019 and June 7 2019. The sample included 378 service and 324 production sector participants. SPSS 21, AMOS 20 and PROCESS 3.1 programs were used for data analysis.

In the results of the study, it is concluded that intellectual capital has a partial mediator role in the impact of a learning organization on organizational ambidexterity and the impact value is higher in the production sector. Organizational ambidexterity and intellectual capital have a partial mediator role in the impact of a learning organization on entrepreneurial orientation and the impact values are also higher in the production sector. Finally organizational ambidexterity has a partial mediator role in the impact of intellectual capital on entrepreneurial orientation and the impact values are higher in the service sector. When evaluated in terms of total effects, it was determined that the impact coefficients for the production sector were higher in all research models.

Keywords

Learning Organization, Intellectual Capital, Organizational Ambidexterity, Entrepreneurial Orientation, Mediator Role

Introduction

In changing market conditions, organizations have to learn and develop by sharing knowledge with their employees. In this context, understanding of organizational learning and being a learning organization that envisages the participation of all employees and increases competitive ability is needed. Organizations should prefer continuous learning in order to survive. Or-

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ganizations that prepare the necessary learning environment for their employees and increase their desire to learn continuously, will increase their chances of success in the market.

The increasing importance of knowledge in the process of change inevitably makes the individual who develops and uses information important. It will provide a competitive advantage to the organization that is open to change and constantly improves itself, attaches importance to its work and gives meaning to its work. Besides human capital, customer capital and structural capital, which are among the other dimensions of intellectual capital, are considered important in terms of transforming human capital into structural capital and using this structural capital in creating customer capital. In a changing environment, the use of intellectual capital in researching both existing resources and new opportunities in order to adapt to the conditions and gain a sustainable competitive advantage is important.

Besides the efforts to create a learning organization environment and to strengthen intellectual capital, rapidly changing environmental conditions and increasing competitive pressures force businesses to be agile, creative, flexible, versatile and make it necessary to identify different strategic alternatives. One of these alternatives is the organizational ambidexterity strategy, which is defined as the use of existing capabilities and research of new ones in order to sustain competitive power and survival, and has been frequently emphasized recently. The aim is to meet the needs of customers of today and tomorrow.

Organizations, with the aim of continuous learning, will try to balance their organizational ambidexterity levels with the aim of maintaining their current status and following innovations. Organizations that prepare the learning organization environment for their employees and share their knowledge will strengthen their intellectual capital structures, and strong intellectual capital will make it easier to reach organizational ambidexterity with the competent knowledge and learning structure of the employees and the organization.

Another factor necessary for businesses to survive in tough competitive conditions is the continuous encouragement of differentiation and innovation by creating new products and services (Khalili et al., 2013; Çömlek et al., 2012). At this point, we come across the concept of entrepreneurial orientation. Entrepreneurial orientation, which is the process that will lead businesses to become entrepreneurial enterprises, refers to businesses' being more innovative, adventurous and proactive, which is used to reflect the strategic orientation of businesses or their intensity or willingness to engage in entrepreneurial activities (Lumpkin and Dess, 1996). Businesses with a high entrepreneurial orientation will provide a competitive advantage by using this feature, if they are risk-taking, innovative, proactive, competitive, aggressive and autonomous. It is thought that companies with a high entrepreneurial orientation will also follow innovation with exploration activities, behave in an aggressive competitive structure, be predictable, and will have an autonomous organizational structure that can take risks by taking advantage of its current situation with exploitation activities.

It is a matter of curiosity for managers that enterprises which have limited resources, of how will use these resources in the process of entrepreneurial orientation, what is the effect of knowledge assets and learning levels on the process and how will exploitation and exploration strategies affect the entrepreneurial orientation. It can be said that the creation of a learning organization environment for the acquisition and use of information in organizations, the strengthening of intellectual capital with the effects of this environment and the effective use of these resources to achieve organizational ambidexterity, will represent important strategic results for enterprises with entrepreneurial orientation and are the key elements that enable the success of entrepreneurial orientation.

The aim of the study that prepared in this context is examination of

- the mediating role of intellectual capital in the effect of learning organization approach on organizational ambidexterity,
- the mediating role of organizational ambidexterity and intellectual capital in the effect of a learning organization approach on entrepreneurial orientation and
- the mediating role of organizational ambidexterity in the effect of intellectual capital on entrepreneurial orientation.

The study is important in terms of which dimensions of the learning organization should be given importance for organizations with a tendency to achieve organizational ambidexterity and entrepreneurship, to reveal in which dimensions more investment should be made for intellectual capital investments, and to be a guide for both sector managers.

