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An Analysis of Factors Affecting Credit Scoring Performance in SMEs*

KOBİ'lerde Kredi Derecelendirme Performansını Etkileyen Faktörlerin Analizi

Ebru SAYGILI[1]
Arikan Tarik SAYGILI[2]
Gokhan ISIK[3]

https://Orcid No: 0000-0002-0458-8740
https://Orcid No: 0000-0002-2013-1695
https://Orcid No: 0000-0001-9641-6219

ABSTRACT

In small and medium enterprises (SMEs), both financial and non-financial indicators related to the company and the large shareholder have significant effects on credit scores. This study explores the hybrid nature of SME credit scoring systems by developing an SME credit scoring model with general indicators, financial indicators and intelligence indicators related to the company and the major shareholder. This study is the first to explore the effect of intelligence indicators in credit scoring. It used regression analysis to evaluate real data from 125 SMEs operating in Turkey. Of 17 independent variables, 9 had statistically significant relationships with SME credit scores. The paper includes a comprehensive discussion of the implications of these findings.

Keywords: Credit Scoring, Small and Medium Enterprises (SMEs), Multiple Regression, Intelligence Indicators

ÖZET

Küçük ve Orta Ölçekli İşletmeler'de (KOBİ) işletme ve işletmenin hakim ortağı ile ilgili finansal ve finansal olmayan göstergelerin kredi notu üzerinde önemli etkisi bulunmaktadır. Bu çalışma, işletme ve hakim ortak ile ilgili genel faktörler, finansal faktörler ve istihbarat faktörlerinin karmasından oluşan KOBİ kredi derecelendirme sistemlerini inceleyerek bir model önerisi geliştirmektedir. Bu araştırma istihbarat faktörlerinin etkisini araştıran ilk çalışmadır. Regresyon yöntemi ile Türkiye'de faaliyet gösteren 125 KOBİ'nin gerçek verileri analiz edilmiştir. Analiz sonuçlarına göre, 17 bağımsız değişkenden 9 tanesi ile KOBİ kredi notu arasında istatistiksel olarak anlamlı ilişki vardır. Bu kapsamda analiz sonuçları kapsamlı olarak değerlendirilmiştir.

Anahtar Kelimeler: Kredi Derecelendirme, Küçük ve Orta Ölçekli İşletmeler (KOBİ), Çoklu Regresyon, İstihbarat Faktörleri

1. Introduction

SMEs are the backbone of the economy in both developed and developing countries. They are small but effective economic units and important building blocks of the wider economy, efficiently producing various products and services as well as inputs of productive factors for larger corporations due to their flexible managerial and manufacturing structures. They particularly contribute to regional development and employment. According to Aksumer (2013), SMEs mean *entrepreneurship, innovation* and *employment*.

SMEs can offer greater productivity than large scale enterprises compared to the investment needed. They are better at creating marginal employment, promoting more equal income distribution and therefore preventing imbalances in regional development (Ay and Talasli, 2007). Countries that realize the economic importance of SMEs have developed and continuously updated laws, rules and regulations in order to increase SMEs' contributions to the economy. This study evaluates the influences of financial and non-financial factors in determining credit scores. It differs from ot-

hers in terms of the data set used and its scope. Firstly, it identifies the direct correlation between a credit rating and the factors affecting it, critically through the weighting of factors in the scoring method. Secondly, it examines both financial data and non-financial data. Thirdly, it uses a data set gathered solely from SMEs that play a significant role in Turkey's economy.

Since the 1970s, when the small business ideology started to become more popular worldwide (Muftuoglu, 2002), SMEs have led the market in both developed and developing countries. SMEs play important roles in socio-economic development, employment and fair distribution of income (Akgemici, 2001). In the United States, for example, SMEs account for 97.2% of all companies, providing jobs to 50.4% of the US work force and producing 36.2% of US GDP and 32% of exports (Cansiz, 2008). In Turkey, 99.8% of companies are SMEs, providing 75.8% of employment and 54.5% of the payroll in the Turkish economy in 2012. Moreover, 54.5% of capital investment was made by SMEs while they generated 63.3% of income and 54.2% of GNP in 2012. Turkish SMEs generated around 59.2% of the country's export income in 2013, with 91.5% of this coming from domestically-produced tangible products.

Yet despite playing very important social and economic roles, SMEs tend to have certain weaknesses, such as managerial shortcomings, inadequate labor qualifications and skills, inadequate technological investment, meager marketing operations and bargaining power compared to larger corporations. However, their main weakness is inadequate financing alternatives, which is believed to be the main source of the other weaknesses mentioned above. Thus, developing a financial system that offers sufficient alternatives to SMEs would help solve the other problems faced by SMEs. Equity financing is the most common option for SMEs, especially in countries where the financial system favors larger corporations. However, because SME owners' capital investments are usually far from being sufficient, securities exchange markets have been developed to provide an alternative source financing, whereby SMEs can obtain capital by issuing securities. Although there are successful examples of SME securities markets, such as NASDAQ in the USA, this option is not very feasible for most SMEs, whose owners lack adequate financial skills and knowledge about basic concepts and procedures, such as determining type, price and timing of securities to be issued. Consequently, SMEs remain unable to benefit from securities exchange markets. The optimal and most

preferred alternative for SME financing is believed to be bank credits. However, SMEs receive only a very small share of bank credits issued to corporations. In addition, credit limits for SMEs are usually lower than those available to larger corporations, higher interest rates are charged and banks require higher collateral and/or impose additional terms for granting loans to SMEs.

From a credit institution's perspective, it is quite rational to favor larger corporations since they are financially less risky and more able to repay their debts. Nevertheless, a financial system is needed to make it easier for SMEs to obtain sufficient funds. The first step would be to implement an appropriate credit scoring system for SMEs, meaning a system to help financial analysts evaluate financial risks and accurately determine the limit, duration and cost of credit. Such a system would also benefit credit institutions by enabling them to lower the risk of defaults and offer more loans, thereby increasing bank revenues. At the same time, SMEs would benefit from a financial system in which credit institutions feel less hesitant in granting loans with more favorable terms due to a more reliable credit scoring system.

Credit scoring models are the most widely used systems by credit institutions to manage credit processes reliably. Quantitative and qualitative information about the customer, as well as the judgement and experience of the rating analyst, are important factors for evaluating applicants' creditworthiness (Bluhm et al., 2003). The scoring system is dynamic, in that the credit score is updated based on changing conditions and new financial data, such as periodical financial statements. Generally, the main aims of the scoring procedures of credit institutions are to measure risk levels of companies and minimize problems in the credit relationships with their customers. Credit scores should help to appraise each applicant company accurately so that the analyst can prepare suitable credit plans and strategies to apply to companies with different risk levels and financial constraints. Thus, credits for lower risk groups will have lower interest rates and other favorable terms. This allows credit institutions to manage their capital more efficiently and effectively while contributing to the overall economy by providing sufficient loans to a greater proportion of enterprises in need. Furthermore, an efficient credit scoring system allows financial resources to be allocated at lower cost, enables analysts to determine credit limits and identify problematic loans (Sirvan, 2004). Credit

scoring is a statistical model that incorporates both financial and non-financial measures. Scoring models can include many different financial and non-financial criteria depending on credit institution's credit policies and annual financial targets in consideration with the legal framework and economic context. Companies must be aware of these multiple criteria and their weightings in order to improve the accuracy of their eligibility and credit scores.

This paper is organized as follows. The second section reviews the research stream on credit scoring before proposing a new credit scoring model for SMEs. The third section uses linear regression to analyze the relationship between credit scoring performance and financial and non-financial data from 125 SMEs in Turkey. The fourth section identifies and discusses the influences of financial and nonfinancial independent variables on credit scoring.

2. Literature Review

Credit scoring involves various techniques and decision-making models that aim to assist creditors guarantee repayment of the principle and interest of credit, as seen in Table 1. These techniques are used to accurately determine whether to grant the loan and, if so, what terms and conditions to apply, including duration, credit limit and interest rate. The scoring system is used for forming a reliable basis for credit risk management as well as the accumulation of historical data for the following periods (Babuscu, 2005). Scoring enables decisions to be more objective and minimizes the subjective evaluations of bank employees through the use of identical, standard procedures. This in turn increases the confidence of both credit institutions and applicants in the decisions.

The majority of studies of credit scoring aim to develop statistical models for banks. These can be placed in two categories, corporate credit scoring and consumer credit scoring, as summarized in Table 1. Studies of corporate credit scoring have proposed various prediction models that include variables such as credit score (Emel et al., 2003; Sezgin, 2006; Min and Lee 2008; Bingol, 2009), profit or loss (Vurur, 2009), credit risk (Zhang et al., 2013), probability of default and lending attitude (Ono, 2014), and credit risk management (Belas et al., 2017). Several models use financial ratios (Emel et al., 2003; Min and Lee, 2008; Bingol, 2008, Vurur, 2009, Altman et al., 2018) while some of use both financial and non-financial indicators (Sezgin, 2006; Zhang et al., 2013; Ono et

al., 2014). On the other hand, consumer credit scoring studies focus on credit performance (Marshall et al., 2010; Louzada et al., 2012), value at risk (Jacobson and Roszbach, 2003), probability of default (Dinh and Kleimeier, 2007), loan quality (Abdou, 2009) and credit decision (Bekhet and Eletter, 2014) while considering financial and non-financial indicators during the scoring process.

Emel, et al. (2003) conducted one of the pioneering studies of corporate credit scoring methodology in Turkey. They used Data Envelopment Analysis (DEA) to measure overall company performance by a single credibility score. The financial ratios of 82 manufacturing companies that applied for loans from one Turkish commercial bank were used in this study. While credit score was the dependent variable, 46 ratios related to bank loans, fixed assets, financial leverage, profitability, liquidity, liability term structure, sales and costs aspects were the independent variables. They concluded that firms with higher credit scores have higher liquidity, lower bank loans, higher capital adequacy and a better balance between their equity and fixed assets. Min & Lee (2008) conducted a study in the Republic of Korea, using similar dependent variables and methodology. However, their independent variables were financial ratios related to growth, liquidity, operational efficiency, profitability, productivity and cost structure. They also evaluated the reliability of DEA results using real bankruptcy cases from 103 firms. Sezgin (2006) adopted the Internal Rating Based Approach proposed by New Basel Capital Accord (BIS, 2001) to evaluate the performance of four different models in order to improve internal credit rating process in banks, using validation techniques suggested by the Basel Committee. The dependent variable was credit rating while there were 16 financial and 13 non-financial indicators as independent variables for a sample of 1,649 loan applications to a Turkish bank, including 61 defaulted and 1,578 non-defaulted firms. The study compared the credit scores of defaulted and non-defaulted companies by applying logistic regression to financial data gathered from KOSGEB loan records. Zhang et al. (2013) analyzed the factors affecting the credit risk of the high-tech enterprises in China using the Cox Model, and concluded that current ratio, accounts receivable turnover ratio, total asset turnover ratio and return equity ratio significantly influence the credit risk of high-tech enterprises. More specifically, the stronger that a high-tech enterprise's independent innovation ability is, the lower its credit risk will be. However, they found that regional factors

have a relatively limited impact on the credit risk of high-tech enterprises. Belas et al. (2017) searched the dependence between the entrepreneur's ability to manage the credit risk in their company effectively and their knowledge of the corporate capital.

Several studies have investigated SME credit scoring in the first group. Bingol (2009) developed a credit evaluation method to determine the credit scores of Turkish SMEs operating in the textile sector, using 27 financial ratios from of 1,497 SMEs to develop three statistical models from which particular correlations were gathered. The results indicated that firms must emphasize transparency while producing financial statements and make the required technological investments. Vurur (2009) developed a forecasting model for SMEs to determine the probability of financial failure. Altman et al. (2018) developed a new innovative model to assess SMEs' creditworthiness and we test it on the companies that have issued mini-bonds from this market's inception in 2013 to 2015.

The second category of studies concerns consumer credit scoring. Jacobson and Roszbach (2003) proposed two models for a bank's decision to grant a consumer loan and to measure the probability of default. They used a Monte-Carlo simulation with the bivariate probit model to obtain a Value at Risk (VAR) measure for their sample loan portfolio. Dinh and Kleimeier (2007) developed a credit scoring model with logistic regression for Vietnamese retail loans to demonstrate how such a model can enable a bank to achieve its strategic objectives. Other researchers have assessed the use of credit scoring models in the context of transactional versus relationship lending. Ono et al. (2014) reported rather mixed findings from their study conducted in Japan. They concluded that the ex-post probability of an SME defaulting on a Small Business Credit Scoring (SBCS) loan significantly increased if the loan was obtained through a transactional lender. They attributed this to cultural factors that affect lenders' and borrowers' relationships and attitudes.

Table 1: Literature Review

	Author(s)	Dependent Variable (s)	Independent Variables	Data Set	Methodology
CORPORATE CREDIT SCORING	Emel et al. (2003)	Credibility score	46 financial ratios	Loan applications of 82 manufacturing companies in a Turkish Commercial Bank	DEA, Regression, Discriminant Analysis
	Sezgin (2006)	Credit score	16 financial ratios and 13 non-financial variables	149 commercial loan applications in Turkish Banking Industry	Classification and Regression, Logistic Regression, Probit Regression, Linear Discriminant
	Min and Lee (2008)	Credit score	43 financial ratios	Using actual bankruptcy cases of 103 firms in Korea	DEA, Regression, Discriminant Analysis
	Bingol (2009)	Credit Score	27 financial ratios	Financial data of 1,497 Turkish SMEs in textile industry	Factor Analysis, Cluster Analysis, DEA
	Vurur (2009)	Profit / Loss	12 financial ratios	Financial data of 4,937 SMEs data gathered from KOSGEB, Turkey	Logistic Regression
	Zhang et al. (2013)	Credit risk	17 financial and non-financial variables	187 Chinese high-tech listed companies	Regression (Cox Model)
	Ono et al. (2014)	Probability of default (PD), Lending attitude	Financial and non-financial data (credit scoring, firm characteristics, bank characteristics, firm-bank relationship)	819 SME questionnaire results from Japanese firm bank database	Regression
	Belas et al. (2017)	Credit risk management	4 indicators related to entrepreneur's knowledge of the corporate capital	352 SME questionnaire results from Czech Republic	Regression
	Altman et al. (2018)	SMEs' creditworthiness	25 financial ratios	14,420 Italian SMEs (including 520 defaulted firms)	Logistic Regression
CONSUMER CREDIT SCORING	Jacobson and Roszbach (2003)	Value at risk (VaR)	17 financial and non-financial variables related with consumer loans	1,333 Swedish consumer loan applications	Probit Model
	Dinh and Kleimeier (2007)	Probability of default	14 financial and non-financial variables related with consumer loans	Credit scoring data from one of Viet Nam's commercial banks	Logistic Regression
	Abdou (2009)	Consumer loan quality	25 financial and non- financial variables related with consumer loans	1,262 consumer loans (851 good loans, 411 bad loans) in Egyptian commercial public banks	Weight of Evidence Measure, Probit Model, Genetic Programming
	Marshall et al. (2010)	Credit Granting (Grant / Reject) Performance measurement (Good/Bad)	Financial and non-financial variables related with consumer loans	43,634 (including 2,934 rejected loans) English consumer loan applications in one of the biggest commercial banks of U.K.	Probit Models
	Louzada et al. (2012)	Credit performance	Client type, gender, age, marital status, length of residence	4,504 Brazilian consumer loans in a commercial bank	Logistic Regression Models
	Bekhet and Eletter (2014)	Credit Decision (CD)	12 financial and non-financial variables related with consumer loans	492 accepted and rejected applications in different Jordanian Commercial Banks	Logistic Regression Model, Radial Basis Function Scoring Model

Abdou (2009) developed and evaluated three different models to examine the quality of 1,262 personal loans (851 good loans, 411 bad loans) from Egyptian commercial public sector banks. They concluded that the Weight of Evidence measure (WOE) was the best model. Marshall et al. (2010) investigated the effect of sample selection bias on the probability of default for retail bank customers by applying a standard probit model to consumer loan data from one of the UK's largest commercial banks. They concluded that sample selection bias can be overcome by estimating the credit granting decision and performance assessing processes simultaneously. Other studies were similar to credit rating examinations. Louzada, et al. (2012) analyzed the performance of a naive logistic regression model and a logistic regression with a state dependent sample selection model applied to simulated results. Other studies evaluated credit scoring model's performance on a data set extracted from a Brazilian bank portfolio. For instance, Bekhet & Eletter (2014) proposed two credit scoring models using data mining techniques to support Jordanian commercial banks' loan decisions. They reported that Logistic Regression is more accurate than Radial Basis Function and warned that extending credit to customers with high probability of default may lead to financial distress.

Banks collect a considerable amount of information during the credit scoring process. SME credit scoring therefore has a hybrid nature that draws on financial and non-financial criteria about both the company and the major shareholder (main partner). Among the few studies of SME credit scoring, Ono et al. (2014) used financial and non-financial variables together. This current study is the first to analyze both financial and non-financial indicators about both companies and major shareholders in Turkey The indicators in the model are discussed in the next section.

3. Research Design and Empirical Predictions

This study evaluates the correlations between credit rating and multiple financial and non-financial data. It therefore applies multivariate (multiple) regression analysis as this is a highly reliable method for measuring correlations between multiple variables (Higgins, 2005; Rencher 2002; Joseph et al., 2010,). SPSS version 22 was used to conduct the regression analysis.

3.1. Dataset

The dataset for this study was obtained from one of the credit institutions operating in Turkey's financial market. The data set was gathered from credit scoring evaluations between 2012 and 2016, during which the credit scoring policy of the credit institution was stable. Data were included from 125 SMEs operating in Turkey with 0 to 25 million TL annual revenues. Companies of group firms were excluded from the research.

3.2. Variables and Descriptive Statistics

The proposed model, presented in Table 2, includes general indicators, financial indicators and intelligence indicators. General indicators are information about the company and major shareholder while financial indicators are the company's financial ratios. The present model also includes intelligence indicators about both the major shareholder and the company, which is another new contribution to the relevant literature. There were 9 general information variables for the company and major shareholder, 5 financial information variables and 3 intelligence information variables. Table 3 lists the variables and their codes.

We used the following empirical model:

$$CS = \beta_0 + \beta_1 IND + \beta_2 NOE + \beta_3 FAGE + \beta_4 LSAGE + \beta_6 LSE + \beta_7 LSMS + \beta_8 EXP + \beta_9 IMP + \beta_{10} CBS + \beta_{11} CLRR + \beta_{12} NLRR + \beta_{13} CR + \beta_{14} IT + \beta_{15} CGCB + \beta_{16} CSD + \beta_{17} TATD + dummy\ gender \quad (1)$$

Table 2: SME Credit Scoring Model

I. General Indicators	
Company Profile	: Industry, number of employees, firm age
Large Shareholder	: Age, gender, education, marital status
Company Operations	: Exports and imports
II. Financial Indicators	
Liquidity and Activity Ratios	: Current ratio, debt ratio, inventory turnover ratio
Cash Flow Ratios	: Cash generation from core business, cash surplus or deficit
III. Intelligence Indicators	
Credit Bureau Score of the Major Shareholder	: A score related to the limits and risks of the banking instruments of the major shareholder
Central Bank Report of the Company	: Cash limit risk rate, non-cash limit occupancy rate

Table 3: List of Predictor Variables in the Analysis

Variables		
CS	Credit Score	
IND	Industry	: X=1: merchandise, 0: manufacturing
NOE	Number of Employees	
FAGE	Firm Age	
LSAGE	Major Shareholder Age	
LSG	Major Shareholder Gender Dummy	: X=1: male, 0: female
LSE	Major Shareholder Education	: X=1: high school, 2: bachelor, 3: MSc.
LSMS	Major Shareholder Marital Status	: X=1: married, 0: single
IMP	Import Operations	: X=1: Yes, 0: No
EXP	Export Operations	: X=1: Yes, 0: No
CBS	Major Shareholder Credit Bureau Score	
CLRR	Cash Limit Risk Rate of the Company	
NLRR	Non-Cash Limit Risk Rate of the Company	
CR	Current Rate	
IT	Inventory Turnover Date	
CGCB	Cash Generation from Core Business Activities	: X=1: Yes, 0: No
CSD	Cash Surplus or Deficit	: X=1: Yes, 0: No
TATD	Debt Ratio	

3.2.1. Primary Dependent Variable

CS – Credit Score: The credit scores in the dataset were chosen from 125 SMEs evaluated by a Turkish credit institution's scoring system between 2012 and 2016. In this system, the best credit performance is scored as 1, meaning that credit performance worsens as the rating score increases. Companies with scores of 1 to 12 received the requested credit while companies with scores of 13 to 15 received 60% percent of the requested credit. Requests from companies with credit scores over 16 were rejected. Both the accepted and rejected applications were included in the analysis so 16% of the data set represents rejected applications.

3.2.2. Primary Independent Variables

General indicators

IND - This study analyzed SMEs from merchandising and manufacturing industries. 50.4 % of the companies were merchandising companies.

NOE - Number of Employees: NOE was expected to have a positive relation with CS. Companies with more employees were predicted to have better credit scores.

FAGE - Firm Age: The variable represents the years since the SME's establishment. FAGE was expected to have a positive relation with CS. Companies operating for longer were predicted to have better credit scores.

LSAGE - Major Shareholder Age: LSAGE was predicted to have a positive relation with CS.

LSG - Major Shareholder Gender: 90 % of the companies had male large shareholders.

LSE - Major Shareholder Education: The major shareholders of 47% of SMEs had bachelor degree or higher. LSE was expected to have a positive relation with CS.

LSMS - Major Shareholder Marital Status: 93% of major shareholders were married.

IMP - Import: This variable indicates whether the SMEs have import operations or not. IMP was expected to have a negative relation with CS.

EXP- Export: This variable indicates whether the SMEs had exports or not. EXP was expected to have a positive relation with CS. Only 10% of the companies had export operations.

Financial Indicators

CR - Current Ratio: As a liquidity ratio, this shows each company's ability to pay back its short-term debts. It is calculated as Current Assets / Current Liabilities. Data was provided from year-end balance sheets. CR was expected to be positively associated with CS.

IT- Inventory Turnover in Days: This financial ratio indicates the number of days that goods remain in inventory before sale, calculated as (Average Inventory / 2) / (Cost of sales / 360). IT was expected to have a negative relation with CS.

TATD - Debt Ratio: This indicates the ratio of total assets to total debt, including leasing and factoring debts too, calculated as Total Assets / Total Debts. TATD was expected to have a positive relation with CS.

CGCB - Cash Generation from Core Business activities: CGCB was expected to have a positive relation with CS.

CSD - Cash Surplus or Deficit: The variable measures cash surplus or deficit at the end of the operating year, calculated as Short Term Financial Debts / Total Cash Deficit. CSD was expected to have a positive relation with CS. 78% of the companies had a cash deficit.

Intelligence Indicators

CBS- Credit Bureau Score of Large Shareholder: The Turkish Credit Bureau is a credit database corporation with a founding membership of 11 Turkish banks that collects all Turkish citizens' individual credit data to generate a credit score, called CBS, that depends on their payment performances. Turkish banks commonly use CBS scores, which can vary between 0 and 1,900 (0 is the worst score), to evaluate an individual's credibility. The variable here refers to the CBS score of the major

shareholder, which was expected to have a positive relation with CS.

CLRR - Cash Limit Risk Rate: This variable, obtained from central bank reports, refers to a company's percentage of total cash limit occupancy in all banks without distinction of maturity and currency. Factoring and leasing debts were excluded. CLRR was expected to have a negative relation with CS.

NLRR - Company's Non-Cash Limit Occupancy Rate: The variable, obtained from central bank reports, refers to a company's percentage of total non-cash limit occupancy in all banks without distinction of maturity and currency. Factoring and leasing debts were excluded. NLRR was expected to have a negative relation with CS.

Descriptive statistics for the data are presented in Table 4.

4. Multivariate Test Results and Discussion

Several assumptions must be met before conducting a multiple regression. First, there should be one dependent variable measured at the continuous level. Credit Score (CS) was a continuous variable. Second, there should be two or more independent variables that are measured at continuous or nominal level. In this study, the independent variables were all measured at continuous or nominal level, as shown in Table 5.

Table 4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CS	125	1.00	21.00	10.2320	4.63878
IND	125	0.00	1.00	0.4640	0.50071
NOE	125	1.00	200.00	22.8960	31.37053
FAGE	125	1.00	44.00	10.3760	8.08490
LSAGE	125	24.00	76.00	46.2400	11.23675
LSG	125	0.00	1.00	0.960	0.29578
LSE	125	1.00	3.00	2.0760	0.50264
LSMS	125	0.00	1.00	0.9840	0.93657
IMP	125	0.00	1.00	0.9360	0.24574
EXP	125	0.00	1.00	0.9680	0.17671
CBS	125	1.00	1900.00	1413.7360	368.24019
CLRR	125	0.00	0.96	0.3886	0.23722
NLRR	125	0.01	0.89	0.3530	0.20739
CR	125	0.05	9.28	1.3878	1.10951
IT	125	5.00	1344.00	154.3680	1190.31861
CGCB	125	0.10	1.00	0.7120	0.45465
CSD	125	0.00	1.00	0.2400	0.42880
TATD	125	0.57	9.82	0.4359	1.17419

Table 5: Measurement Levels of Independent Variables

Independent Variables Measured at Continuous Level	Independent Variables Measured at Nominal Level
Large Shareholder Credit Bureau Score (CBS)	Industry (IND)
Number of Employees (NOE)	Large Shareholder Gender (LSG)
Firm Age (FAGE)	Large Shareholder Education (LSE)
Large Shareholder Age (LSAGE)	Large Shareholder Marital Status (LSMS)
Cash Limit Risk Rate of the Company (CLRR)	Exports (EXP)
Non-Cash Limit Risk Rate of the Company (NLRR)	Imports (IMP)
Current Rate (CR)	Cash Generation (CGCB)
Inventory Turnover Date (IT)	Cash Surplus or Deficit (CSD)
Debt Ratio (TATD)	

Third, there should be independence of observations, which can be assessed using the Durbin-Watson statistic. This statistic can range from 0 to 4, with approximately 2 indicating that there is no correlation between residuals. The Durbin-Watson statistics for this analysis, presented in Table 6, was 1.877 which indicates there was independence of residuals.

Fourth, if two or more variables are highly correlated then multicollinearity occurs. There are two stages in identifying multicollinearity: inspection of correlation coefficients between independent variables and Tolerance / VIF values. The correlations presented in Table 6 show that all values are less than the threshold of .7. Tolerance and VIF values are given in Table 6. Tolerance values less than 0.1 and VIF values greater than indicates a potential collinearity problem. However, all Tolerance values were greater than 0.1 so there was no collinearity problem.

Fifth, there certain data points may be classified as outliers from the perspective of fitting a multiple regression model as they are generally detrimental to the fit or generalization of the regression equation. This study selected the Casewise diagnostics option in SPSS to use unstandardized residuals. If all cases have standardized residuals less than +3 and more than -3, this table will not be produced as part of SPSS statistics output. In this study, SPSS did not produce Casewise Diagnostics, indicating that all residuals were standardized.

The R value in Table 6 measures the strength of the linear association between variables and indicates the goodness of the model fit with a value from 0 to 1. Higher values indicate a stronger linear association. In this study, R was 0.780, indicating a strong level of association. The coefficient R^2 measures the proportion of variance in the dependent variable explained by the independent variables while adjusted R^2 corrects for positive bias to provide the value expected in the population. In Table 6, R^2 was 0.609 whereas adjusted R^2 was 0.546. That is, R^2 for the overall model was 60.9% and adjusted R^2 was 54.6%.

The statistical significance of the overall model is presented in the 'Sig.' column of the Table 6. A value of .000 indicates that $p < 0.05$, meaning that the result is statistically significant. The coefficients and significance levels of all independent variables are presented in Table 6, which shows that nine independent variables in the multiple regression had significant correlations with dependent variable, credit score: NOE, FAGE, LSAGE, EXP, CLRR, CR, CGCB, CBS and CSD. All of them, except CLRR, have negative coefficients, which means they lower the credit score. The best credit performance is scored as 1, so credit performance gets better as the rating score decreases. Hence, they have a positive impact on the credit scoring performance.

Among the nine general indicators, four variables (NOE, FAGE, LSAGE and EXP) had statistically significant negative relationships with credit scores. The results of the analysis confirmed that non-financial factors are important and should be taken into consideration. As the number of employees, firm age, large shareholder age and exports increase, credit score decreases which is good for the company. SMEs generally run their operations with fewer employees due to cost advantages and/or constraints. However, this can cause heavy workload, jurisdiction uncertainty and interruption of operations. The number of employees (NOE) is therefore an important indicator considered by credit institutions, and credit scoring systems are designed to assign higher credit scores to companies

with more employees. SME directors should plan their employee requirements realistically and hire the optimal number of employees. The experience that comes over time and from hard work is another crucial element for success. Especially in developing countries, which have more uncertain environments, industry experience becomes more significant. Credit institutions therefore incorporate experience into their credit scoring systems by assigning higher credit scores for factors as major shareholder's age (LSAGE) and firm age (FAGE) increase. Export operations (EXP) can benefit a company as an indicator of sound marketing operations, high quality and demanded products, and geographically dispersed market shares. It is also perceived as a positive indicator due to advantageous exchange rates for SMEs, especially in developing countries.

Table 6: Statistical Results of the Analysis

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.780[a]	.609	.546	3.124	1.877

a. Predictors: (Constant), TATD, NLRR, LSMS, LSG, EXP, FAGE, IND, LSE, CSD, CR, IT, CBS, NOE, IMP, LSAGE, CLRR, CGCB
b. Dependent Variable: CS

Coefficients [a]

Model	Unstandardized Coefficients B	Std. Error	t	Sig.	Correlations Zero-order	Partial	Part	Collinearity Statistics Tolerance	VIF
(Constant)	29.992	3.286	9.128	.000[***]					
IND	-.425	.620	-.685	.495	-.175	-.066	-.041	.819	1.221
NOE	-.036	.010	-3.669	.000[***]	-.255	-.334	-.222	.843	1.187
FAGE	-.116	.037	-3.117	.002[***]	-.373	-.289	-.189	.866	1.155
LSAGE	-.052	.028	-1.885	.045[***]	-.343	-.179	-.114	.804	1.244
LSG	.351	1.054	.333	.740	-.005	.032	.020	.810	1.235
LSE	-.691	.612	-1.129	.261	-.034	-.109	-.068	.832	1.202
LSMS	-.256	.308	-.830	.408	-.064	-.080	-.050	.947	1.056
IMP	.064	1.254	.051	.959	.070	.005	.003	.830	1.205
EXP	-3.579	1.742	-2.055	.042[***]	-.158	-.195	-.124	.831	1.204
CBS	-.005	.001	-6.233	.000[***]	-.557	-.516	-.377	.823	1.216
CLRR	2.862	1.377	2.078	.040[***]	.246	.197	.126	.738	1.356
NLRR	.000	1.472	.000	1.000	.050	.000	.000	.844	1.185
CR	-.745	.271	-2.745	.007[***]	-.217	-.256	-.166	.868	1.151
IT	-9.362	.000	-.370	.712	.032	-.036	-.022	.867	1.153
CGCB	-2.028	.813	-2.496	.014[***]	.082	-.235	-.151	.577	1.734
CSD	-3.361	.843	-3.987	.000[***]	-.276	-.360	-.241	.603	1.660
TATD	-.291	.257	-1.134	.259	-.233	-.109	-.069	.867	1.153

[a]Dependent Variable: CS
[***] Significant at 1% level

ANOVA [a] **Results**

	Model	Sum of Squares	Mean Square	F	Sig.
1	Regression	1623.922	95.525	9.787	.000[b]
	Residual	1044.350	9.760		
	Total	2668.272			

a. Dependent Variable: CS

b. Predictors: (Constant), TATD, NLRR, LSMS, LSG, EXP, FAGE, IND, LSE, CSD, CR, IT, KKB, NOE, IMP, LSAGE, CLRR, CGCB

Of the five financial indicators, three variables current ratio (CR), cash generation from core business activities (CGCB) and cash surplus or deficit (CSD) had statistically significant negative relationships with credit scores. As the current ratio, cash generation from core business activities and cash surplus increase, credit score decreases which is advantageous for the company. Because lowest credit score means the best performance. Among the financial factors, liquidity is an important performance measurement and current ratio (CR) has a positive effect on credit scoring. The liquid assets of company should be more than short-term liabilities in the balance sheet. The company needs to consider networking capital levels and future cash flows. It should not make huge investments on assets that cannot be converted into cash easily unless it is absolutely necessary and feasible. The income obtained from non-core business activities (CGCB) is considered as a permanent source of funds and has an much impact on credit scoring process. Company cash surplus or deficit (CSD) shows that the company has the financial power to fulfill its liabilities. This is especially significant for credit institutions in evaluating credit applications for long-term projects and determining permanent credit limits.

Of the two intelligence variables, Turkish Credit Bureau Score of the large shareholder (CBS) had statistically significant negative relationship and cash limit risk rate (CLRR) had a statistically significant positive relationship with credit scores. As Credit Bureau Score increases credit score decreases which is advantageous for the company. Currently the highest CBS score is 1,900 and the lowest score is zero. Credit should not be seen as the main source of company financing. Rather, the real financing requirements should be determined and the borrowing structure should be organized accordingly. Shareholders' paying performance (CBS) is one of the most significant evaluation criteria, yet generally ignored by companies. In most cases, shareholders have a sense that their personal credibility and the company's credibility are evaluated separately. However, a legal entity's morality is primarily measured through the natural entity's morality. Intelligence variables credit indicate that SMEs should plan their borrowing strategy very carefully and properly and not use cash credit (CLRR) up to their full limit. As the cash limit risk rate (CLRR) increases credit score increases which means a lower performance.

5. Conclusion

SMEs are very important for the economy of both developed and developing countries while credit institutions are the most important elements of financial systems by providing the funds that enterprises need to run their operations effectively. Thus, in any country, a healthy economy requires an effective relationship between SMEs and credit institutions. As SME's credit demands increase, the capital supply available should increase to ensure the economy operates effectively and efficiently. Well-designed and diligently applied credit scoring systems are therefore essential for enabling credit institutions to allocate their resources to deserving businesses while minimizing the risk of credit defaults. It is also crucial for SMEs to understand the factors considered in credit applications in order to prepare so that their funding applications are accepted and they gain funds under better terms and conditions.

Recent technological improvements have helped credit scoring systems become the most commonly used models by credit institutions. These systems help creditors to categorize their customers, track their risks effectively and determine credit-related issues, such as credit price and credit policies appropriately. Various credit scoring systems have been developed. Hybrid credit scoring systems, which evaluate performance of the company and the major shareholder simultaneously using both financial and non-financial indicators, seem to suit the best credit scoring method for SMEs. Accordingly, this study used a credit scoring system with financial and non-financial variables of both the enterprise and major shareholder. A data set including financial and non-financial factors was formed and evaluation was performed on real SME data. The model evaluated the predictive power of 17 indicators related to general information, financial information and intelligence information about the company and the major shareholder in order to determine which financial or non-financial factors significantly influence the credit score. This study is the first to explore the effect of intelligence indicators on credit scoring.

