



## The effects of tightness-looseness in organizational culture on corporate entrepreneurship and firm performance: A regional study in Turkey

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### Abstract

In this study, the tightness-looseness dimension, suggested as a cultural dimension of community was examined at organizational level. Introducing the tightness-looseness dimension to the literature, and identifying the effects of the dimension on corporate entrepreneurship activities and firm performance, which poses great importance for organizations, were the main purposes of the study. In the study, the correlations between dependent and independent variables were examined through the hypotheses suggested, and the consistency level of the model was analyzed through the structural equation modeling. It was concluded from the study that there was a significant positive correlation between the tightness-looseness level and corporate entrepreneurship and firm performance. Coefficients of corporate entrepreneurship, proactivity, innovational orientation, and coefficients of firm performance, and coefficients concerning the profit, growth, and customer satisfaction seem to be statistically significant. Accordingly, the higher (or lower) the level of looseness is, the higher (or lower) the level of corporate entrepreneurship and firm performance will be. The validity of the model on the target sample has been discussed considering the compliance indices of the model proposed in the study on Turkey's leading industrial enterprises. As the results of the analysis of the constructed structural equation model gave the values of good and acceptance level goodness of fit (RMSEA <0.05, GFI and CFI > 0.95 and AGFI > 0.90), the model was found to be acceptable.

**Keywords:** Organizational culture; tightness-looseness; corporate entrepreneurship; firm performance; industrial enterprises.

### 1. Literature Review

#### 1.1. The Concept 'Tightness-Looseness' and Cultural Dimension

In recent years, among the researches attempting to understand and explain the organizational culture, there has been the concept 'tightness-looseness,' whose foundations date back to Pelto's (1968) study (Gelfand et al., 2006). The concept, which is known to be reflected by the studies of Triandis (1989) and Hofstede (1980) (Darius, Chan, Gelfand, Triandis Tzeng, 1996), was theorized by the anthropologist Pelto (1968). The concept, which was defined as 'the scope, importance and effect size of social norms, rules and limitations in a certain community' (Gelfand et al., 2006: 7), refers to 'the extent to which individuals comply with social norms, the sanctions applied to the individuals who don't comply with the norms, and the effect size of the sanctions' (Gelfand et al., 2006; Darius et al., 1996).

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Organizations are an indivisible whole with the environmental conditions, and the individuals forming them. The dimensions of social culture, defined by Hofstede (1980) as Individualism-Communitarianism, Power Distance, Uncertainty Avoidance, and Masculinity-Femininity, constitute the major elements of the cultural systems of countries. The dimension of tightness-looseness, which refers to the extent to which individuals comply with social norms, the sanctions applied to the individuals who don't comply with the norms, and the effect size of the sanctions (Gelfand et al., 2006; Chan, Triandis Gelfand, 1996), is considered as a unique dimension different from the dimensions stated above, that must be investigated in cultural literature (Li, Fock Mattila, 2012; Triandis, 1989; Li et al., 2012). In the literature review conducted, it was established that there were studies supporting this difference (Carpenter, 2000; Chan et al., 1996; Triandis, 1989). According to researchers, the dimension of tightness-looseness does not refer to Individualism-Communitarianism (Carpenter, 2000; Chan et al., 1996; Triandis, 1986). The dimension of Individualism-Communitarianism reflects a community's level of group dependence and being autonomous (Hofstede, 1980). However, the Individualism-Communitarianism dimension does not refer to how common the social norms are, and the tolerance displayed towards the deviations from the sanctions or behaviors applied to the individuals who deviated from the norms (Gelfand et al., 2006). For example, Triandis (1989) suggested that the Japanese have collectivist, and the German have individualist community structure, but both nations are within the scope of tightness dimension in a cultural sense. On the other hand, Chan et al. (1996) suggested that Brazil and Hong-Kong have loose and communitarian, and Singapore and Japan have tight and communitarian, USA and New Zealand have loose and individualist and Germany has tight and individualist community structure. As cited from Gelfand et al. (2006), the tightness-looseness dimension is different from the dimension of uncertainty avoidance, which refers to the stress level in a community towards the unknown in the future (Hofstede, 1980). There are quite explicit rules in tight communities. Thus, the stress caused by the uncertainty among individuals could be eliminated. For example, in his study, Hofstede (1980) suggested that Singapore, which had a low level of uncertainty avoidance, was in the dimension of tightness, contrary to what was expected (Gelfand et al., 2006). Again, the dimension of tightness-looseness is different from the dimension of Power Distance, which refers to the equal distribution of power within communities. In the classification of Hofstede (1980), Germany had low, and Singapore had high power distance. However, both countries were in the dimension of tightness (Hofstede, 1980; Gelfand et al., 2006). Finally, the dimension of Masculinity-Femininity completely overlaps the tightness-looseness dimension. The more a community shows masculine features, the more the individuals in that community will be assertive, ambitious, competitive, giving importance to material success, respecting everything that is bigger and stronger than themselves (Hofstede, 1980). In addition to the attention paid to interpersonal relationships and the individual, the values occurring in the form of highlighting the general quality of life are the indicators of a feminine culture (Sargut, 2001). In his study, Hofstede (1980) suggested that although Germany had a higher masculine orientation than Singapore (Hofstede, 1980), both countries were falling into the dimension of tightness (Gelfand et al., 2006).