Learning Organization

The concept of learning organization, which was first used by Peter Senge in his work titled “The Fifth Discipline” in 1990, was defined as organizations in which employees create the results they really want, continuously increase their capacity and competencies, adopt new thinking styles and learn how they will to learn together (Senge, 2002: 11).

Learning organizations can be defined as organizations that constantly acquire new information, have the ability to adapt and shape their activities according to this new information, and aim to achieve a competitive advantage by achieving continuous improvement with the information obtained.

It is accepted as the basis for the understanding of the learning organization that the employees of the organization create new information, share this information, and transform an organization’s knowledge and use it for solving problems. The understanding of the learning organization is formed at the end of a process that starts with the learning of the employee at

the individual level, continues with learning at the group level and ends with the learning of the organization (Atak and Atik, 2007: 64).

Learning organizations, which always prioritize learning, acquire a structure that will adapt itself to environmental change as a result of learning by enabling and facilitating the learning of all their employees and gain an advantage (Kingir and Mesci, 2007: 66). Organizations that make good use of human resources in order to survive in a changing environment and that are in contact with the environment in order to go beyond change, constantly collect information from this environment, and direct their activities by using this information, will be organizations that will guarantee their future and maintain their competitive advantages and their existence (Sayan, 2006: 15). The ability to obtain, evaluate and use knowledge is possible through organizational learning.

Organizations become learning organizations as a result of a development process. The learning organization is the last stage of this process. An organization's learning is about the organization's environment and its relationship with all organization members and its approach to these issues (Koç and Topaloğlu, 2010: 155).

Intellectual Capital

Intellectual capital refers to the sum of intellectual materials that represent all resources such as information, knowledge, experience and intellectual property used to create wealth in a business (Stewart, 1997: 20).

Intellectual capital has gained importance with the change in information technology and society, the increasing importance of knowledge and a knowledge-based economy, the effect of transition to the network society and the emergence of the need for factors such as innovation and creativity as the main reason of competition (İpçioğlu and Tunca, 2002: 22). Including innovation and creativity activities in businesses depends on the acquisition, access and production of new information. This situation is possible as a result of determining and managing intellectual capital. Intellectual capital is important because organizations are knowledge production facilities and are emerging as the most important processing center of innovation and creativity in order to produce knowledge.

The accumulation, transformation and value of knowledge are at the center of intellectual capital management (Dzinkowski, 2000: 2). The basis of the management of intellectual capital is the transformation of the knowledge of the members of the organization into knowledge that will provide value to the organization. In other words, the knowledge of the individual as human capital must be transformed into structural capital by transferring it to the organization.

It is possible to measure intellectual capital starting from human capital, structural capital and customer capital dimensions. In the model that expresses the interaction of the elements

of intellectual capital and is created on the basis of value, the dimensions of intellectual capital are discussed in three dimensions: human capital, structural capital and customer capital (Dzinkovvski, 2000: 32).

Human capital is the employees' ability and idea structure to produce solutions to meet the needs of customers. Structural capital is the capital that an enterprise has in relation to its organizational structure. Customer capital is about learning customer expectations and taking customer needs into account (Arikboğa, 2003: 130-137).

Organizational Ambidexterity

The concept of ambidexterity is used for individuals who have the ability to use both hands at the same time with equal skill. In the field of ambidexterity, organization and management Ambidexterity, which are expressed as human characteristics, was first published by Robert Duncan in 1976 in the field of organization and management (Lubatkin et al., 2006; O'Reilly and Tushman, 2008).

Tushman and O'Reilly (1996) defined organizational ambidexterity as using the metaphor of a "juggler", adapted the ability of the juggler to play with the ball using both hands at the same time, and the ability of an organization to simultaneously use its existing capabilities and to take advantage of new opportunities. (Tushman and O'Reilly, 1996).

Organizational ambidexterity arises when organizations have taken advantage of the opportunities and balanced exploitation and exploration activities while the organization continues on its way with the strategies which have previously been determined and planned (Bodwell and Chermack, 2010: 193). Organizations that can carry out these two activities in a balanced way are considered enterprises that have achieved organizational ambidexterity.

Companies that have reached the level of organizational ambidexterity will have scarce, valuable, unique and inimitable resources and capabilities that will provide a sustainable competitive advantage as a result of their effective adaptation to the environment and harmonization in line with the goals and objectives of the organization (Şimşek, 2009).

Lubatkin et al. evaluated organizational ambidexterity in two dimensions; exploratorion and exploitation ambidexterity (Lubatkin et al., 2006).

The exploration ambidexterity strategy is that businesses decide on which resources to invest in new product development (Atuahene-Gima, 2005). Unlike the exploitation strategy, this strategy focuses on the generation of new knowledge other than organizational knowledge, the development of new products, technologies and processes, and the creation of new markets and business opportunities (Benner and Tushman, 2003).

