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# Innovation Performance Analysis of the Banking Sector

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**Abstract:** ***There are many organizational and non-organizational factors that demonstrate the effectiveness of innovation and affect performance. Organizational culture, learning organizations and organizational strategies are among the important factors in the formation of the consciousness of innovation that spreads from individuals to organizations. Within the scope of this research, the effects of the perception of learning organizations, risk taking behaviors of managers and organizational culture on innovation performance were investigated. A questionnaire was used as the research method. 250 people participated in the survey. All the participants work in the banking sector and the questionnaire was shared with bank employees in Turkey. According to the results, understanding of the organizational culture of people working in the banking sector is different from the concept of culture which was foreseen in previous studies in Turkey. The innovative focus of the sector was determined as the main reason for this difference. It was observed that the concept of strengthened employees has a positive effect on innovation performance. In this direction, managers are expected to focus on creating a common vision by adopting the organizational vision of their employees. Risk taking behaviors of managers were also determined as one of the factors affecting innovation performance.***

**Keywords:** Innovation, Innovation Performance, Organizational Culture, Learning Organization. Managerial Risk Taking Behavior

## 1. Introduction

The phenomena of globalization and increasing technological developments have facilitated access to information to an unexpected degree. The innovation process is important for organizations to gain competitive advantage. The achievements of innovative products also have a positive impact on innovation performance. Innovation performance includes the entire life cycle of innovation processes.

Banks need to decide how and to what extent they will use innovation to contribute to their performance through innovation strategies. Banks will be able to produce and implement new techniques, new services and new processes with appropriate innovation strategies. Innovation-based competition in the finance or banking sector allows banks to be ahead of their competitors and to be sustainable. Banks' competitors are not only other banks, but also non-financial institutions that have entered the banking sector. For this reason, because of the high level of competition, banks need to observe the balance between benefit and cost while building competition on differentiation and making a difference. Both benefit-cost and the factors that can compete with the non-sectoral institutions have increased the importance of banks' effective use of innovation. Banks should also be able to measure studies and their impact on innovation to protect their performance levels.

From this point of view, the effects of the learning organization, organizational culture and risk taking behaviors of the managers on the performance of innovation were examined.

## 2. Literature

Innovation is an important phenomenon in studies in the fields of economics, sociology, politics and engineering [1]. Innovation can offer an unattempted formation to the society in a way that brings material profitability and can add a new attribute to existing structures. Innovation is considered as the main building block of the economy due to its added value [2]. The theoretical structure at the level of invention is made a useful factor by the help of innovation [3]. In this respect, determining the stages that affect and trigger innovation has gained importance. Innovation is also a very important phenomenon for the finance and banking sector, which is one of the most important sectors affecting national economies [4]. With globalization and liberalization, the financial sector has become open to new banks and other financial institutions, and the concerns of existing firms about protecting their market shares have increased. The companies that can serve their customers in the fastest manner and at the lowest cost in this competitive environment will be able to survive [5]. There are many internal and external factors that affect the performance of innovation. Organizational culture, learning organizations and organizational strategies are also important factors in the development of innovation consciousness that reaches individuals from institutions [6].

There are two basic approaches in the literature on performance measurement of innovation. The first is a progression-regression approach that suggests that organizational innovation is a prerequisite for technical innovation and that organizational innovation must be adopted before technological innovation. The second focuses on the joint evaluation of the organizational and technological forms of innovation and their impact on performance [7]. In the studies, various results have been obtained regarding the effects of innovations on bank performance. In some studies, it is suggested that innovations have a limited effect on performance, while others indicate they have made serious contributions [8].

When the studies are examined, it can be seen that the focus is mostly on the impact of innovation on bank performance. In this study, the effects of the determined sub-dimensions of the learning organizations, organizational culture and managerial risk taking behaviours on innovation performance were investigated. Innovation performance is differentiated according to innovation types. Three different models were

created to measure the effectiveness of innovation projects, process innovation and product innovations. Product innovation involves the commercial introduction of a new product for customers. Process innovation involves using a new approach to create or commercialize products or services [9]. Product and process innovation efficiency reflects the success of a product, while innovation project efficiency is the result of efforts to achieve that success [10].