In accordance with the information presented above, it is clear that the tightness-looseness dimension is unique and different from the dimensions of organizational culture addressed above (Li et al., 2012; Gelfand et al., 2006). Given the fact that organizations are little projections of the community culture and a subculture of the community in terms of cultural features (Baytok, 2006), it's expected that the study will make great contributions to the literature in understanding and explaining the cultural structures of organizations.

## 1.2. Corporate Entrepreneurship and the Dimension of Tightness-Looseness

Firms nowadays operate in an unpredictable and complex environment where the technological developments have gained a dazzling speed, the requests and expectations of customers change consistently, and the lifespan of a product has shortened. The firms that could follow these changes and developments and respond to the needs of their customers ideally and rapidly sustain their existence by gaining the competitive advantage (Teng, 2007; Porter, 1980).

Corporate entrepreneurship is suggested as today's and tomorrow's organizational model, and the number of studies conducted regarding this concept is increasing day by day. However, no definition for corporate entrepreneurship accepted by everyone was established in the studies implemented (Chittipeddi, 1991; Zahra, 1991).

The concept was defined by Zahra (1996: 1715), who made significant contributions to the field, as all the activities concerning innovation, strategic renewal and new business establishment, as an extension and realized form of entrepreneurial orientation. Dess, Lumpkin and McGee (1999) defined the concept as an individual or a group producing a new product or a service in order to renew or strengthen the current organization through a truly new attempt within the current organization. According to another definition, corporate entrepreneurship is body of all formal and informal attempts towards developing new products, views, services, processes, technologies, markets, management policies and strategies in a business, and establishing new fields of operation (Zahra, 1991). In this regard, organizational requests and actions towards aggressive competitiveness, performance, activities, risk-taking by analyzing the opportunities and threats occurring around for efficiency and growth, innovation, proactivity, all together constitute the corporate entrepreneurship activities (Zahra, 1993; Bateman ve Crant, 1993; Lumpkin Dess, 1996; ).

Considering that the root of entrepreneurial orientation and corporate entrepreneurship is based on the facts at higher levels, such as organizational culture (Fiş and Wasti, 2009: 128), that there is much social and environmental pressure, in addition to normative control, in organizations where tightness orientation is high, would decrease the number of individual differences and entrepreneurial activities (Gelfand et al., 2006; Chan et al., 1996). While the views, understandings and behaviors of individuals in tight organizations might have similarities, in loose organizations, it is expected that differences would draw attention. Individuals working in organizations where creativity, innovation and change are encouraged, and where the mutual trust is essential, would progress towards their goals with trust perceived rather than the social sanctions, rules and control.

## 1.3. Firm Performance and the Concept of Tightness-Looseness

Firm performance refers to the level of success of the strategies applied in the most general sense in achieving the goals determined after a certain period (Porter, 1991; Ceylan, 2001). According to the definition by Lebas and Euske (2002), the concept refers to body of processes required encouraging the administrators to perform the suitable actions in the current situation for a proactive and efficient firm process. Furthermore, the concept was defined by Hult, Hurley and Knight (2004) as the level of achieving the organizational goals regarding the growth of market shares, sales and profitability, in addition to achieving the major strategic goals.

Firm performance has a significant effect both on the behaviors of administrators, advisors and employees, who constitute the internal environment of a firm, and on the behaviors of the parties in the immediate and external environment of a firm, such as the community, investors, shareholders, customers (Kaplan and Norton, 1999). Groups within a firm direct their practices and goals according to the firm performance. However, groups outside determine their behaviors regarding whether the firm is worth to make investment in and to give a loan to, whether to use the products of the firm, or whether to sustain the relationships with the firm according to the firm performance (Karabağ, 2008: 23).