The main goal of the exploitation ambidexterity strategy is to meet existing customer needs and react to environmental conditions in this way by making use of existing technologies and knowledge. As a result, organizations will improve their competencies by focusing on their current capabilities and will improve existing advantages (Lubatkin, et al., 2006: 648).

Entrepreneurial Orientation of Organizations

An entrepreneurial orientation has been defined as a macro-level concept that measures the tendency of organizations and senior managers towards entrepreneurial activities and positions in a range that extends from very conservative organizations to more entrepreneurial organizations. While entrepreneurial organizations are described as innovative, risk-taking and proactive organizations, conservative organizations are described as less innovative, non-risk-taking, reactive and had a wait-and-see behavior (Fiş and Wasti, 2009: 131). Entrepreneurial orientation can be interpreted as a general or enduring thought, trend or direction of interest in entrepreneurial.

The existence of entrepreneurial orientation in organizations is possible if the processes and methods applied in the current situation include entrepreneurial behavior or develop strategies to obtain maximum benefit by exploring potential market opportunities. Entrepreneurial orientation requires that organization and senior management continue their efforts by displaying proactive, risk-taking and innovative behaviors in order to evaluate the opportunities in the environment. The success of the entrepreneurial orientation of organizations does not only depend on senior managers, but also requires the support of managers and employees at different levels (Stevenson and Jarillo 1990: 23-24).

The presence of entrepreneurial orientation in organizations is important in many ways due to its strong contributions and provides important outputs to organizations.

Organizations reveal skills and behaviors that will provide a competitive advantage by organizing their business processes effectively thanks to their entrepreneurial orientation studies. In the entrepreneurial orientation processes, the development of a flexible, dynamic, innovative and competitive organizational structure that can shape the environment is of great importance in terms of taking advantage of the opportunities in the environment, gaining a competitive advantage and protecting this advantage in the long term (Covin and Miles, 1999: 47).

Research Methodology

Population and Sampling

The population of the research consists of the managers of organizations operating in the service and production sectors. Since it is difficult to reach the entire population in terms of time and

cost, it has been attempted to collect data by using snowballs and judgemental sampling, which are among non-random sampling methods. Snowball sampling is the technique used to increase the data set in the form of a possible participant to share the research form with another possible participant and ask him/her to answer it. In the study, the social media platform LinkedIn has been used in order to reach the service and production sector managers. As the data collecting tool, Google Forms was used with an online survey preparation link. The use of judgemental sampling can be explained by the fact that the researcher acts according to his own judgment in determining the participants with manager titles on LinkedIn and sending them the survey link.

In the study sample, it was seen that nearly half of the service sector participants with a rate of 47.4% worked in medium-sized enterprises, 34.9% in large enterprises. Similarly, 38.3% of the participants in the production sector worked in medium-sized enterprises and 32.7% in small-sized enterprises. Study results should be evaluated in this respect because the research results will differ according to company sizes.

The Data Collection Process

The data collection process took place between April 5 2019 and June 7 2019. It was determined that the questionnaires had been sent to the managers of approximately 1000 LinkedIn users for both sectors and the number of participants were 378 for the service sector and 324 for the production sector after the specified date range and the data collection process was ended. When evaluated in terms of these rates, it can be said that the survey response rate was 37.8% for the service sector and 32.4% for the production sector.

Measurements

For the learning organization scale, a scale was used that was developed by Marsick and Watkins (2003) and translated into Turkish by Bayam (2016). The scale consists of 7 sub-dimensions of 43 items. These dimensions are continuous learning, dialogue and inquiry, team learning, embedded systems, empowerment, system connections, and strategic leadership.

For the intellectual capital scale, scales were combined and used that were arranged by Nazari, et al., (2011), Subramaniam and Youndt (2005), Chen, Zhu, and Xie (2004). The Turkish uses of the combined scale items were taken from the thesis of Kocapınar (2010) and Şahin (2012). The scale consists of a total of 24 items and 3 sub-dimensions. These dimensions are; structural capital, human capital, customer capital.

For the organizational ambidexterity scale, an ambidexterity scale was used that was developed by Lubatkin et al. (2006), whose validity and reliability was proven, adapted into Turkish by Attar (2014), and consists of 12 items and 2 sub-dimensions that measures the ambidexterity strategies of the exploration (6 items) and the exploitation (6 items)

For the entrepreneurial orientation scale, the scale used was developed and combined by Lumpkin and Dess (1996), Lumpkin and Dess (2009), and Li et al. (2009) and adapted into Turkish by Efe (2015). It consists of a total of 21 items and 5 sub-dimensions. These sub-dimensions are risk-taking, innovativeness, proactiveness, competitive aggressiveness and autonomy.