It has been proven in previous studies that innovation performance is higher in learning organizations. Learning organizations are those in which individuals constantly improve themselves in order to achieve the results they want, and where new and more comprehensive ideas are supported. The philosophy of the learning organization is that individuals and the groups they form at all levels within the organization contribute to the success of the organization because they are dependent on the vision of the organization [11]. The learning organization means the process of developing actions with better knowledge and understanding and is defined as increasing the capacity of an organization to take an effective action [12]. The emergence of the learned organizations can also be evaluated as a result of the accumulation of knowledge in management science [13]. This requires learning at all levels of the organization such as the individual, team, organizational, and global levels. The level 'global' was introduced by Jamali et al. (2009) [14].

A learning oriented culture can lower the fears that are associated with digital change in the work place and thus lower the resistance to change. In a learning oriented culture, the need for new skills poses no threat that could lead to resistance to change [15]. The culture subject was first added to the management literature by Jaques in 1951 [16]. The main research started in the 1970s and these studies have continued to increase until today.

The first documented comprehensive study on the concept of organizational culture emerged in 1971 with the work of the sociologist Barry A. Turner [17]. The foundation of an organization to be a learning organization can be achieved through appropriate organizational culture. The organization is a social entity made up of individuals who have come together to achieve a defined goal [18]. Organizational culture is, at some point, the common and transferable understanding of the values and ideologies of each organization. Organizational culture is based on a set of management practices and behaviors that reinforce the organization's management system and basic values, beliefs and principles [19]. It is necessary to develop an appropriate structure, an organizational culture to attract and retain qualified human capital, a climate that favors risk taking, a leadership focused on knowledge creation and learning objectives, as well as a clearly recognizable mission to foster employees' identity and alignment with the firm's strategy [20].

Many studies suggest that managers' risk-taking tendencies can make a difference in defining the ability of firms to innovate [21]. Overall, the results confirm that managers who are oriented towards risk taking behaviors can achieve better innovation results [22]. The aim of this study is to analyze the effects of learning organization, risk taking behaviors and organizational culture on innovation performance.

## 3. Research Methodology

The Turkish banking sector was targeted within the scope of the research. 250 people participated in the survey. All the participants work in the banking sector. A questionnaire was shared with the bank employees in Turkey. 50.6% of the participants were male and 49.4% female. When the mean age of the participants was checked, it was observed that the average age group was 31-40 at 60.64%. 24.10% of the participants were in the 21-30 age group, 14.86% in the 41-50 age group and 0.4% of the participants were in the 51-60 age group.

The questionnaire used in the research consisted of five parts. In the first part, the Watkins and Marsick (1993) scale was used to determine the dimensions of the learning organizations. The second part of the survey is divided into organizational culture questions. In this section, the Hofstede (1980) scale was used. The third part of the questionnaire is devoted to questions determining innovation performance. In this section, the Innovation Performance Analysis Scale that was developed by the OECD (2005), Brown and Eisenhardt (1995) and Chiesa (1996) was used. The fourth part of the questionnaire is devoted to questions determining the risk taking behaviors of managers. In this section, the Risk Management Behavior Scale of Managers developed by Covin and Slevin (1989) was used. The last part of the questionnaire is devoted to the participant profile questions that were created to determine the demographic characteristics of the participants. These questions consist of information on age, gender, marital status, and learning knowledge.

The Cronbach alpha method was used for the reliability analysis of the scales. Later, the descriptive analyses are given, and the answers given to the scales are outlined. By using linear regression analysis, the effects of learning organization sub-dimensions, organizational culture sub-dimensions and managerial risk taking behaviours sub-dimensions on innovation performance were determined. By selecting the Enter method, all independent variables are included in the analysis. Correlation analysis was performed to analyze the relationship between dependent variables and independent variables in the model.

**Table 1:** Correlation analysis results

| | | CL | ID | TL | ES | EE | SC | SL | F/M | I/C | PD | UA | OS | OC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pearson Correlation | Product Innovation Efficiency | ,614** | ,588** | ,632** | ,612** | ,660** | ,615** | ,615** | ,198** | ,239** | ,346** | ,246** | -.047 | ,618** |
| Probability | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .002 | .000 | .000 | .000 | .457 | .000 |
| Count | | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| Pearson Correlation | Process Innovation Efficiency | ,518** | ,439** | ,489** | ,525** | ,549** | ,521** | ,461** | ,200** | ,215** | ,365** | ,303** | .044 | ,553** |
| Probability | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .002 | .001 | .000 | .000 | .492 | .000 |
| Count | | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |
| Pearson Correlation | Efficiency of Innovation Projects | ,463** | ,457** | ,474** | ,494** | ,546** | ,513** | ,479** | ,236** | ,248** | ,409** | ,386** | -.031 | ,509** |
| Probability | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .623 | .000 |
| Count | | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 | 250 |

****The mean difference is significant at the 0,05 level.*

Then, three models were created with the information obtained. The models were designed to analyze the concepts of organizational culture, organizational culture and managerial risk taking behaviours. Using three subscales of innovation performance, three different models were analyzed.