It is observed that there are many variables affecting the firm performance of organizations. These variables are named in the literature as *the financial* and *non-financial performance dimensions*. The most commonly used measures by organizations for measuring the business performance recently have been the financial performance dimensions (profitability, total sales, return on investment, etc.) (Nicholas, 1998; Michalisin, Karau and Tangpong, 2004; Olson et al., 2005). However, the criteria are criticized for not truly reflecting the firm performance (Eccles, 1991; Reiner, 2004). Therefore, while measuring the firm performance in organizations, in addition to the financial indicators, the non-financial indicators, such as the product and service quality, internal and external customer satisfaction, are also needed.

Firm performance, in addition to the level of achieving the major economic goals, is in a close relation with the consistence between the business, market and sector, which are the indicators of the business's skill of adaptation to the changing environmental conditions (Hagedoorn and Cloudt, 2003). In this sense, organizations need to analyze their internal and external environment effectively, and adapt the changes to the organizational culture properly.

## 2. Method

### 2.1. Population and Sample

The population of the study, implemented in order to determine the effects of the dimension of tightness-looseness —one of the dimensions of organizational culture— on corporate entrepreneurship and firm performance, consisted of the leading industrial firms of Turkey that took place in the list 199 firm of 'The first and second 500 Major Industrial Enterprises of Turkey' annually held by the Istanbul Chamber of Industry ('ISO' in Turkish). The reason why these firms determined by ISO is selected for sampling is that the level of institutional and development of the companies is at a high level. In order to ensure the homogeneity of the data obtained from the study sample, the product range of the firms was determined by taking into consideration the technology used and the process of the process. 199 companies operating in the Food, Beverages and Tobacco Sector, which are similar to each other and constitute the majority, constitute the sample of the study.

In order to test the applicability of the questionnaire prepared during the collection of the data to be used for the research, the questionnaire and the clarity of the questionnaire, a pilot application was made to 60 white-collar employees of 20 enterprises selected from the sample. As a result of the pilot application, the relations between the answers of each expression and the total scale scores were determined. In these analyzes, validity and reliability tests were performed and the intelligibility of the scale was examined. In addition, in order to establish the reliability of the research data, at least 3 employees at the administrative level from each firm who had a good knowledge of the firm's development were interviewed. From 199 firms to 597 administrators, 143 firms and 429 available surveys returned.

### 2.2. Research Hypotheses and the Model

In the study, it was attempted to create a model that reflects the relationships between tightness-looseness, corporate entrepreneurship and firm performance. In the light of the literature, it could be suggested that the tightness-looseness dimension was examined in a single dimension; the corporate entrepreneurship in four dimensions as 'proactivity,' 'competitive aggressiveness,' 'innovation' and 'risk-taking,' and the firm performance in three dimensions as 'profitability,' 'growth' and 'customer satisfaction.' Accordingly, it could be suggested that five statements accounted for tightness-looseness; proactivity, competitive aggressiveness, innovation and risk-taking accounted for corporate entrepreneurship; and profitability, growth and customer satisfaction accounted for firm performance.

The main purpose of the study was to determine the effect of the dimension tightness-looseness, which could be defined as the number, power and effect of social norms, rules and sanctions in an organization, on Corporate Entrepreneurship (CE) activities and Firm Performance (FP), which are highly important for organizations, and to present the dimension to the literature.

The hypotheses established based on the hypothetical foundations to determine the dyadic relationships between the variables in accordance with the purpose of the study, are as follows:

**Hypothesis 1:** The dimension of tightness-looseness is effective on the sub-dimension and corporate entrepreneurship.

**Hypothesis 2:** The dimension of tightness-looseness is effective on the sub-dimension and firm performance.

### 2.3. Measures and Data Collection

It is harder to observe and interpret the dimension of tightness-looseness, which is the subject of the study, than the corporate entrepreneurship and firm performance. In the study, a survey application was determined to be the optimal option to interpret this implicit and complex structure and its relationship with other variables in a healthy way. In the process of data collection, help was provided by a professional research company. The data collection was conducted through face-to-face interviews, telephone and e-mail. In order to acquire information on whether the data were collected in a reliable way, the firms were contacted via telephone, and feedback on the subject was obtained.

**Tightness-Looseness Scale.** The scale used for measuring the dimension of tightness-looseness within the framework of the study, was developed by Khandwalla (1977) in order to measure the organicism in organizational structure. Wasti and Fiş (2010: 20) suggested that the scale is suitable for the setting in Turkey, researchers have conducted studies for adaptation, validity and reliability, and reached the result that the scale could be used in Turkey. In the scale, the tightness-looseness dimension is rated through a longitudinal line. After the pre-tests and pilot studies implemented by the researchers, the dimension was measured through double-ended 7-point Likert-type items with 5 questions (Wasti and Fiş, 2010). That the data collection tool used for measuring the dimension of tightness-looseness was double-ended, required the mean scores to be taken into account in the analyses. According to the scores, the mean scores below 3.5 represent tightness, and the mean scores above 3.5 represent looseness.