Statistical results indicated that nine financial and non-financial variables affected the credit rating. These results indicate important issues about SME scoring systems. Non-financial factors like number of employees, firm age, major shareholder age and export operations play a major role in credibility evaluation. In most bankruptcy cases, financial indicators do not give any early warning sign. However,

a firm's organizational and operational weaknesses, which are ignored in most credit scoring processes used by banks, cause serious problems leading to credit default. In developing countries, SMEs generally ignore transparency principles by failing to disclose accurate data in their financial statements for analysis, mainly due to tax avoidance considerations. Such companies usually have non-invoiced sales and unregistered employees. Additionally, shareholders' personal expenses are recorded as if they are company expenses to reduce taxable income and pay lower taxes. However, manipulating accounting records to minimize revenues and maximize expenses, reducing profits and arranging organizational structure data to show fewer employees makes the firm appear smaller than it actually is, which disadvantages it during credit applications. Since credit institutions cannot measure these companies' real financial performance accurately, the company ultimately gets worse credit ratings. Liquidity is an important performance measurement and has a positive effect on credit scoring. Further, companies should focus on their main activities and obtain a significant portion of their profit from these activities. SMEs should apply more transparent fiscal policies when conducting and reporting their activities, and they should prepare their financial statements more accurately in order to obtain better

credibility. Shareholders' paying performance is one of the most significant evaluation criteria, SME shareholders should be careful about their payment records.

The first limitation of the study is, the number of evaluated credit rating systems, that is, only one credit scoring system used by a credit institution in Turkey is evaluated. Secondly, only 17 independent variables, despite there are various other factors affecting credit scores, were chosen for this study. More generalizable results can be obtained by increasing the number of samples and credit institutions. Each credit institution applies different credit policies in their credit scoring systems. These policies may differ due to many factors. As the literature review shows, there were not many studies that can help SMEs determine their credit scores. For most credit institutions, the credit policies applied in credit rating systems are not openly shared to prevent the risk that companies manipulate the results. It is therefore hard to obtain data from these corporations and similar studies in the literature have been forced to rely on limited data or limited coverage. Nevertheless, this study has offered valuable suggestions to SMEs to consider in their credit applications. Similar future studies can make valuable contributions to literature by increasing the number of credit institutions, samples and variables analyzed.

REFERENCES

Abdou, A. H. (2009). Genetic programming for credit scoring: The case of Egyptian public sector banks. *Expert Systems with Applications* (36), p. 11402–11417.

Akgemici, T. (2001). Kobilerin Temel Sorunlari ve Saglanan Destekler. Ankara: T.C. Sanayi ve Ticaret Bakanligi, KOSGEB Kucuk ve Orta Olcekli Sanayi Gelistirme ve Destekleme Idaresi Baskanligi.

Aksumer, S. *KOBI'lerin Ekonomideki Yeri, Yapisal Sorunlari Ve Cozum Onerileri*, Konya Ticaret Odasi, Ekonomik Arastirmalar ve Proje Mudurlugu, Turkiye, 2015, http://www.kto.org.tr/d/file/kobi%E2%80%99lerin-ekonomideki-yeri-ve-yapisal-sorunlari.pdf, accessed on 11/03/2018.

Altman, E. I., Esentato, M., & Sabato, G. (2018). Assessing the credit worthiness of Italian SMEs and mini-bond issuers. *Global Finance Journal*.

Ay, H.M., Talasli; E., Turkiye'de Kobi'lerin Ihracattaki Yeri ve Karsilastiklari Sorunlar, Selcuk Universitesi Karaman I.I.B.F.Dergisi Yerel Ekonomiler Ozel Sayisi, pp.173-184, May, 2007

Babuscu. S. & Hazar, A. (2008). SPK Kredi Derecelendirme Uzmanligi Sinavlarina Hazirlik. Ankara, 360-362.

Bekhet, H. A. & Eletter, S. F. K. (2014). Credit risk assessment model for Jordanian commercial banks: Neuralscoring approach. *Review of Development Finance* (4), p. 20-28.

Belas, J., Mišanková, M., Schönfeld, J., & Gavurová, B. (2017). Credit Risk Management: Financial Safety and Sustainability Aspects. *Journal of Security & Sustainability Issues*, *7*(1).

Bingol, B. (2009). *Turkiye'de KOBI Niteliginde Faaliyet Gosteren Tekstil Isletmelerinin Basel II Kriterleri Cercevesinde Kredi Derecelendirme Metodolojisi Uygulamasi*. Unpublished PHD Thesis, Marmara Universitesi.

Bluhm, C., Overbeck, L. and Wagner, C. (2003). An Introduction to Credit Risk Modeling. Boca Raton, Florida: CRC Press Company.

Cansiz, M. (2008). Turkiye'de KOBI'ler ve KOSGEB. Ankara: T.C. Basbakanlik Devlet Planlama Teskilati (DPT). p.3

Dinh, T.H.T. & Kleimeier, S. (2007). A credit scoring model for Vietnam's retail banking market. *International Review of Financial Analysis* (16), p. 471-495.

Emel A. B., Oral, N., Reisman, A. and Yolalan, R. (2003). A Credit Scoring Approach for the Commercial Banking Sector. *Socio-Economic Planning Sciences* (37), p. 103-123.

Higgins, J. (2005). Introduction to Multiple Regression (Chp4). The Radical Statistician, p.1-15.

Jacobson, T. & Roszbach, K. (2003). Bank Lending Policy, Credit Scoring and Value-at-Risk. *Journal of Banking & Finance* (27), p. 615-633.

Joseph, F. H. et al. (2010). Multivariate Data Analysis (7th ed.). Pearson Prentice Hall.

Louzada, F., Silva, P. H. F. and Diniz, C. A. R. (2012). On the impact of disproportional samples in credit scoring models: An application to a Brazilian bank data. *Expert Systems with Applications* (39), p. 8071-8078.

Marron, D. (2007). 'Lending by numbers': credit scoring and the constitution of risk within American consumer credit. *Economy and society*, *36*(1), 103-133.

Marshall, A., Tang, L. and Milne, A. (2010). Variable reduction, sample selection bias and bank retail credit scoring. *Journal of Empirical Finance* (17), p. 501-512.

Min, J. H. & Lee, Y. (2008). A Practical Approach to Credit Scoring. *Expert Systems with Applications* (35), p. 1762-1770.

Muftuoglu, T. M. (2002). Turkiye'de Kucuk ve Orta Olcekli Isletmeler Sorunlar Oneriler (5th ed.). Ankara, p.30-31.

Ono, A., Hasumi, R., and Hirata, H. (2014). Differentiated use of small business credit scoring by relationship lenders and transactional lenders: Evidence from firm bank matched data in Japan. Journal of Banking & Finance (42), p.371-380.

Sezgin, O. (2006). *Statistical Methods of Credit Rating*. Unpublished Master's Thesis, The Middle East Technical University.

Sirvan, N. (2004). Kredi Derecelendirme ve Turkiye Ekonomisi. https://www.researchgate.net/publication/267771881_KREDI_DERECELENDIRME_VE_TURKIYE_EKONOMISI, accessed on 06/10/2016.

The New Basel Capital Accord: An explanatory note (2001). https://www.bis.org/publ/bcbsca01.pdf, accessed on 10/12/2017.

Vurur, N. S. Y. (2009). *Basel Uzlasisi Cercevesinde Kobilerde Kredi Derecelendirme Notu Uygulamasi*. Unpublished PHD Thesis, Afyon Kocatepe Universitesi.

Zhang, M., He, Y. and Zhou, Z. (2013). Study on the Influence Factors of High-tech Enterprise Credit Risk: Empirical Evidence From China's Listed Companies. *Procedia Computer Science* (17), p. 901-910.

EGE AKADEMİK BAKIŞ / EGE ACADEMIC REVIEW

Uzaktan Eğitimde Kalite İyileştirme Boyutlarının Değerlendirilmesi: SMART-AHP Tabanlı SERVQUAL Yaklaşımı

Evaluation Of Quality Improvement Dimensions In Distance Education: SMART-AHP Based SERVQUAL Approach

Mehmet AKSARAYLI[1]
Osman PALA[2]

https://Orcid No: 0000-0003-1590-4582
https://Orcid No: 0000-0002-2634-2653

ÖZET

Son yıllarda, internetin ortaya çıkışı ve gelişmesi ile üniversitelerde uzaktan eğitim programları ve kurumları yaygınlaşmıştır. Rekabetin yoğun olduğu uzaktan eğitim alanında, kurumların verdiği hizmetin kalitesinin ölçülmesi, kurumların sürdürülebilir olması için gereklidir. Çalışmada, Dokuz Eylül Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma Merkezi bünyesinde yer alan programlarda kayıtlı olan 261 öğrenci ile anket yapılmıştır. Öğrencilerin aldıkları hizmetin kalitesine dair algı ve beklentileri, uzaktan eğitime uyarlanmış SERVQUAL ölçeği ile ölçülmüştür. SERVQUAL ölçeğinin ana kalite boyutları; Empati, Güven, Heveslilik, Güvenilirlik ve Web Sitesi İçeriği olarak ele alınmıştır. Kurum uzmanlarına, kalite boyutlarından hangisini iyileştirmenin kurum açısından en iyi sonucu vereceği SMART-AHP kullanılarak sorulmuş ve değerlendirmeler elde edilmiştir. Son olarak ise literatürde ilk defa SERVQUAL ve SMART-AHP birlikte kullanılarak, kurumun kalite boyutlarından hangisinde yapacağı iyileştirmenin, öğrencilerin algıladıkları hizmet kalitesini en çok arttıracağını, hizmeti veren ve alan bağlamında bütünleşik olarak değerlendirmek mümkün olmuştur. Çalışmanın, hizmet sunan karar vericilere kalite iyileştirme stratejilerini oluşturmada rehber olabileceği düşünülmekte ve hizmet veren ile alanı birlikte ele alması nedeniyle gelecek çalışmalara yön vermesi beklenmektedir.

Anahtar Kelimeler: SERVQUAL, Uzaktan Eğitim, SMART-AHP

ABSTRACT

In recent years, distance education programs has become widespread in universities with the presence and development of internet. In distance learning sector where competition is intense, measuring the quality of education is indispensable for sustainability and viability of education programs. In the study, a survey is conducted with 261 students who are enrolled in a program at Dokuz Eylül Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma Merkezi. Perceptions and expectations of students about the quality of service which they receive, is measured by SERVQUAL scale which is adapted to distance learning. The main quality dimensions of SERVQUAL scale are; Empathy, Assurance, Responsiveness, Reliability and Website Content. The institution's experts evaluated by SMART-AHP which dimension of quality must be improved to achieve best result for the institution. Finally, SERVQUAL and SMART-AHP were used together for the first time in the literature to assess which of the quality dimensions of the institution will improve the quality of services that students perceive most. The study is thought to be able to guide quality improvement strategies to service decision makers and is expected to direct future work due to its framework which is dealing with both service provider and receiver at the same time.

Keywords: SERVQUAL, Distance Learning, SMART-AHP.

[1] **DEÜ İİBF Ekonometri, mehmet.aksarayli@deu.edu.tr**
[2] **DEÜ İİBF Ekonometri, osman.pala@deu.edu.tr**

1. GİRİŞ

Uzaktan eğitim, bilgisayar ağı teknolojilerini kullanarak internet yoluyla öğreticilerin öğrencilere bilgi aktarımı ve sonucunda öğretim hizmeti olarak tanımlanmaktadır. Uzaktan eğitim kavramının kapsamı eğitim kurumlarında verilen bir akademik hizmet ile kurum ve kuruluşların şirket içi eğitimlerini ve topluluk eğitimlerini de kapsamaktadır (Welsh vd. 2003).

Yükseköğretimde, gelişen bilgi ve iletişim teknolojileri sayesinde uzaktan eğitim programları yaygınlaşmakta ve programlara kayıtlı olan öğrencilerde artış gözlenmektedir. Uzaktan eğitim programları bilişim teknolojilerinin sağladığı esnek yapısı ile çalışan veya fazla vakti olmayan öğrenciler için çok değerli bir seçenek konumuna gelirken (Doherty 2006), aynı zamanda yaşı veya engeli nedeniyle örgün öğretime devam edemeyen kişiler için de etkin bir öğrenim çözümü olmaktadır (Lykourentzou vd. 2009).

Uzaktan eğitim sektöründe programların ve sistemlerin ayakta kalabilmesi için rekabet edebilir yapıda olması gerekmektedir. Bunun için sundukları öğretim hizmetinin kalitesinin yüksek olması ve kalitenin öğrencilerin beklentilerini karşılaması gereklidir. Uzaktan eğitimin kalitesinin gerçekçi bir şekilde ölçümü kaliteyi arttırmak için öncelikli adım olmaktadır (Chiu vd. 2005; Gress vd. 2010).

Parasuraman vd. (1988) yılındaki çalışmaları ile Hizmet Kalitesi (SERVQUAL) ölçeğini geliştirmişler ve sonrasında bu ölçek çok sayıda çalışmada, hizmet sektöründe müşterilerin aldıkları hizmetin kalitesine dair algı ve beklentilerini ölçmede kullanılmıştır. Zeithaml vd. (1996) algılanan hizmet kalitesinin müşteri davranış ve tutumlarına yansıdığını ortaya koymuşlardır.

SERVQUAL kalite boyutları aynı zamanda hizmet sağlayıcısına ait birer performans ölçütleri oldukları için SMART (Belirli Olma, Ölçülebilir Olma, Kabul Edilebilir Olma, Gerçekçi, Zamana Bağlı Olma) olarak ifade edilen beş hedef kriteri üzerinden değerlendirilebilir. SERVQUAL kalite boyutlarının toplam kaliteye etkileri Çok Kriterli Karar Verme (ÇKKV) modeli olarak ifade edilirse, toplam kaliteye etkileri Analitik Hiyerarşi Prosesi (AHP) ile ağırlıklandırılabilir olmaktadır (Shanin ve Mahbod 2007).

Çalışmayı üç önemli soru şekillendirmiştir. Birincisi, "Öğrencilerin eğitimlerini sürdürdükleri uzaktan eğitim programına dair algıladıkları kalite boyutları açısından hizmetin kalitesi nedir?" yanıt aranılan ikinci soru, "Uzaktan eğitim kurumu kendi iç dinamikleri gereği en iyi ve etkin bir şekilde hangi kalite boyutunda iyileştir-

me yaparak hizmet kalitesini en çok arttırabilir?" son olarak ise, "Kurumun hangi kalite boyutunda yapacağı iyileştirme öğrencilerin algıladıkları hizmet kalitesini en çok arttıracaktır?" sorusuna cevap aranmıştır. Birinci soruya cevap, Uzaktan Eğitime uyarlanmış SERVQUAL ölçeği ile araştırılmıştır. İkinci soruya ise kurum kalite uzmanlarına yapılan SMART-AHP anketi ile cevap aranmıştır. Son olarak uzaktan eğitim SERVQUAL ve SMART-AHP birleştirilerek üçüncü sorunun cevabı araştırılmıştır.

Çalışmada, Udo vd. (2011) tarafından önerilen, uzaktan öğretim için geliştirilmiş SERVQUAL ölçeğinden yararlanılmıştır. Sektöre özgü uyarlanan SERVQUAL ölçeğinde bulunan 5 ana kalite boyutu; Empati, Güven, Heveslilik, Güvenirlik ve Web Sitesi İçeriğini temsil eden 22 soru ile öğrencilerin uzaktan öğretim hizmet kalitesine dair beklentileri ile algıları arasındaki farklar ortaya konmuştur. Kalite boyutlarının eşit ağırlıklı olarak değerlendirildiği algılanan hizmet kalite puanı hesaplanmıştır.

Çalışmada kurum bakış açısıyla kalite boyutlarını iyileştirmeyi değerlendirmek için Shanin ve Mahbod (2007) tarafından önerilen bakış açısı kullanılmıştır. Buna göre kalite boyutlarının birer alternatif, SMART kriterlerinin ise kriter olarak hedef hiyerarşisinde bulunduğu SMART-AHP ile kalite boyutlarının iyileştirmede öncelik değerleri uzaktan eğitim kurumu uzmanlarının görüşleri ile elde edilmiştir. Shanin ve Mahbod (2007) ise çalışmalarında SMART hedefleri kriter olarak ve SERVQUAL kalite boyutlarını alternatif olarak ele almış ve AHP yöntemiyle kalite boyutlarını genel kaliteyi iyileştirme açısından önceliklendirmişlerdir.

Çalışmanın amacına yönelik ilk önce öğrencilerin aldıkları hizmetin kalitesine dair algı ve beklentileri, uzaktan eğitime uyarlanmış SERVQUAL ölçeği ile değerlendirilmiştir. Sonrasında kurum uzmanlarına SERVQUAL kalite boyutlarından hangisini iyileştirmenin, kurum açısından en iyi sonucu vereceği SMART-AHP kullanılarak sorulmuş ve değerlendirmeler elde edilmiştir. Son olarak ise literatürde ilk defa SERVQUAL ve SMART-AHP birlikte kullanılarak, kurumun kalite boyutlarından hangisinde yapacağı iyileştirmenin, öğrencilerin algıladıkları hizmet kalitesini en çok arttıracağını, hizmeti veren ve alan bağlamında bütünleşik olarak değerlendirmek mümkün olmuştur.

2. LİTERATÜR ÖZETİ

Uzaktan eğitim alanında son dönemde yapılmış olan literatür tarama odaklı çalışmalara bakıldığında;

Bozkurt vd. (2015) çalışmalarında 2009-2013 yılları arasında uzaktan eğitim alanında yapılan araştırmalara yer vermiştir. 861 adet makalenin içerik incelenmesi sonucunda çalışmaları teorik ve kavramsal çerçeve, konu, değişkenler, yöntemler, modeller, stratejiler, veri ve katılımcılar açısından gruplandırmışlardır. Sonuç olarak uzaktan eğitime ek olarak son yıllarda açık kaynaklı eğitim ve mobil eğitim alanında çalışmalarda artış olduğu ve sayısal analizlerde genellikle açıklayıcı ve tanımlayıcı bakış açısının çalışmalara hakim olduğunu belirtmişlerdir. Zawacki-Richter ve Naidu (2016) çalışmalarında metin madenciliği yöntemi ile "Distance Education" adlı dergide 1980 ile 2014 arasında yayınlanmış toplam 515 adet makaleyi uzaktan eğitimde trend olan konuları belirlemek için incelemişlerdir. Başlık ve özetlere göre çalışmalarda yoğun olarak 1980-1984 arası periyot içerisinde profesyonelleşme ve kurumsallaşmanın sağlanması, 1985-1989 arasında öğretim tasarımı ve eğitim teknolojisi, 1990-1994 arasında uzaktan eğitimde kalite güvencesi, 1995-1999 arasında öğrenci desteği ve çevrimiçi öğrenmenin ilk aşamaları, 2000-2004 arasında sanal üniversitenin ortaya çıkışı, 2005-2009 arasında işbirlikli öğrenme ve çevrimiçi etkileşim desenleri, 2010-2014 arasında ise etkileşimli eğitim, kitlesel çevrimiçi açık ders ve açık eğitim kaynakları konularının işlendiklerini ifade etmişlerdir. Button vd. (2014) hemşirelik alanında uzaktan eğitim programlarını ele alan çalışmaları incelemişler ve genel olarak çalışmaların bilgi teknolojilerinin kullanımı, eğitimcinin pedagojik yetkinliği ve öğrencilerin gelişimine odaklandığını vurgulamışlardır.

Uzaktan eğitimde öğrencilerin memnuniyetini, Bolliger ve Martindale (2004), Bower ve Kamata (2000), Liaw (2008), Sun vd. (2008), Wang (2003) ve Bayrak vd. (2017) farklı yönlerden ele almışlardır. Bolliger ve Martindale (2004) çalışmalarında Amerika Birleşik Devletlerindeki bir üniversitenin farklı dersler için uzaktan eğitim kurslarına kayıtlı 105 öğrencilerine uzaktan eğitim memnuniyet anketi uygulamışlardır. Sonuçlara göre eğitimcinin iyi olması, eğitimde teknolojiden yararlanma düzeyinin yüksekliği ve iyi bir interaktif ortam öğrencilerin uzaktan eğitim kurslarında devam etmelerini ve başarılı olmalarını sağlayan en önemli faktörler olarak belirlenmiştir. Bower ve Kamata (2000) uzaktan eğitimde öğrencilerin kişisel özelliklerine göre memnuniyetini değerlendirdikleri çalışmalarında yüksek not beklentisi olanların memnuniyet seviyelerinin yüksek olduğunu fakat tüm öğrencilerin en çok teknolojik yetersizliklerden eşit düzeyde şikayet ettiğini belirlemişlerdir. Liaw (2008) çalışmasında uzaktan eğitim ile ilgili sadece memnuniyeti değil algınan memnuni-

yet ve fayda, uzaktan eğitimi kullanma konusundaki davranışsal tutum ve uzaktan eğitim öğrenme etkinliğini birlikte değerlendirmiştir. Öğrencilere yapılan anket çalışması ile algılanan memnuniyet ve algılanan faydanın uzaktan eğitim kullanma konusundaki davranışsal tutuma etkisi olduğu sonucu ortaya çıkmıştır. Uzaktan eğitim etkinliği ile uzaktan eğitim kullanma konusundaki davranışsal tutum arasında karşılıklı ilişki olduğu belirlenmiştir. Sun vd. (2008) çalışmalarında öğrencilerin başlangıçta uzaktan eğitime karşı oluşan ilk izlenimlerinin kursa devam etmelerinde önemli rol oynadıklarını bulmuşlardır. Anket çalışmaları sonucunda uzaktan eğitim öğrenci memnuniyetinde dersin genel kalitesinin en önemli faktör olduğunu bulmuşlardır. Wang (2003) kullanıcı arayüzü, eğitim topluluğu, ders içeriği ve kişisel tutum faktörlerinin öğrenci memnuniyetini belirleyen etkenler olduğunu çalışmasında ortaya koymuştur. Bayrak vd. (2017) uzaktan eğitimde öğrenme stilleri ve memnuniyet arasındaki ilişkiyi incelemişler ve değişkenleri iki farklı ölçek kullanarak 155 öğrenci için düzenledikleri anket ile değerlendirmişlerdir. İstatistiksel analiz sonuçlarına göre uzaktan eğitimde öğrenme stillerine göre memnuniyet açısından bir fark olmadığını ifade etmişlerdir.

Uzaktan eğitimde öğrencilerin programa devam etme durumlarını inceleyen bazı çalışmalar ise Chiu vd. (2005), Chiu ve Wang (2008), Limayem ve Cheung (2008), Richards ve Ridley (1997), Roca ve Gagne (2008) ve Richardson (2017) tarafından yapılmıştır. Chiu vd. (2005) çalışmalarında, uzaktan eğitimde programa devam etme için memnuniyetin temel öğe olduğunu ifade ederken, memnuniyet derecesini belirlemek için ise algılanan ve karşılanamayan beklenti arasındaki farkın kullanılabilirlik, kalite ve değer boyutları açısından incelenmesi gerektiğini öne sürmüşlerdir. Chiu ve Wang (2008) çalışmalarında uzaktan eğitime devam etme konusunda öğrencileri pozitif etkileyen faktörlerin kişisel performans artışı beklentisi, kolay ve eforsuz kullanım, bilgisayar kullanım bilgisi, başarı değeri, fayda değeri ve kişisel zevk değeri, negatif etkileyenin ise eğitim sürecinde yaşanan stres olduğunu bulmuşlardır. Limayem ve Cheung (2008) çalışmalarında uzaktan eğitime devam konusunda sadece memnuniyetin değil öğrencilerin karakter tipi ve önceki davranış ile tutumlarının da önemli olduğunu ortaya koymuşlardır. Richards ve Ridley (1997) çalışmalarında öğrencileri uzaktan eğitime devam konusunda etkileyen en önemli faktörler olarak elde edilecek mezuniyet derecesi, ders eğitmeni ve bilgisayar kullanım yeteneğinin olduğunu belirtmişlerdir. Roca ve Gagne (2008) çalışmalarında dünya çapında dört büyük

organizasyona bağlı çalışanların kişisel gelişim, erken uyarı ve korunma tedbirleri ile alakalı uzaktan eğitime dair devam durumlarını incelemişlerdir. Çalışanların eğitime devam etme durumlarını en çok etkileyen faktörlerin sırasıyla, eğitimin faydası, kolay kullanılabilirlik ve zevkli olması olarak belirlenmiştir. Richardson (2017) uzaktan eğitimde otizmli bireyler ve normal bireyler açısından eğitimi tamamlama ve başarılı olma düzeylerini incelediği çalışmasında iki grup arasında istatistiksel olarak değişkenlere göre anlamlı bir fark olmadığını ifade etmiştir. Çalışmasında engelli bireylerin eğitiminde uzaktan eğitimin önemine vurgu yapmıştır.

Diaz ve Cartnal (1999) ile Suthers vd. (2003) uzaktan eğitim ile örgün eğitimi kıyaslamışlardır. Diaz ve Cartnal (1999) çalışmalarında örgün eğitim alan öğrencilerin öğrenme stillerinin daha çok birbirine bağımlı olduğunu ve birlikte çalışarak başarı sağlama eğiliminde olduklarını bulmuşlardır. Uzaktan eğitim öğrencileri ise bağımsız öğrenme stillerine sahip oldukları ve içsel motivasyon ile başarı sağladıkları belirlenmiştir. Suthers vd. (2003) çalışmalarında bilginin görsel sunumunun öğrenmede etkisinin uzaktan eğitimde örgün eğitime göre daha güçlü olduğunu bulmuşlardır.

Cantelon (1995), Sherry (1995), Yang ve Liu (2007) uzaktan eğitim yapısını incelemiş ve öngörülerini ortaya koymuşlardır. Cantelon (1995) çalışmasında uzaktan eğitimin tarihsel gelişim sürecinden bahsederken, Sherry (1995) uzaktan eğitimin etkinliği eğitim yöntemleri, teknoloji kullanımı, yönetimsel konular temelinde farklı yönlerden etkileyen faktörler açısından incelemiştir. Yang ve Liu (2007) çalışmalarında geliştirdikleri, uzaktan eğitimde öngördükleri yapıcı öğrenme stiline uygun, öğrencilere bilgiye kolay ulaşım ve iletişim halinde olmalarını sağlayan internet tabanlı sanal çevrimiçi sınıf ortamı ile uzaktan eğitimin kalitesinin arttığını öne sürmüşlerdir.

Chen vd. (2005) kişiselleştirilmiş uzaktan eğitimi incelemişler ve öğrencilerin çalıştıkları ders materyalleri ve verdikleri cevaplara göre öğrencilere zorluk derecesi farklı ders materyal önerisinde bulunabilen ve kendini güncelleyen bir karar destek sistemi önermişlerdir. Liaw vd. (2007) uzaktan eğitimde eğitmen ve öğrencilerin tavırlarını araştırmışlar ve eğitmenlerin uzaktan eğitime pozitif yaklaştıkları sonucuna varmışlardır. Ayrıca öğrencilerin uzaktan eğitimde başarılı olmalarını etkileyen en önemli faktörlerin sağlanacak fayda ve kişisel beklentilerin karşılanması olduğu sonucuna varmışlardır. Liu vd. (2009) yoğun multi medya kullanımı ve bilgi akışının uzaktan eğitime etkisini incelemiş-

lerdir. Bunun için uzaktan eğitime katılanlara metin, ses ve video akışının farklı kombinasyonlarını kullanan üç yaklaşımla eğitim vermişler ve zengin bilgi akışının konsantrasyona etkisinin yüksek olduğunu bulmuşlar fakat faydanın daha çok kullanım kolaylığı ile ilgili olduğunu tespit etmişlerdir. Martinez vd. (2007) pedagojik açıdan uzaktan eğitim sürecini incelemişler ve eğitimin kalitesini arttırmak için öğrenci ve öğretmen ilişkisinin sürekli, etkileşimli ve anında geri bildirimli halde olması gerektiğini aksi takdirde öğrencide yalnızlık ve izole edilmiş olma hissinin yaygınlaştığını belirlemişlerdir. Ayrıca uzaktan eğitimde başarı için öğrencilere karşı eğitim süreçlerinde saygılı ve toleranslı olunması, kişisel ve grup çeşitliliğine dikkat edilmesi, eğitmenlerin de yazılı ve sosyal iletişimde eğitimli olması gerektiğini ortaya koymuşlardır. Wang vd. (2007) uzaktan eğitimin başarısını ölçmek için ölçek geliştirmişlerdir. Ölçekteki başarı boyutları; Sistem kalitesi, bilgi kalitesi, sistem kullanım oranı, öğrenci memnuniyeti ve net fayda olarak belirlenmiştir. Hawkins vd. (2013) uzaktan eğitimde öğrencilerin algıladıkları öğretmen-öğrenci etkileşimi ile akademik başarıları arasındaki ilişkiyi incelemişlerdir. Akademik başarı, programı tamamlama ve elde edilen başarı derecesi ile değerlendirilmiş olup 18 maddelik bir anket vasıtasıyla 2269 öğrenci ile çalışmayı gerçekleştirmişlerdir. Yapılan analizler ile öğretmen- öğrenci arasındaki etkileşim artışının programı tamamlama durumunu etkilerken alınan başarı derecesinde anlamlı büyüklükte bir etki yaratmadığı sonucuna varmışlardır. Liaw ve Huang (2013) çalışmalarında e-öğrenme için öğrencilerin öz-düzenleme tutumlarını incelemişlerdir. İstatistiksel sonuçlar, algılanan memnuniyetin, algılanan fayda ve etkileşimli öğrenme ortamlarının hepsinin öğrencilerin öz-düzenleme tutumlarına etkisi olduğunu ortaya koymuştur. Ayrıca algılanan faydanın etkileşimli öğrenme ortamı ve algılanan memnuniyetten etkilenebildiği sonucuna varmışlar ve ek olarak etkileşimli öğrenme ortamının öğrencinin algıladığı memnuniyeti etkilediğini belirtmişlerdir. Park ve Yun (2017) öğrencilerin akademik düzeyleri, öz-düzenleme ve motivasyonel stratejileri kullanımı ve bilişsel öğrenme stratejileri arasındaki ilişkiyi incelemişlerdir. Çalışmada uzaktan eğitim programlarına kayıtlı 141 öğrenci ile anket düzenlenmiştir. Bulgular öğrencilerin farklı akademik düzeylerde farklı öz-düzenleme ve motivasyonel stratejileri ve bilişsel öğrenme stratejileri kullandıklarını göstermiştir. Sonuç olarak eğitimcilerin öğrencilere akademik düzeylerine göre yaklaşmaları gerektiğini ve motivasyon araçlarını buna göre belirlemelerinin daha faydalı olacağını ifade etmişlerdir. Viberg ve Grönlund (2017) çalışmalarında

uzaktan eğitimde yabancı dil öğreniminde kullanılacak mobil uygulamaların tasarım gereksinimlerini araştırmışlardır. Öğrencilerin teknolojiyi nasıl kullandıklarını ve yabancı dil öğreniminde bu teknolojilerin faydasını nasıl algıladıklarını incelemişlerdir. Sonuç olarak öğrencilerin mobil teknolojileri kendi öğrenme istekleri olduğu zaman daha çok kullandıklarını, uygun tasarımlı mobil teknolojilerin öğrenciler için önemli olduğunu ve öğrencilerin mobil uygulamaları kendi başlarına çalışmaya daha hevesli olduğunu belirlemişlerdir. Bolat vd. (2017) uzaktan eğitimde öğrencilerin mobil ortamda öğretimsel etkinliklere katılım durumlarını değerlendirmişlerdir. Öğrencilerin genel olarak mobil uygulamaları ve mobil interneti benimsediği ve kullandığını belirlemişlerdir. Sadece daha önce hiç mobil uygulama kullanmamış öğrenci grubunun mobil öğretimsel etkinlikleri kabul düzeylerinin anlamlı olarak diğer gruplardan ayrıldığını ifade etmişler, çok az, az, orta ya da çok mobil uygulama kullanmış gruplar arasında ise anlamlı farklılık bulamamışlardır.

Uzaktan eğitimde hizmet kalitesini SERVQUAL ile ölçen çalışmalara bakıldığında; LaBay ve Comm (2003), Shaik vd. (2007), Lee vd. (2009) ile Udo vd. (2011) literatüre katkıda bulunmuşlardır. LaBay ve Comm (2003) eğitmen odaklı hizmet kalitesini inceledikleri çalışmalarında öğrencilerin iyi hazırlanmış, organize, sorulara açık ve yeterli cevap veren, açık ve anlaşılır anlatı sunan, zamanında ve adil bir şekilde notları işleyen eğitmenlerin derslerinden memnun olduklarını belirlemişlerdir. Shaik vd. (2007) çalışmalarında uzaktan eğitime uyarlanmış kalite ölçeği geliştirmişler ve üç ana kalite boyutu olarak eğitimsel hizmet kalitesi, yönetimsel ve idari hizmetler ve son olarak iletişimi belirlemişlerdir. İlk iki ana kalite boyutunun öğrenciler için daha önemli kalite boyutları olduklarını iddia etmişlerdir. Lee vd. (2009) çalışmalarında SERVQUAL ölçeğinden esinlenerek uzaktan eğitim için değişkenler olarak eğitmenin karakteristiği, öğretim materyalleri, öğrenme kapsamının tasarımı, öğrenmeden zevk alma, algılanan fayda, algılanan kolay kullanım ve uzaktan eğitimi kullanma tutumunu belirlemişler ve bu değişkenler arasında ilişkiler saptamışlardır. Algılanan fayda ve kullanım kolaylığı ile alınan zevkin uzaktan eğitim alma tutumuna etkide bulunduğunu tespit etmişlerdir. Udo vd. (2011) SERVQUAL ölçeğini uzaktan eğitime başarı ile uygulamışlar ve kalite boyutları olarak orijinal SERVQUAL ölçeğinde bulunan Fiziksel Özellikler boyutu yerine "Web Sitesi İçeriği" kalite boyutlarından biri olarak kullanılmış diğerleri ise original SERVQUAL ölçeğindeki haliyle korunmuştur. Uzaktan eğitimde en önemli kalite boyutu olarak "Web

Sitesi İçeriği" kalite boyutu olduğunu yaptıkları anket sonucunda tespit etmişlerdir.

Uzaktan eğitim konusunda ÇKKV yöntemleri ile yapılan çalışmalar ise Tzeng vd. (2007), Shee ve Wang (2008), Chao ve Chen (2009) tarafından gerçekleştirilmiştir. Tzeng vd. (2007) çalışmalarında düzenledikleri anket sonuçlarını faktör analizi ile değerlendirmişler ve bağımsız boyutlar elde etmişler sonrasında etkileşimli kriterler arasında ilişkiyi ÇKKV yöntemi olan DEMATEL ile belirleyip bulanık ölçüm ve AHP ile boyut ağırlıklarını bulmuşlardır. Uzaktan eğitimde etkinlik için en önemli boyutun uzaktan eğitim ortamı olduğunu belirlemişlerdir. Shee ve Wang (2008) yaptıkları çalışmada AHP kullanarak uzaktan eğitimde öğrenciler için en önemli kriterin kullanıcı arayüzü olduğunu belirlemişlerdir. Chao ve Chen (2009) AHP ile yaptıkları çalışma sonucunda uzaktan eğitim materyalinin en önemli etkin öğrenmede en önemli kriter olduğunu ortaya koymuşlardır.