Hypothesis Development Process

In this part of the study, related studies are included in the light of the information in the literature to develop relationships between variables related to the purpose of the research and to form the hypotheses.

The Relationship Between Learning Organizations and Organizational Ambidexterity

The importance of increasing individual and organizational knowledge capacity, using and sharing knowledge widely in achieving and developing organizational ambidexterity has been confirmed in various studies (Lin and McDonough, 2011: 497; Yu et al., 2014: 102). Organizational ambidexterity promotes learning and knowledge sharing, whether they be the exploitation of existing resources, products and processes, or the exploration of new business areas and product range (Mische, 2001: 129). From this point of view, it can be said that the understanding of learning organization in organizations is effective in the formation of exploration and exploitation capacity. Accessing new knowledge and technology with the learning organization approach, increasing existing knowledge and competencies can be antecedents to the formation of organizational ambidexterity, which is also expressed as organizational learning capacity.

In the study conducted by Kitapçı and Çelik (2013), it was determined that organizational learning capacity positively affects organizational ambidexterity and firm performance, and organizational learning has a mediating effect on the effect of organizational ambidexterity on firm performance.

In a study by Gupta et al. (2006), it was suggested that organizational learning encourages the formation of organizational ambidexterity conditions.

The Relationship Between Learning Organization and Entrepreneurial Orientation

Hughes and Morgan (2007) stated that the two most important challenges faced by entrepreneurial enterprises are how to expand the knowledge base and how to manipulate this knowledge base. This result shows that organizational learning, which aims to expand the knowledge base, may be related to entrepreneurial orientation.

In a study conducted by Wang, (2008), entrepreneurial orientation was expressed as the primary determinant of the organizational learning level emerging in a business. In the study, it was suggested that organizational learning had a mediating role in the effect of entrepreneurial orientation on firm performance (Wang, 2008).

In the study conducted by Li et al., (2009), it was confirmed that the knowledge creation process, which refers to learning organizations, mediates the relationship between entrepreneurial orientation and firm performance.

In another study investigating how the organizational learning levels of SME enterprises affect the relationship between entrepreneurial orientation and innovation, it was concluded that risk-taking, innovativeness and proactiveness among entrepreneurial orientation dimensions are related to innovation and organizational learning had a mediating role in this relationship (Wang, et al., 2015).

The Relationship Between Learning Organization and Intellectual Capital

In order to develop human capital, organizations should primarily engage in activities aimed at increasing the knowledge levels of employees and create a learning organization environment to enable them to use what they know more (Dodgson, 1993: 378; Fettahlioğlu and Afşar, 2015: 288). The necessity of developing a learning organization environment for the development of human capital shows the contribution of the learning organization approach to the intellectual capital in organizations.

In the study conducted by Fettahlioğlu and Afşar (2015), it was determined that the perceptions of managers regarding the practices of businesses towards a learning organization approach have a positive effect on the intellectual.

Panagopoulos (2016) considered the factors affecting organizational ambidexterity as organizational, structural and learning factors (Panagopoulos, 2016). When learning organizations are evaluated in terms of learning factors and intellectual capital in terms of structural factors, it can be said that a learning organization approach and intellectual capital are both interrelated concepts in achieving organizational ambidexterity and are among the factors affecting organizational ambidexterity.

The Relationship Between Intellectual Capital and Entrepreneurial Orientation

Employees who are well equipped in terms of knowledge, skills and competencies in the organization will contribute to the entrepreneurial orientation of the organization. In addition to human capital, the organization's intellectual property rights, such as patents, trademarks, contracts and R&D activities, also contribute to the entrepreneurial orientation of the organization. When evaluated in terms of customer (relational capital) capital, which is another di-

mension of intellectual capital, the organization is expected to be more innovative, take risks, act proactively, act aggressively in competition and be an autonomous organization based on the strong capital it has established with its customers.

In a study examining the relationship of social capital, including the relational capital dimension of intellectual capital, with entrepreneurial orientation, social capital has been defined as the current and potential resources that an organization has through its network of relations, and it has been suggested that social capital may have an effect on the entrepreneurial orientation of an organization (Nahapiet and Ghoshal, 1998). Stam and Elfring (2008) also emphasized the importance of examining which conditions of social capital improve or limit entrepreneurial orientation and how they encourage (Stam and Elfring, 2008).