### 3.1 Hypotheses

The following hypotheses are listed.

H1: The learning organization sub-dimensions have a significant effect on innovation performance subscales.
H2: Managerial risk taking behaviors have a significant effect on innovation performance.
H3: Organizational culture sub-dimensions (individualistic, low power distance, low uncertainty avoidance and feminine culture) have a significant effect on innovation performance sub-dimensions.

The abbreviation for the independent variables used in the models are as follows:
SO: Continuous Learning, DA: Inquiry and Dialog, TO: Team Learning, PS: Embedded Systems, GC: Empowered Employees, SB: System Connections, DL: Supportive Leadership, DE: Femininity-Masculinity, BT: Individualism Collectivism, GM: Power Distance, BK: Uncertainty Avoidance, OS: Organizational Strategy, OI: Organizational Climate

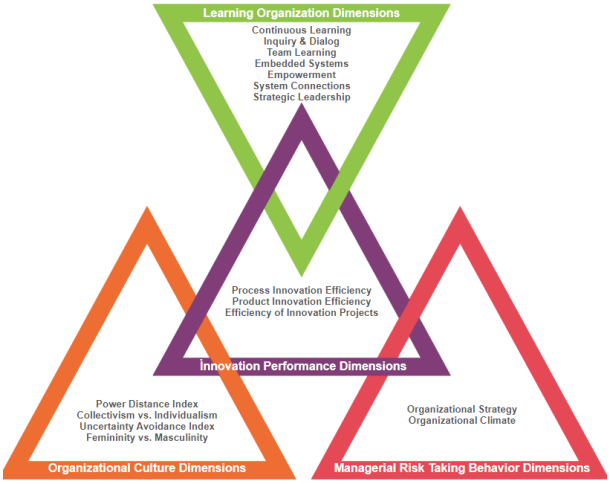


**Figure 1:** Research model

### 3.2 Learning Organization Dimensions

The sub-dimensions of the learning organization are described below:

Continuous Learning: This means that the organization works to enable continuous learning for all employees. It is the center of an effective association flourishing to increase a focused edge over different organizations in a solid aggressive business sector [23]. Continuous learners ask questions and challenge the beliefs of others in a way that may be misperceived as threatening [24].

Dialogue and inquiry: This express an organization's efforts to create interrogations, feedback and experimental work.

Team Learning: this refers to the spirit of cooperation and the skills that feed it to ensure the effective functioning of the teams.

Embedded systems: A system in which experiences are shared and documented.

Empowered employees: This express an organization's process of creating and evaluating a common vision.

System connections: This reflects global thinking and actions to connect the organization to its internal and external environment.

Supportive and Strategic Leadership: The ability of leaders to strategically assess how learning can be used to create change [25].

### 3.3 Dimensions of Managerial Risk Taking Behaviours

Sub-dimensions of managerial risk taking behaviours are explained below.

Organizational Climate: Organizational climate theory is defined as one of the most important but least comprehended concepts. Organizational climate means a number of specific features that can be perceived for departments of a particular institution or organization [26]. On a conceptual level, the organizational climate structure includes relatively well defined boundaries and contains a considerable amount of data to understand the possible behavior of individuals within the organization.

Organizational Strategy: The "strategic stance" of an organization also highlights an important aspect of management. This is the path that an organization which shaped by management follows to improve or progress [27].

### 3.4 Organizational Culture Dimensions

The sub-dimensions of organizational culture are explained below.

Power Distance: In a culture, it defines the degree of acceptance of the less powerful in society as the normal inequality in power.

Individualism-Collectivism: Individualist cultures take care of the interests of individuals and their families first and foremost. Collectivist cultures are tightly integrated into society.