3. UZAKTAN EĞİTİMDE SMART-AHP TABANLI SERVQUAL İLE KALİTE FAKTÖRLERİNİN DEĞERLENDİRİLMESİ

Çalışmada kullanılmış olan; SERVQUAL ölçeği ve kalite skor hesaplama, uzaktan eğitime uyarlanmış SERVQUAL ölçeği, SMART hedef kriterleri ve karar verme yapısı olan AHP incelenen yöntemler olmuştur.

3.1. SERVQUAL Ölçeği

SERVQUAL modelini Parasuraman vd. (1985) yılında ortaya koymuşlardır. Çalışmada, hizmet kalitesinin ölçümünde 10 farklı boyutun olduğunu ifade etmişlerdir. Sonrasında yapılan uygulamalar ve analizler ile ana kalite boyutunu 5'e indirmişlerdir (Parasuraman vd. 1988).

SERVQUAL ölçeğinde, belirli bir hizmet sektöründe müşterilerin algıladıkları hizmet kalitesi kendilerine sunulan hizmetten algıladıkları ile bekledikleri arasındaki fark olarak ifade edilmektedir. Müşterilerin algıladıkları hizmet kalitesinin yüksek olması için aradaki fark sayısal değerinin büyük olmasını gerekmektedir. 5 ana kalite boyutunu temsil 22 soru önermesi müşteri algısını ve beklentisini ölçmede kullanılmaktadır (Parasuraman vd. 1991; Devebakan ve Aksaraylı, 2003).

SERVQUAL ölçeği aşağıdaki boyutları içermektedir (Parasuraman vd. 1998);

Fiziksel Özellikler (Tangibles): Hizmet sağlayıcısının sahip olduğu fiziksel olanaklar, araç gereç ve personelinin görünüşü.

Güvenilirlik (Reliability): Hizmet sağlayıcısının söz verdiği hizmeti doğru ve güvenilir bir şekilde yerine getirebilme yeteneği.

Heveslilik (Responsiveness): Hizmet sağlayıcısının müşterilere yardım etmesi ve hizmetin hızlı bir şekilde verilmesi.

Güven (Assurance): Hizmet sağlayıcısındaki personelin bilgili, nazik olması ve müşterilerde güven duygusu uyandırabilme becerileri.

Empati (Empathy): Hizmet sağlayıcısının kendisini müşterinin yerine koyarak düşünebilme yetisi, müşterilere kişisel ilgi ve alaka gösterilmesi.

Müşterilerden 22 soruya 7'li Likert tip ölçeğe göre cevaplamak suretiyle soru ifadelerine ne ölçüde katıldıkları sorulurken, ilgili soruların hangi ana kalite boyutunu temsil ettiği Tablo 1'deki gibidir.

Gözlemlere göre ölçeğin algı ve beklenti sorularına verilen cevapların farkları alınarak, hizmet kalitesi boyutunu oluşturan fark toplamları boyuta ait soru sayısına bölünür. Gözlemler için boyut bazında kalite skoru bulunur. Toplam SERVQUAL skorunun hesaplanması için kalite boyutlarının ortalaması hesaplanır. Gözlemlere göre hesaplanan skorlar toplanarak gözlem sayısına bölünür. Bulunan ortalamalar müşterilerin geneli toplamı için kalite boyutları bazında SERVQUAL skorudur (Parasuraman vd. 1988).

Tablo 1: Ana Kalite Boyutlarında Yer Alan Sorular

ANA KALİTE BOYUTLARI	KALİTE BOYUTLARINDA YER ALAN SORULAR
Fiziksel Özellikler	1-2-3-4
Güvenilirlik	5-6-7-8-9
Heveslilik	10-11-12-13
Güven	14-15-16-17
Empati	18-19-20-21-22

Parasuraman vd. 1998

SERVQUAL skorları:

Algılanan Hizmet Kalitesi = Algılanan Hizmet - Beklenen Hizmet ,

Eşitliği ve bu eşitliğe karşılık gelen;

SERVQUAL Skoru (SQ) = Algılama Skoru (P) - Beklenti Skoru (E) olarak hesaplanır.

SQ1 = Fiziksel özellikler boyutuna yönelik SERVQUAL skoru

SQ2 = Güvenilirlik boyutuna yönelik SERVQUAL skoru

SQ3 = Heveslilik boyutuna yönelik SERVQUAL skoru

SQ4 = Güven boyutuna yönelik SERVQUAL skoru

SQ5 = Empati (Duyarlılık) boyutuna yönelik SERVQUAL skoru

olmak üzere, hizmet kalitesi ana boyutlarına yönelik SERVQUAL skorlarının hesaplanma şekli aşağıda gösterilmiştir:

$$SQ1 = [(P1 - E1) + (P2 - E2) + (P3 - E3) + (P4 - E4)] / 4$$

$$SQ2 = [+ (P5 - E5) + (P6 - E6) + (P7 - E7) + (P8 - E8) + (P9 - E9)] / 5$$

$$SQ3 = [(P10 - E10) + (P11 - E11) + (P12 - E12) + (P13 - E13)] / 4$$

$$SQ4 = [(P14 - E14) + (P15 - E15) + (P16 - E16) + (P17 - E17)] / 4$$

$$SQ5 = [(P18 - E18) + (P19 - E19) + (P20 - E20) + (P21 - E21) + (P22 - E22)] / 5$$

Eşit ağırlıklı SERVQUAL Skoru ise;

$$SQE = [(SQ1) + (SQ2) + (SQ3) + (SQ4) + (SQ5)] / 5$$

eşitliği ile hesaplanır.

3.2. Uzaktan Eğitim SERVQUAL Ölçeği

Araştırmada Udo vd. (2011) tarafından uzaktan eğitim için uyarlanmış olan SERVQUAL ölçeği kullanılmıştır. Orijinal SERVQUAL ölçeğinde bulunan Fiziksel Özellikler boyutu yerine Web Sitesi İçeriği kalite boyutlarından biri olarak kullanılmıştır. Bu durumun nedeni olarak Uzaktan Öğretim hizmeti alan öğrencilerin, öğretim kurumunun fiziksel olanaklarından ziyade internet üzerinden sunduğu içerikten faydalanması gösterilmektedir. Web Sitesi İçeriği, kuruluşun imajını ve müşterilerin kuruluşa dair ilk izlenimlerinin oluşmasında önemli rol oynayan, bilginin ve işlevselliğin ön planda olduğu ve bu yapının sunumunu da içeren bir kavram olarak tanımlanabilmektedir (Udo ve Marquis, 2002). Web Sitesi İçeriği; bilginin kalitesini, bilginin miktarının uygunluğunu, ne şekilde sunulduğunu ve web sitesinin genel görümünü de içermektedir (Koernig, 2003). Uzaktan Öğretim SERVQUAL ölçeği Tablo 2'deki boyutlardan ve boyutları temsil eden 22 sorudan oluşmaktadır.

Tablo 2: Uzaktan Eğitim SERVQUAL Kalite Boyutları

ANA KALİTE BOYUTLARI	KALİTE BOYUTLARINDA YER ALAN SORULAR
Empati	1-2-3-4
Güven	5-6-7-8
Heveslilik	9-10-11
Güvenilirlik	12-13-14
Web Sitesi İçeriği	15-16-17-18-19-20-21-22

3.3. SMART Hedef Kriterleri

Uzaktan eğitim için önemli performans ölçütleri olan SERVQUAL kalite boyutlarındaki iyileştirmenin hizmet kalitesine etkisinin SMART kriterleri üzerinden değerlendirildiğinde kalite boyutlarının amaca uygunluğu artmaktadır. SMART kriterlerinin amaca etkisini organizasyonun karakteristik özellikleri ve nihai hedefi belirlemektedir (Shanin ve Mahbod 2007). SMART Kriterlerinin performans ölçütü olan kalite boyutlarıyla ilişkisi aşağıdaki gibidir;

Belirli Olma (**Specific**): Hedef kesin ve net olarak tanımlanmalıdır. Performans ölçütlerinin iyileştirilmesinin sınırları çizilmiş ve neleri etkilediği, neden etkilendiği net olarak bilinmelidir.

Ölçülebilir Olma (**Measurable**): Hedef ölçülebilir olmalıdır. Performans ölçütünün ölçüm objektifliği bulunmalıdır. Gelişmeler ölçülebilir olmalıdır.

Kabul Edilebilir Olma (**Attainable**): Hedef kabul edilir düzeyde olmalıdır. Performans ölçütlerinin iyileştirilmesi işe yarayacak düzeyde olmalıdır.

Gerçekçi (**Realistic**): Hedef mümkün olmalıdır. Performans ölçütlerini iyileştirmek için yeterli kaynak elde bulunmalıdır.

Zamana Bağlı (**Time sensitive**): Hedef belirli bir zaman diliminde gerçekleşebilmelidir. Performans ölçütünün iyileştirilmesi belirli bir zaman diliminde gerçekleşebilmelidir.

3.4. Analitik Hiyerarşi Prosesi

AHP, karar vericileri alternatifleri sıralaması ve bunlar arasından en iyisinin seçimi için kullanılan nicel yöntemlerden biridir. Bu yöntem, her alternatifin belirlenen kriterleri ne ölçüde karşıladığına bağlı olarak alternatifleri sıralayan bir süreçtir. Bu süreçte sıralama işlemi için skorlar üretilmektedir. AHP temel olarak "Hangisi ?" sorusuna cevap aramaktadır. (Chen, 2006). AHP'nin en belirgin özelliği, karar vericilerin objektif ve de sübjektif düşüncelerini karar verme sürecinde kul-

lanabilmesidir. Başka bir deyişle AHP, bilgi, deneyim, düşünce ve önsezilerin mantıklı ve geçerli bir şekilde birleştirildiği bir metottur (Triantaphyllou ve Mann, 1995). AHP'nin ikinci belirgin özelliği ise karşılaştırmalı yargılar ya da ikili karşılaştırmalardan oluşmasıdır. İkili karşılaştırma ifadesi, iki faktör ya da kriterin birbiriyle karşılaştırılması anlamı taşımaktadır. Bu karşılaştırma karar vericinin yargısına dayanmaktadır. İkili karşılaştırmalar, kriterler ve alternatiflerin öncelik dağılımının kurulması için yapılmaktadır (Chandrana vd., 2005). AHP süreci, hiyerarşinin oluşması, öncelik analizinin yapılması ve tutarlık analizinin doğrulanması olacak şekilde üç aşamadan meydana gelmektedir (Ho, 2008). AHP'nin temel kullanım amacı, karar kriterlerinin aynı anda dikkate alınması yardımıyla, belirlenen kriter ile tercih edilen alternatifleri değerlendirmek ve alternatiflerin sıralanmasını sağlamaktır (Mateo, 2012). Çalışmada, AHP kullanılmasının altında yatan temel neden ise hizmet kalitesini iyileştirmek için belirlenen SMART kriterlerin önceliklendirilmesi ve kalite boyutlarının bu bağlamda değerlendirilerek hizmet kalitesini en çok arttıracak kalite boyutunun tespitidir.

4. UYGULAMA

4.1. Anketin Kapsamı ve Güvenilirliği

Dokuz Eylül Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma Merkezi (DEUZEM) 26 Kasım 2010 tarihinde, üniversite bünyesinde tüm uzaktan eğitim faaliyetlerinin (önlisans, lisans tamamlama, lisans, yüksek lisans, sertifika programları, kurslar, kurum içi eğitimler vb.) planlanması, yürütülmesi ve iyileştirilmesi amacı ile kurulmuştur. Misyonu "Mevcut eğitim faaliyetini yer, zaman ve diğer fiziksel kısıtları ortadan kaldırarak, mümkün olan en geniş kitlenin kullanımına hazırlamak" olarak tanımlanmış, vizyon olarak ise "Dünya standartlarında uygun, mevcut teknolojileri etkin bir şekilde kullanarak, yada geliştirerek zaman ve mekandan bağımsız olarak ders içeriklerinin ve eğitimlerin düzenlenmesi için faaliyette bulunmak" olarak belirlenmiştir (www.deuzem.deu.edu.tr/hakkimizda/).

DEUZEM programlarına kayıtlı öğrenci ve mezun olmuş kişilere internet yolu ile ulaşılmış ve alınan cevaplara göre 261 kişiye yapılan anket sonuçları değerlendirmeye alınmıştır. SMART-AHP değerlendirmeleri için DEUZEM ile görüşülmüş ve kalite konusunda çalışan iki adet uzmanı ile SMART-AHP için hazırlanan anketler gerçekleştirilmiştir.

Öğrenciler tarafından cevaplanan, 22 adet algılanan hizmet kalitesi soruları için Cronbach's Alpha

güvenilirlik değeri 0,968 çıkmıştır. Beklentileri ölçen 22 adet sorunun Cronbach's Alpha güvenilirlik değeri ise 0,992 bulunmuştur. Anket sorularının güvenilirliği oldukça yüksek çıkmıştır. Önceden uygulanmış bir anket formu ve örneklem sayısının büyüklüğünün bu sonuçta payı büyüktür. Şekil 1'de uygulamanın akış şeması bulunmaktadır.

4.2. Demografik Özellikler

Uzaktan eğitim alanlara dair Cinsiyet, Medeni Durum, Aylık Hane Geliri, Okurken Çalışma Durumu ve Eğitimi Tamamlama Durumu gibi değişkenleri barındıran demografik özelliklerin frekanslarını içeren veriler Tablo 3'deki gibi olmuştur.

Şekil 1: Uygulama Akış Şeması
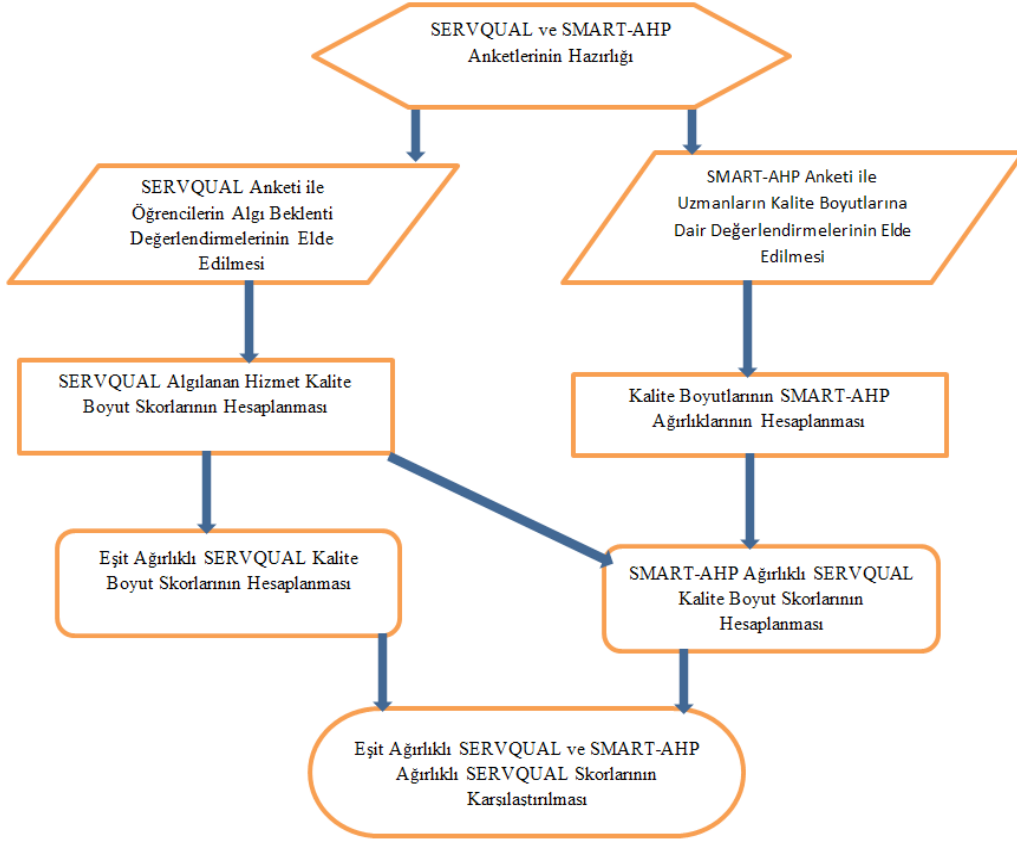
Tablo 3: Demografik Özellikler

CİNSİYET	Frekans	Oran	MEDENİ DURUM	Frekans	Oran
Kadın	173	66,3	Bekar	82	31.4
Erkek	88	33,7	Evli	179	68.6
AYLIK_HANE GELİRİ(TL)	**Frekans**	**Oran**	ÇALIŞMA DURUMU	**Frekans**	**Oran**
0-1000	30	11.5	Çalışmayanlar	57	21.8
1000-2000	57	21.8	Kısmi zamanlı çalışanlar	82	31.4
2000-3000	129	49.4	Tam zamanlı çalışanlar	122	46.7
3000-4000	29	11.1	**EĞİTİM_TAMAMLAMA DURUMU**	**Frekans**	**Oran**
4000-5000	8	3.1	Tamamlayanlar	15	5.7
5000 ve yukarısı	8	3.1	Devam edenler	246	94.3

Ankete katılanlar arasında cinsiyet açısından kadınlar % 66.3, medeni durum açısından evliler %68.6, aylık hane geliri 2000-3000 TL arası olanlar % 49.4 ve tam zamanlı bir işte çalışanlar % 46.7 ile çoğunluktadır. Demografik özelliklerin frekansları DEUZEM programlarında kayıtlı olan öğrencileri doğru bir şekilde temsil etmektedir. Mezunların ankete katılımı beklendiği gibi az gerçekleşmiştir.

4.3. SMART-AHP Ağırlıklı SERVQUAL Kalite Boyutları

İyileştirme önceliklerinin sadece öğrencilerin görüşlerine göre değerlendirilmesi ve DEUZEM'in gelecek hedef ve stratejilerini dikkate almaması, kaynak ve zaman planlamasına yer vermemesi, yapılacak iyileştirmeleri verimsiz ve hizmet kalitesine katkısını etkisiz kılacaktır.

SMART-AHP yaklaşımı ile AHP hiyerarşik yapısı içinde kalite boyutları birer alternatif olarak, SMART kriterleri ise hizmet kalite iyileştirme hedefinin birer kriteri olarak ele alınmaktadır. SMART-AHP hiyerarşisi Şekil 2'deki gibidir.

DEUZEM Uzman görüşleri incelenmiş ve tüm ikili karşılaştırmaların tutarlı olduğu gözlenmiştir. Bütün seviyelerdeki ikili karşılaştırmaların geometrik ortalamaları alınarak, karşılaştırma matrisleri birleştirilmiştir. AHP ikili karşılaştırma matrisindeki karşılıklılık özelliğinin sağlanmasında aritmetik ortalama yeterli olmamaktadır (Enea ve Piazza, 2004).

Tablo 4'te SMART-AHP'de kriterlerin karşılaştırmasına ait uzmanların karşılaştırma değerlerinin geometrik ortalaması alınarak birleştirilmiş ikili karşılaştırma matrisi yer almaktadır.

Şekil 2: SMART-AHP Hiyerarşik Yapısı
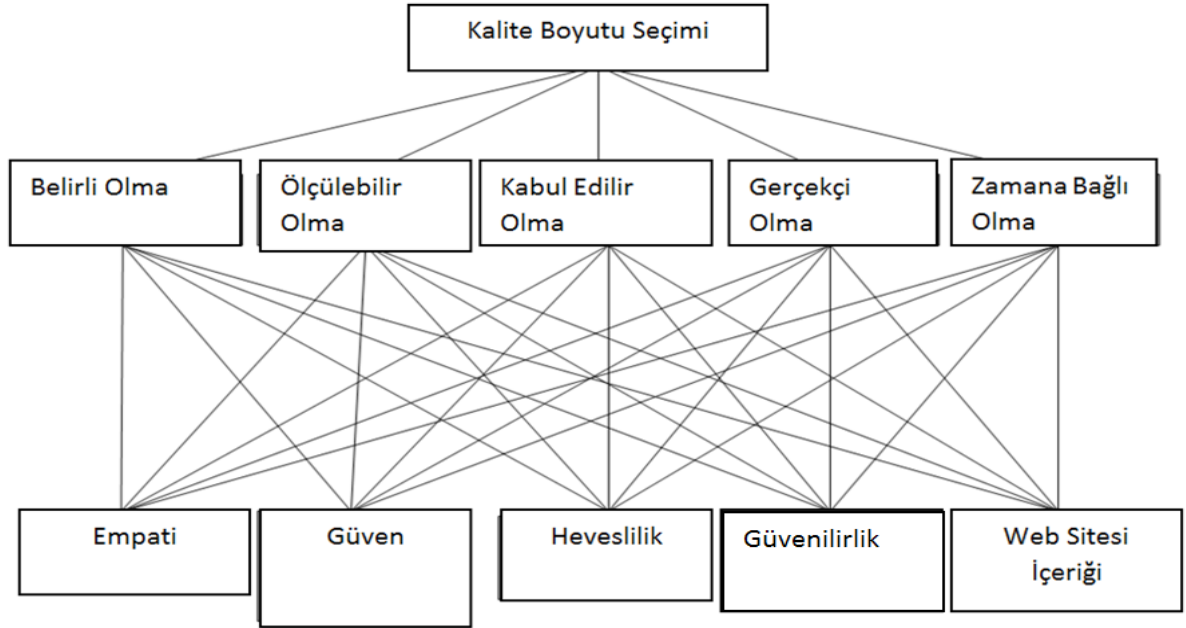
Tablo 4: SMART-AHP Birleştirilmiş Kriterlerin İkili Karşılaştırma Matrisi

KRİTERLER	Belirli Olma	Ölçülebilir Olma	Kabul Edilebilir Olma	Gerçekçi Olma	Zamana Bağlı Olma
Belirli Olma	1	0.2	0.333	0.333	0.25
Ölçülebilir Olma	5	1	0.25	0.5	0.409
Kabul Edilebilir Olma	3	4	1	1.414	1
Gerçekçi Olma	3	2	0.708	1	0.5
Zamana Bağlı Olma	4	2.45	1	2	1

SMART-AHP hiyerarşik yapısında bulunan tüm ikili karşılaştırma matrisleri, Expert Choice paket programının girdisi olarak kullanılmış ve sonuç olarak hizmet kalite iyileştirme hedefi için tüm seviyelerdeki önem dereceleri Tablo 5'deki gibi elde edilmiştir.

SMART kriterleri açısından, uzaktan eğitim hizmet kalitesini iyileştirmede en önemli kriterler Kabul Edilebilir Olma ve Zamana Bağlı Olma olarak görülmektedir. Belirli Olma kriterinin en az öneme sahip kriter olduğu ortaya çıkmıştır. Kriterlere göre kalite boyutlarına bakıldığında, güvenilirlik her kriter açısından önem derecesi sıralamasında ilk ikide yer almıştır. Empati kalite boyutu ise tüm SMART kriterleri açısından son sırada kendine yer bulmuştur.

Tablo 5: Tüm Seviyelerdeki SMART-AHP Önem Dereceleri

Kriterler	Kriter_ Öncelikleri	Alternatifler	Alternatif_ Öncelikleri
Belirli Olma	0.062	Empati	0.055
		Güven	0.39
		Heveslilik	0.173
		Güvenilirlik	0.27
		Web Sitesi İçeriği	0.111
Ölçülebilir Olma	0.141	Empati	0.1
		Güven	0.166
		Heveslilik	0.202
		Güvenilirlik	0.373
		Web Sitesi İçeriği	0.158
Kabul Edilebilir Olma	0.306	Empati	0.088
		Güven	0.286
		Heveslilik	0.16
		Güvenilirlik	0.254
		Web Sitesi İçeriği	0.212
Gerçekçi Olma	0.193	Empati	0.064
		Güven	0.128
		Heveslilik	0.098
		Güvenilirlik	0.367
		Web Sitesi İçeriği	0.344
Zamana Bağlı Olma	0.298	Empati	0.084
		Güven	0.229
		Heveslilik	0.183
		Güvenilirlik	0.368
		Web Sitesi İçeriği	0.137

Tablo 6: Hizmet Kalite Boyutları SMART-AHP Ağırlıkları

KALİTE BOYUTLARI	ÖNCELİK DEĞERLERİ
Empati	0.082
Güven	0.232
Heveslilik	0.161
Güvenilirlik	0.322
Web Sitesi İçeriği	0.203

Hizmet kalitesi iyileştirme hedefine göre tüm seviyelerdeki SMART-AHP önem dereceleri birleştirilmiş ve Tablo 6'daki SERVQUAL hizmet kalite boyutlarının SMART-AHP ile hizmet kalite iyileştirme hedefi açısından önem dereceleri bulunmuştur. Sonuçlara göre en fazla öneme sahip kalite boyutu Güvenilirlik olurken, Empati kalite boyutu en az öneme sahip kalite boyutu olmuştur. Elde edilen önem dereceleri DEUZEM'in stratejik hedefleri ve kaynakları doğrultusunda ortaya çıkmıştır.

4.4. SERVQUAL Skorları

Öğrencilerin kalite boyutlarına göre SERVQUAL algıladıkları hizmet skorları Tablo 7'deki gibi gerçekleşmiştir.

Tablo 7: Kalite Boyutlarına Göre Algılanan Hizmet Skorları

ALGILANAN HİZMET BOYUTLARI	ORTALAMA	STANDART SAPMA
Empati	2.592	1.4647
Güven	3.909	1.6514
Heveslilik	2.8838	1.5832
Güvenilirlik	3.7254	1.749
Web Sitesi İçeriği	3.5819	1.6091

Hesaplamalar sonucunda, 43 kişi için Empati kalite boyutu skoru, 103 kişi için Güven kalite boyutu skoru, 14 kişi için Heveslilik kalite boyutu skoru, 54 kişi için Güvenilirlik kalite boyutu skoru ve 47 kişi için Web Sitesi İçeriği kalite boyutu skoru, algılanan hizmete göre en yüksek olarak bulunmuştur. Algılanan hizmet kalitesi için yapılan hesaplamalar sonucunda öğrencilerin algılanan hizmet kalitesi skorları Tablo 8'deki gibi gerçekleşmiştir.

Algılanan hizmet kalitesi için yapılan hesaplamalar sonucunda 159 kişi için Empati kalite boyutundaki, 11 kişi için Güven kalite boyutundaki, 55 kişi için Heveslilik kalite boyutundaki, 12 kişi için Güvenilirlik kalite

boyutundaki ve 24 kişi için Web Sitesi İçeriği kalite boyutundaki, algılamalar ve beklentiler arasındaki fark en büyük çıkmıştır. Tablo 9'da Eşit ağırlıklı SERVQUAL algılanan hizmet kalite skorları yer almaktadır.

Tablo 8: Kalite Boyutlarına Göre Algılanan Hizmet Kalitesi Skorları

ALGILANAN HİZMET KALİTESİ BOYUTLARI	ORTALAMA	STANDART SAPMA
Empati	-3.3305	2.1255
Güven	-2.2471	1.9948
Heveslilik	-3.0996	2.1633
Güvenilirlik	-2.4189	2.0878
Web Sitesi İçeriği	-2.4947	1.9364

Tablo 9: Eşit Ağırlıklı SERVQUAL Algılanan Hizmet Kalite Skorları

EŞİT AĞIRLIKLI SERVQUAL	KALİTE BOYUT SKORLARI
Empati	-0.6661
Güven	-0.44942
Heveslilik	-0.61992
Güvenilirlik	-0.48378
Web Sitesi İçeriği	-0.49894

Cinsiyet, medeni durum, çalışma durumu ve gelir değişkenlerine göre gruplar arası algılanan hizmet kalitesi ortalamaları ve kalite boyut ortalamaları arasında farklılık olup olmadığı test edilmiştir. Öncelikle verilerin normal dağılıp dağılmadığı Kolmogorov Smirnov testi ile analiz edilmiştir. Analiz sonuçlarına göre algılanan hizmet kalitesi ve kalite boyutları verileri normal dağılmamaktadır. Bu nedenle parametrik olmayan testlerden, Mann Whitney U testi 2 gruplu olan cinsiyet ve medeni durum değişkenleri için uygulanmış, ikiden fazla gruba sahip çalışma durumu ve gelir değişkenlerine ise Kruskal Wallis testi uygulanmıştır. Testlerin sonuçları Tablo 10'daki gibi gerçekleşmiştir.

Tablo 10'daki sonuçlara göre cinsiyet, medeni durum, çalışma durumu ve gelir açısından öğrencilerin algılanan hizmet kalite boyutları ortalamaları arasında anlamlı bir fark bulunamamıştır. Bu sonuç ile kalite boyutlarında yapılacak iyileştirmelerin tüm öğrencilerin algılanan hizmet kalite düzeylerinde benzer artışa neden olabileceği ifade edilebilmektedir.

Tablo 10: Demografik Değişkenlere Göre Hizmet Kalite Algısı

cinsiyet	empati	güven	heveslilik	güvenilirlik	WEBİçerik	ortalama
Mann-Whitney U	7124.500	7299.500	7226.500	7464.000	7524.000	7450.500
Wilcoxon W	22175.500	22350.500	22277.500	22515.000	22575.000	22501.500
Z	-.847	-.543	-.671	-.257	-.153	-.280
Asymp. Sig. (2-tailed)	.397	.587	.502	.797	.879	.779
medeni durum	**empati**	**güven**	**heveslilik**	**güvenilirlik**	**WEBİçerik**	**ortalama**
Mann-Whitney U	7040.000	6969.000	7235.000	7152.500	7044.500	7163.500
Wilcoxon W	23150.000	23079.000	10638.000	23262.500	23154.500	23273.500
Z	-.529	-.655	-.184	-.330	-.521	-.310
Asymp. Sig. (2-tailed)	.597	.513	.854	.741	.603	.756
çalışma durumu	**empati**	**güven**	**heveslilik**	**güvenilirlik**	**WEBİçerik**	**ortalama**
Chi-Square	.156	.877	.391	.160	.034	.220
df	2	2	2	2	2	2
Asymp. Sig.	.925	.645	.822	.923	.983	.896
gelir	**empati**	**güven**	**heveslilik**	**güvenilirlik**	**WEBİçerik**	**ortalama**
Chi-Square	5.853	3.689	4.405	6.287	4.419	5.450
df	5	5	5	5	5	5
Asymp. Sig.	.321	.595	.493	.279	.491	.364

Uzman görüşlerinin bulunduğu SMART-AHP yaklaşımı ile bulunmuş olan kalite boyutlarının ağırlıkları kullanılarak, SERVQUAL algılanan hizmet kalitesi boyutlarının skorları ağırlıklandırılmış ve SMART ağırlıklı SERVQUAL algılanan hizmet kalite boyut skorları bulunmuştur. Şekil 3'te Eşit ağırlıklı ve SMART ağırlıklı SERVQUAL algılanan hizmet kalite skorları yer almaktadır.

Eşit ağırlığa göre Empati ve Heveslilik kalite boyutları hizmet kalitesini iyileştirme açısından öne çıkarken, SMART-AHP'ye göre ise Güvenilirlik kalite boyutu ön plana çıkmıştır. Sonuç olarak, DEUZEM stratejik hedef ve kaynakları doğrultusunda ve öğrenci görüşlerine göre iyileştirilmesi gereken en önemli kalite boyutunun Güvenilirlik olduğu ortaya çıkmıştır.

Şekil 3: Eşit ve SMART Ağırlıklı Algılanan Hizmet Kalite Boyut Skorları
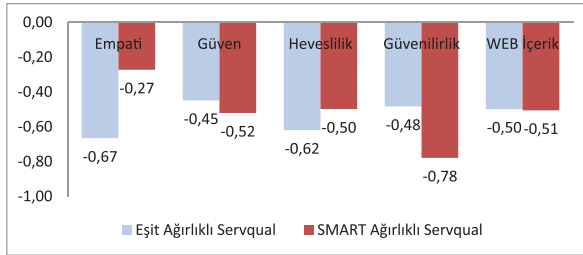
5. SONUÇ ve ÖNERİ

Rekabetin yoğun yaşandığı hizmet sektörlerinde kalitenin ölçümü ve değerlendirilmesi, kuruluşun hedeflerini gerçekleştirme ve marka değeri kazanma konusunda başlangıç noktalarından birisidir. Uzaktan eğitim sektöründe öğrencilerin hizmet kalitesine dair algısının ölçümünde SERVQUAL ölçeği önemli ve uygulanabilir bir yaklaşım olduğu gözlenmiştir. SERVQUAL ölçeğinden elde edilen kalite boyut skorlarının SMART-AHP ile ağırlıklandırılması sayesinde öğrenci görüşleri ile uzman görüşleri birleşerek, hizmet kalite algısını en fazla iyileştirecek kalite boyutu ortaya konmuştur. Yaklaşım sayesinde öğrencilerin kaliteye dair algısını, DEUZEM hedef ve kaynakları doğrultusunda inceleme fırsatı doğmuştur.

Uzman görüşlerine göre genel kaliteyi en çok iyileştirecek kalite boyutu, Shanin ve Mahbod (2007) tarafından da en önemli bulunan, "Güvenilirlik" olarak tespit edilmiştir.

Çalışmada "Empati" ve "Heveslilik" öğrenciler tarafından DEUZEM'in en fazla eksik kalite boyutları olarak ifade edilmiştir. Fakat ilgili kalite boyutlarında yapılacak iyileştirmelerin, kalite boyutları, SMART hedef kriterleriyle ağırlıklandırıldıktan sonra, algılanan hizmet kalitesini en az etkileyecek kalite boyutları oldukları ortaya çıkmıştır. "Güvenilirlik" ve "Güven" öğrenciler tarafından DEUZEM'in en az eksik yönleri olarak ifade edilseler de SMART hedef kriterlerinin ağırlıklarıyla, ilgili kalite boyutlarına dair iyileştirmelerin algılanan hizmet kalitesini en fazla olumlu yönde etkileyeceği ortaya çıkmıştır. Bu sebeple yapılacak olan iyileştirmelerin ilgili kalite boyutlarına yönelmesinin daha etkin sonuçlar vereceği öngörülmüştür.