**Corporate Entrepreneurship Scale.** In the study, in the light of the conceptual framework suggested in the study conducted by Guth and Ginsberg (1990) on corporate entrepreneurship, the scales analyzing the corporate entrepreneurship with the reflected entrepreneurship orientation on behavior were addressed. In this context, the concept of corporate entrepreneurship was examined in four dimensions as 'proactivity,' 'competitive aggressiveness,' 'innovation,' and 'risk-taking.' In the scale designed by Fiş (2009), the items within the dimension of Proactivity were created based on the works of Covin and Slevin (1989) and Lumpkin and Dess (2001), the items within the Competitive Aggressiveness dimension based on the works of Khandwalla (1977), Lumpkin Dess (2001) and Venkataraman (1989), and the items within the Innovation and Risk-Taking dimension based on the work of Covin and Slevin (1989). The corporate entrepreneurship dimensions were measured through double-ended 7-point Likert-type items.

**Firm Performance Scale.** It is known that quantitative performance criteria are used more as the focus is on promoting the firm efficacy and profitability within the discipline of strategic management, and that the Financial Performance dimension, of all quantitative performance criteria, is the most commonly used dimension (Bulut, 2007). In this context, the firm performance scale derived by Fiş (2009) from various researchers (Bulut, 2007; Li and Zhang, 2007; Yiu and Lau, 2008; Erkocaoglan, 2012) in order to measure the firm performance. The reliability and validity measures of the scale were implemented by the researcher, and it was concluded that the scale could be used in Turkey. The participants were asked to consider the last three years of their firms while responding to the questions. On the 5-point Likert-type scale, these statements were

presented: "1 = Insufficient / Bad; 2 = Below the Average; 3 = Average; 4 = Above the Average; 5 = Very Good / High." The alpha coefficient of the measurement tool with 10 questions in total, was estimated as  $\alpha = .95$ . The alpha coefficients estimated for the sub-dimensions of profitability and growth, each consisting of 3 questions, were respectively at the levels of  $\alpha = .87$  and  $\alpha = 0.86$ , and for the dimension of customer satisfaction, consisting of 4 items, it was at  $\alpha = .93$ .

### 3. Data Analysis

Culture is a phenomenon that is characterized by a social group rather than an individual feature. Because of this, in the cultural studies, the social group should be spread by working out the research level from the individual level. It is very important to determine the degree of agreement between the group and the organization (Danışman and Özgen, 2003). In this study, data from senior executives with a high level of strategic information access were used, which is often found in strategy writing (Green et al., 2008). All data gathered in order to get rid of individual thoughts and perceptions and to get a holistic approach has been raised to organizational level. For all scales, firm scores were calculated and all analyzes were made considering these scores.

For each scale used in the study, the agreement index ( $r_{wg}$ ) developed by James and colleagues (James, Demaree and Wolf, 1984, 1993) was calculated. Acceptable compromise levels for this index are those above 0.70 (Payne, 1997). Based on the  $r_{wg} > 0.70$  criterion, 36 out of a total of 143  $r_{wg}$  values remained below the acceptable value for compromise 0.70. For the 107 firms identified in this sense, a large amount of consensus appears among the respondents. The median value of the indices ranged from 0.70 to 0.94, while the averages ranged from 0.74 to 0.95.

Prior to the statistical analyses to be implemented in order to achieve the main goals of the study, all variables were examined in terms of both univariate and multivariate normal distribution. The statistics applied for univariate normal distribution showed that the kurtosis coefficients changed between -.57 and .71, and the coefficients of skewness changed between -.86 and .34. As the values for univariate kurtosis and skewness coefficients were lower than 1, it could be suggested that they met the normality criterion (Büyüköztürk, 2009). However, the statistics applied for multivariate normality between the variables showed that the kurtosis coefficients changed between -.24 and .59, and skewness coefficients changed between -.71 and .27. In the light of these values, during the modeling process, the Maximum Likelihood approach was most often used with a significance level of 0.05.