Femininity-Masculinity: While masculine cultures support an ambitious and competitive approach, they expect others to respect their efforts for material success. Feminine cultures define the social roles that overlap each other for the sexes; neither men nor women need to be ambitious or competitive.

Avoidance of Uncertainty: This expresses their proximity to avoiding such situations by applying tension levels and strict codes of conduct for individuals in a culture where they think they cannot foresee [28].

The trends in the organizational culture of the 250 people participating in the survey are presented in the table below:

**Table 2:** Average values of organizational culture for survey participants

| Organizational Culture Dimentsions Mean Values | | |
|---|---|---|
| Organizational Culture Dimensions | Mean Value | Result |
| Femininity vs. Masculinity | 2.96 | Femininity |
| Collectivism vs. Individualism | 2.56 | Individualism |
| Power Distance Index | 2.53 | Low Power Distance |
| Uncertainty Avoidance Index | 2.58 | Low Uncertainty Avoidance |

## 4. Findings and Discussion

The findings were grouped according to models and the effectiveness of product innovation, process innovation efficiency and efficiency of innovation projects are discussed below.

### 4.1 Product Innovation Efficiency

Thirteen hypotheses were tested in the product innovation model. According to the product innovation efficiency model, empowered employees, masculinity, power distance, uncertainty avoidance, organizational strategy and organizational climate were significant. While the strengthened employees, power distance, uncertainty avoidance and organizational climate affect these variables in a positive way, the variables of femininity-masculinity and organizational strategy have an adverse effect on product innovation efficiency. The variable that is the most effective on product innovation efficiency is independent employee. The least influential variable is the organizational strategy variable. Model F test probability value less than 0.05 is statistically significant. The R2 value of the model is 56.6% and the efficiency of the product innovation is explained by independent variables by 56.6%. The result of the model is as follows:

Product Innovation Efficiency: 0.37 * (Empowered Employees) – 0.25 * (Femininity-Masculinity) + 0.18 * (Power Distance) + 0.26 * (Uncertainty Avoidance) – 0.11 * (Organizational Strategy) + 0.31 * (Organizational Climate)

**Table 3:** Product innovation efficiency model and outputs

| Dependent Variables | Independent Variables | Coefficients | Std. Error | T test | Probability | 95% Confidence Interval | | Anova | | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound | F Value | Probability | |
| Product Innovation Efficiency Model | Fixed Variable | 0.57 | 0.32 | 1.78 | 0.08 | -0.06 | 1.21 | 23.37 | 0,00* | 0.566 |
| | CL | 0.18 | 0.12 | 1.52 | 0.13 | -0.05 | 0.42 | | | |
| | ID | 0.04 | 0.10 | 0.43 | 0.67 | -0.15 | 0.24 | | | |
| | TL | 0.08 | 0.12 | 0.72 | 0.48 | -0.15 | 0.32 | | | |
| | ES | 0.02 | 0.11 | 0.21 | 0.83 | -0.19 | 0.24 | | | |
| | EE | 0.37 | 0.13 | 2.91 | 0,00* | 0.12 | 0.63 | | | |
| | SC | -0.15 | 0.14 | -1.07 | 0.29 | -0.41 | 0.12 | | | |
| | SL | -0.04 | 0.11 | -0.36 | 0.72 | -0.26 | 0.18 | | | |
| | F/M | -0.25 | 0.10 | -2.52 | 0,01* | -0.44 | -0.05 | | | |
| | I/CI | -0.05 | 0.10 | -0.44 | 0.66 | -0.25 | 0.16 | | | |
| | PD | 0.18 | 0.08 | 2.15 | 0,03* | 0.01 | 0.34 | | | |
| | UA | 0.26 | 0.10 | 2.67 | 0,01* | 0.07 | 0.46 | | | |
| | OS | -0.11 | 0.04 | -2.53 | 0,01* | -0.20 | -0.02 | | | |
| | OC | 0.31 | 0.07 | 4.71 | 0.00* | 0.18 | 0.44 | | | |

**The mean difference is significant at the 0.05 level.*

### 4.2 Efficiency of Innovation Projects

Thirteen hypotheses were tested in the model of efficiency of innovation projects. According to this model, empowered employees, supportive leadership, femininity-masculinity,

power distance, uncertainty avoidance and organizational climate were significant. While the strengthened employees, power distance, uncertainty avoidance and organizational climate variables affect performance positively, supportive leadership and femininity-masculinity variables have an opposite effect. The variable that is the most effective on project innovation efficiency is the uncertainty variable. The least effective variables are supportive leadership and femininity-masculinity. Model F test probability value less than 0.05 is statistically significant. The R2 value of the model is 50.4% and the Project Innovation Efficiency is explained by the independent variables by 50.4%. The result of the model is as follows:

Efficiency of Innovation Projects: 0.29 * (Empowered Employees) – 0.23 * (Supporting Leadership) – 0.23 * (Femininity-Masculinity) + 0.31 * (Power Distance) + 0.53 * (Uncertainty Avoidance) + 0.34 * (Organizational Climate)

**Table 4:** Model of innovation projects efficiency and outputs

| Dependent Variables | Independent Variables | Coefficients | Std. Error | T test | Probability | 95%Confidence Interval | | Anova | | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound | F Value | Probability | |
| Efficiency of Innovation Projects Model | Fixed Variable | -0.29 | 0.34 | -0.85 | 0.40 | -0.97 | 0.39 | 17.94 | 0,00* | 0.504 |
| | CL | -0.05 | 0.13 | -0.42 | 0.67 | -0.30 | 0.19 | | | |
| | ID | 0.05 | 0.11 | 0.51 | 0.61 | -0.15 | 0.26 | | | |
| | TL | -0.08 | 0.12 | -0.61 | 0.55 | -0.32 | 0.17 | | | |
| | ES | 0.08 | 0.12 | 0.65 | 0.52 | -0.15 | 0.30 | | | |
| | EE | 0.29 | 0.14 | 2.17 | 0,03* | 0.03 | 0.56 | | | |
| | SC | 0.17 | 0.14 | 1.19 | 0.23 | -0.11 | 0.45 | | | |
| | SL | -0.23 | 0.12 | -2.01 | 0,04* | -0.46 | -0.01 | | | |
| | F/M | -0.23 | 0.10 | -2.23 | 0,02* | -0.43 | -0.03 | | | |
| | I/CI | -0.08 | 0.11 | -0.76 | 0.45 | -0.30 | 0.13 | | | |
| | PD | 0.31 | 0.09 | 3.53 | 0,00* | 0.14 | 0.48 | | | |
| | UA | 0.53 | 0.10 | 5.12 | 0,00* | 0.33 | 0.74 | | | |
| | OS | -0.04 | 0.05 | -0.97 | 0.33 | -0.13 | 0.05 | | | |
| | OC | 0.34 | 0.07 | 4.69 | 0,00* | 0.20 | 0.48 | | | |

**The mean difference is significant at the 0,05 level.*

### 4.3 Process Innovation Efficiency

Thirteen hypotheses were tested in the process innovation efficiency model and are given below. According to the Process Innovation Effectiveness Model, Continuous Learning, Supportive Leadership, Femininity-Proximity, Power Distance, Uncertainty Avoidance and Organizational Climate variables were significant. While Continuous Learning, Power Distance, Uncertainty Avoidance and Organizational Climate affect the variables correctly, these variables have an effect on Supportive Leadership and Femininity-Masculinity variables. The most effective variable on the Process Innovation Activity is the Supporting Leadership variable. The least effective is the femininity-masculinity variable. Model F test probability value less than 0.05 is statistically significant. The R2 value of the model is 53.2% and the Process Innovation Efficiency is explained by independent variables by 53.2%. The result of the model is as follows:

Process Innovation Efficiency: 0.31 * (Continuous Learning) – 0.42 * (Supporting Leadership) – 0.19 * (Feminine-Masculine) + 0.21 * (Power Distance) + 0.34 * (Uncertainty Avoidance) + 0.35 * (Organizational Climate)