Çalışmada üç önemli soruya cevap aranmış olup, birincisi olan "Öğrencilerin eğitimlerini sürdürdükleri uzaktan eğitim programına dair algıladıkları kalite boyutları açısından hizmetin kalitesi nedir?" sorusuna, öğrenciler açısından kurumun "Güven" kalite boyutunda diğer kalite boyutlarına göre daha kaliteli hizmet verirken, "Empati" kalite boyutunda diğer kalite boyutlarına göre daha kalitesiz hizmet verdiği ve genel olarak kurumun kalite açısından öğrencilerin beklentilerini tam olarak karşılamadığı yanıtı, öğrencilerden elde edilen cevaplarla verilebilmektedir. "Uzaktan eğitim kurumu kendi iç dinamikleri gereği en iyi ve etkin bir şekilde hangi kalite boyutunda iyileştirme yaparak hizmet kalitesini en çok arttırabilir?" sorusuna cevap olarak ise kurum uzmanları ile yapılan SMART-AHP değerlendirmesi ile kurumun "Güvenilirlik" kalite boyutunda yapacağı iyileştirmenin en etkin ve en çok hizmet kalitesini arttıracağı sonucu ortaya çıkmıştır. Son olarak ise, "Kurumun hangi kalite boyutunda yapacağı iyileştirme öğrencilerin algıladıkları hizmet kalitesini en çok arttıracaktır?" sorusuna cevap olarak öğrencilerin SERVQUAL değerlendirmesi ve kurum uzmanlarının SMART-AHP sonuçları birleştirilerek elde edilen SMART Ağırlıklı SERVQUAL değerlendirmesiyle elde edilmiş olup, kurumun "Güvenilirlik" kalite boyutunda yapacağı iyileştirmenin öğrencilerin algıladıkları hizmet kalitesini en çok arttıracağı sonucuna varılmıştır.

Gelecek çalışmalarda SMART-AHP yaklaşımının farklı performans ölçütlerini değerlendirmede kullanımı ve farklı sektörlere uyarlanması yaklaşımın genelleşebilmesi açısından önemli olacaktır. Uzaktan eğitim alanında ders bazında kalite ölçümü, farklı kurumlar ile karşılaştırma ve iyileştirme planlarının değerlendirilmesi faydalı ve konu hakkında ışık tutucu olacaktır.

KAYNAKÇA

Bayrak, M., Aydemır, M., ve Karaman, S. (2017). An Investigation of the Learning Styles and the Satisfaction Levels of the Distance Education Students. *Çukurova University. Faculty of Education Journal*, *46*(1), 231-263.

Bolat, Y. İ., Aydemir, M., ve Karaman, S. (2017). Uzaktan Eğitim Öğrencilerinin Öğretimsel Etkinliklerde Mobil İnternet Kullanımlarının Teknoloji Kabul Modeline Göre İncelenmesi. *Gazi University Journal of Gazi Educational Faculty (GUJGEF)*, *37*(1). 63-91.

Bolliger, D. U. ve Martindale, T. (2004). Key factors in determining student satisfaction in online courses. *International Journal on E-Learning*. 3(1):61–67

Bower, B. L. ve Kamata, A. (2000). Factors influencing student satisfaction with online courses. *Academic Exchange Quarterly*. 4(3): 52–56.

Bozkurt, A., Akgun-Ozbek, E., Yilmazel, S., Erdogdu, E., Ucar, H., Guler, E., Sezgin, S., Karadeniz, A., Sen-Ersoy, N., Goksel-Canbek, N., Dinçer, G. D., Ari, S., ve Aydin, C. H. (2015). Trends in distance education research: A content analysis of journals 2009-2013. The International Review of Research in Open and Distributed Learning, 16(1). 330-363.

Button, D., Harrington, A., ve Belan, I. (2014). E-learning & information communication technology (ICT) in nursing education: A review of the literature. *Nurse Education Today*, *34*(10), 1311-1323.

Cantelon, J. E. (1995). The evolution and advantages of distance education. *New Directions for Adult and Continuing Education*. (67): 3-10.

Chandrana, B., Golden, B. ve Wasil, E. (2005). Linear programming models for estimating weights in the analytic hierarchy process. *Computers & Operations Research*, 32: 2235-2236.

Chao, R. J. ve Chen, Y. H. (2009). Evaluation of the criteria and effectiveness of distance e-learning with consistent fuzzy preference relations. *Expert Systems with Applications*, *36*(7), 10657-10662.

Chen, C. F. (2006). Applying the analytical hierarchy process (AHP) approach to convention site selection. *Journal of Travel Research*, *45*(2): 167-174.

Chen, C. M., Lee, H. M. ve Chen, Y. H. (2005). Personalized e-learning system using item response theory. *Computers and Education*, 44(3): 237–255.

Chiu, C. M. ve Wang, E. T. G. (2008). Understanding web-based learning continuance: The role of subjective task value. *Information and Management*. 45: 194–201.

Chiu, C. M., Hsu, M. H., Sun, S. Y., Lin, T. C. ve Sun, P. C. (2005). Usability, quality, value and e-learning continuance decisions. *Computers and Education, 45(4): 399–416.*

Deuzem"Hakkımızda"http://deuzem.deu.edu.tr/hakkimizda/(14.06.2016).

Devebakan, N. ve Aksaraylı, M. (2003). Sağlık işletmelerinde algılanan hizmet kalitesinin ölçümünde SERVQUAL skorlarının kullanımı ve Özel Altınordu Hastanesi uygulaması. *Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *5*(1): 38-54.

Diaz, D. P. ve Cartnal, R. B. (1999). Students learning styles in two classes: Online distance learning and equivalent on-campus. *College Teaching*. 47(4): 130–135.

Doherty, W. (2006). An analysis of multiple factors affecting retention in web-based community college courses. *The Internet and Higher Education*, 9(4): 245–255.

Enea, M. ve Piazza, T. (2004). Project Selection by Constrained Fuzzy AHP. *Fuzzy Optimization and Decision Making*, 3(1): 39-62

Gress, C. L., Fior, M., Hadwin, A. F. ve Winne, P. H. (2010). Measurement and assessment in computer-supported collaborative learning. *Computers in Human Behavior*, *26*(5): 806-814.

Hawkins, A., Graham, C. R., Sudweeks, R. R., ve Barbour, M. K. (2013). Academic performance, course completion rates, and student perception of the quality and frequency of interaction in a virtual high school. *Distance Education*, *34*(1), 64-83.

Ho, W. (2008). Integrated analytic hierarchy process and its applications: A literature review. *European Journal of Operational Research*. 186: 211-228.

Koernig, S. K. (2003). E-scapes: The electronic physical environment and service tangibility. *Psychology & Marketing*, *20*(2):151-167.

LaBay, D. G. ve Comm, C. L. (2003). A case study using gap analysis to assess distance learning versus traditional course delivery. *International Journal of Educational Management*, *17*(7), 312-317.

Lee, B. C., Yoon, J. O. ve Lee, I. (2009). Learners' acceptance of e-learning in South Korea: Theories and results. *Computers & Education*, *53*(4), 1320-1329.

Liaw, S. S. (2008). Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: A case study of the blackboard system. *Computers and Education*. 51(2): 864–873.

Liaw, S. S., Huang, H. M. ve Chen, G. D. (2007). Surveying instructor and learner attitudes toward e-learning. *Computers and Education*. 49(4): 1066–1080.

Liaw, S. S., ve Huang, H. M. (2013). Perceived satisfaction, perceived usefulness and interactive learning environments as predictors to self-regulation in e-learning environments. *Computers & Education*, *60*(1), 14-24.

Limayem, M. ve Cheung, C. M. K. (2008). Understanding information systems continuance: The case of internet-based learning technologies. *Information & Management*. 45(4): 227–232.

Liu, S. H., Liao, H. L. ve Pratt, J. A.(2009). Impact of media richness and flow on e-learning technology acceptance. *Computers and Education*.52(3): 599–607.

Lykourentzou, I., Giannoukos, I., Nikolopoulos, V., Mpardis, G. ve Loumos, V. (2009). Dropout prediction in e-learning courses through the combination of machine learning techniques. *Computers & Education*. *53*(3): 950-965.

Martinez, R. A., Bosch, M. M., Herrero, M. H. ve Nunoz, A. S. (2007). Psychopedagogical components and processes in e-learning. Lessons from an unsuccessful on-line course. *Computers in Human Behavior*. 23: 146–161.

Mateo, J.R.S.C. (2012). *Multi-Criteria Analysis in the Renewable Energy Industry.* Verlag London Limited: Springer

Parasuraman, A., Zeithaml, V. A. ve Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(Spring): 12–40.

Parasuraman, A., Zeithaml, V. A., ve Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *the Journal of Marketing*, 41-50.

Park, S., ve Yun, H. (2017). Relationships between motivational strategies and cognitive learning in distance education courses. *Distance Education*, *38*(3), 302-320.

Richards, C. N. ve Ridley, D. R. (1997). Factors affecting college students' persistence in on-line computer-managed instruction. *College Student Journal,* 31:490–495.

Richardson, J. T. (2017). Academic attainment in students with autism spectrum disorders in distance education. *Open Learning: The Journal of Open, Distance and e-Learning*, *32*(1), 81-91.

Roca, J. C. ve Gagne, M. (2008). Understanding e-learning continuance intention in the workplace: A self-determination theory perspective. *Computers in Human Behavior,* 24: 1585–1604.

Shahin, A. ve Mahbod, M. A. (2007). Prioritization of key performance indicators: An integration of analytical hierarchy process and goal setting. *International Journal of Productivity and Performance Management*, *56*(3): 226-240.

Shaik, N., Lowe, S., ve Pinegar, K. (2007). DL-sQUAL: A multiple-item scale for measuring service quality of online distance learning programs. *Online Journal of Distance Learning Administration, IX (II)*.

Shee, D. Y. ve Wang, Y. S. (2008). Multi-criteria evaluation of the web-based e-learning system: A methodology based on learner satisfaction and its applications. *Computers & Education*, *50*(3), 894-905.

Sherry, L. (1995). Issues in distance learning. *International journal of educational telecommunications*, *1*(4), 337-365.

Sun, P. C., Tsai, R. J., Finger, G., Chen, Y. Y. ve Yeh, D. (2008). What drives a successful e-Learning? An empirical investigation of the critical factors influencing learner satisfaction. *Computers and Education,* 50(4): 1183–1202.

Suthers, D. D., Hundhausen, C. D. ve Girardeau, L. E. (2003). Comparing the roles of representations in face-to-face and online computer supported collaborative learning. *Computers and Education,* 41(4): 335–351.

Triantaphyllou, E. ve Mann, S. H. (1995). Using the analytic hierarchy process for decision making in engineering applications: some challenges. *International Journal of Industrial Engineering: Applications and Practice*, *2*(1), 35-44.

Tzeng, G. H., Chiang, C. H. ve Li, C. W. (2007). Evaluating intertwined effects in e-learning programs: A novel hybrid MCDM model based on factor analysis and DEMATEL. *Expert systems with Applications*, *32*(4), 1028-1044.

Udo, G. J. ve Marquis, G. P. (2002). Factors affecting e-commerce web site effectiveness. *The Journal of Computer Information Systems*, *42*(2): 10-16.

Udo, G. J., K. K. Bagchi, ve Kirs, P. J. (2011). Using SERVQUAL to assess the quality of e-learning experience. *Computers in Human Behavior* 27.3: 1272-1283.

Viberg, O., ve Grönlund, Å. (2017). Understanding students' learning practices: challenges for design and integration of mobile technology into distance education. *Learning, Media and Technology*, *42*(3), 357-377.

Wang, Y. S. (2003). Assessment of learner satisfaction with asynchronous electronic learning systems. *Information and Management*, 41: 75–86.

Wang, Y. S., Wang, H. Y. ve Shee, D. Y. (2007). Measuring e-learning systems success in an organizational context: Scale development and validation. *Computers in Human Behavior,* 23: 1792–1808.

Welsh, E. T., Wanberg, C. R., Brown, K. G. ve Simmering, M. J. (2003). E-learning: emerging uses, empirical results and future directions. *International Journal of Training and Development*, 7(4): 245-258.

Yang, Z., ve Liu, Q. (2007). Research and development of web-based virtual online classroom. *Computers and Education,* 48(2): 171–184.

Zawacki-Richter, O., ve Naidu, S. (2016). Mapping research trends from 35 years of publications in Distance Education. *Distance Education*, 37(3), 245-269.

Zeithaml, V. A., Berry, L. L. ve Parasuraman, A. (1996). The behavioral consequences of service quality. *the Journal of Marketing*. 31-46.

EGE AKADEMİK BAKIŞ / EGE ACADEMIC REVIEW

Duygusal Zekâ ile Takım Rolleri Arasındaki İlişkinin İncelenmesi

Examining the Relationship Between Emotional Intelligence and Team Roles

Ali ACARAY[1]
Ayşe GÜNSEL[2]
Serhat YAŞAR[3]

https://orcid.org 0000-0002-1002-9937
https://orcid.org 0000-0002-4427-7322
https://orcid.org 0000-0002-1070-2140

ÖZET

Takım çalışması, takım üyeleri arasında tamamlayıcılık esasına dayalı bir işbirliğini gerektirmekte olup, bu işbirliği kapsamında üyeler farklı roller üstlenebilmektedir. Takım üyelerinin rolleri ve bu rollerin öncüllerine dair ilgili yazında henüz yeterli miktarda çalışma mevcut değildir. Bu çalışmanın amacı, takım üyelerinin duygusal zekâları ile takım çalışması kapsamında üstlendikleri rolleri arasındaki ilişkiyi araştırmaktır. Çalışmanın evrenini, Ankara'da kamu kuruluşlarında görev yapmış olup en az bir takım çalışması içerisinde yer almış çalışanlar oluşturmaktadır. Duygusal zekâ düzeyi ile takım rolleri arasındaki ilişkiyi test etmek üzere 80 adet orta kademe yönetici ve uzmandan toplanan veriler istatistiksel analize tabi tutulmuştur. Araştırmanın bulguları; duygusal zekâ ile kaynak-araştırmacı, takım işçisi, fabrika, koordinatör, tamamlayıcı-sonlandırıcı, uygulayıcı ve gözlemci-değerlendirici takım rolleri arasında pozitif ve anlamlı ilişkilerin varlığını ortaya koymaktadır.

Anahtar Kelimeler: Duygusal Zekâ, Takım Rolleri, Takım Çalışması

ABSTRACT

Team work requires cooperation amongst the team members based on complementarity. Within this cooperation, members may take different roles. There is not enough study related to the roles of team members and the antecedents of these roles in literature. The purpose of this study is to examine relationship between emotional intelligence and team members` roles. Population of this study is composed of public institutions employees located in Ankara who at least take a part in one teamwork. In order to test the relationships between emotional intelligence and team members` roles, data collected from 80 mid-managers or experts, is submitted to statistical analyses. The findings reveal that there are positive and significant relationships between emotional intelligence and (i) resource-investigator, (ii) team worker, (iii) plant, (iv) co-coordinator, (v) completer-finisher, (vi) implementer, (vii) monitor-evaluator roles.

Keywords: Emotional Intelligence, Team Roles, and Teamwork

1. GİRİŞ

Günümüzde etkili takımlar, örgütler için en temel iş birimi haline gelmektedir (Belbin, 1981; 1993). Takımlar, işleri sırayla ve ayrı ayrı gerçekleştiren bireylere nazaran, işbirliği içerisinde ve tamamlayıcılık esasıyla çalışan üyelerin oluşturduğu yapılar olup örgütlerde yaygın bir şekilde kullanılmaktadır. Takım temelli örgütler, birçok örgütün karşı karşıya kaldığı hızla değişen ortama karşı yassı yapıları ile hızlı ve etkili bir

şekilde cevap vermektedir (Cohen ve Bailey, 1997). Aynı zamanda, daha güçlü bütünleşme potansiyeli geleneksel yapıdaki örgütlere nazaran daha yüksektir. Dolayısıyla takım başarısının ve üretkenliğinin sağlanması için de üyelerin entelektüel zekâları yanında duygusal zekâya da sahip olması (Reus ve Liu, 2004; Gujral ve Ahuja, 2011) üyelerin takım içinde kendilerinden beklenen rolleri sergileyebilmesi için gereklidir. Ayrıca çeşitli çalışmalarda, takım üyelerinin duygusal

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zekâsının geliştirilmesi ile takım başarısının artırılabileceği de ifade edilmektedir (Örn. Druskat ve Wolf, 2001; Jordan vd., 2002). Bu bağlamda ilgili yazında duyguların takımlardaki yayılımı, takım motivasyonu ve etkiliğine olan etkileri konusunda bir genel görüş birliğinin de mevcut olduğu görülmektedir (Druskat vd., 2017). Bulaşıcı olmaları nedeniyle (Barsade, 2002), takım üyeleri arasında gerçekleşen etkileşimler kapsamında duygular; hızla yayılabilmekte ve bu durum, ya bir zayıf işbirliğini ve düşük etkinliği yahut tam aksine destekleyici işbirliğini ve daha yüksek takım etkinliğini beraberinde getirebilmektedir (Druskat vd., 2017).

Takım çalışmasının görev boyutu ile birlikte sosyal-duygusal bir yanı söz konusudur. Takım performansı için hem göreve odaklanmak hem de uygun kişilerarası ilişkiler geliştirmek gerekmektedir. Belbin'in takım rolleri modeli (1981), bu iki boyutlu takım işleyişi için uygundur (Golonka ve Mojsa-Kaja, 2013). Takım rolü, üyenin "diğerlerine belirli bir biçimde davranma ve katkıda bulunma ve diğerleri ile ilişki kurma eğilimi" olarak tanımlanmaktadır (Belbin, 2015). Belbin'in takım rolleri sınıflandırması -kaynak-araştırmacı, takım işçisi, fabrika, koordinatör, tamamlayıcı-sonlandırıcı, şekillendirici, uygulayıcı, gözlemci-değerlendirici- üyelerin kişiliklerine, kritik düşünme yeteneklerine ve davranışlarına göre oluşturulmuştur (Aritzeta vd., 2007).

Duygusal zekâ, bireyin kendi ve diğerlerinin duygularının değerlendirme ve ifade etme, düzenleme ve kullanabilme ile ilgili bir zeka türünü olarak tanımlanmaktadır (Mayer ve Salovey, 1995). Bununla birlikte duygusal zekânın; Thorndike (1920) tarafından öne sürülen, insanları anlama ve yönetme yeteneğini ve insan ilişkilerinde rasyonel davranabilmeyi ifade eden "sosyal zeka" kavramı ile birlikte Gardner'ın (1983) çoklu zeka kuramında yer alan bireye dönük (intra personal) zeka olarak tanımladığı zeka alanlarını içerdiği kabul edilmektedir. Goleman'a (1995) göre ise duygusal zekâ, bireyin kendisi ve çevresindeki insanlarla arasındaki ilişkiyi şekillendirmekte olup; bireyin kendi duygularının farkında olması -öz farkındalık-, kendi duygularını düzenlemesi –özyönetim-, bireyin diğerlerinin duygularının farkında olması –sosyal farkındalık- ve diğerlerinin duygularını kendi amaç ve hedefleri doğrultusunda kanalize edebilmesi –sosyal ilişki yönetimi- bileşenlerinden meydana gelmektedir.

Takımlar, her ne kadar analitik anlamda zeki ve nitelikli üyelerden oluşsalar da; eğer takım üyeleri arasında yaşanan tartışmalar, kişisel rekabet ve güç oyunları sebebiyle tam bir bütünlük sağlanamaz ise, etkin bir performans da sergilenememektedir (Hillson,

2003). Bir grubun sinerjik bütünlüğü sağlayarak yüksek performanslı bir takım mı, yoksa zayıf bağlarla bir arada çalışan bir yığın mı olacağı sorusunun cevabı; grubun değer ve rutinlerinde yatmaktadır ki bu değer ve rutinler ise duygular ve duygusal zeka ile yakından ilişkilidir (Lyons ve Schneider, 2005:695). Bu açıdan bir takımın farklı görüş, deneyim ve bilgi birikimini bir havuzda eriterek üyelerin farklı roller ile tamamlayıcılık esasında takım sinerjisini oluşturabilmeleri, kısmen de olsa üyelerin duygularını anlama ve düzenleme yeteneği; yani duygusal zekâları ile belirlenmektedir (Reus ve Liu, 2004:252). Teorik anlamdaki bu genel kabule rağmen ilgili yazın incelendiğinde duygusal zekâ ile takım rolleri arasındaki ilişkiyi araştıran çok sınırlı sayıda çalışmalar söz konusudur. Örneğin Golonka ve Mojsa-Kaja (2013) yaptıkları çalışmada, duyguları algılama ve duyguları yönetme yeteneği ile grubun devamlılığına ilişkin roller arasında pozitif bir ilişki olduğunu ortaya koymuşlardır. Dolayısıyla, duygusal zekâ ile takım rolleri arasındaki ilişkinin araştırılmasının hem teorik hem de pratik olarak katkılar ortaya koyması beklenmektedir. Bu amaçla, öncelikle duygusal zekâ ve takım rolleri kavramları üzerinde durularak araştırma hipotezleri geliştirilmekte, ardından bu hipotezler bir kamu kurumu kapsamında çalışmakta ve en az bir takım çalışmasında görev almış katılımcılar üzerinden toplanan veriler ile test edilmekte; sonuç kısmında ise bulgular yorumlanarak tartışılmaktadır.

2. KAVRAMSAL ÇERÇEVE VE HİPOTEZ GELİŞTİRME

2.1. Duygusal Zekâ

Duygusal zekâ kavramı ilk olarak Salovey ve Mayer (1990) tarafından ortaya örgütsel davranış yazınına kazandırılmış olup; Goleman`ın 1995 yılında yayımlanan ve en çok satılan kitaplar listesine giren "Duygusal Zeka" kitabı sayesinde akademik çevrelerde popüler bir konu haline gelmiştir (Günsel vd., 2010). Salovey ve Mayer (1990) duygusal zekâyı, kişinin kendi ve başkalarının duygularını gözlemleme, aralarında ayrım yapma ve bunlara ilişkin elde ettiği bilgiyi düşünce ve eylemlerine yönlendirmedeki becerisini içeren bir sosyal zekâ türü şeklinde tanımlamaktadır. Goleman (1995) ise çalışmasında duygusal zekâyı, bireyin kendisi ve başkalarının duygularını anlayabilme ve yönetebilme, bu bakımdan kendisini motive edebilme konusundaki yetkinliği olarak ifade etmiştir. Bu tanım doğrultusunda duygusal zekâ; öz farkındalık, özyönetim, sosyal farkındalık ve sosyal ilişki yönetimi olmak üzere dört boyuttan oluşmaktadır. *Öz farkındalık,* kişinin kendi

duygularının farkında olmasıdır (Goleman, 1995). Öz farkındalık, bireyin güçlü ve zayıf yönlerini kavraması için önemlidir (Bar-On, 2006). *Özyönetim*, kişinin kendi duygularını yönetmesidir (Bar-On, 2006). Birey sergilediği davranışların temelindeki duyguları yönetmekte, duyguların olumlu yönlerini kullanmak ve olumsuz yönlerini engellemek için özyönetim ile harekete geçmektedir. Bir diğer boyut *Sosyal farkındalık* ise, kişinin diğerlerinin duygularının farkında olmasıdır (Goleman, 1995). Son boyut olan *Sosyal ilişki yönetimi* ise, kişinin diğerlerinin duygularını yönetmesidir (Bar-On, 2006).

Duygusal zekâ çalışmalarının kökeni Thorndike'nin (1920) sosyal zekaya ilişkin çalışmalarına dayanmaktadır. Sosyal zekâ kuramı, duygusal zekânın oluşumunda büyük rol oynamış ve bu konuda yapılan çalışmalar ile aslında duygusal zeka kavramı ortaya çıkmıştır. Dolayısıyla duygusal zekânın, sosyal zekânın bir parçası olduğu söylenebilir (Landy, 2006; Salovey ve Mayer, 1990). Duygusal zekânın sosyal zekâdan türetildiği görüşü, birçok araştırmacı tarafından da kabul görmektedir (Bar-On, 2000). Bar-On (2006:14) ise duygusal-sosyal zeka şeklinde ele alarak kavramı, kişinin başkalarını nasıl anladığını, onlarla nasıl ilişki kurduğunu ve günlük çevresel taleplerle nasıl başa çıktığını etkileyen birbiriyle karşılıklı olarak ilişkili duygusal ve sosyal yeterlilikler, beceriler ve kolaylaştırıcılar dizisi biçiminde ifade etmiştir.

Örgütsel davranış yazını incelendiğinde yetenek modelleri ve özellik modelleri iki farklı duygusal zekâ yaklaşımı olduğu görülmektedir. Duygusal zekayı bir yetenek olarak ele alan yaklaşımda bu kavram, bireyin kendisinin ve diğerlerinin duygularını algılama, anlama, kanalize etme ve yönetmesine ilişkin bilişsel yetenek biçiminde tanımlanmaktadır (Kong vd., 2012). Özellikler yaklaşımında ise duygusal zeka duygusal algılamaların kişilik hiyerarşisindeki yeri olarak kavramsallaştırılmakta olup; bu özellikler bireyin davranışlarına yansımaktadır (Kong vd., 2012, Petrides vd., 2007). Bu çalışmada, takım üyelerinin takım içerisinde sergilemekte olduğu davranış ve roller incelenmekte olduğundan; duygusal zekâ; bir kişilik özelliği olarak ele alınmaktadır.

2.2. Takım Rolleri

Takım çalışması, günümüzde daha iyi müşteri hizmetleri sunumunun yanında (McShane ve Glinow, 2014) geleneksel hiyerarşik yapılara sahip örgütlerin koşullarını değiştirerek onlara etkili öğrenme konusunda da imkân sağlamaktadır (Van-Knippenburg ve Schippers, 2007; West, 2002). Takımlar üzerine gerçek-

leştirilen araştırmalar; takım halinde çalışılması durumunda daha iyi kararlar alındığını, daha nitelikli ürün ve hizmetler üretildiğini ve çalışanların işe adanmışlık düzeylerinin bireysel çalışmalara göre daha yüksek olduğunu olduklarını ortaya koymaktadır (McShane ve Glinow, 2014:133-134). Cohen ve Bailey de (1997), takım çalışmasının örgütlerin performansında önemli olduğunu belirtmiştir. Dolayısıyla sağladığı pek çok olumlu sonuçlar nedeniyle günümüz iş dünyasında etkili bir takım çalışması yapmak ve sürdürmek; örgütlerin başarılı bir şekilde amaçlarına ulaşması için önemli olup, bu bağlamda takım üyelerinin üstlenecekleri rolleri doğru bir şekilde icra etmeleri ise örgütsel davranış yazını açısından üzerinde hassasiyetle durulması gereken bir konu olarak ortaya çıkmaktadır.

Takım rolleri, her ne kadar Belbin'in (1981, 1993) çalışmaları ile popüler hale gelmiş olsa da; takım rolü kavramının oluşum süreci ise Kurt Lewin'in (1945) araştırmalarına dayanmaktadır. Daha sonra ise Benne ve Sheats (1948) ile Bales ve Slater'in (1955) yaptıkları çalışmalar da Belbin'in (1981) takım rolleri modelini oluşturmasına temel sağlamaktadır (Fisher vd., 2001). Belbin (2015) takım rollerini, "üyelerin takım içerisindeki davranışsal tutumları, takıma sağladıkları katkı ve diğerleriyle ilişki kurma eğilimi" şeklinde tanımlamaktadır.

İlk takım rolü, *Fabrika*dır. Fabrikalar son derece yenilikçi, yaratıcı ve zor problemleri alışılmadık yöntemlerle çözmede iyidirler. Yenilikçiliği desteklemek için orjinal fikir üretimi konusunda kaynak sağlarlar. Hayal güçlerini etkin bir biçimde kullanırlar (Belbin, 2015).

Gözlemci-Değerlendirici rolü, takımın mantıksal gözüdür. Tarafsız değerlendirmeler yapılması ve seçeneklerin sakin bir şekilde değerlendirilip doğru kararlar verilmesi aşamasında ihtiyaç duyulur. Heyecan, coşku, heves gibi duygulardan etkilenmeden düşünürler. Genellikle yüksek hassasiyet göstererek düşünme ve akıllı kararlar verme yeteneğine sahiptirler (Belbin, 2015).

Takım hedeflerine odaklanılmasında *Koordinatör* rolü gereklidir. Takım üyelerine yetki, görev ve sorumluluk verirler, duygusal açıdan gelişmiş ve kendilerinden emindirler. Genç astları yönetmekten ziyade, kendilerine yakın veya eşit rütbe ve pozisyondaki meslektaşları ile çalışırken daha iyi iş yaparlar. Genellikle problemlerin sakin bir şekilde çözülebileceğine inanırlar (Belbin, 2015).

Takımın dış ortamdan soyutlanması ve içine kapanması risklerine karşı *Kaynak araştırmacıları,* takım

ile dış dünya arasında bilgi alışverişi yapılmasını sağlar, fırsatları araştırır ve ilişkileri geliştirirler. Örgütün içinde ve dışındaki insanlarla iletişim kurabilme konusunda doğuştan gelen bir yeteneğe ve müzakere edebilme özelliğine sahiptirler. Yeni fırsatları keşfetme ve ilişkileri geliştirme konusunda yeteneklidirler (Belbin, 2015).

Bir planlama yapılması ve planlamanın mümkün olduğunca verimli bir şekilde uygulanması, fikirlerin eyleme dönüştürülmesi maksadıyla *Uygulayıcılar*a ihtiyaç duyulur. Uygulayıcılar; pratik yaklaşım sahibi, yüksek seviyede öz-kontrol ve disiplin sahibi kişiler olarak nitelendirilirler. Sıkı çalışmaya hazır ve yapılma şekli belirlenen ve emredilen işlerin yapılması konusunda örgütüne sadıktırlar (Belbin, 2015).

Tamamlayıcı-Sonlandırıcılar görevin son aşamasında etkili biçimde kullanılırlar ve hataların incelenmesi, kusurların giderilmesi ve belirlenen kalite seviyesine ulaşılması için takımın zorlanması faaliyetlerini yürütürler. Ayrıntılara dikkat eder, sürekli mükemmellik ve hataların düzeltilmesi için çaba harcarlar. Oldukça içe-dönük bir yapıya sahiptirler (Belbin, 2015).

Takım işçileri, takıma yardım eder ve gerekli işin belirlenmesi ve tamamlanmasında becerilerini kullanırlar. Ilımlı, sosyal, destekleyici, esnek, anlayışlı, diplomatik, yardımsever ve iyi bir dinleyici özelliği gösterirler (Belbin, 2015).

Şekillendirici takım üyeleri ise, meydan okuma özelliğine sahip olup, takımı harekete devam etmeye zorlamakta ve takımın ivme kaybetmesini engellemektedir. Genellikle ideal yönetici olarak düşünülür, tehlike ve zorlukların üstesinden gelinmesi için hızlı ve kesin bir eylem gerektiği zaman ihtiyaç duyulurlar (Belbin, 2015).

Yukarıda genel hatları ile verilen her bir takım rolünün kendine özgü davranışsal özellikleri mevcut olup, bu rollerin güçlü ve zayıf yönleri söz konusudur. İyi ya da kötü takım rolü yoktur. Tamamlayıcılık esası ve sinerji açısından tüm takım rolleri önemlidir. Takım üyelerinin hem kendisinin ve hem de etkileşimde bulunduğu diğer takım arkadaşlarının üstlendiği rolleri bilmesi önemlidir (Belbin, 2015).

Duygular, takım üyeleri arasında sosyal etkileşim yoluyla yayılmaktadır (Reus ve Liu, 2004:254). Farklı bireyler tarafından oluşturulan takımların hedeflere ulaşmasında gereken performansı sergileyebilmesi için üyelerin kendi ve diğerlerinin duygularını anlamaları ve düzenlemeleri, ortak bir noktada bir araya gelerek ve bir bütün olarak faaliyet göstermeleri gerekmektedir. Başka bir ifadeyle, farklı bireylerin takım

olarak hareket edebilmesi için takım üyelerinin duygusal zekalarını kullanabilmeleri gerekmektedir (Huy, 1999:342; Green vd., 2005:352; Reus ve Liu, 2004:255).

Duygular bir uyaran vasıtasıyla ortaya çıkmakta ve hisleri, hareketi ve ruhsal durumu yönlendirmektedir (Plutchik, 2001). Dolayısıyla, duygular sosyal açıdan ve kişisel durum ile kişisel ihtiyaçların diğerlerine bildirilmesi bakımından önemlidir (Oatley ve Johnson-Laird, 1996). Duygu, duygusal zekanın bileşenlerinden birisi olup (Mayer vd., 2000), takım üyelerinin davranışına, verimliliğine etki etmekte ve onlara yön vermektedir (Günsel ve Açıkgöz, 2013; Kidwell vd., 2011).

Takım performansının geliştirilmesi için, takım üyelerinin bireysel yetenek, beceri, bilgi birikimlerinin geliştirilmesi ve takımla bütünleştirilmesi gerekmektedir (Reus ve Liu, 2004: 247; Green vd., 2005: 350). İş birliği, entegrasyon ve takım oyunu önemlidir. Takımlar zeki bireylerden oluşsa bile; takım üyeleri arasında yaşanan tartışmalar, kişisel rekabet ve güç oyunları sebebiyle takımın bütünleşmesi sağlanamazsa etkin performans gösterilememektedir (Hillson, 2003). Takımın başarılı olmasını ve etkin performans göstermesini sağlayan faktörler, bu noktadan bakıldığında duygular ve duygusal zeka ile ilişkilidir (Lyons ve Schneider, 2005:695). Takım seviyesinden incelendiğinde duygusal zeka, takım üyelerinin duygularını algılama, anlama, gözlemleme, düzenleme, kullanma ve bu duyguları takım süreç ve rutinlerine yansıtma kabiliyetidir (Huy, 1999: 325; Akgün vd., 2007: 502-503). Üyelerin duygusal zekâları ise, takımın farklı görüş, deneyim ve bilgi birikiminin bütünleştirilmesini etkileyen faktörlerden birisidir (Reus ve Liu, 2004: 252). Ayrıca duygusal zekâ, üyelerine takıma uyumunu kolaylaştıran araçlardan birisidir (Golonka ve Mojsa-Kaja, 2013). Takım üyelerinin duygularını yönetebilmeleri durumunda takım performansının pozitif ve anlamlı olarak etkilendiği de ifade edilmektedir (Naseer vd., 2011). Gujral ve Ahuja (2011) tarafından yapılan çalışmada ise duygusal zeka ile takım etkinliği arasında pozitif bir ilişkiye ulaşılmıştır. Goleman da (1998) yüksek duygusal zekalı üyelerden oluşan takımların düşüklere göre daha yüksek performans sergilediğini söylemektedir.

Duygusal zekası yüksek takım üyeleri, güçlü bir ilişki ve takım performansı için gerekli informal sistemi oluşturabilirler (Prati vd., 2003). Bu bakımdan informal sistem kapsamında takım çalışması, üyelerinin sergiledikleri roller ile şekillendirilmektedir. Wang (2015) yaptığı çalışmada duygusal zekânın, takımda daha yüksek bilgi çeşitliliği olması durumunda daha iyi bir performansa yol açtığını ortaya koymuştur. Ayrıca

takım üyelerinin davranışlarında önemli belirleyicilerinden biri olan iş tatmini üzerinde duygusal zekânın önemli bir etkisi olduğu da Whiteoak ve Manning'in (2012) yaptığı çalışmada ortaya konulmuştur.