#### 3.1. Validity of the Factor Structures of the Scales Used in the Study: Primary-Level Confirmatory Factor Analysis

In order to test the scale structures used in the study, the Structural Equation Modeling (SEM) was utilized. The models of Confirmatory Factor Analysis (CFA) are a principal component of SEM, which includes a wider range of latent variable models (Thompson, 2004: 109-110). In order to determine the structure of tightness-looseness (T-L) and its relationship with the items, a single-factor primary-level confirmatory factor analysis model was established within the scope of SEM. Accordingly, five statements regarding measuring the tightness-looseness were modelled unidimensionally. The model's fit indices, obtained through the confirmatory factor analysis, were examined, and it was found that the minimum chi-square estimation was at significant level ( $\chi^2 = 198,45$ ,  $df = 72$ ,  $p = 0.00$ ). Values for fit index were found to be as  $RMSEA = 0.045$ ,  $GFI = 0.92$ ,  $CFI = 0.93$ ,  $AGF = 0.91$ . The Cronbach's alpha coefficient estimated for the tightness-looseness (T-L) scale, consisting of 5 statements in total, was at the level of  $\alpha = .68$ . Singelis et al. (1995) suggests that this value is an acceptable value in such studies where a broad and complex conception such as culture is attempted to be measured (Wasti and Fiş, 2010, p.18). The model's fit indices, obtained through the primary-level confirmatory factor analysis, implemented in order to determine its relationship with the items of the scale used in the study for Corporate

Entrepreneurship (CE), were examined, and the minimum chi-square estimation was found to be at significant level ( $\chi^2 = 267,75$ ,  $df = 66$ ,  $p = 0.00$ ). Estimations for fit index were found to be as RMSEA=0.054, GFI = 0.91, CFI = 0.91, AGFI = 0.93. These fit indices show that the three-factor model is acceptable. The alpha coefficient estimated for the corporate entrepreneurship (CE) scale consisting of twelve statements in total, was at the level of  $\alpha = 0.84$ . The alpha coefficient for Proactivity, the sub-dimension of the scale, was at the level of  $\alpha = .86$ ; for Competitive Aggressiveness at  $\alpha = .79$ ; for Risk-Taking at  $\alpha = .86$ . Once again, the model's fit indices, obtained through the primary-level confirmatory factor analysis, implemented in order to determine its relationship with the items of the scale used in the study for Firm Performance (FP), were examined, and the minimum chi-square estimation was found to be at significant level ( $\chi^2 = 137,56$ ,  $df = 91$ ,  $p = 0.00$ ). Estimations for fit index were found to be as RMSEA = 0.039, GFI = 0.90, CFI = 0.92, AGFI = 0.90. These fit indices show that the three-factor model is acceptable. The alpha coefficient of the measurement tool with 10 questions in total, was estimated as  $\alpha = .86$ . The alpha coefficients estimated for the sub-dimensions of profitability and growth, each consisting of 3 questions, were respectively at the levels of  $\alpha = .72$  and  $\alpha = 0.73$ , and for the dimension of customer satisfaction, consisting of 4 items, it was at  $\alpha = .86$ .

### 3.2. Hypothesis Tests

The data obtained within the scope of the study were analyzed through suitable statistical programs. 36.2% of the participants (116) were females, and 63.8% (205) were males; 11.2% were between the ages 25 and under; 39.1% were between 26 and 35; 30.5% were between 36 and 45; 19.2% were 46 and above. 66.6% of the employees had a high-school graduates, 15.5% were had a master's degree, 11.8% were bachelor's degree. And 26.3% of the employees had 6-10 years of work experience; 28% had 16 and above years of work experience. And finally, 39.3% of the participants were department managers, 17.7% were department chiefs and 15.9% were supervisors.

In this regard, in the first step, the mean scores, standard deviations and correlations obtained about the levels of tightness-looseness, corporate entrepreneurship and firm performance of the participating organizations, were investigated. The data regarding the analysis are shown in Table 1.

**Table 1. Results from the Correlation Analysis between the Tightness-Looseness Dimension, Corporate Entrepreneurship, and Firm Performance**

	Mean	S.D.	T-L	CE	PRO	CA	IO	RT	FP	PRF	GRW	CS
<b>T-L</b>	4,91	1,53	1									
<b>CE</b>	4,68	1,17	,84**	1								
<b>PRO</b>	4,97	1,57	,85**	,85**	1							
<b>CA</b>	4,63	1,49	-,06	,29**	-,09*	1						
<b>IO</b>	4,57	1,62	,84**	,85**	,80**	-,07	1					
<b>RT</b>	4,57	1,63	,79**	,89**	,73**	,10*	,73**	1				
<b>FP</b>	3,76	,99	,87**	,76**	,78**	-,11*	,78**	,72**	1			
<b>PRF</b>	3,60	,92	,75**	,63**	,67**	-,11*	,66**	,59**	,90**	1		
<b>GRW</b>	3,55	1,01	,75**	,65**	,69**	-,13**	,67**	,62**	,93**	,81**	1	
<b>CS</b>	3,99	1,15	,89**	,79**	,78**	-,08	,80**	,76**	,94**	,76**	,81**	1

\*\*It shows that the relationship is significant at 1% ( $p < 0.01$ ).