Table 5: Model of process innovation efficiency and outputs

| Dependent Variables | Independent Variables | Coefficients | Std. Error | T test | Probability | 95%Confidence Interval | | Anova | | $R^2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Lower Bound | Upper Bound | F Value | Probability | |
| Process Innovation Efficiency Model | Fixed Variable | 0.43 | 0.29 | 1.49 | 0.14 | -0.14 | 1.00 | 20.04 | 0,00* | 0.532 |
| | CL | 0.31 | 0.11 | 2.89 | 0,00* | 0.10 | 0.52 | | | |
| | ID | -0.09 | 0.09 | -1.06 | 0.29 | -0.27 | 0.08 | | | |
| | TL | 0.02 | 0.11 | 0.18 | 0.86 | -0.19 | 0.23 | | | |
| | ES | 0.13 | 0.10 | 1.33 | 0.19 | -0.06 | 0.32 | | | |
| | EE | 0.09 | 0.12 | 0.78 | 0.44 | -0.14 | 0.33 | | | |
| | SC | 0.22 | 0.13 | 1.73 | 0.09 | -0.03 | 0.47 | | | |
| | SL | -0.42 | 0.10 | -4.17 | 0,00* | -0.61 | -0.22 | | | |
| | F/M | -0.19 | 0.09 | -2.18 | 0,03* | -0.37 | -0.02 | | | |
| | I/CI | -0.06 | 0.09 | -0.63 | 0.53 | -0.24 | 0.12 | | | |
| | PD | 0.21 | 0.07 | 2.82 | 0,01* | 0.06 | 0.36 | | | |
| | UA | 0.34 | 0.09 | 3.77 | 0,00* | 0.16 | 0.51 | | | |
| | OS | 0.01 | 0.04 | 0.14 | 0.89 | -0.07 | 0.08 | | | |
| | OC | 0.35 | 0.06 | 5.94 | 0,00* | 0.24 | 0.47 | | | |

**The mean difference is significant at the 0,05 level.*

It has been demonstrated in previous studies that Turkey is broad in terms of power distance. The existence of wide power distances in a society means that inequalities and imbalances are possible at the point of power distribution among individuals. Inequalities in the distribution of power are less common due to the inclusion of employees in all decision-making stages of the organizations in narrow power distances and the use of their ideas and thoughts. Once the survey in the sub-dimensions of organizational culture is examined it can be seen that the power distance created in cultural organization formed by the participants of this survey study is narrow, unlike the situation of Turkey in general. The banking sector in our country is highly

developed and bureaucratic organization cultures have been replaced by innovative organizational cultures with importance given to education. In this respect, the power distance tendency of bank employees is expected to be narrow. Innovation is inversely related to the power distance. Innovation is less seen in organizations with large power distances and the number of innovations is higher in organizations with narrow power distances. Organizational culture has positive effects on product innovation performance in terms of the power distance dimension.

In our country's culture, uncertainty avoidance tendency is high as demonstrated in the studies conducted in the field. Employees in organizations with a high inclination to avoid uncertainty tend to be committed to written rules and processes. They are also distant from changes and innovations in proportion to their uncertainties. When the results of the sub-dimensions of the organizational culture of the survey participants were examined, it was observed that the participants' tendency to avoid uncertainty was low. In organizations with high uncertainty avoidance, innovation is less apparent. The number of innovations is higher in organizations that are open to uncertainty. Organizational culture has a positive effect on product innovation performance due to the uncertainty avoidance dimension.

In the literature it is stated that Turkey is one of the societies in which feminine culture is dominant. Feminine culture generally includes characteristics such as being compassionate and sensitive to others. The concepts of quality of life and occupational safety are important for individuals who are fond of feminine culture. The masculinity dimension of a culture includes features such as passion for promotion, competitiveness, dominant and oppressive attitudes, and dominance of materialist tendencies. In this respect, employees who are competitive with a passion for promotion will be more innovative than feminine culture individuals who prioritize job security and a risk-free life. In the survey, it was observed that the participants exhibited feminine characteristics. Feminine organizational culture adversely affects the performance of product innovation and the results of the analysis support this interpretation.

The most effective variable on product innovation efficiency is the empowered employee variable. Culture in a learning organization leads its employees to continuous improvement and change. In those organizations where each individual is given importance, there are no practices that create status differences and procedures and rules are few. The roles of employees can be changed by adapting them to change. Employees are also responsible for the audit task. Each team is considered to have the ability to self-manage. Considering that the main source of innovation is the employees of the organization, it is possible to say that individuals who are self-directed and open to learning and have educational opportunities have a positive effect on innovation. The employees in the learning organizations are empowered employees and the study has shown that the empowered employee phenomenon has a positive effect on product innovation.