Bar-On'un ortaya koyduğu duygusal zekâ modelindeki önemli unsurlardan biri uyum sağlamaya ve esnekliğe ilişkin özelliklerdir. Uyum sağlama ve esneklik, değişen durumlara uyum sağlamaktır (Bar-On, 2000). Takım bazlı organizasyonlar, birçok organizasyonun karşı karşıya kaldığı hızla değişen ortama karşı, hızlı ve etkili bir şekilde cevap verirler (Cohen ve Bailey, 1997). Dolayısıyla takımların uyum sağlaması, takım üyelerinin uyum sağlama yeteneğine sahip olmasını gerektirir. Bu görüşe paralel olarak Quoidbach ve Hansenne (2009) de duygu düzenleme ile takım uyumu arasında pozitif bir ilişkiye ulaşmışlardır.

Bar-On'un duygusal zeka modelinde yer alan özelliklerden diğer bir kısmı ise stres yönetimi ve stres toleransı özellikleridir. Stres yönetimi, duygusal ve zihinsel zorlamaları yönetmek ve kontrol altında tutmaktır (Bar-On, 2000). Takım üyeleri, örgüt içindeki ve dışındaki faktörler sebebiyle duygusal ve zihinsel açıdan baskıya maruz kalmaktadır. Bu baskılar sonucunda takım üyeleri olumsuz etkilenmektedir (Belbin, 2015). Üyelerin davranışlarını kontrol etmeleri için, davranışları yönlendiren duygularını kontrol etmeleri gerekmektedir (Günsel ve Açıkgöz, 2013; Kidwell vd., 2011). Duygusal zekâ ile stres yönetimi sağlanabilir ve stres toleransı yükseltilebilir. Slaski ve Cartwright (2002) yüksek duygusal zekâya sahip yöneticilerin daha az öznel strese ve daha yüksek psikolojik iyi oluşa sahip olduklarını ve Gürbüz ve Yüksek de (2008), duygusal zeka ile stres yönetimi arasında pozitif bir ilişki olduğunu ortaya koymuşlardır. Aynı zamanda duygusal zekâ, takım üyeleri arasındaki çatışmanın azaltılmasına yardımcı olabilir ve daha rahat ve işbirliğine dayalı bir iş ortamı oluşturabilir (Gujral ve Ahuja, 2011). Jordan ve Troth (2002) çalışmasında, yüksek duygusal zekaya sahip bireylerin çatışma ile karşı karşıya kaldıklarında işbirliğine dayalı çözümler aramayı tercih ettiklerini ortaya koymuşlardır.

Duygusal zekâ ile takım rolleri arasındaki ilişkileri araştıran nadir çalışmalardan birini gerçekleştiren Golonka ve Mojsa-Kaja (2013) da koordinatör takım rolü ile duyguları algılama ve bir bütün olarak duygusal zeka arasında pozitif bir ilişki; takım işçisi rolü ile duyguları yönetme arasında pozitif bir ilişki ve gözlemci-değerlendirici takım rolü ile duyguları

yönetme arasında negatif bir ilişki olduğunu ortaya konulmuştur.

Kavramlar arasındaki ilişkilerden ve yapılan çalışmalardan hareketle aşağıdaki hipotezler geliştirilmiştir:

H1: Takım üyelerinin duygusal zekâları a) öz farkındalık, b) sosyal farkındalık, c) özyönetim ve d) sosyal ilişki yönetimi; takım üyelerinin üstlendiği kaynak-araştırmacı rolü üzerinde pozitif ve anlamlı bir etkiye sahiptir.

H2: Takım üyelerinin duygusal zekâları a) öz farkındalık, b) sosyal farkındalık, c) özyönetim ve d) sosyal ilişki yönetimi; takım üyelerinin üstlendiği takım işçisi rolü üzerinde pozitif ve anlamlı bir etkiye sahiptir.

H3: Takım üyelerinin duygusal zekâları a) öz farkındalık, b) sosyal farkındalık, c) özyönetim ve d) sosyal ilişki yönetimi; takım üyelerinin üstlendiği fabrika rolü üzerinde pozitif ve anlamlı bir etkiye sahiptir.

H4: Takım üyelerinin duygusal zekâları a) öz farkındalık, b) sosyal farkındalık, c) özyönetim ve d) sosyal ilişki yönetimi; takım üyelerinin üstlendiği koordinatör rolü üzerinde pozitif ve anlamlı bir etkiye sahiptir.

H5: Takım üyelerinin duygusal zekâları a) öz farkındalık, b) sosyal farkındalık, c) özyönetim ve d) sosyal ilişki yönetimi; takım üyelerinin üstlendiği tamamlayıcı-sonlandırıcı rolü üzerinde pozitif ve anlamlı bir etkiye sahiptir.

H6: Takım üyelerinin duygusal zekâları a) öz farkındalık, b) sosyal farkındalık, c) özyönetim ve d) sosyal ilişki yönetimi; takım üyelerinin üstlendiği şekillendirici rolü üzerinde pozitif ve anlamlı bir etkiye sahiptir.

H7: Takım üyelerinin duygusal zekâları a) öz farkındalık, b) sosyal farkındalık, c) özyönetim ve d) sosyal ilişki yönetimi; takım üyelerinin üstlendiği uygulayıcı rolü üzerinde pozitif ve anlamlı bir etkiye sahiptir.

H8: Takım üyelerinin duygusal zekâları a) öz farkındalık, b) sosyal farkındalık, c) özyönetim ve d) sosyal ilişki yönetimi; takım üyelerinin üstlendiği gözlemci-değerlendirici rolü üzerinde pozitif ve anlamlı bir etkiye sahiptir.

3. METODOLOJİ

3.1. Araştırmanın Modeli

Araştırmanın modelinde (Şekil 1) duygusal zekâ bağımsız değişken, takım rolleri ise bağımlı değişken olarak yer almaktadır.