\* It shows that the relationship is significant at 5% ( $p < 0.05$ ).

Considering Table 1, it is seen that the coefficients for the tightness-looseness dimension and corporate entrepreneurship and firm performance are statistically significant ( $p < .01$ ,  $p < .05$ ). Thus, a high positive correlation was found between the tightness-looseness dimension and corporate entrepreneurship ( $r = .84$  and  $p = .00$ ), and firm performance ( $r = .87$  and  $p = .00$ ). Thus, the more the looseness increases (or decreases), the more the corporate entrepreneurship and firm performance will increase (or decrease).

According to Table 1, the coefficients regarding the proactivity, innovation orientation, competitive aggressiveness and risk-taking, which are the sub-dimensions of the tightness-looseness dimension and corporate entrepreneurship and firm performance, were found to be at significant level ( $p < .001$ ,  $p < .005$ ). However, only the coefficients regarding the 'competitive aggressiveness' between innovation orientation sub-dimension of corporate entrepreneurship was not at statistically significant level ( $p < .001$ ,  $p < .005$ ). Accordingly, while a high positive correlation was found between the dimension of tightness-looseness and corporate entrepreneurship ( $r = .84$  and  $p = .00$ ), and the proactivity ( $r = .85$  and  $p = .00$ ), innovation orientation ( $r = .84$  and  $p = .00$ ), risk-taking ( $r = .79$  and  $p = .00$ ), which are the sub-dimensions of corporate entrepreneurship, no relationship was found with competitive aggressiveness ( $r = -.06$  and  $p = .04$ ). Furthermore, the positive relationship found after the Pearson's Correlation Analysis is the indicator of looseness of organizations.

Similarly, according to Table 1, it is seen that the coefficients for the tightness-looseness dimension and firm performance, and profitability, growth and customer satisfaction, which are the sub-dimensions of firm performance are statistically significant ( $p < .001$ ). Accordingly, a high positive correlation was found between the tightness-looseness dimension and firm performance ( $r = .79$  and  $p = .00$ ), and profitability ( $r = .80$  and  $p = .00$ ), growth ( $r = .80$  and  $p = .00$ ), and customer satisfaction ( $r = .91$  and  $p = .00$ ), which are the sub-dimensions of firm performance. Furthermore, the positive relationship found after the Pearson's Correlation Analysis is the indicator of looseness of organizations.

### 3.3. Findings of the SEM Analysis

In the second stage of the analysis, path analysis was implemented for the model established through SEM. As the hypotheses of the study were being tested through the path analysis, it was aimed at determining the ideal model accounting for the current relationships.

In the SEM analysis, a great number of fit indices could be used in order to test the validity of model. The analysis results concerning the Structural Equation Modeling established in the study are shown in Figure 1.