The variable that has the least effect on product innovation activity is the organizational strategy variable. This effect is counterproductive. Strategies in traditional organizational structures are determined by senior management and employees are expected to adapt to them. In learning organizations, employees also participate in the strategy development process. All employees can be involved in the process of identifying and developing strategies by helping to identify needs. The research strategy and the organizational strategy have negative effects on product innovation. This finding reveals that the organizational strategy of the banking sector in Turkey does not foster product innovation adequately. It can be seen that the banks prefer to be followers of innovation. They display imitating strategies by trying to adapt to the sector by following current innovations instead of assuming possible risks. In order to be an innovator, it is necessary for the banks to learn continuously, to have their employees empowered, and for the organizational climate to be open to innovation.

According to the process innovation efficiency model, the femininity-masculinity, power distance and uncertainty avoidance independent variables are also consistent with the previous model. As a result of the analysis, the fact that continuous learning will support the efficiency of process innovation has been revealed. In continuous learning organizations, mistakes in the processes are determined and necessary action taken to prevent them from being repeated. These activities are shared with all organization employees. Continuous improvement of the way of doing business is stated as the basic condition for the continuity of the learning organizations.

The negative effect of the concept of supporting leadership on process innovation is one of the interesting results of the study. Supportive leadership is perceived and suggested as a model with features supporting innovation in the literature. However, when the previous results are examined, it can be seen that innovation was not supported as an organizational strategy within the scope of the research. Supportive leadership, which is thought to be displayed in this direction, has an adverse effect on innovation due to its organizational strategy. Although it was determined that strategy and leadership adversely affect innovation, it was also found that the organizational climate supports innovation in terms of its overall character. This situation is related to the organizational culture of the employees. Employees of the banking sector, who tend to exhibit innovative behaviors, have provided an innovative climate within the organization.

Empowered leadership, supportive leadership, femininity-masculinity, power distance, uncertainty avoidance and organizational climate variables were found to be significant according to the latest model project innovation activity model. While empowered employees, power distance, uncertainty avoidance and organizational climate affect the variables positively, the variables of supportive leadership and femininity-masculinity have an opposite effect.

Empowered employees are employees of the organization who do not hesitate to take initiative in the organization, work with responsibility and take acceptable risks. It is clear

that these employees will contribute positively to the effectiveness of the project innovation they are involved in.

The findings obtained in all three models support each other. It was once again supported by the fact that the lack of uncertainty in the organizational culture sub-dimensions and the narrow force distance had a positive effect on innovation, whereas the feminine culture had a negative effect. In addition, the effectiveness of project innovation was also negatively affected in the context of supporting leadership. This result is similar to the results of the previous model, which was to follow current innovations rather than to support new projects in the sector and be a leader in applying innovations.

## 5. Conclusions

In the twenty-first century, a new era began in organizational life. With the economic changes caused by globalization and technology, companies must adapt to change to be sustainable. Today, effective learning ability is a phenomenon that must be adopted by all employees. Organizations also need to be open to changes worthy of learning. Whether or not an organization is a learning organization is related to the structure of organizational culture. Ensuring the continuity of the formation of a learning organization is possible only in organizations with appropriate organizational culture. Realistic results will be achieved only if an innovative organizational culture is created within the scope of organizational strategies. The source of innovation is individuals. Therefore, in many banks there are practices that lead employees towards entrepreneurship. In addition, banks are using their new ideas in performance appraisal and encouraging their employees to generate new ideas. In other words, banks provide the opportunity to adopt the appropriate organizational culture together with managerial strategies and to create the ability of each individual for self management. When all the results are evaluated, it is apparent that the existing structure in the banking sector can be developed. The banking sector should be open to new organizational strategy structures that will have a positive impact on product innovation effectiveness. Instead of imitating and dependent strategies, it should provide an increase in terms of added value of innovation by determining aggressive strategies that will positively affect the performance of innovation. The banks that want to become leaders in the sector should add the new technological opportunities and advantages to organizational strategies, be pioneers and take risks while adhering to the legal regulations. Together with the changing sector, banks also started restructuring, terminated ineffective business units or updated job descriptions. It is not possible for banks to survive if they that cannot adapt to innovation due to the rapidly developing and changing technology. Focusing on becoming a learning organization with the appropriate organizational culture, developing rational and innovative strategies and creating a strong ethos of culture should be the primary objective of banks. It is important to share the culture of innovation with all employees of the organization to be internalized by all employees. By evaluating innovation in the light of these topics and by increasing its contribution to the organization, it will be an important factor in ensuring the permanence of the organization.

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