Şekil 1: Araştırmanın Modeli

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┌─────────────────────┐        ┌─────────────────────────┐
│   DUYGUSAL ZEKA     │        │     TAKIM ROLLERİ       │
│                     │        │                         │
│   Öz Farkındalık    │   →    │   Kaynak Araştırmacı    │
│  Sosyal Farkındalık │        │      Takım İşçisi       │
│     Özyönetim       │        │        Fabrika          │
│ Sosyal İlişki Yönetimi│      │      Koordinatör        │
└─────────────────────┘        │ Tamamlayıcı-Sonlandırıcı│
                               │      Şekillendirici     │
                               │        Uygulayıcı       │
                               │  Gözlemci-Değerlendirici │
                               └─────────────────────────┘
```
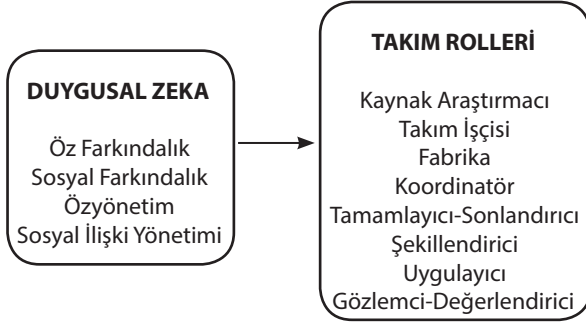
3.2. Araştırma Evreni ve Örneklemi

Araştırma evreni Ankara'da bir kamu kuruluşlarında görev alıp en az bir kere takım çalışması sürecinde yer alan 372 adet kamu sektörü çalışanı olarak tanımlanmış olup, kolayda örnekleme yöntemi ile Ocak-Şubat 2016 tarihleri arasında bu özellikteki 250 kişiye anket dağıtılmış ve 80 adet dönüş sağlanmıştır. Denekler kendi kurumlarındaki ürün ve faaliyetlerde kaliteye ulaşma, verimlilik artışı sağlama ve iş yaşamına ilişkin diğer konularda iyileştirmeler gerçekleştirmek amacıyla kalite çemberleri gibi sorun çözme çalışmalarında yer almış bireylerden seçilmiştir.

3.3. Araştırmada Veri Toplama Yöntemi

Veri toplama yöntemi olarak anket kullanılmıştır. Anketin birinci bölümünde demografik özellikler ölçülmekte ve bunun için 6 adet soru sorulmuştur.

Anketin ikinci bölümünde duygusal zekânın ölçümünde Wong ve Law'ın (2002) geliştirdiği dört boyutlu duygusal zekâ envanterindeki 16 soru kullanılmıştır. Wong ve Law'ın (2002) çalışmasındaki ölçeğin alt boyutlar için güvenilirlikleri öz farkındalık 0,89, sosyal farkındalık 0,88, özyönetim 0,76 ve sosyal ilişkiler yönetimi 0,85 olarak hesaplanmıştır. Bu ölçekteki öz farkındalık boyutuna ilişkin sorulardan birisi "Sahip olduğum duyguları iyi anlıyorum.", sosyal farkındalık boyutuna ilişkin sorulardan birisi "Başkalarının duygularını iyi gözlemlerim.", özyönetim boyutuna ilişkin sorulardan birisi "Kendi kendimi motive eden bir kişiyim." ve sosyal ilişki yönetimi boyutuna ilişkin sorulardan birisi de "Duygularımı iyi kontrol edebilirim." şeklindedir. Wong ve Law`ın (2002) duygusal zeka envanteri, duygusal zekayı özellikler kapsamında ele almakta olan; bu haliyle de araştırmanın amaç ve içeriğine uygun bir ölçektir. Bu ölçeğin batılı ülkeler ile birlikte Çinli örneklemler üstünde de (örn. Kong, 2017) kullanıldığı ve geçerliliğini ispatladığı görülmektedir.

Anketin son bölümünde ise takım rollerinin ölçümü için Belbin'in "Takım Rolleri Envanteri" kullanılmış

ve sekiz adet takım rolünden her birini ölçmek için 7 adet soru sorulmuş, sonuç olarak takım rolleri değişkenini ölçmek için toplam 56 adet soru sorulmuştur. Bu ölçekteki sorulardan birisi "Grup çalışmasında beni diğerlerinden ayıran özelliğim, takımım dışındaki bağlantılarımdan faydalanırım." şeklindedir. Tüm değişkenler arasındaki ilişkiler, 1=Kesinlikle katılmıyorum ve 5=Kesinlikle katılıyorum şeklindeki 5'li likert tipinde hazırlanan ölçeklerle ölçülmüştür.

4. BULGULAR

4.1. Demografik Özelliklere İlişkin Bulgular

Araştırma kapsamındaki çalışanların % 27,5'i kadın, % 72,5'i erkek; % 77,5'i evli, % 22,5'i bekar; % 52,5'i 1971-1980 yılları arasında doğmuş; % 40'ı lise ve öncesi ve % 38,8'i lisans eğitim düzeyine sahip; % 75'inin takım büyüklüğü 5 ve daha az kişi olarak ve % 23,8'i 20 yıl ve üstü çalışma tecrübesine sahiptir (Tablo 1).

Tablo 1: Katılımcıların Demografik Özelliklerine Tanımlayıcı İstatistikler

Demografik Özellikler		Sıklık	%
Cinsiyet	Erkek	58	72,5
	Kadın	22	27,5
Eğitim Düzeyi	Lise ve öncesi	32	40,0
	Ön Lisans	11	13,8
	Lisans	31	38,8
	Yüksek Lisans	6	7,5
Doğum Yılı	1960 ve öncesi	1	1,3
	1961-1970	7	8,8
	1971-1980	42	52,5
	1981-1990	28	35,0
	1991 ve sonrası	2	2,5
Medeni Durumu	Bekar	18	22,5
	Evli	62	77,5
Takım Büyüklüğü	0-5 kişi	60	75,0
	6-9 kişi	6	7,5
	10-15 kişi	2	2,5
	16-19 kişi	3	3,8
	20 kişi ve üstü	9	11,3
Tecrübe Aralığı	0-5 yıl	17	21,3
	6-10 yıl	14	17,5
	11-15 yıl	16	20,0
	16-19 yıl	14	17,5
	20 yıl ve üstü	19	23,8
Toplam		**80**	**100**

4.2. Geçerlilik ve Güvenilirlik Analizlerine İlişkin Bulgular

Ölçümlerin geçerlilik ve güvenilirliklerini test etmek amacı ile keşifsel faktör analizi (EFA) ve Cronbach Alfa testi kullanılmıştır. Problemli maddelerin elenmesinin ardından duygusal zekaya dair ölçek bir EFA modeline, takım rollerine dair ölçek ise diğer bir EFA modeline dahil edilmiştir. KMO Barlett testi sonuçları duygusal zeka EFA modeli için ,863 (p< 0,01), takım rolleri EFA modeli için ise ,796 (p< 0,01) olarak hesaplanmış olup, bu değerler verilerin faktör analizi için gerekli eşik değerini sağladığını ortaya koymaktadır. Duygusal zekâya dair EFA modeli Tablo 2 ve takım rolleri için ise Tablo 3'te gösterilmektedir.

Tablo 2: Duygusal Zeka Değişkenine Dair Faktör Analizi

Değişkenler	Faktör 1	Faktör 2	Faktör 3	Faktör 4
Öz Farkındalık (α= 0,85)				
Sahip olduğum duyguları iyi anlıyorum.	,83			
Ne hissettiğimi gerçekten anlarım.	,76			
Çoğu zaman hissettiğim kesin duyguların sebebinin farkındayım.	,74			
Daima, beni neyin mutlu edip etmediğini anlarım.	,72			
Sosyal İlişki Yönetimi (α= 0,83)				
Duygularımı iyi kontrol edebilirim.		,86		
Çok kızgın olduğum zamanlarda çabucak sakinleşebilirim.		,80		
Duygularımı kontrol edecek yeteneğe büyük oranda sahibim.		,69		
Başkalarının bakış açısını da düşünür ve dikkate alırım.		,55		
Terslikleri kontrol edebilir ve zorlukları rasyonel bir şekilde ele alabilirim.		,55		
Özyönetim (α= 0,82)				
Daima, kendi amaçlarımı belirler ve onlara ulaşmak için en iyisini yapmaya çalışırım.			,78	
Kendime, daima yetenekli bir kişi olduğumu söylerim.			,77	
En iyisini yapmak için kendimi daima cesaretlendiririm.			,64	
Kendi kendimi motive eden bir kişiyim.			,58	
Sosyal Farkındalık (α= 0,66)				
Başkalarının duygularını iyi gözlemlerim.				,85
Daima, arkadaşımın duygularını onun davranışlarından bilirim (anlarım).				,75
Başkalarının duygularına ve hislerine karşı duyarlıyımdır (hassasım).				,56
Açıklanan Toplam Varyans: % 67,19				

Tablo 3: Takım Rollerine Dair Faktör Analizi

Kaynak Araştırmacı (α= 0,83)	Faktör
Bir işte çalışırken mutlu olurum, çünkü yeni şeyler (fikir, görüş, bilgi, vs.) önerebilecek insanlarla tanışabiliyor veya görüşebiliyorum.	,89
Sınırlı zamanda tamamlanması ve tanımadığım insanlarla çalışılması gereken zor bir görev verilirse, mevcut fikirlerin geliştirilmesi veya yeni fikirler üretilmesi için takımımdaki insanların görüşler veya fikirler hakkında tartışmasını sağlardım.	,86
Diğer insanlarla birlikte bir projede yer aldığım zaman, yeni fikirler ve gelişmeler hakkında en güncel bilgileri araştırmaya istekliyim.	,84
Grup çalışmasında beni diğerlerinden ayıran özelliğim, takımın dışındaki bağlantılarımdan faydalanırım.	,67
Takım İşçisi (α= 0,65)	
Grup çalışmasında beni diğerlerinden ayıran özelliğim, meslektaşlarımı daha iyi tanıma konusunda oldukça ilgiliyim.	,78

Bir işte çalışırken mutlu olurum, çünkü iyi işleyen ilişkilerin gelişmesine yardım etmeyi seviyorum.	,77
Diğer insanlarla birlikte bir projede yer aldığım zaman, takımın ortak çıkarlarına uygun iyi bir öneriyi her zaman desteklerim.	,73
Sınırlı zamanda tamamlanması ve tanımadığım insanlarla çalışılması gereken zor bir görev verilirse, en olumlu yaklaşımı gösteren (olumlu düşünen) kişi ile çalışırdım.	,50
Fabrika (α= 0,74)	
Grup çalışmasında beni diğerlerinden ayıran özelliğim, geleneksel, alışılmış, kabul edilmiş şeylere karşı çıkabilirim; beklenmedik yeni şeyler üretebilirim.	,81
Bir işte çalışırken mutlu olurum, çünkü işimde, kafamdaki fikirler ve hayallerim ile ilgili çalışma alanı bulabiliyorum.	,76
Diğer insanlarla birlikte bir projede yer aldığım zaman, takım çalışmasında oluşturduğum plan, teklif, fikirlerin; bana ait olduğu, taklit veya kopya olmadığı konusunda takım arkadaşlarım bana güvenebilir.	,76
Yeni fikir üreterek takıma katkı sağlayabileceğime inanıyorum.	,68
Koordinatör (α=0,70)	
Diğer insanlarla birlikte bir projede yer aldığım zaman, baskı uygulamadan bir işi yaptırma konusunda insanları etkileyebilirim.	,83
Grup çalışmasında beni diğerlerinden ayıran özelliğim, bir karar verilmesi gerekirse; takım arkadaşlarımın fikirlerini dinlerken kendi fikrimi de oluştururum.	,72
Yetenekli insanları keşfettiğimde, fikirlerini söylemeye ikna edebilirim. Bu şekilde takıma katkı sağlayabileceğime inanıyorum.	,71
Bir işte çalışırken mutlu olurum, çünkü insanların belirli bir hedef yönünde hareket etmelerini sağlayabiliyorum.	,62
Tamamlayıcı-Sonlandırıcı (α=0,78)	
Grup çalışmasında beni diğerlerinden ayıran özelliğim, üstlendiğim her işi mükemmel (hatasız, en yüksek doğruluk derecesinde) bir şekilde yaparım.	,83
Bir işte çalışırken mutlu olurum, çünkü bir göreve tüm dikkatimi verebiliyorum (dikkatimi dağıtan bir şey yok).	,74
Sınırlı zamanda tamamlanması ve tanımadığım insanlarla çalışılması gereken zor bir görev verilirse, takım üyelerinde oluşturduğum aciliyet duygusu sayesinde işin teslim tarihine göre oluşturulmuş programın gerisine düşmemizi engellerdim.	,70
Diğer insanlarla birlikte bir projede yer aldığım zaman, olayları dikkatli bir şekilde izler; kurallara aykırı (eksik veya yanlış) bir iş yapılmasını engellerim.	,69
Bir işi yerine getirmede (tamamlamada) başarılıyım. Bu şekilde takıma katkı sağlayabileceğime inanıyorum.	,69
Şekillendirici (α=0,76)	
Takım çalışmasında yaptığım hata, bir işin yapılması gerektiğinde, zorlayıcı ve otoriter davranabilirim.	,87
Diğer insanlarla birlikte bir projede yer aldığım zaman, iş için bir araya geldiğimizde zaman kaybedilmesini ve ana hedeflerden uzaklaşılmasına sebep olabilecek şeyleri engellemek için baskı yapabilirim.	,85
Sonunda sevilmeyen kişi olsam bile başarıya ulaşmak için hoşa gitmeyecek kararlar alabilirim. Bu şekilde takıma katkı sağlayabileceğime inanıyorum.	,75
Grup çalışmasında beni diğerlerinden ayıran özelliğim, diğer takım arkadaşlarımın fikirlerine karşı çıkma, farklı bir görüşüm varsa söyleme konusunda tereddüt etmememdir.	,58
Uygulayıcı (α=0,80)	
Grup çalışmasında beni diğerlerinden ayıran özelliğim, bir iş ile ilgili planın uygulanması zorunlu hale gelirse; o işin başarılı olmasını sağlayabilirim.	,85
Bir işte çalışırken mutlu olurum, çünkü problemlere pratik (gerçek hayatta uygulanan) çözümler bulmakla ilgileniyorum.	,80

Diğer insanlarla birlikte bir projede yer aldığım zaman, takım arkadaşlarım tüm gerekli işlerin organize edilmesi (planlama ve düzenleme yapılması) konusunda bana güvenebilir.	,78
Sınırlı zamanda tamamlanması ve tanımadığım insanlarla çalışılması gereken zor bir görev verilirse, baskı yapılsa bile içinde bulunduğum örgütün amaçlarına, önceliklerine göre hareket ederdim.	,67
Bir durumun ne kadar gerçekçi olduğunu ve gerçekleşme ihtimalini anlayabilirim. Bu şekilde takıma katkı sağlayabileceğime inanıyorum.	,65
Gözlemci-Değerlendirici (α=0,70)	
Etki altında kalmadan, tarafsız bir şekilde işin yapılmasına ilişkin alternatif seçenekleri ve görüşlerimi detaylı bir şekilde belirtebilirim. Bu şekilde takıma katkı sağlayabileceğime inanıyorum.	,77
Sınırlı zamanda tamamlanması ve tanımadığım insanlarla çalışılması gereken zor bir görev verilirse, endişe, korku, heyecan duymadan sakinliğimi ve mantıklı düşünme özelliğimi korurdum.	,75
Diğer insanlarla birlikte bir projede yer aldığım zaman, karar verme yeteneğim doğru kararların verilmesine yardımcı olabilir.	,69
Grup çalışmasında yaşanabilecek problemlere örnek olarak, çok detaylı ve çok dikkatli inceleyen ve hislerini değil mantığını kullanan biri olduğum için takım arkadaşlarım beni eleştirebilir.	,67
Bir işte çalışırken mutlu olurum, çünkü olayları veya durumları analiz etmeyi, olası tüm seçenekleri tartmayı (dikkatli bir şekilde düşünmeyi) seviyorum.	,61
Açıklanan Toplam Varyans % 56,77	

4.3. Korelasyon Analizi

Duygusal zeka ile takım rolleri arasındaki ilişkinin düzeyini ve yönünü belirlemek amacıyla korelâsyon analizi uygulanmıştır. Değişkenler arasındaki ilişki Pearson korelâsyon katsayısı ile belirlenmiştir. Değişkenlere ilişkin ortalama, standart sapma ve korelasyon değerlerine ilişkin sonuçlar Tablo 4'te yer almaktadır.

Tablo 4: Araştırma Değişkenlerine İlişkin Ortalama, Standart Sapma ve Korelasyon Değerleri

	Ort.	Ss.	ÖF	ÖY	SF	SİY	KA	Tİ	FA	KO	TS	ŞE	UY	GD
ÖF	4,29	,80029	-											
ÖY	3,88	,78454	,532**	-										
SF	4,03	,64217	,217	,312**	-									
SİY	3,79	,78141	,539**	,615**	,180	-								
KA	3,99	,72636	,443**	,556**	,188	,576**	-							
Tİ	4,25	,51558	,242*	,352**	,430**	,349**	,518**	-						
FA	4,11	,65937	,441**	,594**	,278*	,506**	,678**	,549**	-					
KO	4,00	,61943	,346**	,470**	,151	,471**	,621**	,599**	,772**	-				
TS	4,04	,60244	,416**	,609**	,099	,509**	,633**	,348**	,553**	,473**	-			
ŞE	3,51	,90437	-,085	,064	,097	,023	,027	,285*	,186	,306**	,240*	-		
UY	4,00	,64435	,455**	,480**	,047	,481**	,515**	,290**	,422**	,362**	,535**	,070	-	
GD	3,92	,64631	,424**	,593**	,071	,627**	,623**	,397**	,658**	,623**	,621**	,172	,586**	-

** $p< 0.01$; * $p< 0.05$
ÖF: Öz Farkındalık, **ÖY:** Özyönetim, **SF:** Sosyal Farkındalık, **SİY:** Sosyal İlişki Yönetimi, **KA:** Kaynak Araştırmacı, **Tİ:** Takım İşçisi, **FA:** Fabrika, **KO:** Koordinatör, **TS:** Tamamlayıcı-Sonlandırıcı, **ŞE:** Şekillendirici, **UY:** Uygulayıcı, **GD:** Gözlemci-Değerlendirici

Tablo 5: Bağımsız Değişkenlerinin Bağımlı Değişkenler Üzerindeki Etkilerini Gösteren Regresyon Analizi

Bağımsız / Bağımlı Değişkenler	Kaynak-Araştırmacı Model 1		Takım İşçisi Model 2		Fabrika Model 3		Koordinatör Model 4		Tamamlayıcı-Sonlandırıcı Model 5		Şekillendirici Model 6		Uygulayıcı Model 7		Gözlemci-Değerlendirici Model 8	
	β	Sig.	β	Sig.	β	Sig.	β	Sig.	β	Sig.	β	Sig.	β	Sig.	β	Sig.
Öz Farkındalık	,104	,355	-,016	,898	,111	,321	,053	,667	,081	,463	-,184	,199	,223	,063	,041	,697
Sosyal Farkındalık	,015	,872	,359**	,001	,099	,297	,005	,958	-,103	,274	,097	,422	-,123	,220	-,123	,168
Özyönetim	,286*	,021	,110	,416	,388**	,002	,271*	,047	,483**	,000	,107	,493	,264*	,045	,360**	,002
Sosyal İliş. Yönetimi	,342**	,005	,225	,093	,190	,117	,275*	,040	,187	,119	,039	,797	,220	,086	,406**	,001
F	12,753		6,853		12,648		7,134		13,136		,635		9,162		17,034	
R²	,373		,229		,371		,237		,382		-,019		,292		,448	

***:p<,01, *:p<,05

4.4. Regresyon Analizi

Araştırma hipotezlerini test etmek için lineer regresyon analizinden faydalanılmıştır. Yapılan regresyon sonuçları Tablo 5'te görülmektedir.

Tablo 5 model 1'deki regresyon analizi sonuçlarına göre, regresyon modeli bir bütün olarak anlamlı (F=12,753, sig<0,01) olup, duygusal zeka boyutlarından özyönetim (β=0,286; p<0,05) ve sosyal ilişki yönetimi (β=0,342; p<0,01) kaynak araştırmacı rolü üzerinde etkilidir. Dolayısıyla veriler, sadece H1c ve H1d'yi desteklemekte, H1 hipotezi kısmen desteklenmektedir.

Tablo 5 model 2'deki regresyon analizi sonuçlarına göre, regresyon modeli bir bütün olarak anlamlı (F=6,853, sig<0,01) olup, duygusal zeka boyutlarından sadece sosyal farkındalık (β=0,359; p<0,01) takım işçisi rolü üzerinde etkilidir. Dolayısıyla veriler, H2b'yi desteklemekte, H2 hipotezi kısmen desteklenmektedir.

Tablo 5 model 3'teki regresyon analizi sonuçlarına göre, regresyon modeli bir bütün olarak anlamlı (F=12,648, sig<0,01) olup, duygusal zekâ boyutlarından sadece özyönetim (β=0,388; p<0,01) fabrika rolü üzerinde etkilidir. Dolayısıyla veriler, H3c'yi desteklemekte, H3 hipotezi kısmen desteklenmektedir.

Tablo 5 model 4'teki regresyon analizi sonuçlarına göre, regresyon modeli bir bütün olarak anlamlı (F=7,134, sig<0,01) olup, duygusal zeka boyutlarından özyönetim (β=,271; p<0,05) ve sosyal ilişki yönetimi (β=,275;p<0,05) koordinatör rolü üzerinde etkilidir. Dolayısıyla veriler, H4c ve H4d'yi desteklemekte, H4 hipotezi kısmen desteklenmektedir.

Tablo 5 model 5'teki regresyon analizi sonuçlarına göre, regresyon modeli bir bütün olarak anlamlı (F=13,186, sig<0,01) olup, duygusal zekâ boyutlarından sadece özyönetim (β=,483; p<0,01) tamamlayıcı-sonlandırıcı rolü üzerinde etkilidir. Dolayısıyla veriler, H5c'yi desteklemekte, H5 hipotezi kısmen desteklenmektedir.

Tablo 5 model 6'daki regresyon analizi sonuçlarına göre, regresyon modeli bir bütün olarak anlamlı olmadığı görülmektedir (F=0,635; sig>0,05). Dolayısıyla veriler, H6 hipotezini desteklememektedir.

Tablo 5 model 7'deki regresyon analizi sonuçlarına göre, regresyon modeli bir bütün olarak anlamlı (F=9,162, sig<0,01) olup, duygusal zekâ boyutlarından sadece özyönetim (β=,264; p<0,05) uygulayıcı

rolü üzerinde etkilidir. Dolayısıyla veriler, H7c'yi desteklemekte, H7 hipotezi kısmen desteklenmektedir.

Tablo 5 model 8'deki regresyon analizi sonuçlarına göre, regresyon modeli bir bütün olarak anlamlı (F=17,034, sig<0,01) olup, duygusal zeka boyutlarından özyönetim (β=,360; p<0,01) ve sosyal ilişki yönetimi rolü (β=,406;p<0,01) gözlemci-değerlendirici rolü üzerinde etkilidir. Dolayısıyla veriler, H8c ve H8d'yi desteklemekte, H8 hipotezi kısmen desteklenmektedir.

R^2 determinasyon katsayısı, araştırmada modeldeki duygusal zeka boyutlarının takım rollerini ne oranda açıkladığını göstermektedir (Tablo 6).

Tablo 6: Modelin Açıklama Kuvveti

Uyum ölçekleri	İçsel değişkenler	Nihai model
	Kaynak Araştırmacı	0,37
	Takım İşçisi	0,23
	Fabrika	0,37
R^2	Koordinatör	0,24
	Tamamlayıcı-Sonlandırıcı	0,38
	Uygulayıcı	0,29
	Gözlemci-Değerlendirici	0,45

*p<.1, **p<.05,

5. SONUÇ

Duygusal zekâ ile takım rolleri arasındaki ilişkinin incelenmekte olduğu bu araştırma; üyelerin takım içinde üstlendikleri rollerin, sahip oldukları duygusal zekâ düzeylerinden önemli bir şekilde etkilendiğini göstererek sonuçlanmaktadır. Öncelikle bulgular, duygusal zekâ ile takım rolleri ilişkisinde özellikle özyönetim ve sosyal ilişki yönetimi boyutlarının önem taşıdığını ortaya koymaktadır ki söz konusu iki boyut da Reus ve Liu'nun (2004) bilgi yoğun takımlara dair gerçekleştirmiş olduğu çalışmada duygusal yönetim başlığı altında birleştirilmiştir. Buna karşın duygusal zekanın sosyal farkındalık boyutu ile sadece takım işçisi rolü arasında ilişki bulunmakta iken, öz farkındalık ile takım rolleri arasında herhangi bir ilişkinin varlığına rastlanmamaktadır. Ancak buradan sosyal farkındalık ve öz farkındalık boyutlarının önemsiz olduğu sonucuna varmak yanlış olacaktır. Takım rollerinin sergilenmesi için üyelerin özyönetim ve sosyal ilişki yönetimine de sahip olması önemlidir. Ancak az da olsa sosyal farkındalık gerektiren takım işçisi rolünü ve duygusal yeteneğin zayıf olmasını gerektiren şekillendirici gibi rolleri sergileyebilecek üyeler de takım için gereklidir.

Diğer bir deyiş ile takım içinde üyelerin kendilerinden beklenen takım rollerinin sergilemesi için çoğunlukla kendi duygularını ve diğerlerinin duygularını yönetebilen üyeler takım çalışması açısından hayati bir rol üstlenseler de, duygusal zekâsı nispeten zayıf olan üyelere de yeri geldiğinde teknik beceri yahut farklı uzmanlık alanları nedeniyle ihtiyaç duyulabilmektedir.

Araştırma bulguları daha detaylı bir şekilde incelendiğinde, özyönetim ve sosyal ilişki yönetimi boyutlarının her ikisinin de kaynak araştırmacı, koordinatör ve gözlemci-değerlendirici rolleri üzerinde pozitif olarak etkilidir. Dışa dönük kişiler olarak kaynak araştırmacılar; diğer insanlarla iletişim kurabilme konusunda doğuştan gelen yetenekleri sayesinde müzakereci yönleri gelişmiş, diğerlerinden fikir öğrenme, toplama ve onları düzenleme özellikleri ön plana çıkmıştır. Kişilerarası ilişkilerdeki yetenekleri sayesinde koordinatörlerin ise diğerlerini hedefe yönlendirebilmeleri, onlara sorumluluk verebilmeleri ve onlarla fikir alışverişi yapabilmeleri bakımından güçlü özellikleri söz konusudur. Koordinatörler, diğer insanlara güven duyarlar. Bilge bir düşünce yapısına sahip olarak gözlemci değerlendiriciler ise kendi duygularına göre sezgisel karar vermekten kaçınırlar, akıllı karar verirken tüm faktörleri hesap etmeye çalışırlar (Belbin, 2015). Dolayısıyla araştırmada ulaşılan bu bulgu, duygusal zekânın özyönetim ve sosyal ilişki yönetim boyutlarının kaynak araştırmacı, koordinatör ve gözlemci-değerlendirici takım rollerini güçlendirebileceğine işaret etmektedir. Marzuki ve arkadaşlarının (2015) da çalışmasında ulaştıkları duygusal zeka ile iletişim becerileri arasındaki pozitif ilişki bulgusu, bu çalışmadaki kaynak araştırmacı takım rolü üzerinde özyönetim ve sosyal ilişki yönetiminin etkisine dair bulguyu desteklemektedir.

Özyönetim ile sosyal ilişki yönetimi boyutu karşılaştırıldığında da takım üyelerinin üstlendikleri roller anlamında, özyönetimin etkisinin daha şiddetli olduğu görülmektedir. Araştırmanın ulaşılan diğer bir bulgusuna göre fabrika, tamamlayıcı-sonlandırıcı ve uygulayıcı rolleri açısından duygusal zekânın özyönetim boyutu önemli bir öncül olarak ortaya çıkmaktadır. Orijinal fikirler üretme konusunda -yenilikçi ve yaratıcı nitelikteki- fabrika rolüne sahip üyeler; hayal güçlerini etkin olarak kullanmakta, diğer takım üyelerinden biraz uzak durmakta ve içe dönük eğilimli olarak bağımsız hareket etmektedirler. İçe dönük yapıya sahip tamamlayıcı-sonlandırıcılar ise sürekli mükemmellik peşinde koşmakta ve yüksek standartlara ulaşma konusunda diğerlerine güvensiz olabilmektedirler. Uy-

gulayıcıların da yüksek düzeyde öz kontrol ve disiplinli olma özellikleri gelişmiştir (Belbin, 2015). Dolayısıyla bu sonuç, bahsedilen özelliklere sahip bu takım rolleri üzerinde özyönetim yeteneğinin etkili olduğunu göstermektedir. Bu noktada, takım çalışması için üyelerin öncelikle kendi duygularını kontrol etmeye ve yönetmeye odaklandığı görüşü desteklenmektedir. Bender'in (2006) de çalışmasında duygusal zekâ arttıkça yaratıcılık düzeyinin arttığına ilişkin ulaştığı bulgu, bu çalışmadaki fabrika takım rolü üzerinde özyönetimin etkisine dair bulguyu desteklemektedir.

Araştırma sonucunda elde edilen bir diğer bulguya göre, duygusal zekâ bileşenlerinden sosyal farkındalık, sadece takım işçisi rolü üzerinde pozitif bir etkiye sahiptir. Diğer insanlarla birlikte zaman geçirmeyi seven arkadaş canlısı takım işçileri; bulundukları ortama uyum sağlama yetenekleri güçlü, insan ilişkilerinde diplomatik ve bir şeyin iç yüzünü hızlıca anlama konusunda yeteneklidirler. Dolayısıyla takım işçisi; rolünün yapısı gereği, kişisel bir yetenek olan duygu yönetiminden uzak durmakta ve daha çok kişilerarası bir yetenek olan duyguların anlaşılması boyutu ile ilgilenmektedir (Belbin, 2013). Takım işçisi, üyelerin olumsuz duygularını serbest bırakması ve kabullenmesi aşamalarında görev almaktadır. Olumsuz duygularını serbest bırakan üye, dikkatini tekrar toplamakta ve olumlu yöne doğru yönelmektedir (Druskat ve Wolf, 2001). Bu açıdan takım işçisi rolünü üstlenen takım üyeleri ile sosyal farkındalık arasında ilişki bulunması mantıksal açıdan açıklanabilen bir sonuçtur.

Araştırma sonucunda elde edilen son bir bulguya göre ise, duygusal zekânın boyutları şekillendirici takım rolü üzerinde herhangi bir etkiye sahip değildir. Şekillendirici takım rolünün görevi, takımın harekete geçirilmesi ve itici güç kullanarak zorlanmasıdır. Şekillendirici rolü yapı olarak, kişilerarası duyarlılıklara dikkat etmemekte, önem vermemekte ve hatta saldırgan olabilmektedirler (Belbin, 2015). Bu nedenle şekillendirici rolünü üstlenen takım üyelerinin, duygusal zekalarının çok da yüksek olmaması doğal bir sonuç olarak ortaya çıkmakta olup, kişiler arası duyarlılıkları olmayan üyelerin, şekillendirici takım rolünün üstlenilmesi için uygun kişiler olduğu görüşü desteklenmektedir.

Yapılan bu çalışma, örneklem kapsamında belirlenen kamu çalışanlarının takım içinde sergilediği takım rollerini etkileyen temel faktörün, üyelerin kendi duygularını yönetme (özyönetim) yeteneği olduğunu göstermektedir. Üyeler takım içinde çoğunlukla kendi duygularını kontrol etmeye ve yönetmeye odaklanmaktadır. Kişilerin kendi duygularını etkili bir şekilde yönetmesi, diğer takım üyeleri ile olan etkileşimlerin ve yaşayacağı süreçlerin daha kaliteli olmasına yol açabilir. Tersi durumda ise işbirliğinin azalması sonucunu ortaya çıkarabilir. Bu çalışmada takımda çoğunlukla kendisinin ve diğerlerinin duygularını yönetebilen üyelere ihtiyaç olsa da, diğerlerinin duygularının farkında olan ve duygusal zekâsı zayıf olan üyelere de azda olsa ihtiyaç duyulmaktadır. Takım rollerinin sergilenmesi için üyelerin özyönetim ve sosyal ilişki yönetimine sahip olması önemlidir. Bu bağlamda çalışanların işe alım süreçlerinde teknik ve analitik becerilerin yanı sıra şekillendirici takım rollerini üstlenecek olanların dışındaki tüm takım rolleri için duygusal zeka düzeyleri yüksek adayların kurumlarda istihdam edilmesi, doğru bir insan kaynakları yönetimi politikası olabilir. Ayrıca duygusal zekanın geliştirilebilir bir kişilik özelliği (Edizler, 2010) olarak değerlendirilmesi durumunda, yöneticiler çalışanların duygu yönetimi, empati, sosyal beceriler, stres ve çatışma yönetimi gibi konulardaki becerilerinin daha yüksek bir seviyeye çıkarılması kapsamında çeşitli eğitimler düzenleyebilirler.

Bu çalışmanın sonuçlarının genellenebilirliğini engelleyen bir takım metodolojik sınırlandırmalar mevcuttur. Öncelikle veri toplama süreci sadece Ankara ilindeki kamu kuruluşları kapsamındaki takım çalışmasında görev alan katılımcılar üzerinde gerçekleştirilmiştir. Daha homojen örneklem kitlesinin kullanılması ve araştırmanın özel sektörde de tekrarlanması durumunda sonuçların farklılaşabilmesi mümkündür. Bununla birlikte daha geniş bir örneklem kitlesinin daha doğru sonuçlar verebileceği göz önünde bulundurulması gereken bir husustur.

Gerek teoride gerekse pratikte takım yönetimi ve takım rolleri konuları, başarılı takımlar oluşturmada önemli değişkenler olarak ortaya çıkmaktadır. Takım üyelerinin uymak zorunda oldukları takım normlarının yenilikçiliklerini ve yaratıcılıklarını nasıl etkileyebileceği, takım üyelerinin duygusal zekâlarının kaytarmacılık davranışının ortaya çıkıp çıkmamasında oynayabileceği role ve duygusal zekânın moderatör etkisine dair yapılacak sonraki çalışmaların takım yönetimi alanına önemli katkılar sağlayacağı düşünülmektedir.

KAYNAKÇA

Akgün, A. E., Keskin, H., Byrne, J.C., Aren, S. (2007) "Emotional and Learning Capability and Their Impact on Product Innovativeness and Firm Performance" Technovation 27(9): 501-513.

Aritzeta, A., Swailes, S., Senior, B. (2007) "Belbin's Team Role Model: Development, Validity and Applications for Team Building" Journal of Management Studies, January, 44(1):96-118.

Bales, R. F. ve Slater, P. E. (1955) "Role Differentiation in Small Decision-making Groups" In T. Parsons et al. (Eds.) Family, Socialization and Interaction Process. New York: Free Press:259-306.

Bar-On, R. (2000) "Emotional and Social Intelligence: Insights from the Emotional Quotient Inventory (EQ-i)" In R. Bar-On and J. D. A. Parker (Eds.), Handbook of Emotional Intelligence. San Francisco: Jossey-Bass:363-388.

Bar-On, R. (2006) "The Bar-On Model of Emotional-Social Intelligence (ESI)" Psicothema, 18, supl.: 13-25.

Barsade, S. G. (2002) "The Ripple Effect: Emotional Contagion and Its Influence on Group Behavior" Administrative Science Quarterly, 47(4): 644-675.

Belbin, M.R. (2013) http://www.belbin.com/media/1159/belbin-howtousebelbinreports-toformateam-apr2013.pdf . (Erişim Tarihi: 01.03.2016).

Belbin, M.R. (1981) "Management Teams: Why They Succeed or Fail" Butterworth-heinemann, Oxford.

Belbin, M.R. (1993) "Team Roles at Work: A Strategy For Human Resource Management", Butterworth-heinemann, Oxford.

Belbin, M.R. (2015) http://www.belbin.com/media/1336/belbin-for-students.pdf. (Erişim Tarihi: 29.02.2016).

Bender, T.M. (2006) "Resim-İş Eğitimi Öğrencilerinde Duygusal Zeka ve Yaratıcılık İlişkileri" Yayımlanmamış Doktora Tezi, Dokuz Eylül Üniversitesi Eğitim Bilimleri Enstitüsü, İzmir.

Benne, K. D. ve Sheats, P. (1948) "Functional Roles of Group Members" Journal of Social Issues, 4:41-50.

Cohen, S.G. ve Bailey, D.E. (1997) "What Makes Teams Work: Group Effectiveness Research From The Shop Floor To The Executive Süite" Journal of Management, 23(3):239-290.

Druskat, V.U. ve Wolff, S.B. (2001) "Building The Emotional Intelligence of Groups" Harward Business Review, March.

Druskat, V.U., Wolf, S.B., Messer, T.E., Koman, E.S., Batista-Foguet, J. (2017) "Team Emotional Intelligence: Linking Team Social and Emotional Environment to Team Effectiveness" Management and Organisation, 433-454.

Edizler, G. (2010) "İnsan Kaynakları Yönetiminde 'Duygusal Zeka' Ölçüm ve Modelleri" Journal of Yasar University, 18(5): 2970-2984.

Fisher, S. G., Hunter, T.A., Macrosson, W.D.K. (2001) "A Validation Study of Belbin's Team Roles" European Journal of Work and Organizational Psychology, 10(2):121–144.

Goleman, D. (1995) "Emotional Intelligence: Why It Can Matter More Than IQ" New York: Bantam Books.

Goleman, D. (1998) "Working with Emotional Intelligence" New York: Bantam Books.

Golonka, K. ve Mojsa-Kaja, J. (2013) "Emotional Intelligence and Team Roles - Analysis of Interdependencies with Regard to Teamwork Effectiveness" International Journal of Contemporary Management, 12(4):32-44.

Green, A. L., Hill, A.Y., Friday, E., Friday, S.S. (2005) "The Use of Multiple Intelligences to Enhance Team Productivity" Management Decision, 43(3):349-359.

Gujral, H.K. ve Ahuja, J. (2011) "Impact of Emotıonal Intelligence on Teamwork–A Comparative Study of Self Managed and Cross Functional Teams" International Journal of Multidisciplinary Research 1(6):178-185.

Günsel, A. ve Açıkgöz, A. (2013) "The Effects of Team Flexibility and Emotional Intelligence on Software Development Performance" Group Decision and Negotiation, 22(2):359-377.

Günsel, A., Akgün, A. E. ve Keskin, H. (2010) "Duygusal Zeka Takım Öğrenmesi İlişkisi: Yazılım Geliştirme Takımları Üzerinde Bir Uygulama" Atatürk Üniversitesi İİBF Dergisi, 24(3): 117-138.

Gürbüz, S. ve Yüksel, M. (2008) "Çalışma Ortamında Duygusal Zeka: İş Performansı, İş Tatmini, Örgütsel Vatandaşlık Davranışı ve Bazı Demografik Özelliklerle İlişkisi", Doğuş Üniversitesi Dergisi, 9(2): 174-190.

Hillson, D. (2003) "Using a Risk Breakdown Structure in Project Management" Journal of Facilities Management, 2(1): 85-97.

Huy, Q.N. (1999) "Emotional Capability, Emotional Intelligence, and Radical Change" Academy of Management Review, 24(2): 325-345.

Jordan, P. J. ve Troth, A.C. (2002) "Emotional Intelligence and Conflict Resolution: Implications for Human Resource Development" Advances in Developing Human Resources, 4(1): 62-79.

Jordan, P. J., Ashkanasy, N. M., Härtel, C. E. J., Hooper, G. (2002) "Workgroup Emotional Intelligence: Scale Development and Relationship To Team Process Effectiveness and Goal Focus" Human Resource Management Review, 12: 195–214.

Kidwell, B., Hardesty, D.M., Murtha, B.R., Sheng, S. (2011) "Emotional Intelligence in Marketing Exchanges" Journal of Marketing, 75(1):78-95.

Kong, F. (2017) "The Validity of The Wong and Law Emotional Intelligence Scale in A Chinese Sample: Tests of Measurement Invariance and Latent Mean Differences Across Gender and Age" Personality and Individual Differences, 116: 29-31.

Kong, F., Zhao, J., You, X. (2012) "Social Support Mediates The Impact of Emotional Intelligence on Mental Distress and Life Satisfaction in Chinese Young Adults" Personality and Individual Differences, 53(4): 513-517.

Kuruşcu, M. (2017) "Yöneticinin Duygusal Zekası ve Liderlik Tarzının Çalışanların Örgütsel Vatandaşlık Davranışı ile İlişkisi" Yayımlanmamış Doktora Tezi, Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Enstitüsü, Eskişehir.

Landy, F.J. (2006) "The Long, Frustrating, and Fruitless Search for Social Intelligence: A Cautionary Tale" In K. R. Murphy, (Ed.). A Critique of Emotional Intelligence: What Are The Problems and How Can They Be Fixed? Mahwah, NJ: Erlbaum, 81-123.

Lewin, K. (1945). http://www.rcgd.isr.umich.edu/history/ (Erişim Tarihi: 23. 05. 2016).

Lyons, J.B. ve Schneider, T.R. (2005) "The Influence of Emotional Intelligence on Performance" Personality and Individual Differences, 39(4): 693-703.

Marzuki, N.A, Mustaffa, C.S, Saad, Z.M. (2015) "Emotional Intelligence: Its Relationship with Communication and Information Technology Skills" Asian Social Science, 11(15): 267-274.

Mayer, J. D., Salovey, P. (1997) "What is Emotional Intelligence?" In P. Salovey & D. Sluyter (Eds.). Emotional Development and Emotional Intelligence: Implications for Educators, New York: Basic Books:3-31.

Mayer, J. D., Salovey, P., Caruso, D.R. (2000) "Emotional Intelligence as Zeitgeist, as Personality, and as a Mental Ability" In R. Bar-On & J.D.A. Parker (Eds.). The Handbook of Emotional Intelligence. San Francisco: Jossey-Bass: 92-117.

McShane, S.L., Glinow, M.A.V. (2014) "Organizational Behavior" New York: McGraw-hill Irwin, Second Edition.

Naseer, Z., Chishti, S., Rahman, F., Jumani, N.B. (2011) "Impact of Emotional Intelligence on Team Performance in Higher Education Institutes" International Online Journal of Educational Sciences, 3(1): 30-46.

Oatley, K. ve Johnson-Laird, P. (1996) "The Communicative Theory of Emotions: Empirical Tests, Mental Models, and Implications For Social Interaction" In L. L. Martin and A.Tesser (Eds.), Striving and Feeling: Interactions Among Goals, Affect, and Self-Regulation. Hillsdale, NJ: Lawrence Erlbaum Associates: 363-393.

Petrides, K. V., Pita, R., Kokkinaki, F. (2007) "The Location of Trait emotional Intelligence in Personality Factor Space" British Journal of Psychology, 98(2):273-289.

Plutchik, R. (2001) "The Nature of Emotions" American Scientist, 89: 344-350.

Prati, L.M., Douglas, C., Ferris, G.R., Ammeter, A.P., Buckley, M.R. (2003) "Emotional Intelligence, Leadership Effectiveness, and Team Outcomes" The International Journal of Organizational Analysis, 11(1): 21-40.

Quoidbach, J. ve Hansenne, M. (2009) "The Impact of Trait Emotional Intelligence on Nursing Team Performance and Cohesiveness" Journal of Professional Nursing, 25(1): 23-29.

Reus, T.H. ve Liu, Y. (2004) "Rhyme and Reason: Emotional Capability and the Performance of Knowledge-Intensive Work Groups" Human Performance, 17(2):245–266.

Salovey, P. ve Mayer, J.D. (1990) "Emotional Intelligence" Imagination, Cognition and Personality, 9(3): 185-211.

Slaski, M. ve Cartwright, S. (2002) "Health, Performance and Emotional Intelligence: An Exploratory Study of Retail Managers" Stress and Health: Journal of the International Society for the Investigation of Stress, 18(2): 63-68.

Thorndike, E.L. (1920) "Intelligence and Its Uses" Harper's Magazine, 140:227-235.

Van Knippenburg, D. ve Schippers, M.C. (2007) "Work Group Diversity" Annual Review of Psychology, 58: 515-541.

Wang, S. (2015) "Emotional Intelligence, Information Elaboration, and Performance: The Moderating Role of Information Diversity" Small Group Research, 46(3):324- 351.

West, M.A. (2002) "Sparkling Fountains or Stagnand Ponds: An Integrative Model of Creativity and Innovation Implementation in Work Groups" Applied Psychology: An International Review, 51(3): 355-387.

Whiteoak, J.W. ve Manning, R.L. (2012) "Emotional Intelligence and its Implications on Individual and Group Performance: A Study Investigating Employee Perceptions in the United Arab Emirates" The International Journal of Human Resource Management, 23(8):1660-1687.

Wong, C. S. ve Law, K. S. (2002) "The Effects of Leader and Follower Emotional Intelligence on Performance and Attitude: An Exploratory Study" The Leadership Quarterly, 13(3): 243-274.

The Research on the Voice and Silence Behaviours of Iranian and Turkish Employees According to Their Demographic Characteristics

İranlı ve Türk Çalışanların Demografik Özelliklere Göre Seslilik ve Sessizlik Davranışları Üzerine Bir Araştırma

Beliz ÜLGEN[1]
Mehmet SAĞLAM[2]
Sahar Mohammadi BAZARGANİ[3]

https://orcid.org/0000-0002-7589-6812
https://orcid.org/0000-0002-1909-4284
https://orcid.org/0000-0003-0179-5899

ABSTRACT

The aim of this study was to present how employees' voice and silence behaviour differ according to demographic characteristics. Two different sample was used as Iranian and Turkish. 160 surveys were distributed for both samples. 123 survey were usable for Iranian sample and 149 surveys were usable for Turkish sample in various sectors. The data were collected using by a questionnaire form and analysed with the statistical program SPSS. The scale for employee voice and silence was adapted from Dyne et al. (2003), including 30 items and six factors. Explanatory factor analysis was used to determine the scale factor structure. Then alpha coefficients were determined for scale reliability. In order to determine the significant difference of employee voice and silence behaviour according to demographic characteristics, a t-test and Anova test were employed. Significant differences were found for employee voice and silence across demographic characteristics on both Iranian and Turkish sample. The similarities and differences between the employees were compared in terms of these two countries.

Keywords: Employee voice, Employee silence, Iranian Employees, Turkish Employees, Demographic Characteristics.

ÖZET

Bu çalışmanın amacı, çalışanların seslilik ve sessizlik davranışlarının demografik özelliklere göre nasıl değiştiğini ortaya koymaktır. İran ve Türkiye olmak üzere iki farklı örneklem kullanılmıştır. Her iki örneklem için de katılımcılara 160 anket dağıtılmıştır. Çeşitli sektör katılımcılarından, İran örneklemi için 123, Türkiye örneklemi için ise 149 kullanılabilir anket elde edilmiştir. Veriler anket formu kullanılarak toplanmış ve SPSS istatistik programı ile analiz edilmiştir. Çalışan sesliliği ve sessizliği ölçümlemek için Dyne, vd., (2003), tarafından geliştirilen, 30 madde ve altı faktörden oluşan ölçek kullanılmıştır. Ölçek faktör yapısı belirlenmesi için açıklayıcı faktör analizi kullanılmıştır. Daha sonra ölçek güvenilirliği için alfa katsayıları belirlenmiştir. Çalışan seslilik ve sessizlik davranışlarının demografik özelliklere göre anlamlı farklılığını belirlemek için t testi ve Anova testi uygulanmıştır. Hem İran hem de Türkiye örnekleminde demografik özellikler arasında çalışanın sesliliği ve sessizliği davranışları açısından önemli farklılıklar bulunmuştur. Çalışanlar arasındaki benzerlik ve farklılıklar bu iki ülke açısından karşılaştırılmıştır.

Anahtar Kelimeler: Çalışan sesliliği, Çalışan sessizliği, İranlı çalışanlar, Türk çalışanlar, demografik özellikler

[1]Prof. Dr, Istanbul Commerce University/Faculty of Business/Department of Business Administration, bulgen@ticaret. edu.tr.
[2]Res. Asst, Istanbul Commerce University/Faculty of Business/Department of Business Administration, msaglam@ticaret. edu.tr.
[3]PhD. Student, Istanbul Commerce University/Social Science Institute/Business Doctoral Program, sahar_mohammadi65@yahoo.com

1. Introduction

In today's business environment the rapid changes, severe and complex competition conditions require that businesses to evaluate their management practices frequently and to make necessary changes in direction of participative management.

Employees' ideas, suggestions or criticisms are so valuable for the continuous improvement of organizations (Hsiung, 2012). Their to voice can be recognized as constructive and strategic communication instrument for organizational effectiveness, high quality decisions and competitive advantage (Miles & Muuka, 2011). But in some situations employees prefer to be in silence or withold their ideas, knowledge or suggestions. Although employee voice and silence are seem to be different from each other, actually they are so interrelated terms and have equivalent importance in organizations (Moaşa, 2013).

In the first part of this article employee voice and silence are discussed and in the second part a research is placed which is conducted in Iran and Turkey to investigate the employees' voice and silence tendencies.

2. Literature Review on Employee Silence

Human resource as an important assess in organizations plays significant role in intensive competition through participation in sharing opinions and beliefs straightly without fear and deciding as well to improve the organization. Neglecting provided ideas or creating an atmosphere of fear and lack of impressive interactions in organization can be lead to withholding employees concerns and notions and being responsibility about solving organization problems and improvements which were defined by Morrison and Milliken (2000) as "employee silence".

Employee silence can be defined as censorship, quieting, ghettoization, suppression, exclusion, marginalization trivialization and other forms of discounting (Nafei, 2016, p.101). This idea has expressed in an elegant way in a Nigerian proverb "Silence is talk too" (Greenberg and Edwards, 2009). From the point of organizations silence can influence both organizations and employees meanly. Employee Silence occasions unpleasant moods like dissatisfaction, cynisizm, lack of communication and stress (Nafei, 2016). In other words, if voice is refrained proficiency and employee's mentality may be substantially offended. Meanwhile, there is proofs expressing that voice suppressed in organizations are mostly uncertain to participate in

voice, especially when the content of voice could be received by audience negatively (Morrison, 2014).

These two terms were studied from the point of justice theory during the 1980's . Justice and voice performance issues were among the most central topics studied (Bagheri et al., 2012). It is possible to say that the concept of justice was first led by authors such as Homans (1961), Adams (1965), Walster et al., (1973) (Greenberg, 1987, p.9). Adams's Theory of Justice (1965) is defined as the determination of whether a person perceives his / her own gains and contributions in a certain ratio with the acquisition and contribution of another individual, which he / she cites, and whether he / she perceives an injustice as a result of these evaluations (Greenberg, 1990, p.400).

While the perception of justice in organizations leads to positive behaviors; The perception of injustice can cause some negative behaviors such as the silence of the employees who make it difficult for the organizations to reach their goals.

In the 1990's, studies followed researches on voice mechanisms and around the year 2000 surveys started to focus on derivatives of "climate of silence" (Bogosian, 2012). Theorematic interaction in organizations requires multiple functions of silence and voice. Engagement in voice increases employee perceptions of organizational policies and procedures, manners and distinguish positions and be aware of rules to participate in the game (McGowan, 2003). According to Rezabeygil and Almasi (2014), silence behaviour states not speaking situation and voice behaviour states speaking about the existing issues and events in organizations. The difference between these terms is not in speaking but in motivational factors of individuals who are silent.

2.1. Employee Silence Factors

There are various notions about the parameters cause employee silence (Schechtman, 2008); support of silence by the top management and supervisor, fear based on authority, lack of communication opportunities and employees's fear about the negative reactions of management (Brinsfield et al., 2009 retrieved from Nafei, 2016, p.103).

Richard (2003) states the narrow conceptions of ethical responsibility, lack of organizational political skills, fear, implicated friends, embarrassment, lack of opportunity for voice as possible reasons for employee silence.

The results of the research managed by Morrison and Milliken's (2000) points that silence in organizations depends on a fear which is caused by negative feedback of management and their implicit beliefs about employees. These results, as in management beliefs, compose disruptive emotions of anger and fear in the organization, infusing silence by its members (Slade, 2008).

2.2. Types of Employee Silence

Dyne et al. (2003) classified employee's voice, silence and their behavior towards them in three types. In the model, employees demonstrate these mood as like in passivity, conservative and active moods (Afkhami & Mehrabanfar, 2015). In passivity mood employees believe that their thoughts can not create any utility for the organizations and most of them are influenced extremely by the authority. In conservative mood employees hesitate to share their opinions with others because of fear and self protection. Lastly in active mood employees express their opinions and thoughts recklessly.

Academics have described employee silence in three different forms based on employee behaviours (Pinder & Harlos 2001; Dyne et al., 2003; Briensfield 2009; Perlow & Repening; 2009) *Acquiescent Silence, Defensive Silence, Pro-social Silence.*

2.2.1. Acquiescent Silence

This type of silence is a passive behavior more than active. This type of silence reflects the employees' feeling unable to change the current situations or speak up much so they are not willing to be in organizational development activities (Karacaoğlu & Cingöz, 2008).

With reference to Pinder and Harlos (2001) and Dyne et al. (2003), acquiescent silence defined as " information, withholding relevant opinions, or ideas, based on resignation". Employees who distinguish this manner of silence accept existing situation where they work and are not eager to talk or to try to modify their current condition, believing that they hold little influence to change that (Pacheco et al., 2015).

2.2.2. Defensive Silence