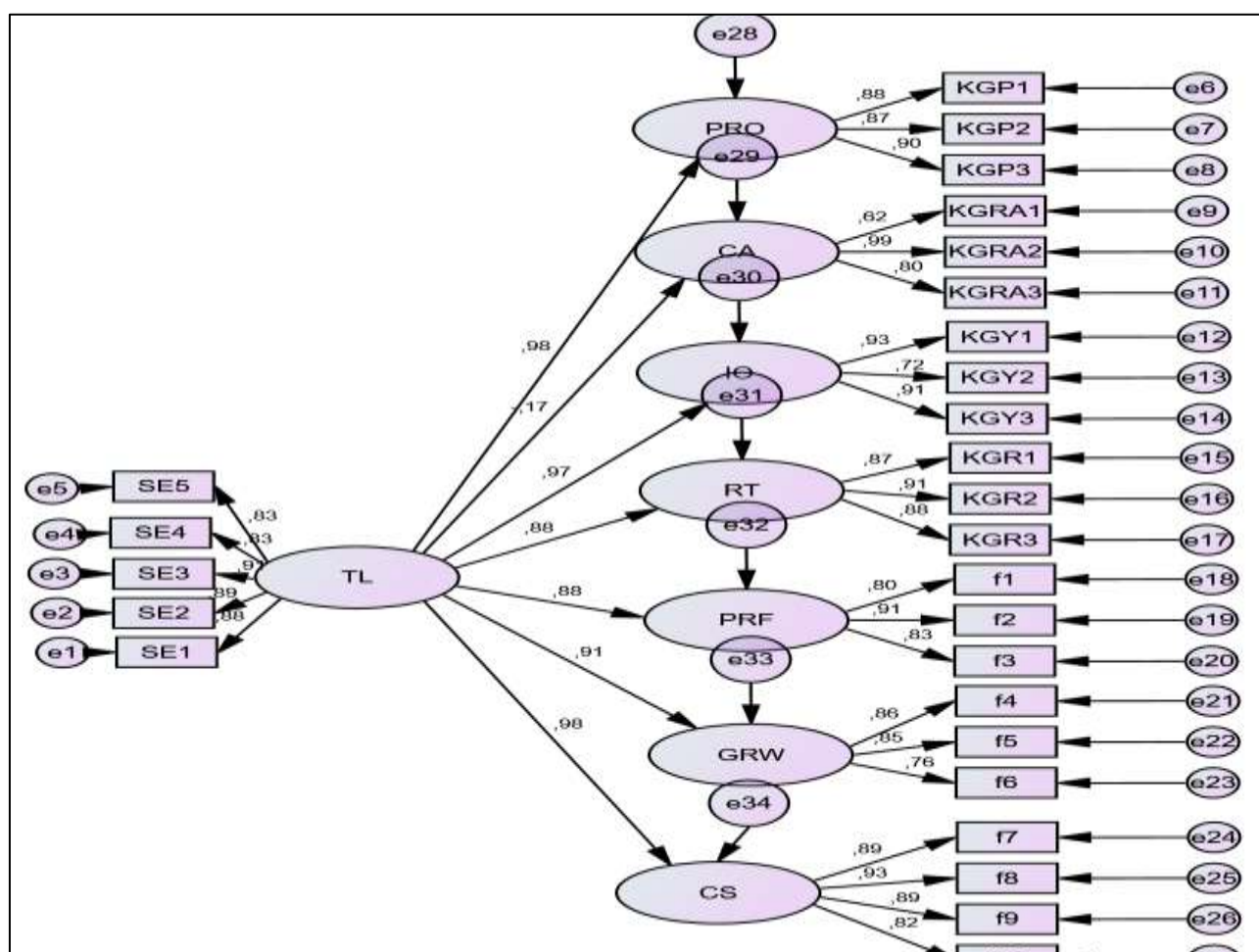


Figure 1. Structural Modeling And Hypotheses

Considering Figure 1, which shows the results of the analysis implemented through Structural Equation Modeling, while the tightness-looseness dimension had a positive significant effect on proactivity ( $\beta=.98, p<.01$ ), innovation orientation ( $\beta=.97, p<.01$ ), and risk-taking ( $\beta=.88, p<.01$ ), which are the sub-dimensions of corporate entrepreneurship, there was negative significant effect of corporate entrepreneurship found on the dimension of competitive aggressiveness ( $\beta=-.16, p<.01$ ). Thus, the hypotheses “**H<sup>1</sup>**: The dimension of tightness-looseness is effective on the sub-dimension and corporate entrepreneurship.” were supported.

Similarly, considering Figure 1, while the dimension of tightness-looseness had a positive significant effect on profitability ( $\beta=.88, p<.01$ ), growth ( $\beta=.90, p<.01$ ), and customer satisfaction ( $\beta=.97, p<.01$ ), which are the sub-dimensions of firm performance. Thus, the hypotheses “**H<sup>2</sup>**: The dimension of tightness-looseness is effective on the sub-dimension and firm performance.” were supported.

There is various information in various sources about which fit tests would be better to be applied for the structural equation modeling, and this issue is still up-to-date. Many fit indices were used to test the model's validity. The most commonly used indices included *Chi-Square Fit Test* ( $\chi^2/df$ ), *Comparative Fit Index* (CFI- Comparative Fit Index), *Goodness-of-Fit Index* (GFI- Goodness-of-Fit Index), *Adjusted Goodness-of-Fit-Index* (AGFI- Adjusted Goodness-of-Fit-Index), *Normed Fit Index* (NFI- Normed Fit Index), *Root Mean Square Error of Approximation* (RMSEA- Root Mean Square Error of Approximation) and *Standardized Root Mean Square Residual* (SRMR- Standardized Root Mean Square Residual). Fit indices for the tests used for the model's data fit are shown in Table 2.