The Relationship Between Intellectual Capital and Organizational Ambidexterity

The development of ambidexterity in organizations is highly dependent on employees' knowledge, skills and abilities (human capital) as well as social capital (Wasko and Faraj, 2005). In addition, organizational structures that provide information flow between different organizational levels are important for organizational ambidexterity. When human capital is high in organizations, employees are creative, talented and gain expertise in their own roles and functions (Subramaniam and Youndt, 2005). Similarly, superior structural capital contributes to the display of efficient exploration and exploitation ambidexterity activities with systems such as effective internal processes within the organization.

It is stated in some studies that human capital, which is the sub-dimension of intellectual capital and expresses the knowledge, skills and abilities of employees in organizations has an effect on organizational ambidexterity (Na, et al., 2016). In the studies conducted, it has been stated that intellectual capital is used and required in the process of using information through exploration and exploitation activities in order to achieve organizational ambidexterity (Kang, Snell, and Swart, 2012; Turner, Swart, and Maylor, 2013).

The Relationship Between Organizational Ambidexterity and Entrepreneurial Orientation

In a study conducted by Bierly et al., (2009), it was confirmed that entrepreneurial orientation has positive relationships with both exploration and exploitation organizational ambidexterity, the effect of entrepreneurial orientation on exploration ambidexterity is stronger, and if both dimensions of organizational ambidexterity are used together, entrepreneurial orientation will be more. Cai, Zhu, and Liu (2011) stated that in terms of exploration and exploitation ambidexterity, obtaining and using existing knowledge and new knowledge will contribute to entrepreneurial orientation.

In a study conducted by Hughes and Morgan (2007), it was accepted that entrepreneurial orientation has a relationship with exploration ambidexterity and when entrepreneurial orientation is combined with exploration ambidexterity, it will lead to an increase in firm performance.

Centobelli et al., (2019) determined that internal organizational and external environmental factors have an effect on university exploration and exploitation ambidexterity activities, the effect of exploration and exploitation ambidexterity activities on university ambidexterity level, and finally, university ambidexterity level has an effect on entrepreneurial university performance, and all hypotheses are accepted.

Research Hypotheses

In the light of this information and studies in the literature, the following research hypotheses have been formed.

► H₁: Intellectual capital has a mediating role in the effect of learning organization approach on organizational ambidexterity.

► H₂: Organizational ambidexterity has a mediating role in the effect of learning organization approach on entrepreneurial orientation.

► H₃: Intellectual capital has a mediating role in the effect of learning organization approach on entrepreneurial orientation.

► H₄: Organizational ambidexterity has a mediating role in the effect of intellectual capital on entrepreneurial orientation.

In this study, the main role of organizational ambidexterity is to investigate the effect of a learning organization approach and intellectual capital on the formation of organizational ambidexterity, and whether organizational ambidexterity structure has an effect on entrepreneurial orientation.

It is thought that the learning organization approach affects the intellectual capital, organizational ambidexterity and entrepreneurial orientation of the organizations, while the intellectual capital will contribute to the development of entrepreneurial orientation with its effect on organizational ambidexterity and entrepreneurial orientation.

Research Model

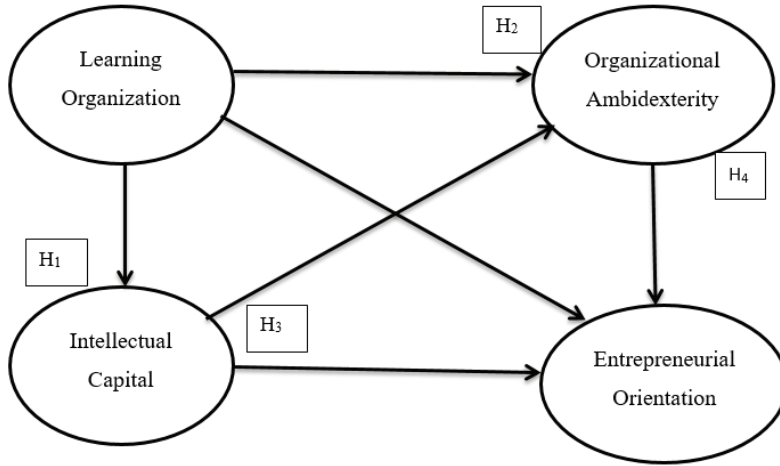


Figure 1. Research Model

Data Analysis

SPSS (Statistical Package for Social Sciences) 21, AMOS (Analysis of Moment Structures) 21 and PROCESS (Macro for SPSS) 3.1 programs were used to analyze the data. In the analysis of the data obtained, confirmatory factor analysis to verify the one-dimensional structures of the scales, the reliability test to determine the reliability of the scale, the construct validity to determine the validity, the combination validity and discriminant validity, and the regression-based Process model outputs to test the research hypotheses.