This silence behaviour is rooted from the personal fear of employees to declare their opinions or thoughts. The term can be named by quiescent silence which is a kind of silence that points deliberate negligence (Pinder & Harlos, 2001).

Defensive silence includes withholding information on problems based on fear that expression of opinions is individually risky, is eliminating facts about troubles that should be corrected in order to protect the self (Dyne et al., 2003).

2.2.3. ProSocial Silence

Nafei (2016) declares prosocial silence is keeping organizational information for caring the others utility in organizations. Pro-Social silence is a voluntary and pro-active behaviour showed by the employees who desire to help to others or share their responsibilities (Podkasoff et al., 2000). This type of silence includes cooperation, motivation, the feeling of altruism (Dyne et al., 2003) and conscious decision making.

3. The Literature Review on Employee Voice

Albert Hirschman's (1970) treatise , "Exit, Voice and Loyalty" is the milestone research about the employee voice (Ashford, Sutcliffe & Christianson, 2009). In his study he defined voice from the point of marketing (Miles & Muuka, 2011). *Customer exit* states the the loss of customers depending on their dissatisfaction about product or service quality or some lapses in any process of the organization. *Customer voice*, includes their criticms or comments on product or service. The voice may reflect their satisfaction or dissatisfaction. *Customer loyalty* defines the customers' retention and the continuity of their relationship with the organization (Gorden, 1988). If they feel their voice is cared by the organization and has a meaningful influence on organizational issues, this situation improve their loyalty feeling and these loyal people are mostly prefer to use voice to modify the actual situation or prefer to wait patiently until the conditions get better (Vangel, 2011).

According to Rusbult et al. (1988) the concept of exist does not mention only quitting job, it also indicates the process of searching a new job and scrutinising the quitting decision. Therefore, exit can be occured by the combination of psychological tendency and behavioral reaction about any discontentedness (Naus et al., 2007). Hirschman defines that making a choice between exit and voice related with oneself's loyalty to the organization and in case of high loyalty propensity of voice will be over exit (Garner & Garner, 2011).

3.1. Employee Voice Factors

Dundon et al. (2004: 1152) voice can be ocurred in four diverse forms such as; (Budd et al., 2010).

- sign of individual dissatisfaction.
- collective reaction to prevent the pluralistic interest against any inappropriate implementation of management (eg. works councils, unions, joint labor-management consultation committees (Kim et al., 2010), etc.).
- core instrument to improve effectiveness of decision making and management involvement processes in the organizations.
- a bridge between employee and employer to realize mutuality of interest by considering ethical, fair and democratic values in the workplace.

3.2. Types of Employee Voice

Voice has widespread usage in many organizational issues as like silence (Dyne et al., 2003) and includes three types which have different effect on management.

3.2.1. Acquiescent Voice

Acquiescent voice is a passive and disengaged behaviour that it results in statements of conciliation and support based on resignation (Vangel, 2011) and low self-efficacy to influence any valuable change. Acquisent voice can be explained by two examples. One of them is **Abilene Paradoks**. The other is **Pluralistic Ignorance** (Dyne et al., 2003).

Dr. Jerry Harvey introduced this concept in his book "*The Abilene Paradox and Other Meditations on Management*" and gave detailed information about the Abilene Paradox over the parable that he lived (Harvey, 1988). The parable begins with an unwanted trip of Harvey and his family members from Texas to drive Abilene for dinner on a hot day by a car that had a non functioning AC. The important point in this trip decision, none of the family members even the person who suggested this trip were really willing to go. They approved this suggestion thinking that the others wanted this trip and held off from voicing their own thought (Daft & Lane, 2008). The main theme of **Abilene Paradox** emphasizes the avoidance of group members from telling the truth in order to agree with others and to make them happy (Launius, 1988).

Pluralistic ignorance was developed by Floyd Allport and his student Daniel Kantz in 1931 (Bjerring et al.,2014). He saw this concept unwarrented and confused reactions of how other people think and feel on different matters **(**Shamir & Shamir, 1997). It indicates the dissonance between attitude and behavior. O'Gor-

man defines pluralistic ignorance *as "a situation in which individuals hold unwarrented assumptions about the thoughts, feelings and behaviour of other people and it's not ignorance in the ordinary sense of not knowing "* (Johnson-Cartee, 2005, p.36).

People explicitly participate to others' thoughts or confirm their decisions even though they do not indigenise those thoughts or decisions. They behave in this manner because of the social pressure (Prentice & Miller, 1993) or their worries about being excluded, rejected, or incompatible person in a group (Shelton, & Richeson, 2005).

In the literature many examples are placed to explain the meaning of pluralistic ignorance. One of them is *classroom case*. In this case, a teacher presents some difficult materials in the classroom and after presentation asks the students whether they have any question. Despite most of them does not exactly explain the materials, they hesitate to ask question because they believe that the materials are easy for others except oneself so they don't want to be seem as stupid or the only one who did not understand those materials in front of their classmates (Zanna, 1996; Bjerring et al., 2014; Prentice & Miller, 1993).

3.2.2. ProSocial Voice

ProSocial Voice is a kind of proactive, voluntary and other-oriented behavior that is shown as expressing solutions, sharing experiences or suggesting constructive thoughts about work related issues by considering the others' benefit and this behaviour is shown by employees' will instead of the organization's this fundamental and upward-directed communication behaviour (Moeidh et al., 2015) is shown by employees' will instead of the organization's requirement (Dyne et al., 2003). Pro-social Voice also includes asserting of many useful ideas and suggestions by taking into account the whole organization's interests in any process of change. This discretionary behaviour provides positive, improving and beneficial contributions to organization based on cooperative motives, majority interests and alturism (Ehtiyar & Yanardağ, 2008). So it can be seem as a form of citizenship behavior (LePine & Dyne, 2001).

3.2.3. Defensive Voice

Defensive voice is a self-protective behavior used to express thoughts or knowledge to protect one's self interests from feared and undesired consequences (Dyne et al., 2003; Turgut & Agun, 2016).

In organizations, defensive voice includes employees' criticism, complaints on work-related ideas, information or opinions and blaming others or providing justifications for one's actions to reduce personal threats. In this point of view, defensive voice based on self interest rather than the benefit of organizations or the others (Lee et al., 2014; Ellis & Dyne, 2009). Managers may realise the defensive voice of employees by caring the expressions, stresses and tones in their verbal messages, non verbal statements, and the direction of their voice whether it's based their based the interest of oneself or majority (Lee et al., 2014).

4. Research Questions

Our study examines employee voice and silence behaviors in terms of demographic features within the context of developing economies. Earlier studies on employee voice behavior have been associated with economic and employment contexts (Menendez & Lucio, 2014; Wilkinson *et al.*, 2013).

In the literature, it has been concluded that voice behaviour has been adopted in developed countries, especially in term of socio-economic development (Gomez *et al.*, 2010; Wilkinson *et al.*, 2013, Soltani *et al.*, 2017). However, in some countries, such as Iran, due to hierarchical authority, obedience to the rules, and fear, employees are expected to prevent from reporting nonconformities and exhibit silence behavior. In some studies, it has been demonstrated that different types of employee voice and silence behaviours were revealed for different social, economic development and institutional evolution stages of countries (Wood, 2010, Soltani *et al.*, 2017).

Turkey and Iran are some similar in terms of Hofstede's cultural dimensions. The high power distance of managers is followed by autocratic leadership and a strong directive approach. Individualism is only reinforced because the interests of the individual are always prioritized according to the interests of the group and the organization. The strong desire to avoid uncertainty also plays a role as a distinctive feature of the culture of these two countries (Hofstede, 2001). Because of that, employees are expected to exhibit different behaviors in terms of the culture which they have.

Also, the employees can be exhibit voice or silence behavior due to their moral and social values. Different socio-economic and demographic environment will bring different working environments and different conditions. Both countries are expected to have differences in terms of business ethics.

The results obtained from this study will be important in the sensemaking of the employees behavior for companies where operating in Turkey and Iran. This is important for the creation of a work team for companies which are operating in both countries. Therefore, it is wondered how employee voices and silence behaviors change according to socio-economic and demographic variables.

The research questions based on the literature and these knowledges are made as follows.

-Do employee voice and silence behaviours differentiate according to demografic characteristics such as gender, sector, age, education, marital status, firm size and total working time at firm for Iran and Turkey participants?

5. Research Methodology

5.1. Data Source and Sample

The aim of this study was to establish the relationship between participants' demographic characteristics and silence-voice behaviour of employees for Iran and Turkey sample. This demographic characteristics were gender, age, education, marital status, sector, total working time at this firm and firm size.

This study used quantitative research approach and analyzed with statistical procedures and surveyed the employees' voice and silence, to compare differences among Iranian and Turkish participants. Participants were employess who worked in various companies and sectors. Due to time and resource constraints, a convenience sample of Iranian and Turkish employees was recruited. The employees were assured that their participation was strictly voluntary. This study used simple random sampling in selecting respondents that is section from probability sampling techniques. The data collection was completed by the researchers alone. The data collection process was two weeks at different times of the days. The participants might ask any questions during the survey, the researcher was available to answer their questions.

A questionnaire was designed in Turkish and due to the fact that the respondents were Iranian, form was translated into Persian version with an official endorsement from an expert. Disagreements on the transcription were resolved through discussions between the translators. The questionnaire form

contains 30 employee voice and silence scale items and seven demographic. It took an estimated 10 minutes to complete. The questionnaire constitutes two sections. The first section was designed to collect demographics data. The second section consisted of 30 items for measure employee voice and silence developed by Dyne et al., (2003) and adapted Turkish form from Sarikaya (2013). In the questionnaire 7-point Likert Scale format was used.

Initially, we obtained 160 responses for both samples. After deleting cases with severe missing data, the final sample used in the analysis consisted of 272 responses across groups. The Iran group consisted of 123 respondents. The Turkey group consisted 149 respondents. Each survey was coded with a number and entered into the SPSS program for statistical analysis. All sample responses were entered into a database in SPSS.

Table 1 reports for both sample participants' demographic characteristics grouped by country. According to these results, for Iran sample 37,4% of respondents were females and 62,6% were males, 53,7% were production sector employee, 46,3% were service sector employee. The age distribution indicated that majority 39% of respondents were 25-34 years old and %30,1 were between 35-44 years old, followed by the other age groups. Of the 123 respondents, 31,7% had bachelor degree diploma, 20,3% had master degree, 17,9% had vocational school degree, 17,1% had high school degree and 13% had doctorate degree. The marital status demographics results showed that respondents from both countries were relatively similar in marital status distribution. 59,3% of Iranian respondents were married and majority the rest were single. 35,8% respondents' total working time at this firm were 11 years and over, 35% were 1-5 years and the rest were 6-10 years. 39,8% of Iranian employees' firm size were macro, 33,3% were medium and 26,8% were micro.

The table also indicated that for Turkey sample 49% of respondents were females and 51% were males. Majority of employees were from service sector (%73,2). As to the respondents' age, 52,1% were 25-34 years old, 26,1% 35-44, 10,1% were 45-54 years old,9,2% were 18-24 and 2,5% were 55 years and over. According to education results, majority of the respondents (53,7%) had bachelor degree, 21,5% had high school diploma, 11,4% had master degree and followed by the other education levels. Our findings showed that around 57,7% of respondents were married and the rest were single. 68,5% majority of

respondents' total working time at this firm were 6-10 years, 18,8% were 1-5 years and 12,8% were 11 years and over. Majority of employees (71,8%) were from medium size firm, 33,3% were medium and 26,8% were micro.

5.2. Factor Analysis and Reliability Tests Results

In order to determine if the measures were metrically invariant across countries, we first checked for the reliability of the measures in each country and secondly we checked the validity of the measures. We checked for the constructs' convergent and discriminant validity through exploratory factor analysis (EFA).

Prior to extraction of the factors related to scales for all sample groups, Kaiser-Meyer-Olkin (KMO) and Bartlett's tests should be applied to examine the appropriateness of the respondent data for exploratory factor analysis. Kaiser-Meyer-Olkin (KMO) must be at least 0.60, and the higher the better. Bartlett's test must obtain significant value (p <0.05) (Durmuş et al. 2013, p.80). Moreover, Hair et al. (2009) suggest that in the social sciences, where information is often less precise, the researchers should be considered a solution that at least accounts for 50–60% of the total variance explained. Finally, items' factor loadings should not be less than 0.40, and these items with a factor loading less than 0.40 should be removed from the analysis (Kalaycı, 2005, p. 321).

First, we checked for the and validity and reliability of the constructs in each sample. An exploratory factor analysis includes the scale items for these employee voice and silence using the Iranian and Turkish sample. So, firstly we ran an EFA with varimax rotation and specified a six factor solution.

Secondly, a similar analysis was conducted using the Turkey sample and due to do fact that two items with a factor load under 0.40 were excluded from scale both Iranian and Turkish sample. Therefore, the results provided initial evidence for discriminant and convergent validity across the constructs in the both samples.

The results of the factor analys were formed as expectedly for both sample. KMO Measure of Sampling adequacy was higher than 0,60. Bartlett's test p value was 0.000. It indicates that data was appropriate for factor analysis. Also total variance explained was %68,281 for Iran sample, was %59,291 for Turkey sample. All total variance explained values which were far beyond the threshold. Table 2 and Table 3 shows factor analysis results for each sample.

Table 1: Demographic Characteristics of The Samples

Country	Gender	Frequency	Percent	Country	Sector	Frequency	Percent
	Female	46	37,4		Service	57	46,3
Iran	Male	77	62,6	Iran	Production	66	53,7
	Total	123	100,0		Total	123	100,0
	Female	73	49,0		Service	109	73,2
Turkey	Male	76	51,0	Turkey	Production	40	26,8
	Total	149	100,0		Total	149	100,0

Country	Age	Frequency	Percent	Country	Education	Frequency	Percent
	18-24	16	13,0		High School	21	17,1
	25-34	48	39,0		Vocational School	22	17,9
	35-44	37	30,1		Bachelor Degree	39	31,7
Iran	45-54	15	12,2	Iran	Master	25	20,3
	55 and over	7	5,7		Doctorate	16	13,0
	Total	123	100,0		Total	123	100,0
Turkey	18-24	11	9,2		High School	32	21,5
	25-34	62	52,1		Vocational School	13	8,7
	35-44	31	26,1	Turkey	Bachelor Degree	80	53,7
	45-54	12	10,1		Master	17	11,4
	55 and over	3	2,5		Doctorate	7	4,7
	Total	119	100,0		Total	149	100,0

Country	Marital Status	Frequency	Percent	Country	Total Working Time at Firm	Frequency	Percent
	Married	73	59,3		1-5	43	35,0
Iran	Single	44	35,8	Iran	6-10	36	29,3
	Divorced	6	4,9		11 and over	44	35,8
	Total	123	100,0		Total	123	100,0
	Married	86	57,7		1-5	28	18,8
Turkey	Single	58	38,9	Turkey	6-10	102	68,5
	Divorced	5	3,4		11 and over	19	12,8
	Total	149	100,0		Total	149	100,0

Country	Firm Size	Frequency	Percent
	Micro	33	26,8
Iran	Medium	41	33,3
	Macro	49	39,8
	Total	123	100,0
	Micro	23	15,4
Turkey	Medium	107	71,8
	Macro	19	12,8
	Total	149	100,0

Table 2: Factor Analysis Test Results for Iranian Sample

	Factor Name	Number of Items	Variance explained	KMO Test and Bartlett p value
Iran Sample	Acquiscent Silence	4	12,553	
	Acquiscent Voice	5	8,509	
	Defensive Silence	5	8,012	
	Defensive Voice	4	10,313	
	Prosocial Silence	4	12,056	
	Prosocial Voice	5	16,837	
	Total	27	68,281	0,845 and 0,00

Table 3: Factor Analysis Test Results for Turkish Sample

	Factor Name	Number of Items	Variance explained	KMO Test and Bartlett p value
Turkey Sample	Acquiscent Silence	4	10,121	
	Acquiscent Voice	5	6,347	
	Defensive Silence	5	8,022	
	Defensive Voice	5	15,069	
	Prosocial Silence	4	8,415	
	Prosocial Voice	5	11,317	
	Total	28	59,291	0,814 and 0,00

The second step was reliability analysis. Item to-total correlations for all items in those scales were above the recommended threshold of 0.50 (Gerbing & Anderson. 1988). The results shown that the ıtem to-total correlation value for the Iranian group was 0.45 and we also removed one item. Also, Cronbach Alpha coefficient should be greater than 0.70 (Tavşancıl, 2005). Cronbach alpha values for both sample were more than 0.70. These results were accepted as reliable. Table 4 shows the reliabilites for these scales for each country respondents.

Table 4: Results of Reliability and Validity Analysis for Each Country

	Components	Item	Cronbach Alpha
Iran	Acquiscent Silence	4	,901
Turkey	Acquiscent Silence	4	,768
Iran	Acquiscent Voice	5	,710
Turkey	Acquiscent Voice	5	,744
Iran	Defensive Silence	5	,740
Turkey	Defensive Silence	5	,790
Iran	Defensive Voice	4	,737
Turkey	Defensive Voice	5	,786
Iran	Prosocial Silence	4	,819
Turkey	Prosocial Silence	4	,764
Iran	Prosocial Voice	4	,923
Turkey	Prosocial Voice	4	,814

5.3. Difference Tests Results

Difference tests are used to determine whether the scale dimensions differ according to some variables. If the normal distribution is provided, parametric tests (t and ANOVA (F test)) are used and if normal distribution is not provided, non-parametric tests (Mann Whitney and Kruskall Wallis) are used. Kolmogorov Smirnov or Shapiro Wilks tests are used to determine to normal distribution. The statistical significance value of the tests was greater than 0.05 and the distribution was normal (Field, 2009). The distribution of datas were normal for employee silence and voice on both samples according to Kolmogorov Smirnov test results (P-value> 0.05). Therefore, parametric tests (t and ANOVA (F test)) were used for both sample. While t test are used to determine difference between two categorical variables, Anova (F) test are used for more than two categorical variables (Büyüköztürk, 2007, p.47). While the t test was statisticly significant, mean values were used to determine diffiierence degrees, Anova (F) test was statisticly significant, Post Hoc-Tukey tests were used to determine mean differences.

Analysis of Variance (ANOVA) and t-test tested whether or not there was a significant difference between the means of employee voice and silence between two countries participants. In order to determine the significant difference of employee voice and silence between male and female and the other factors

two groups, a t-test was employed. The (ANOVA) F-test was carried out to compute the variance within each group for the factors more than two groups.

This was done one sample t test analysis in order to the compare mean of the sum scores for employee voice and silence for each of the two countries: Iran and Turkey.

Table 5 presents the mean values and sample t test results of employee voice by country samples. According to these results there was difference average between country samples and employee voice factors (all p value 0.000 less than 0.05). For Iran sample prosocial voice (mean=3,89) were rated as the highest mean. Acquiscent voice (mean=2,98) were rated as the second highest mean and defensive voice (mean=2,26)were rated the lowest mean. For Turkey sample prosocial voice (mean=3,86) were rated as the highest mean. Acquiscent voice (mean=3,26) were rated as the second highest mean and defensive voice (mean=1,79)were rated the lowest mean. The one sample t test showed that respondents from both countries were relatively similar in employee voice behaviour but for Iranian participants in all kind of employee voice means were higher than Turkey.

Table 6 indicates the mean values and one sample t test results of employee silence by country samples. According to these results there was difference ave-

rage between country samples and employee silence factors (all p value 0.000 less than p value = 0.05). For Iran sample prosocial silence (mean=4,18) were rated as the highest mean. Defensive silence (mean=2,22) were rated as the second highest mean and acquiscent silence (mean=2,01) were rated the lowest mean. For Turkey sample prosocial silence (mean=4,60) were rated as the highest mean. Acquiscent silence (mean=1,91)were rated as the second highest mean and defensive silence (mean=1,63)were rated the lowest mean. The one sample t test reported that for Turkish respondents prosocial silence were higher than Iranian. However, for the other kind of employee silence, Iranian participants' means were higher than Turkish participants.

Table 7 shows the t test results by the gender and sector on employee voice. There were significant differences across gender on only acquiescent voice for Iranian sample and no significant difference across sector. The other types of employee voice were not significant. This indicates that males had more likely to be highly acquiscent voice than females. Also there were significant differences across sector on only prosocial voice for Turkish sample no significant difference across gender. The other types of voice were not significant. This indicates that production sector's participants had more likely to be highly prosocail voice than service sector.

Table 5: Results of Mean of the Sum Comparisons for Employee Voice on Each Country

Country		Mean	Std. Deviation	t	P value
Iranian	Acquiscent Voice	2,98	,461	71,668	,000
	Defensive Voice	2,26	,669	37,430	,000
	Prosocial Voice	3,89	,941	45,877	,000
Turkey	Acquiscent Voice	3,26	,637	62,367	,000
	Defensive Voice	1,79	,741	29,450	,000
	Prosocial Voice	3,86	,933	50,493	,000

Table 6: Results of Mean of the Sum Comparisons for Employee Silence on Each Country

Country		Mean	Std. Dev.	t	P value
Iranian	Acquiscent Silence	2,01	,901	24,724	,000
	Defensive Silence	2,22	,706	34,843	,000
	Prosocial Silence	4,18	,743	62,350	,000
Turkey	Acquiscent Silence	1,91	,820	28,440	,000
	Defensive Silence	1,63	,656	30,429	,000
	Prosocial Silence	4,60	,574	97,793	,000

Table7: Results of Independent Sample t Test by Gender and Sector Differences on Employee Voice

Country		Gender	Mean	Std. Dev.	t	P value
Iranian	Acquiscent Voice	Female	2,90	,452	-1,586	,012
		Male	3,03	,462	-1,596	,011
Country		Sector	Mean	Std. Dev.	t	P value
Turkey	Prosocial Voice	Service	3,76	,904	-2,222	,028
		Production	4,14	,967	-2,153	,035

Table 8 shown the results that there were statically significant differences in prosocial silence depending on gender and sector for Iran sample and no significant difference in acquiscent and defensive silence. This shows that females had more likely to be highly prosocial silence than males. Also service sector's participants had more likely to be highly prosocial silence than production sector. For Turkey sample, there were significant differences in defensive and prosocial silence across gender. Other differences were not significance in acquiscent silence. This indicates that females had more likely to be highly defensive silence than males and males had more likely to be highly prosocial silence than females. Moreover significant differences were found for prosocial silence across sector. Service sector's participants had more likely to be highly prosocial silence than production sector. This result showed that respondents from both countries had relatively similar prosocial silence behaviour across sector.

This table shows the mean differences value, the ANOVA and Post Hoc Tukey test results of defensive voice depending on total working time at this firm and age and the data also revealed a significant difference across age on prosocial voice for Iran sample. Also there were significant differences across firm size and age on defensive voice, and across marital status on prosocial voice for Turkey sample. Remainder demographic factors were not significant in employee voice behaviour. This result shows that Iranian employees who work 1-5 years had more likely to be highly defensive voice than 11 years and over and who work 6-10 years had more likely to be highly defensive voice than 11 years and over. Iranian employees who are 18-24 years old had more likely to be highly defensive voice than 45-54 years. Moreover, Iranian employees who are 18-24 years old had less likely to be highly prosocial voice than the other age groups. For Turkey sample this results indicates that Turkish employees who work at macro business had more likely to be highly defensive voice than at medium business and divorced employees had more likely tobe highly prosocial voice than married employees. Turkish employees who are 18-24 years old had more likely to be highly defensive voice than 25-34, 35-44 and 45-54 years.

Table 8: Results of Independent Sample t Test by Gender and Sector Differences on Employee Silence

Country		Gender	Mean	Std. Dev.	t	P value
Iranian	Prosocial Silence	Female	4,30	,482	1,414	,016
		Male	4,10	,857	1,615	,011
Turkey	Defensive Silence	Female	1,75	,723	2,085	,039
		Male	1,53	,567	2,075	,040
Turkey	Prosocial Silence	Female	4,52	,610	-1,501	,014
		Male	4,66	,532	-1,497	,014
Country		Sector	Mean	Std. Dev.	t	P value
Iranian	Prosocial Silence	Service	4,28	,739	1,385	,017
		Production	4,09	,741	1,386	,017
Turkey	Prosocial Silence	Service	4,64	,520	1,398	,016
		Production	4,49	,696	1,224	,023

Table 9: Summary of the Anova-Test Results for the Relationship Between Demographic Factors and Employee Voice

Country	Total Working Time in Firm	F	Sig.			Mean Difference
Iranian	Defensive Voice	5,472	,005	11 and over	1-5	-,401*
					6-10	-,403*

Country	Firm Size	F	Sig.			Mean Difference
Turkey	Defensive Voice	4,151	,018	Medium	Micro	-,197
					Macro	-,503*

Country	Marital Status	F	Sig.			Mean Difference
Turkey	Prosocial Voice	4,840	,009	Divorced	Married	1,182*
					Single	,917

Country	Age	F	Sig.			Mean Difference
Iranian		2,718	,033		25-34	-,089
	Defensive Voice			18-24	35-44	,029
					45-54	,396*
					55 and over	,563
Iranian		3,835	,006		25-34	-,839*
	Prosocial Voice			18-24	35-44	-,781*
					45-54	-,365*
					55 and over	-1,210*
Turkey		5,675	,000		25-34	,899*
	Defensive Voice			18-24	35-44	,899*
					45-54	1,089*
					55 and over	-,015

Table 10: Summary of the Anova-Test Results for the Relationship Between Demographic Factors and Employee Silence

Country	Total Working Time at This Firm	F	Sig.			Mean Difference
Turkey	Defensive Silence	4,190	,017	1-5	6-10	,452*
					11 and over	-,331

Country	Education	F	Sig.			Mean Difference
Iranian	Defensive Silence	3,841	,006	High School	Vocational School	,626*
					Bachelor Degree	,227
					Master	,429
					Doctorate	,706*

Country	Firm Size	F	Sig.			Mean Difference
Turkey	Prosocial Silence	4,152	,018	Medium	Micro	,358*
					Macro	,173

Country	Marital Status	F	Sig.			Mean Difference
Turkey	Prosocial Silence	3,885	,023	Married	Single	,163
					Divorced	,630*

The results indicated that the mean differences value, the ANOVA and Post Hoc Tukey test results of defensive silence depending on education for Iran sample. Also there were significant differences across total working time at this firm on defensive silence, and the data also revealed a significant difference across firm size and marital status on prosocial silence for Turkey sample. Remainder demographic factors were not significant in employee silence behaviour. This result shows that Iranian employees who had

high school degree had more likely to be highly defensive voice than vocational school degree and doctorate degree. On the other hand this result shows that Turkish employees who work 1-5 years had more likely to be highly defensive silence than who work 6-10 years. For Turkey sample this results indicates that Turkish employees who work at medium business had more likely to be highly prosocial silence than at micro business and married employees had more likely tobe highly prosocial silence than divorced employees.

5.4. Conclusion

When the literature is evaluated, it is seen that the relationship of employee voice and silence behaviours with concepts such as organizational culture, organizational commitment, organizational citizenship behaviour, burnout syndrome, ethical leadership are examined (Zehir & Erdoğan, 2011; Nikmaram, *et al.*, 2012; Çınar, *et al.*, 2013; Afkhami & Mehrabanfar, 2015; Çoban & Sarıkaya, 2016; Sholekar & Shoghi, 2017; Korkmaz, 2018). It was observed that there were no studies investigating the interrelations between these concepts for both Iran and Turkey with together. In addition, there were no studies that examined the difference according to demographic characteristics. In this study, due to the lack of these studies in the literature for similar studies in Iran and Turkey, comparisons with previous studies could not be done. This result suggests that the study will be important for new studies.

At the end of the study we classified the results which sourced from the comparison of two countries rather than the results for each country under three headlines:

Country based comparison;

For both country prosocial voice and silence are in front of the other types of voice and silence. Iranian participants' prosocial voice is higher than Turkish participants and prosocial silence in Iran is lower than Turkey.

This result can be explained by Hofstede's study which steresses the cultural dimensions of different countries. Depending on the comparison of cultural dimensions between Iran and Turkey, in both countries the power distance dimension which signs the degree of power within the society or organization are accepted by the less powerful individuals is high. This situation supports the results of country based comparison.

Gender based comparison;

In Iran, prosocial silence of female employees is higher than male employees. In Turkey, prosocial silence of male employees is higher than female employees.

According to 2016 datas of World Bank, the female labor force participation rate is %16.24 in Iran and %30.36 in Turkey. In comparison with Turkey, the number of male employees are higher than female ones in Iran. So female employees may prefer prosocial behaviour against their male colleagues domination in the workplace environment. Additionally, the personality traits which differs depending on genders may effect this result some specific qualifications of the employees such as their high commitment level to organization, their positive and constructive attitudes, cooperative bahaviours with the other members in the organization. Also some organizational factors can be effective on the employees' voice and silence behaviors. One of them can be the management transparency, organizational climate and culture which supports prosocial voice and silence.

Sector based comparison;

In both country, prosocial silence in service sector is higher than production sector. Customer satisfaction and customer retention have higher priority in service sector rather than production. Therefore in service sector, most of the employees may prefer prosocial silence behaviour to achive these aims so this tendency may lead them to behave in a same manner in the organization.

Comparison depending on total working time in workplace;

In Iran, defensive voice of the employees who work less than 5 years is higher than the employees who work more than 5 years.

The result of Iranian sample analysis can be expressed by employees commitment level. The less experienced employees who prefer defensive voice behaviour due to their low level of organizational commitment. As a secondary reason, these employees' negative and destructive attitudes and their agressive personality trait can influence this result.

In Turkey, defensive silence of the employees who work less than 5 years is higher than the employees who work more than 5 years.

According to this result, less experienced employees prefer defensive silence behaviour because of some

worries that they feel. They may think that defensive voice influence their relationship with managers negatively. On the other hand they do not want to be excluded from the groups and seen as incompatible person in workplace environment.

Limitations of the Research

The findings of the study are limited to the responses to the questionnaire form and it is assumed that the participants answered the questions carefully.

The research is cross sectional and limits to investigate changes in the research over time. The cross-sectional study may have caused the respondents to make an assessment based on their current mood and status, and to disregard the general situation.

The data of 123 Iranian and 149 Turkish participants which can be reached, constitute the other limit of this study. The research datas which collected in one month duration shows the time constraint of the study.

Recommendations for the Future Researches

In future studies, the research can be applied in specific sectors such as textil, otomobile etc. for both countries.

It is as such regarded that different and more numbers of variables (economic, legal etc.) may be employed.

It can be investigated that the relationship between employees voice or silence behavior with management style, emotional intelligence, business ethics, organizational culture, organizational climate, organizational communication, organizational commitment, organizational justice etc. variables for both countries and comparative analysis are made.

The subject can be taken into consideration with different methodological (qualitative) approaches and contribute to the depth of the related literature.

REFERENCES

Adams, J. S. (1965). "Inequity in social exchange". In L. Berkowitz (Ed.), Advances in experimental social psychology, New York: Academic Press. (2), 267-299.

Afkhami A. M., & Mehrabanfar, E. (2015). "Organizational Silence, from Roots to Solutions: A Case Study in Iran Petroleum Industry" *Iranian Journal of Oil & Gas Science and Technology*, 4(2), 68-83.

Anderson, J.C., Gerbing D.W. (1988) "Structural Equation Modeling in Practice: A Review and Recommended Two - Step Approach" *Psychological Bulletin*, 103, 411-423.

Ashford, S. J., Sutcliffe, K. M., & Christianson, M. K. (2009). "Speaking up and speaking out: The leadership dynamics of voice in organizations" In Greenberg, J., & Edwards, M. S. (Eds.). (2009). Voice and silence in organizations. *Emerald Group Publishing*, pp. 175-202.

Bagheri, G., Zarei, R., & Aeen, M. N. (2012). "Organizational silence (basic concepts and its development factors)" *Ideal Type of Management*, 1(1), 47-58.

Bjerring, J.C., Hansen, J.U., & Pedersen, N.J.L.L. (2014). "On the rationality of pluralistic ignorance" *Synthese*, 191 (11), 2445-2470.

Bogosian, R. (2011). "Engaging Organizational Voice: A Phenomenological Study of Employees' Lived Experiences of Silence in Work Group Settings" (Doctoral dissertation, The George Washington University).

Brinsfield, C., Edwards, M., & Greenberg, J. (2009). "Voice and Silence in Organizations: Historical Review and Current Conceptualizations" In J. Greenberg, M. S. Edwards (Eds.), Voice and Silence in Organizations (3-33). UK: *Emerald Group Publishing LTD.*

Budd, J. W., Gollan, P. J., & Wilkinson, A. (2010). "New approaches to employee voice and participation in organizations" *Human Relations*, 63(3), 303-310.

Büyüköztürk, Ş. (2007). "Sosyal Bilimler İçin Veri Analizi El Kitabı", Ankara, Pegem A Yayıncılık.

Çınar, O., Karcıoğlu, F., & Alioğulları, Z, D. (2013). "The relationship between organizational silence and organizational citizenship behavior: a survey study in the province of Erzurum, Turkey". 9th International Strategic Management Conference, *Procedia-Social and Behavioral Sciences (99)*, 314–321.

Çoban, H., & Sarıkaya, M. (2016). "A Research on The Relationship Between Organizational Silence And Burnout", *European Scientific Journal.* September / SPECIAL/ edition.

Daft, R. L., & Lane, P. G. (2008). "*The leadership experience*" (5th ed.). Mason, OH: SouthWestern Cengage Learning.

Dundon, T. & Gollan, P.J. "Re-conceptualizing voice in the non-union workplace" *International Journal of Human Resource Management*, 2007, 18, 1182-98.

Durmuş, B., Yurtkoru, E. S. ve Çinko, M. (2013). "Sosyal Bilimlerde SPSS'le Veri Analizi", Beta Yayıncılık, İstanbul, 5. Baskı.

Dyne, L. V., Ang, S., & Botero, I. C. (2003). "Conceptualizing employee silence and employee voice as multidimensional constructs" *Journal of management studies*, 40(6), 1359-1392.

Ehtiyar, R., & Yanardağ, M. (2008). "Organizational silence: A survey on employees working in a chain hotel" *Tourism and Hospitality Management*, 14(1), 51-68.

Ellis, J.B., & Van Dyne, L. (2009). "Voice and silence as observer reactions to defensive voice: Predictions based on communication competence theory" In J. Greenberg & M. S. Edwards (Eds.), Voice and silence in organizations (pp. 37-61). Bingley, U.K.: Emerald Group.

Field, A. (2009). "Discovering Statistics Using SPSS, Sage Publications", London, 2009, 3rd Edition.

Garner, J. T., & Garner, L. T. (2011). "Volunteering an opinion: Organizational voice and volunteer retention in nonprofit organizations" *Nonprofit and Voluntary Sector Quarterly*, 40(5), 813-828.

Gomez, R., Bryson, A., & Willman, P. (2010). "Voice in the wilderness? The shift from union to non-union voice in Britain". In A. Wilkinson, P. J. Gollan, M. Marchington, & D. Lewin (Eds.), The Oxford handbook of participation in organizations (pp. 383–406). Oxford: Oxford University Press.

Gorden, W. I. (1988). "Range of employee voice" *Employee Responsibilities and Rights Journal*, 1(4), 283-299.

Greenberg, Jerald (1987), "A Taxonomy Of Organizational Justice Theories", *Academy of Management Review,* 1(12), 9–22.

Greenberg, Jerald (1990), "Organizational Justice: Yesterday, Today and Tomorrow", *Journal of Management, 16*(2), 399-432.

Greenberg, J., & Edwards, M. S. (Eds.). (2009). "Voice and silence in organizations" *Emerald Group Publishing*, pp. 175-202.

Hair, J. F.; Black, W. C.; Babin, B. J.; Anderson, R. E. & Tatham, R. L. (2009). "Multivariate Data Analysis".7th Edition, Upper Saddle River, NJ: Pearson Prentice Hall.

Harvey, J. B. (1988). "The Abilene paradox: The management of agreement". *Organizational Dynamics*, *17*(1), 17-43.

Hirschman, A. O. (1970). "*Exit, voice, and loyalty*" Cambridge, MA: Harvard University Press.

Hofstede, G. (2001). "Culture's consequences: Comparing values, behaviours, institutions, and organizations across nations". Thousand Oaks, CA: Sage.

Homans, G. C. (1961). "Social behavior: Its elementary forms". New York: Harcourt, Brace, and World.

Hsiung, H. H. (2012). "Authentic leadership and employee voice behavior: A multi-level psychological process" *Journal of business ethics*, *107*(3), 349-361.

Johnson-Cartee, K. (2005), "*News Narratives and News Framing: Constructing Political Reality*" Maryland: Rowman and Littlefield.

Kalaycı, Ş. (2005). "SPSS Uygulamalı Çok Değişkenli İstatistik Teknikleri". Ankara: Asil Yayın Dağıtım.

Karacaoğlu, K., & Cingöz, A. (2008). "*Örgütsel Sessizlik. Özdevecioğlu*" M. and H. Karadal (Eds.), Örgütsel Davranışta Seçme Konular, Ankara, 155-167.

Kim, J., MacDuffie, J. P., & Pil, F. K. (2010). "Employee voice and organizational performance: Team versus representative influence" *Human Relations*, *63*(3), 371-394.

Korkmaz, E. (2018). "The Relationship Between Organizational Silence and Allen-Meyer Organizational Commitment Model: A Research In The Health Sector In Turkey", *Bilecik Şeyh Edebali Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 3*(1), 200-213.

Launius, R. D. (1998). "The Reorganized Church, the Decade of Decision, and the Abilene Paradox" *Dialogue: A Journal of Mormon Thought*, *31*(1), 47-65.

Lee, G. L., Diefendorff, J. M., Kim, T. Y., & Bian, L. (2014). "Personality and participative climate: Antecedents of distinct voice behaviors" *Human Performance*, *27*(1), 25-43.

LePine, J. A., & Van Dyne, L. (2001). "Voice and cooperative behavior as contrasting forms of contextual performance: Evidence of differential relationships with big five personality characteristics and cognitive ability" Journal of Applied Psychology, 86(2), 326-336.

Menendez, M. G., & Lucio, M. M. (2014). "Voice across borders: Comparing and explaining the dynamics of participations in a context of change". In A. Wilkinson, J. Donaghey, T. Dundon, & R. B. Freeman (Eds.), The handbook on employee voice (pp. 381–397). Cheltenham: Edward Elgar.

Moaşa, H. (2013). "Struggling for Organizational Identity: Employee Voice and Silence" *Procedia-Social and Behavioral Sciences*, *92*, 574-581.

Morrison, E.W. & Milliken, F.J. (2000), "Sounds of Silence" *Academy of Management Review*, *25*, 31-35.

Morrison, E. W. (2014). "Employee voice and silence" *The Annual Review of Organizational Psychology and Organizational Behavior*, *1*(1),173-197.

Miles, S. J., & Muuka, G. N. (2011). "Employee choice of voice: a new workplace dynamic" *Journal of Applied Business Research*, *27*(4), 91.

Nafei, W. A. (2016). "Organizational Silence: A Barrier to Job Engagement in Successful Organizations" *International Business Research*, 9(4), 100.

Naus, F., Van Iterson, A., & Roe, R. (2007). "Organizational cynicism: Extending the exit, voice, loyalty, and neglect model of employees' responses to adverse conditions in the workplace" *Human Relations*, *60*(5), 683-718.

Nikmaram, S., Yamchi, H. G., Shojaii, S., Zahrani, M, A., & Alvani, S. M. (2012). "Study on Relationship Between Organizational Silence and Commitment in Iran". *World Applied Sciences Journal 17*(10), 1271-1277

Pacheco, D. C., Moniz, A. I. A., & Caldeira, S. N. (2015). "Silence in organizations and psychological safety: a literature review" *European Scientific Journal*, (Special Edition), 293-308.

Perlow, L. A., & Repenning, N. P. (2009). "The dynamics of silencing conflict" *Research in organizational behavior*, *29*, 195-223.

Pinder, C. C., & Harlos, K. P. (2001). "Employee silence: Quiescence and acquiescence as responses to perceived injustice" *In Research in personnel and human resources management* (pp. 331-369). Emerald Group Publishing Limited.

Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., & Bachrach, D. G. (2000). "Organizational citizenship behaviors: A critical review of the theoretical and empirical literature and suggestions for future research" *Journal of management*, *26*(3), 513-563.

Prentice, D. A., & Miller, D. T. (1993). "Pluralistic ignorance and alcohol use on campus: some consequences of misperceiving the social norm" *Journal of personality and social psychology*, *64*(2), 243.

Rezabeygil, S., & Almasi, D. (2014). "Organizational Silence: A Dangerous Phenomenon in the Way of the Organizational Progress" *International Journal of Basic Sciences & Applied Research*, *3*, 300-306.