**Table 2. Fit Criteria**

Fit Indices	Good Fit	Acceptable Fit
$\chi^2/df$	$0 \leq \chi^2 / df \leq 2$	$2 \leq \chi^2 / df \leq 3$
RMSEA	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.10$
SRMR	$0 \leq SRMR \leq 0.05$	$0.05 \leq SRMR \leq 0.10$
NFI	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$
NNFI	$0.97 \leq NNFI \leq 1.00$	$0.95 \leq NNFI \leq 0.97$
CFI	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$
GFI	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$
AGFI	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI \leq 0.90$

Browne and Gudeck, 1993; MacCallum, Browne and Sugawara, 1996; Hu and Bentler, 1999; Hooper, Coughlan and Mullen, 2008).

As it is seen in Table 2, reviewing the estimations for goodness of fit, it was found that the estimations for GFI (Goodness-of-Fit Index) were significant at 0.94, for AGFI (Adjusted Goodness-of-Fit Index) at 0.93, for CFI (Comparative Fit Index) at 0.94, for NFI (Normed Goodness-of-Fit Index) at 0.92, for  $\chi^2$  (Chi-square statistic) at 1013,75, and with the degree of freedom (df)=317 and RMSEA=0.07 Since the results obtained from the analysis of the structural equation modeling established have yielded good and acceptable levels of goodness-of-fit (RMSEA< 0.08, GFI and CFI> 0.95 and AGFI> 0.90), it could be suggested that the model was acceptable (Browne and Gudeck, 1993; MacCallum, Browne and Sugawara, 1996; Hu and Bentler, 1999).

#### 4. Conclusion and Discussion

The concept *organizational culture*, with respect to its abstract and ambiguous structure, is a concept to be examined multidimensional and from different perspectives. Given the fact that a 'values' approach was adopted in most of the studies implemented concerning the organizational culture, it is expected that the tightness-looseness dimension will establish a new perspective for understanding and explaining the organizations. As cited from Gelfand et al. (2006), the dimension of tightness-looseness has significant effects on many organizational outcomes. In this regard, the effects of the tightness-looseness dimension on corporate entrepreneurship and firm performance, which are the possible organizational outcomes, were examined in the study. Accordingly, a research was conducted on in Turkey's leading industrial enterprises that Food, Beverage and Tobacco Sector, and the effects of the dimension of tightness-looseness on corporate entrepreneurship and firm performance were attempted to be accounted for by a structural modeling established within the scope of a sample determined.

The effects of the dimension of tightness-looseness, which is the independent variable in the research model, on dependent variables, and its relationship with each dependent variable were examined. After the path analysis implemented in the research model established with this goal, it was found that the dimension of tightness-looseness had a positive significant effect on proactivity, innovation orientation and risk-taking, which are the sub-dimensions of corporate entrepreneurship. This result supports the views of Gelfand et al. (2006) on that the dimension of tightness-looseness would affect the intra-organizational entrepreneurship orientation, competitive aggressiveness and accordingly, the innovational and entrepreneurial activities. Similarly, in his study, Utterback (1979) suggested that firms with loose production processes and organizational structures would be more successful in product and process innovation in comparison with the firms with tighter structures. In addition, Özsoy et al. (1997) also suggested that organizations with loose structures improve their innovational and entrepreneurial activities.

In the study, it was found that the dimension of tightness-looseness had negative effects on the 'competitive aggressiveness' sub-dimension of corporate entrepreneurship. This result might have been caused by the firms constituting the sample being not classified by market structure. Whether the firms are in monopoly, oligopoly or perfect competition market will affect the outcomes regarding this sub-dimension.

Similarly, after the path analysis implemented within the research model, it was found that the dimension of tightness-looseness affects the firm performance and its sub-dimensions 'profitability,' 'growth,' and 'customer satisfaction' significantly. It is possible for organizations to sustain their presence by gaining an advantage for competition only through positive scores that will be reflected on qualitative and quantitative criteria. Thus, the dimension of tightness-looseness, defined as the significance, effect and power of social rules, sanctions and standards, has a significant effect on firm performance.

Consequently, it was determined that the model established through the structural equation modeling was consistent with the data. Accordingly, considering the path analyses implemented within the scope of the model established and the data obtained, it was found that the dimension of tightness-looseness, suggested as a unique and different dimension from other dimensions of organizational culture, significantly affects the corporate entrepreneurship activities of industrial enterprises, and the firm performance.

This research only includes Turkey's leading industrial enterprises that Food, Beverage and Tobacco Sector. The fact that the study was conducted on this sample only leaves out the other sectoral legs that give life to the economy. After that, the study will contribute to the writing of the understanding of how to place the sample in the other sectors of the culture dimension in a more compact manner.

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