Investigation of Extreme Values

Extreme values are values whose existence should be investigated and removed from the data set due to its role in statistical tests (Hair et al., 2006). Box plot and stem-leaf charts created in SPSS are used to examine the extreme values (Mooi and Sarstedt, 2011). In the results of the analysis, no extreme value was found in the service and the production sector.

Non-Responding Bias Test Results

Mithcell and Carson (1989) stated that in an environmental comfort situation, participants who filled out the questionnaire would be more likely to respond to the questionnaire than those who did not, which would lead to sample selection bias and upward deviations in data analysis (Mitchell and Carson, 1989: 277). Due to the difficulty of reaching those who do not participate, the solution to this difficult process is to examine the difference of participant data that provides early and late submissions based on demographic features, institution

information or the scale data used. An independent sample t test is used to examine the difference (Tran, 2013: 101). In the study, an independent sample t test was conducted to eliminate sample selection bias and non-response bias. Due to the fact that all p statistics' significance values for both the service and the production sector are higher than 0.05 in the test results where the participants of the study are classified as early and late participation, learning organization ($p = 0.213$, $p = 0.103$) and intellectual capital ($p = 0.209$, $p = 0.473$), organizational ambidexterity ($p = 0.590$, $p = 0.775$) and entrepreneurial orientation ($p = 0.524$, $p = 0.257$) dimensions were found to be different. This result indicates that there is no sample selection bias and nonresponse bias in the study.

Examination of Common Method Variance Bias

Common method variance is the amount of artificial correlation revealed between variables when the same method is used in the same measurement environment from the same person in the measurement of research variables, and it expresses that this value is more or less than its true value (Fiske, 1982).

Some statistical techniques are used to examine the common method variance. These techniques are Harman's single factor test, interpretation of correlation values, and confirmatory factor analysis. When the factor structures formed in the Harman single factor test are not formed in a single factor structure, that all correlation coefficients between variables are not more than 0.90, and the after confirmatory factor analysis construct validity accepted there is no common method variance (Richardson, et al., 2009; Podsakoff et al., 2009). 2012; Özyılmaz and Eser, 2013: 505; Tehseen, Ramayah and Sajilan, 2017: 162). In this study, according to the Harman test value, the absence of a single factor structure for all of the scales and ensuring the construct validity with the second order confirmatory factor analysis show that there is no common method variance.

Confirmatory Factor Analysis Results

Confirmatory factor analysis is used to determine whether the factor structures are valid in the study sample, to verify the scale factor structures and to examine their validity values. One of the reasons for applying confirmatory factor analysis is to minimize the risk of encountering common method variance bias. In the examination of the significance of the results obtained from the measurement model and the structural model as a result of the confirmatory factor analysis, evaluation is made according to the value ranges that fit index values such as X^2 / df , GFI, AGFI, CFI, RMSEA should take (Jöreskog and Sörbom, 1984; Meydan and Şeşen, 2011). In case the fit index values are not in the appropriate range, covariances between terms with a high correlation coefficient are created between the error terms in the model to ensure that the fit index values are in the appropriate range (Özkoç, 2018: 176).

Since the scale factor structures of the scales used in the study were aimed to be used in a one-dimensional structure, second order confirmatory factor analysis was carried out. The results of the 2nd order factor analysis fit index obtained by creating some covariances between error terms for all scales and the required value ranges were obtained as in Table 1.

Table 1

Research Scale Dimensions Second Order CFA Fit Index Values

Variables	X ² /df	GFI	AGFI	CFI	RMSEA
Learning Organization Dimensions	3,78	0,85	0,88	0,96	0,06
Intellectual Capital Dimensions	3,21	0,90	0,86	0,96	0,07
Organizational Ambidexterity Dimensions	2,86	0,91	0,90	0,97	0,06
Entrepreneurial Orientation Dimensions	3,47	0,88	0,83	0,94	0,07
Fit indices	X ² /df	GFI	AGFI	CFI	RMSEA
Good	≤3	≥0,90	≥0,90	≥0,97	≤0,05
Acceptable	≤4-5	0,89-0,85	0,89-0,80	≥0,95	0,06-0,08

Source: Jöreskog and Sörbom, 1984, Meydan and Şeşen, 2011.

When the fit index values obtained for all of the scales in the study are examined, it is seen that all the values are in good and acceptable ranges and the scale factor structures are confirmed. Also this result also shows that there is no common method variance.

Reliability and Validity Test Results

A Cronbach Alpha Reliability test value is used to determine the reliability of scale factor structures, and a value of 0.70 and above indicates that reliability is ensured (Altunışık et al., 2012).

In determining the scale construct validity, combination and discriminant validity values are used (Chin, Gopal, and Salisbury, 1997). Obtaining the CR-composite validity value of 0.70 and above and the discriminant validity measured as the average variance extracted value (AVE) of 0.50 and above indicates that the validity values of the scales are provided (Fornell and Larcker, 1981; Henseler, Ringle and Sarstedt, 2014).

Table 2

Reliability and Validity Test Results

Variables	Cronbach Alpha	CR	AVE
<i>Learning Organization</i>	0,881	0,756	0,693
<i>Intellectual Capital</i>	0,793	0,723	0,628
<i>Organizational Ambidexterity</i>	0,805	0,737	0,594
<i>Entrepreneurial Orientation</i>	0,832	0,769	0,687

When Table 2 was examined it was shown that the Cronbach's alpha reliability value, combination and discriminant validity values were appropriate values for all scales.

Examination of Mediating Roles

The Baron and Kenny (1986) approach was used to investigate the mediating role. According to this approach, four steps should be taken in determining the mediatory role. These steps are; 1) The effect of the independent variable on the mediator variable 2) The effect of the mediator variable on the dependent variable, and 3) The effect of the independent variable on the dependent variable, 4) When the independent variable and the mediator variable are considered together, the effect on the dependent variable decreases or occurs due to the mediating effect (Baron and Kenny, 1986).

The results of the analysis performed on Model 4 with PROCESS macro software for testing the hypotheses created to examine the mediating effects in the research are shown below. The abbreviations in the tables are used as follows.

LO = Learning Organization

IC= Intellectual Capital

OA = Organizational Ambidexterity

EO = Entrepreneurial Orientation

When the mediating role of intellectual capital in the effect of learning organization approach on organizational ambidexterity is examined, all the steps take place according to the Baron and Kenny approach for the service and production sectors and the effect of the independent variable (learning organization) on the dependent variable (organizational ambidexterity) and when the mediator variable (intellectual capital) is added to the model (because of decreasing from 0.366 to 0.357 for the service sector, from 0.496 to 0.384 for the production sector) it indicates that the mediating effect has a partial mediatory role. When evaluated in terms of sectors, it is seen that the mediating effect is more for the production sector.

When the mediating role of organizational ambidexterity in the effect of the learning organization on entrepreneurial orientation is examined, all the steps take place according to the Baron and Kenny approach for the service and production sector and the effect of the independent variable (learning organization understanding) on the dependent variable (entrepreneurial orientation), when the mediator variable (organizational ambidexterity) is added to the model (because of decreasing from 0.443 to 0.150 for the service sector, from 0.472 to 0.183 for the manufacturing sector) it indicates that the mediating effect has a partial mediatory role. When evaluated in terms of sectors, it is seen that the mediating effect is more for the production sector.

When the mediating effect of intellectual capital on the effect of the learning organization on entrepreneurial orientation is examined, according to the Baron and Kenny approach for

the service and production sector, all the steps take place and the effect of the independent variable (learning organization understanding) on the dependent variable (entrepreneurial orientation) decreases when the mediator variable (intellectual capital) is added to the model (because of decreasing for the service sector, from 0.472 to 0.327, for the manufacturing sector, from 0.472 to 0.358) it indicates that the mediating effect has a partial mediatory role. When evaluated in terms of sectors, it is seen that the mediating effect is more for the production sector.

Table 3

Examination of Hypothesis Test Results

	Hypothesis	Direct Effect	Indirect Effect	Total Effect	Mediating Effect	
Service Sector	LO-->IC	0,731**				H₁, H₂, H₃, H₄, Hypothesis (Accepted)
	LO-->OA	0,366**				
	IC-->OA	0,488**				
	LO-->EO	0,443*				
	OA-->EO	0,411**				
	IC-->EO	0,448**				
	LO-->IC-->OA		0,357*	0,723**	Partial	
	LO-->ÖU-->EO		0,150**	0,593**	Partial	
LO-->IC-->EO		0,327**	0,770**	Partial		
IC-->OA-->EO		0,201**	0,649*	Partial		
Production Sector	LO-->IC	0,743**				
	LO-->OA	0,496**				
	IC-->OA	0,518**				
	LO-->EO	0,472*				
	OA-->EO	0,369**				
	IC-->EO	0,482**				
	LO-->IC-->OA		0,384**	0,880*	Partial	
	LO-->OA-->EO		0,183**	0,655**	Partial	
LO-->IC-->EO		0,358**	0,830**	Partial		
IC-->OA-->EO		0,191**	0,673*	Partial		

When the mediating effect of organizational ambidexterity on the effect of intellectual capital on entrepreneurial orientation is examined, according to the Baron and Kenny approach for the service and production sector, all the steps take place and the effect of the independent variable (intellectual capital) on the dependent variable (entrepreneurial orientation), when the mediator variable (organizational ambidexterity) is added to the model (because of decreasing for the service sector, from 0.448 to 0.201, for the production sector from 0.482 to 0.191) it shows that the mediating effect has a partial mediatory role. When evaluated in terms of sectors, it is seen that the intermediary effect is more for the service sector.

When the total effects are evaluated for all intermediation models, it is seen that the total effects are more for the production sector.

Conclusion and Suggestions

Investigation of the Mediating Role of Intellectual Capital in the Effect of Learning Organization on Organizational Ambidexterity

When the results are interpreted in terms of sectors, it is seen that all the degrees of effect are higher in the production sector, and when the mediator roles and total effects are evaluated, the mediating and total effect is higher for the production sector. These results are similar to the results obtained from the studies of Kitapçı and Çelik (2013), and Gupta et al. (2006) which examines the relationship between learning organizations and organizational ambidexterity, and Dodgson, (1993), and Fettahlioğlu and Afşar (2015), which examines the relationship between learning organizations and intellectual capital.

Investigation of the Mediating Role of Organizational Ambidexterity in the Effect of Learning Organization Understanding on Entrepreneurial Orientation

When the results obtained are examined, it is determined that only the effect of organizational ambidexterity on entrepreneurial orientation is less in the production sector compared to the service sector, the effect degrees for the production sector are higher in other interactions, when the mediator roles and total effects are evaluated, the mediating and total effect is higher for the production sector. . While this result is similar to the results obtained by Hughes and Morgan, (2007), Wang, (2008) and Li, et al (2009). It differs from the study of Bierly et al. (2009).

Investigation of the Mediating Role of Intellectual Capital in the Effect of Learning Organization Understanding on Entrepreneurial Orientation

When the results are interpreted, it is determined that the effect of only learning organization understanding on entrepreneurial orientation is less in the production sector compared to the service sector, the degree of effect is higher for the production sector in other interactions, and when evaluated in terms of mediator roles and total effects, the mediating and total effect for the production sector is higher. . These results are similar to the results of the study conducted by Leana and Van Buren (1999), Dodgson, (1993) and Fettahlioğlu and Afşar (2015).

Investigation of the Mediating Role of Organizational Ambidexterity in the Effect of Intellectual Capital on Entrepreneurial Orientation

When the results were evaluated, it was determined that only the effect of organizational ambidexterity on entrepreneurial orientation was less in the production sector, the degree of effect was higher for the production sector in other interactions, and when the mediator roles were evaluated, the mediating effect was higher for the service sector. When evaluated in terms of total effects, it is concluded that the total effect is more for the production sector.

These results are similar to the results obtained from the studies of Leana and Van Buren (1999), Kang, Snell and Swart (2012), and Turner, Swart and Maylor (2013).

Organizational ambidexterity and entrepreneurial orientation tendencies are possible by managing a dynamic process that enables organizations to adapt rapidly to the environment with advanced technologies and knowledge levels in a way to reflect the change in the operating and potential markets. This process will include practices for the creation of new knowledge with innovative approaches, the creation of a learning organization environment in which continuous learning, knowledge generation, dissemination and use takes place, and the strengthening of existing intellectual capital.

As a result of the study, it was concluded that learning organizations and intellectual capital are the driving forces in achieving organizational ambidexterity and creating entrepreneurial orientation. This result shows that in order for organizations to reach organizational ambidexterity and to have entrepreneurial orientation, it is necessary to create a learning organization environment and to develop intellectual capital. Increasing the diversity of the information resources owned by the enterprises with organizational learning, strengthening the intellectual capital and structuring them in a way to maximize the quality which will facilitate the achievement of organizational ambidexterity and the formation of entrepreneurial orientation. It should not be forgotten that different processes, different applications and different resources will be required to create such structures in the service and production sectors.

Suggestions for Researchers

In future studies, adding more variables to the model and investigating the antecedents of organizational ambidexterity and entrepreneurial orientation will provide important contributions for sector managers. By adding variables such as leader-member interaction that will increase the effectiveness of managers and affect organizational growth and organizational performance, organizational identification and supportive organizational climate, organizational ambidexterity and entrepreneurial orientation antecedents can be examined more comprehensively. Some variables in the research model can be considered in a single structure, some variables with sub-dimensions, and the antecedents can be investigated by adding parallel or series research models.

In addition to mediator variables, some variables can be added as moderator variables and analysis can be performed. With conditional process analysis, the scope of research can be expanded further and research models can be created in the form of moderated mediation or mediated moderation.

The model can be repeated according to the public and private sector distinction. Only an SME or small enterprise level model can be analyzed.

According to the demographic and institutional data, how the learning organization, intellectual capital, organizational ambidexterity and entrepreneurial orientation differ can be examined with difference tests.

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