Richard, N. (2003). "Why Do We Remain Silent in the Face of Unethical Behavior?, The Politics of Ethics: Methods for Acting, Learning, and Sometimes Fighting, with Others in Addressing Ethics Problems in Organizational Life". New York: Oxford University Press.

Rusbult, C.E., Farrell, D., Rogers, G. & Mainous III, A.G. "Impact of exchange variables on exit, voice, loyalty, and neglect: An integrative model of responses to declining job satisfaction" *Academy of Management Journal*, 1988, *31*(3), 599–627.

Sarıkaya, M. (2013). "Karar Verme Süreçleri ve Örgütsel Sessizlik" Master Thesis, University of Pamukkale.

Schechtman, G. (2008). "When Silence speaks louder than words: Computer-mediated communications and perceived ostracism" PhD, Washington State University.

Shelton, J. N., & Richeson, J. A. (2005). "Intergroup contact and pluralistic ignorance" *Journal of personality and social psychology*, *88*(1), 91.

Shamir, J., & Shamir, M. (1997). "Pluralistic ignorance across issues and over time: Information cues and biases" *Public Opinion Quarterly*, 227-260.

Sholekar, S., & Shoghi, B. (2017). "The Impact of Organizational Culture on Organizational Silence and Voice of Faculty Members of Islamic Azad University in Tehran". *Iranian Journal of Management Studies, 10*(1), 113-142.

Slade, M. R. (2008). "The adaptive nature of organizational silence: A cybernetic exploration of the hidden factory" (Doctoral dissertation, The George Washington University).

Soltani, E., Liao, Y.Y., Gholami, A. K., & Iqbal, A. (2017). "Saying it without words: a qualitative study of employee voice in the Iranian building sector", *International Journal of Human Resource Management.*

Tavşancıl, E. (2005). "Tutumların Ölçülmesi ve SPSS İle Veri Analizi". Ankara: Nobel Basımevi.

Turgut, T., Agun, H. (2016). "The Relationship Between Organizational Justice and Organizational Cynicism The Mediating Role of Psychological Capital and Employee Voice" *İş'te Davranış*. 1, 15-26.

Vangel, K. (2011). "Employee responses to job dissatisfaction" *In Schmidt Labor Research Center Seminar Series, University of Rhode Island, Kingston, RI, USA*. 1-17.

Walster, E., Berscheid, E., & Walster, G. W. (1973). "New directions in equity Research". *Journal of Personality and Social Psychology, 25*, 151-176

Wilkinson, A., Dundon, T., & Marchington, M. (2013). "Employee involvement and voice". In S. Bach & M. R. Edwards (Eds.), Managing human resources: Human resource management in transition. Hoboken, NJ: Wiley. 268–288

Wood, G. (2010). "Employee participation in developing and emerging countries". In A. Wilkinson, P. J. Gollan, D. Lewin, & M. Marchington (Eds.), The Oxford handbook of participation in organizations. Oxford: Oxford University Press. 552–569.

Zanna, M.P. (1996). "Advances in Experimental Social Psychology" Volume 28. California: Academic Press, Inc.

Zehir, C., & Erdoğan, E. (2011). "The Association between Organizational Silence and Ethical Leadership through Employee Performance", 7th International Strategic Management Conference, *Procedia-Social and Behavioral Sciences (24)*, 1389-1404.

http://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=TR (17.5.2017)

http://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=IR (17.5.2017)

Determining the Factors That Influence the Intention to Purchase Luxury Fashion Brands of Young Consumers

Genç Tüketicilerin Lüks Moda Markalarını Satın Alma Niyetini Etkileyen Faktörlerin Belirlenmesi

Sevtap ÜNAL[1]
Elif DENİZ[2]
Nisa AKIN[3]

🅾 https://orcid.org/0000-0002-3227-0756
🅾 https://orcid.org/0000-0002-5849-1629
🅾 https://orcid.org/0000-0001-6873-5757

ABSTRACT

The purpose of this study is to determine the factors that influence the purchase of luxury fashion brands by young consumers. With the help of a comprehensive literature review; status consumption, self-concept clarity, need for uniqueness, social consumption motivations, attitude toward luxury brands as input factors and purchase intention as output factor are discussed. The moderating effect of peer pressure is also investigated. Based on the research model and developed hypotheses, a quantitative method was used in the study. 400 questionnaires were used to test research hypotheses. A structural equation modeling running SPSS 20 and AMOS was used in testing research hypothesis. Findings show that while status consumption and creative choice (one dimension of the uniqueness) do influence social consumption motives, self-concept clarity, unpopular choice and avoidance of similarity do not influence social consumption motives and purchasing intentions. Peer pressure has a moderating effect on the relationship between self-concept clarity and social consumption motives. Positive attitudes increase the intention to purchase luxury brands while social consumption motivations affect the attitude toward a luxury brand.

Keywords: Luxury brands, young consumers, social consumption motivations, peer pressure, purchase intention

ÖZET

Bu çalışmanın amacı genç tüketicilerin lüks markaları satın almasına etki eden faktörleri tanımlamaktır. Kapsamlı bir literatür taramasıyla beraber; girdi faktörler olarak statü tüketimi, benlik algılaması netliği, benzersizlik ihtiyacı, sosyal tüketim motivasyonları, lüks markalara karşı tavır ele alınırken, satın alma niyeti çıktı faktör olarak irdelenmiştir. Akran baskısının moderatör etkisi de ayrıca incelenmiştir. Araştırmanın modeli ve geliştirilen hipotezlere dayanarak, çalışmada kantitatif bir yöntem kullanılmıştır. 400 anket araştırma hipotezlerini test etmek üzere kullanılmıştır. Araştırma hipotezlerini test ederken SPSS 20 ve AMOS kullanılarak yapısal eşitlik analizinden yararlanılmıştır. Bulgulara göre, statü tüketimi ve yaratıcı seçim (benzersizliğin bir boyutu) sosyal tüketim motivasyonlarını etkilerken benlik algılaması netliği, popüler olmayan tercih ve benzerliği önleme sosyal tüketim motivasyonlarını ve satın alma niyetini etkilememektedir. Benlik algılaması netliği ve sosyal tüketim motivasyonları arası ilişkide akran baskısı moderatör bir faktördür. Sosyal tüketim motivasyonları lüks bir markaya karşı olan tutumu etkilerken pozitif tutumlar lüks markayı satın alma niyetini arttırmaktadır.

Anahtar Kelimeler: Lüks markalar, genç tüketiciler, sosyal tüketim motivasyonları, akran baskısı, satın alma niyeti

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[1]**Prof. Dr.,İzmir Kâtip Çelebi Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İşletme Bölümü, İzmir, Türkiye,**
sevtap.unal@ikc.edu.tr,
[2]**Dr. Öğr. Üyesi, İzmir Kâtip Çelebi Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İşletme Bölümü, İzmir, Türkiye,**
elif.deniz@ikc.edu.tr
[3]**Araş. Gör., İzmir Kâtip Çelebi Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İşletme Bölümü, İzmir, Türkiye,**
nisa.akin@ikc.edu.tr

1. INTRODUCTION

It is obvious that consumption is defined not only as a purchase of material objects which is a simple, direct utilitarian use but also as purchases of objects which convey meaning and which the consumer will use to show who they intend to be (Bocock, 1997: 59). It can be said that this definition includes especially luxury consumption, when luxury goods are expressed as products purchased by consumers because of their symbolic meaning. It is impossible to speak of the existence of a definition accepted by the theorists alike in the definition of luxury and luxury products. However, in general, it is possible to think in terms of prestige and brand image and products that are attracted to consumers, which can be easily distinguished from other products with a relatively high unit price, in the luxury product category. However, the change from one consumer to another in the distinguishing features that fill the content of the definition of luxury shows how subjective the approach is to include a product in the luxury product category.

Today, when consumption is expressed by symbols and life is seen as an experience of consumption, images and symbols are important as the elements of the consumer's cultural identity (Willis, 1991: 131). Indeed, Veblen's concept of fictive consumption also attempts to explain the type of new consumer that leads to symbols and images in creating his/her identity (Veblen, 2005: 67, 101). In this consumption approach, which is based on stating, status and inaccessibility, the individual is not only a utilitarian consumer that solves his/her physical needs; at the same time, it is accepted as a hedonic consumer trying to fulfill his/her social and cultural needs (Odabaşı, 2014: 65). According to Sombart, another thinker who advocates similar views with Veblen, it expresses any kind of consumption action that the individual has made except for the removal of the basic necessities (Sombart, 1998: 153). Therefore, in the promotion of luxury goods, it is highlighted that what the product means, not what its functional features. This is because the image and status relation for the consumer with all kinds of products/brands that reveal them represent the social class, status, and prestige. This need is often sought to be satisfied with luxurious consumer goods with status symbols (Odabaşı, 1999: 115). The concept of luxury, which is found in all of these approaches towards symbolic, emotional and pleasure consuming, is often used in the literature with concepts of difference, uniqueness and inaccessibility (Belk, 2001; Miremadi et al., 2011). Consumers who want to separate themselves from other members of the society and want to create a different individual image from the others (Catry, 2003: 11) need status consumption in order to position themselves as belonging to a culture and community, and associate luxury goods with symbolic and spiritual satisfaction instead of benefit category (Tenekecioğlu, 2005, Tığlı and Akyazgan, 2003) as a means of producing social status. All these concepts and approaches show that; individuals today are trying to differentiate themselves from others by means of status, fashion and elegancy. The phenomenon of luxury consumption, which manifests itself in such images through fashion and status, objects itself in the form of images, signs and consumable abstract showings. Consumers regard themselves as a rare group of people who can buy luxury goods and belong to a group.

Especially when interpreted from the perspective of young consumers, luxury products can be defined as the tools consumers use to express themselves, build self-esteem and provide prestige. Indeed, this study was undertaken to find out what kind of influence the young people have on purchasing intentions that affect the luxury consumption behavior. In recent years, research on consumer behaviors, how young people behave as consumers, and how they have changed as an adult consumer are important for both business and marketing practitioners (Eskiler et al., 2016: 710). With this in mind, it has been tried to put in particular how the university student youths were influenced by the luxury consumption behavior, their income and spending, and the socio-economic status of their parents in terms of education levels. In the consumption of luxury products, consumers are not only effected by demographics, social and economic characteristics of themselves; at the same time, they are also influenced by their impressions of the consumption of the groups they want to feel that they belong in a place. Young people who want to identify themselves in a group or who want to prove their existence within a certain group seem to be leading to the consumption of luxury goods simply because of the psychological pressure of their peers (Alvandi et al., 2013; Gil et al., 2017 and Srinivasan et al., 2014). This also shows that luxury consumption is not merely monopolizing the rich and affluent segment of the society, but less affluent people and young people who are interested in lucidity also try to buy luxury items with peer pressure to just enjoy, to belong to a particular group/class and to be accepted by their friends.

Unlike wealthy customers who are seen as traditional luxury customers, young consumers who can be considered less wealthy are turning to clothing products as the fastest and most readily available manifestation of luxury consumption. For this reason, the principal focal point of the study is about the luxury perception and its determinants that young people have developed the clothing industry products/brands. Clothing fashion, in which the visual emphasis of individual identity is most intense and distinct, is one of the most frequently consumed areas of luxury consumption behavior. Compared to other products, clothing products, as a demonstration object, allow young and less affluent consumers to capture the pleasures of luxury consumption with comparatively fewer expenses than wealthy consumers. For this reason, in the study, the university students' attitudes towards luxury products and the elements that led them to buy luxurious products were tried to be described in terms of clothing fashion.

In this study, considering the promising future of global luxury consumption market, it is aimed to determine the factors affecting the buying behaviors of the luxury fashion brand of young fashion consumers. The impact of the status consumption, self-concept clarity, need for uniqueness, social consumption motives and attitudes towards luxury brands on purchase intentions of young consumers and the market in Turkey are wanted to test in the study. The peer pressure is also evaluated as a moderating variable. In the first part of the study, theoretical background and hypothesis development are discussed. After giving details about the research methodology findings, the final section discusses the results and discussions in order to contribute in the literature and give some remarks to the actors in the sector.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1. Definition of Luxury and Luxury Consumption

Luxury used to be defined quite differently throughout the human history. In Latin, the term luxury means "extravagantness, going rampant, dramatizing, profligacy" but in French, it means "voluptuousness, sinfulness". In the 17th century, the meaning of luxury was transformed into escaping from the facts, a kind of cure, common and upgraded motives. However, in the modern world, the meaning of luxury goes beyond the basic needs and turns into a kind of flashy consumption (Berthon et al., 2009). Luxury is a status

that is unnecessary in terms of basic needs, but something gives pleasure, happiness, and self-confidence and creates the perception of easiness (Hauck and Stanforth, 2007).

Luxury and fashion are closely connected in the modern economy. The global fashion industry would be the seventh largest economy in the world if the countries were ranked with the GDP (The State of Fashion, 2017). In this fashionable modern world, luxury apparels are perceived as a necessity (The State of Fashion, 2017; Business Wire, 2017a). According to the "Global Luxury Apparels Market (2017-2023)" report, the global luxury apparel market has shown a moderate level of growth over the last five years among all global textile sectors and apparel industry. In 2016, sales of luxury apparel, beauty products, accessories, and jewelry were about $280 billion which is expected to grow by 2 to 4 percent in 2017. The total revenue of the global luxury apparel market is expected to reach $77.8 billion, marking a 3.3% growth in 2017 (Business Wire, 2017a). The total revenue of the global luxury apparel market is expected to reach $77.8 billion, marking a 3.3% growth in 2017. China, closely followed by Japan and India, is still the largest market for global luxury products, also is expected to grow by 6 to 8 percent and Europe sales are expected to increase by 7 to 9 percent (Barry, 2017; Business Wire, 2017b; Europlat, 2017; Deloitte, 2017).

According to Dikmen, luxury should be a functional addiction as a reward since the consumers of luxury seem to be materialistic, choosy, eager to pay for it, seeking for psychological gains (Dikmen, 2008). Catry (2003) argues that consumers of luxury show tendency to perceive themselves more superior and distanced than the other consumers and they create emotional reactions towards luxury products with hedonic demands. They also tend to purchase to prove their status and images in their social surroundings (Tığlı and Akyazgan, 2003). The meaning of a luxury product can be defined through social and individual values and includes rareness, prestige, and glitziness, symbolic and emotional needs (Hauck and Stanforth, 2007).

On the other hand, Rambourg brings a new perspective to the luxury consumption with a brand pyramid that shows how to get ultra-luxury brands like Leviev and Graff diamonds from a daily luxury brands like Starbucks. He states that a luxury product costs up to 100 dollars can be defined as everyday luxury and any other costs up to 300 dollars can

be defined as affordable luxury. The consumers of everyday and affordable luxury are still rising in the market due to the rising incomes (Willett, 2015). From this point of view, Turkish luxury consumption market is highly promising. Based on Deloitte's report (2017), it is stated that in 2018 Turkish luxury consumption market will be worth 7 billion Turkish liras due to the fact that zeitgeist refers to 'time of vanity' in Turkey and these products are perceived as status symbols. Also; middle-income group's demand for accessible luxury rises and working woman consumers are much more mindful of luxury products. Using social media and e-commerce incite luxury consuming trends in Turkey. According to Bain & Company's Global Luxury Consumption Report (2016), by the time 2020, 50 million new consumers who belong to X and Y generation will be joined to the luxury consumption market.

2.2. Status Consumption

Luxury commodities, which are regarded as determinants of quality and status, have become more affordable and easily accessible in recent years. By purchasing luxury goods and brands, consumers look for social statuses in different forms and try to improve their social position through such consumption. According to Eastman et al. (1999), status consumption is seen as a motivation process in which individuals struggle to improve their social position by the consumption of consumer goods that give status and symbolize the individual to both individuals and people in the periphery. Although status consumption and conspicuous consumption are discussed in some studies (Açıkalın and Erdoğan, 2004); O'Cass and McEwen (2005) test and demonstrate that both consumption concepts have different structures.

Eastman et al. (1999) developed a scale to measure status consumption by using it an individual difference variable in which measure has been shown that what precautions are related to similar structures such as income, social class and materialism are different from each other. Also, Kilsheimer (1993) developed a scale by using social and conspicuous consumption as the same constructs. In addition, some studies about fashion and luxury apparel with different perspectives also indicate that the relationship between status consumption and religiosity (O'Cass et al., 2013), the association between economic perceptions and the consumption motive of luxury consumers (Bock et al., 2014) as well. The results suggest that there is an inverse relationship between consumption of status and religiosity, and that consumers who perceive

themselves financially better are more motivated for status consumption.

Based on the literature, it has been found that younger consumers spend more on branded products, including status products (Goldsmith and Clark, 2012; Eastman and Liu, 2012). As clothing is defined as a product category that is accessible to everyone, for younger, it becomes the easiest way of broadcasting one's self-image to others with status aspirations in social surroundings (Millan and Mittal, 2017). It also means that attitudes about luxury consumption may be related to the symbolic meaning of one's social position and identity (Eastman and Eastman, 2011). With the help of social consumption motives, consumers become more aware of social cues about luxury consumption. Therefore, building on these discussions, H1 and H2 are stated as;

H1. The level of status consumption positively influences the level of social consumption motivation.

H2. The level of status consumption positively influences the level of attitudes towards luxury brands.

2.3. Self-Concept Clarity

The beliefs that an individual has about his qualities and how he evaluates these qualities in himself can be defined by the concept of self. As a basic research topic in psychology and sociology (Alvandi et al., 2013), the concept of self is a very complex structure, personal traits and characteristics like personality and self-perceptions. Some studies reveal that; adolescence is an important time in the development of the concept of self (Fullwood et al., 2016), the higher subjective concept of self affects how people seek and interpret information in their environment (Guerrettaz and Arkin, 2016), individuals who are higher on the social-class index exhibit a clearer self-concept regardless of their age, gender, and living conditions (Na et al., 2016). However, SCC studies lack in marketing literature especially focusing on luxury or clothing. Distinguishing SCC from self-esteem, Mittal (2015) investigates SCC and its role in consumer behavior and reveals that SCC makes consumers less sensitive to interpersonal effects, inhibits materialism and consumer use of shopping as an escape, reduces consumer tendency to search products as identity pillars. Sonejia et al. (2015) examine the clarity of self-concept and the meaning of fame show that high-SCC consumers are more influenced by an ad featuring a celebrity high in meaning. Noguti and Bokeyar (2011) indicate that low

self-concept clarity tend to engage consumers with higher fantasy-shopping tendencies.

According to some studies focusing luxury and teenagers; to investigate the influence of self in the attitudes towards luxury brands among young people in Iran, Alvandi et al. (2013) found that there was a negative relationship between self-concept clarity and social consumption motivation, and that social consumption motives influenced the positive effect of luxury branding. Campbell et al. (1996) who studied personality correlations and cultural boundaries developed an SCC scale in which SCC was found a relatively stable trait that is reliably and validly measured.

Clearly and confidently defining the self concept of the person is possible by having a strong sense of self. A person who has a well-developed concept of self is found to be less affected by external influences, have better mental skills, positive self-talk, ability to handle stress and high self-esteem (Gil et al., 2017). What comes to mind when a person thinks about him/herself is self-concept, and it is also about perceiving the self. Experiences with the environment and the reinforcements coming from this environment and the others form the perceptions. Especially the self-concept can help to understand how teenagers express his or her unique individual self to the environment while consuming goods or services (Gil et al., 2012; Alvandi et al., 2013).

H3. The level of self-concept clarity negatively influences the level of social consumption motivation.

2.4. Need for Uniqueness

Consumption as a tool that individuals use when building their identity in society helps to produce the identity while consuming. Thus, luxury brands are one of the important tools for individuals to express themselves. While buying brands to create a unique identity and to feel different from others, they are also exposed to various marketing stimuli of the brands. Consumers' need for uniqueness is an important factor affecting the use of luxury brands in order to improve and enhance the individual's personal and social identity (Tian et al., 2001). Indeed, studies have shown that the desire for uniqueness-scarce products has a stimulating effect on behaviors such as the delicacy of product personalization and the preference for unique and innovative purchasing experiences (Lynn and Harris, 1997; Vigneron and Johnson, 1999).

The uniqueness theory that affects the motivations of social consumption for consumers who want to emphasize the features that differentiate themselves from others shows itself to three types of consumers: avoidance of unpopular selection vs. harmony and similarity (Tian et al., 2001; Manikandan and Rajamohan, 2014). Especially for young consumers it is seen that luxury brand and product perceptions are related to the desire for uniqueness and that they have developed intention to buy to avoid similarities with others as social consumption motivation (Amaldoss and Jain, 2005; Ruvio, 2008; Miremadi et al., 2011; Kastanakis and Balabanis, 2014). The desire for uniqueness is theories that focus on the perceptions of individuals, and the products and brands to be purchased are seen as a symbol of the uniqueness of the persons (Boujbel and d'Astous, 2015). This leads young people who are in pursuit of a relative difference to opt for luxury products and brands in order to improve their own image and social image. This need to avoid similarity leads people to move away from others and at the same time pushes them to make choices that are popular. This is especially motivated by the luxury brands that develop fashion products to emphasize different styles. Because consumers seek rare products and brands to reach diversity and uniqueness, who want to avoid similarity.

Some consumers, who are different from mass consumers, are found to be in a desire to show themselves belong to higher income classes (Belk, 2001). One of the most important factors behind the luxury brands' passion consumers perceive as unique is the desire of individuals to feel special and privileged in the society. In the field of marketing, need for uniqueness and luxury phenomenon are often used together, and these concepts are associated with features such as creativity, innovation, quality, rarity and privilege (Belk, 2001; Kapferer, 1998). Hence using luxury brands to satisfy the need of feeling unique can be held with social consumption motivations of the consumers.

H4. The level of need for uniqueness positively influences the level of social consumption motivation.

H4a. As a dimension of the need for uniqueness, the level of creative choice positively influences the level of social consumption motivation.

H4b. As a dimension of the need for uniqueness, the level of unpopular choice positively influences the level of social consumption motivation.

H4c. As a dimension of the need for uniqueness, the level of avoidance of similarity positively influences the level of social consumption motivation.

2.5. Social Consumption Motivation

While studying younger consumers' consumption-related perceptions, socialization theory is commonly used by researchers (Martin and Turley, 2004). According to Moschis's (1981) social consumption motivation construct, if an individual has a higher social consumption motivation, he or she should adapt to social meanings in purchasing products and brands. Also, it is stated that social consumption motivation is much more than impression management by including elements of social influence and conformity. Latest researches handle social consumption motivation investigate how consumers are coming from a lower social class turn into frequent luxury goods shoppers to be a part of the elite society or climb up the social ladder, gain social approval, enhance their social position through the individual and surrounding others (Vel et al., 2011).

Young consumers are open to products, services, and brands that enable them to express themselves in a social environment as a symbol of their lifestyle. Their desire for prestige and status also causes not only concrete benefits to their products/brands but also abstract meanings. From the perspective of consumer socialization, young consumers view status consumption as a form of social acceptance and self-expression (Bakewell and Mitchell, 2003). This is especially seen as a way of showing wealth and purchasing power in demanding luxury products and brands (O'Cass ve Frost, 2002). Not only in show times but in the symbolic sense, luxury products and branding tend to express their social position, especially through the use/consumption of status for young consumers (Eastman et al., 1999).

The status consumption concept as a factor influencing social consumption motivations and luxury product purchasing comes to the forefront in the studies of youth and status factors (O'Curry and Strahilevitz, 2001; Phau and Cheong, 2009; Eastman and Liu, 2012; O'Cass and Siahtiri, 2013). Besides communicating with others, covered by the hedonic motivations, social motivations are associated with the behaviors of seeking prestige, status, social benefits and attracting the attention of others' (Bilge, 2015). In the development of the self-motivated social consumption of young people, increasing with age and

maturity plays a critical role and may depend on the self-concept clarity (Gil et al., 2012).

H5. The level of social consumption motives positively influences the level of attitudes towards luxury brands.

2.6. Attitude toward Luxury Product

To understand the factors leading consumers to buy luxury brands become increasingly important for both managers and researchers (Tynan et al., 2010; Wiedmann et al., 2007). Especially recent structural and cultural changes in the market let the availability of luxury more in terms of geographical access and affordable prices for the consumers. Consumers who are sensitive to the emotional rewards of self-reward, high quality of the product, need to belong a higher social class or richer mass are also seemed to be buying more luxurious products for different reasons (Truong et al., 2009). While the level of a brand's potential to create different feelings for consumers is a motivate factor; the overall intent of the consumers' beliefs, emotions, intentions of purchase, and the general evaluation of the luxury phenomenon can also be other motivations to buy a luxury product (Solomon et al., 2002).

In studies investigating how social consumption motives affect youngsters' attitudes towards luxury brands and purchasing behavior, it has been shown that self-concept influences social consumption motivations and influences attitudes toward luxury brands (Grubb and Grathwohl, 1967; Shavelson et al., 1976; Campbell et al., 1996; Kernis et al., 2000; Kavak et al., 2009; Gil et al., 2012; Alvandi et al., 2013). As a matter of fact, it is seen that, in addition to material gains in young consumers, personal liking and social acceptance also influence attitudes toward luxury brands within the context of consumer socialization (Makgosa, 2010; Akturan et al., 2011; Rhee and Johnson, 2012a; Rhee and Johnson, 2012b). For this reason, the concepts of social environment and peer pressure that we have defined as reference groups as much as the self-concept have been modeled in studies dealing with the relationship between self-centeredness and social consumption motivations.

The need to describe and accept themselves with the self's qualities, along with the individual's self, is one of the factors that affect his buying behavior. It has also been shown that communication with peers influences the relationship between self-concept clarity and social consumption motivations (Moschis and Churchill, 1978; Bush et al., 1999; Gregorio and Sung, 2010). For teenagers, consumption is a kind of self-exp-

ression. In other words, it is not expected that young people, as individuals with low self-concept, will shape their behavior separately from the social context. For this reason, it is necessary to ignore the influence of peer pressure on the self-concept of self-esteem and motivation of social consumption as an element that may affect young people's decision-making processes for luxury products and brands.

In the case of luxury products, the desire for purchasing is even stronger than expected. There are various psychological and physical factors affecting consumers in purchasing luxury products or brands. Consumers buy luxurious brands to symbolize a specific consumption culture or to reveal belonging to a particular social class to make sense of their images and to meet their psychological needs. However, it is emphasized that people can develop positive or negative emotions against the luxury products. While the attitudes of the wealthy people on the concept of luxury are positive, the others who are less related to the luxury phenomenon are able to show mixed attitudes towards the luxury products (Stegemann et al., 2007). Hence, it can be said that different attitudes cause different effects on consumers' luxury brand purchase intentions.

H6. The level of attitude toward luxury brands positively affects the level of purchase intention.

2.7. The Moderating Effect of Peer Pressure

Especially during adolescence period, youngers highly value the sense of belonging to a peer group. According to Brown et al. (1986), if a younger feel him or herself pressured by the other group members to do certain things and find him or herself experiencing doing those particular things, peer pressure arises. Peer pressure is about feeling pressured to act or think in certain ways among youngers or the correlated behaviors among them (Santor et al., 2000). It also leads to consumption motivations like buying and using some specific products or brands to achieve the support of other peer group members and to enhance their image among their peers by sharing info about consumption (Gil et al., 2017; Srinivasan et al., 2014).

Based on the studies exploring the peer pressure effect, Timperio et al. (2016) argues that young consumers are different compared to others in term of perceiving luxury and the meaning and the value of luxury can be perceived through peer reference group interaction. Shukla (2012) and Schade et al. (2016) suggests that customers tend to act in such a way as

to please their peers and try to engage themselves with luxury brands for gaining approval. Martin (2009), Moschis and Churchill (1978) and Gentina et al. (2016) find that compared to older, youngers are more likely to rely on their peers for purchasing-related information, are heavily influenced by peers in the adoption of attitudes toward luxury brands and peer communication about consumption develops materialistic values of youngers. Also they reveal their motivations and behavior about consumption compare their thinking about which is desirable and undesirable and adopt group norms within a peer group, as a normative reference group (Makgosa and Mohube, 2007).

H7. Peer pressure moderates the relationship between self-concept clarity and social consumption motivation.

Based on the theoretical background and developed hypotheses, the model of the research can be seen in Figure 1.
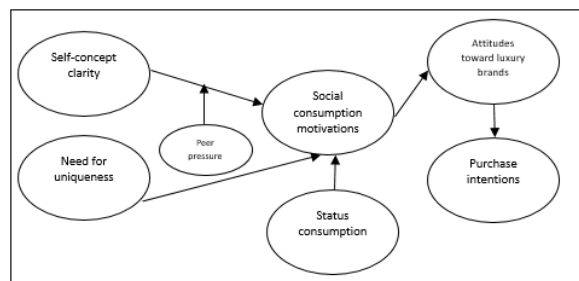
Figure 1: The Model of the Research

3. RESEARCH DESIGN

3.1. Sample and Data Collection

The purpose of this study is to determine the factors that influence the luxury fashion brand purchasing of young consumers. Based on this purpose; to test status consumption, self-concept clarity, uniqueness, and social consumption motives' effect on the attitudes towards luxury brands and then purchase intention is aimed. In addition, peer pressure moderating effect on the relationship between self-concept clarity and social motivation motives is wanted to test.

The data was collected by using a paper-based self-administered questionnaire targeting the university students who belong to young consumers in Izmir, in Turkey. The survey consists of three groups of questions. In the first group, a total of 52 luxury and non-luxury brand names like Bershka, Network, Vakko, Tommy Hilfiger, Koton, Massimo Dutti is given, participants are asked to select luxury brands, and then the

following question is asked whether they bought a luxury brand or not in the last year. The second group of questions consists of measurement scales, and the third group of questions consists of demographic questions. The convenience sampling method was used, and 450 questionnaires were distributed in October 2017. 450 After eliminating incomplete surveys, 400 questionnaires were used to test developed hypotheses.

3.2. Method and Measures

To measure status consumption a scale with 5 items that was developed by Eastman et al. (1999), to measure self-concept clarity a scale with 12 items that was developed by Campbell et al. (1996), to measure need for uniqueness a scale with 15 items that was developed by Ruvio et al. (2007), to measure peer pressure a scale with 11 items that was developed by Santor et al. (2000), to measure social consumption motivations a scale with 4 items that was developed by Moschis and Churchill (1978) and updated by Moschis (1981), to measure attitude toward luxury products a scale with 12 items that was developed by Dubois and Laurent (1994), to measure purchase intention a scale with 4 items that were developed by Esch et al. (2006) is used.

All the scales were operationalized using multi-item five-point Likert scales (anchored at one = "Strongly Disagree" to 5 = "Strongly Agree"). Using SPSS 20.0 and AMOS 20 statistics software the data was analyzed. Descriptive statistics, confirmatory factor analysis (CFA) and structural equation modeling (SEM) were used in data analysis.

3.3. Data Analysis, Reliability and Validity

Structural equation modeling analysis was performed with IBM's AMOS 20.0 to test data. Firstly, the measurement model was examined using confirmatory factor analysis (CFA) followed by hypotheses. The reliability and validity of the scales used in the research were analyzed. For the reliability analysis, the study used Cronbach's alpha as the internal consistency coefficient that should be >0.70 (Hair et al., 1998: 118). The validity of scales was also tested by the construct validity. The construct validity refers to the degree to which a measuring instrument can legitimately measure what it claims to be measuring. The construct validity of a measure is based on convergent and discriminant validity. For convergent validity, one should be able to show a correspondence or convergence between similar structures (Bolarinwa, 2015). Construct reliability (CR) should be >0.70 and the average variance extracted (AVE) for each construct in a measure should be >0.50 to establish convergent validity (Fornell and Larcker, 1981; Hair et al., 2010). Furthermore, CR should be higher than AVE. For discriminant validity, one should be able to show a divergence between structures. To establish discriminant validity, the correlation coefficient of two constructs should be less than the square root of the AVE of each construct. Maximum Shared Variance (MSV) should also be considered to test discriminant. The results of the reliability and validity are in Table 1.

Table 1: Validity and Reliability of Factors

	CR	AVE	MSV	MaxR(H)	P.I	S.C	C.C	U.	A.S	Status	S.C.M	A.T.L
P.I	0,802	0,506	0,332	0,816	0,711							
S.C	0,777	0,513	0,082	0,893	0,241	0,557						
C.C	0,852	0,593	0,224	0,937	0,456	0,254	0,770					
U.C	0,770	0,536	0,130	0,950	0,178	0,287	0,360	0,732				
A.S	0,852	0,593	0,224	0,963	0,241	0,267	0,473	0,344	0,770			
Status	0,798	0,502	0,332	0,968	0,576	0,237	0,252	0,043	0,073	0,708		
S.C.M	0,731	0,527	0,389	0,971	0,446	0,225	0,216	0,074	0,106	0,543	0,691	
A.T.L	0,708	0,518	0,389	0,973	0,548	0,229	0,243	0,141	0,084	0,571	0,624	0,598

P= Purchase Intentions; S.C. = Self Concept Clarity; C.C= Creative Choice; U.C= Unpopular Choice; A.S. = Avoidance of Similarity; Status Consumption; S.C.M.= Social Consumption motives; A.T.L= Attitudes towards Luxury Brands

The validity of constructs was tested by confirmatory factor analysis (CFA). Based on the results of CFA, all constructs satisfy the criteria recommended for CFA that can be seen in Table 2. (Chi-square: 704,419; df: 459; Chi-square/df: 1,53; RMSEA: 0,03; RMR: 0,09; GFI: 0,91, CFI: 0,94; AGFI: 0,89; NFI: 0,94; NNFI: 0,93 (Hair et al., 2006).

Table 2: Goodness of Fit Indices

Goodness-of-fit index	Acceptable fit index	Perfect fit index
Square (X²)		
Degree of Freedom (df)		
Square / Degree of Freedom (X²/df)	1-5	$0 \leq \chi2/df \leq 2$
GFI	0.90≤GFI≤0.95	0.95≤ GFI ≤1.00
AGFI	0.85≤AGFI≤0.90	0.90≤AGFI≤1.00
RMSEA	0.05≤RMSEA≤0.08	0≤ RMSEA ≤0.05
CFI	0.95≤CFI≤0.97	0.97≤ CFI ≤1.00
NNFI=TLI	0.95≤NNFI≤0.97	0.97≤NNFI≤1.00
NFI	0.90≤NFI≤0.95	0.95≤ NFI≤1.00

4. FINDINGS

4.1. Sample Description

The median of students' age is 21, and the mode is 20. Around 30 percent of the students are sophomore, and almost 59 percent of the sample is female, 41 percent is male. 11 % of students are working and their monthly income at most (41, 9 %) 1001-2000 TL. Students' family income is 2001-3000 TL at most (49%). Only 1,8 % of the participants are married. Demographics can be seen in Table 3.

Table 3: Demographics

Education			Are you working?		
Prep class	39	9,8	Yes	44	11,0
Freshman	92	23,0	No	355	88,8
Sophomore	121	30,3	**If yes; your income?**		
Junior	94	23,5	0-1000TL	15	34,9
Senior	49	12,3	1001-2000TL	18	41,9
Monthly Income (Family)			2001-3000TL	8	18,6
0-1000TL	19	4,8	4001TL +	2	4,7
1001-2000TL	61	15,3	**Gender**	F	%
2001-3000TL	256	64,0	Female	237	59,3
3001-4000TL	8	2,0	Male	163	40,8
4001-5000TL	3	,8	**Marital status**	f	%
5001-6000TL	2	,5	Single	393	98,3
6001TL +	5	1,3	Married	7	1,8

4.2. Hypothesis Testing

As mentioned before, the study aims to determine the factors that influence young consumer's purchasing intention to buy luxury brands. So testing research hypotheses, Structural Equation Modeling was used. The structural model developed in this study examines the effect of self-concept clarity, creative choice, unpopular choice, avoidance of similarity, status consumption on social consumption motives, and then attitudes towards luxury brands on purchase intention to buy luxury products. The structural model Goodness of Fit values are Chi-square: 51,293; df: 13; Chi-square/df: 3,94, RMSEA: 0.09, RMR: 0,06; GFI: 0.96, AGFI: 0.89, CFI: 0,96. According to fit indexes, all values of structural model are within the acceptable limits. The research model and SEM results are in Table 4 and Figure 2.

Table 4: The research model SEM results

|	Estimates	C.R.	p-value	R²	Hypothesis
Social Consumption Motives -Self Concept Clarity	0,080	0,071	0,262	0,228	H3 is not accepted
Social Consumption Motives -Creative Choice	0,094	1,975	0,048		H4a is accepted
Social Consumption Motives -Unpopular Choice	-0,032	-0,539	0,590		H4b is not accepted
Social Consumption Motives -Avoiding Similarity	-0,029	-0,581	0,561		H4c is not accepted
Social Consumption Motives -Status Consumption	0,476	9,086	0,000		H1 is accepted
Attitude- Status Consumption	0,377	8,003	0,000	0,289	H2 is accepted
Attitude-Social Consumption Motives	0,213	4,978	0,000		H5 is accepted
Purchase Intention-Attitude	0,858	8,035	0,000	0,13	H6 is accepted
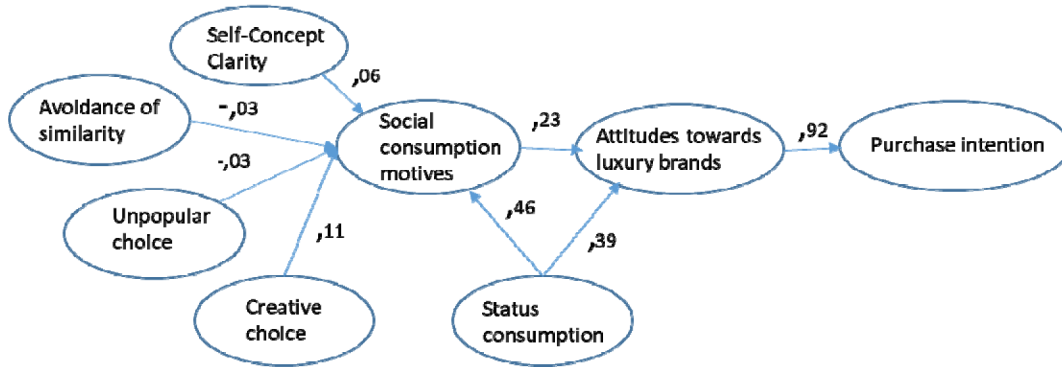
Figure 2: SEM Model

As seen in Table 4, there is a statistically significant relationship between status consumption, creative choice and the social consumption motives. Status consumption also has a positive effect on attitudes towards luxury brands. Social consumption motives affect attitudes towards luxury brands and then purchase intention of luxury brands. Consistent with the previous research (Goldsmith and Clark, 2012; Eastman and Liu, 2012; Millan and Mittal, 2017; Eastman and Eastman, 2011) this result shows that younger consumers are found to spend on status products to broadcast their self-image and social position in their social surroundings. According to the findings, self-concept clarity does not influence social consumption motives. This result is not consistent with the other studies (Alvandi et al. ,2013; Gil et al., 2012) in which it is found that there is a negative relationship between self concept clarity and social consumption motivation. One dimension of the uniqueness (creative choice) and status consumption influence the attitudes towards the luxury brand. Then it can be said

that young consumers are motivated to buy a brand if the brand has a status symbol and is perceived as a creative choice. Also, socially based motives positively influence the attitudes towards luxury brands and then purchase intention to buy luxury brands.

4.3. Analysis of the Moderating Effect of Peer Pressure

A moderator variable is a variable that affects the strength of the relationship between a dependent and the independent variable (Hayes, 2014). The interaction variable obtained by multiplying the moderator variable and the independent variable was used to analyze the moderating effect. If the interaction variable is significant, there is a moderating effect (Hayes, 2014). The model was tested the moderating effect of peer pressure and it can be seen in Figure 3. (Goodness of Fit values of the model are Chi-square: 70,598; df: 19; Chi-square/df: 3,71, RMSEA: 0.09, RMR: 0,05; GFI: 0.96, AGFI: 0.88, CFI: 0,95). According to fit indexes, all values of structural model are within the acceptable limits.
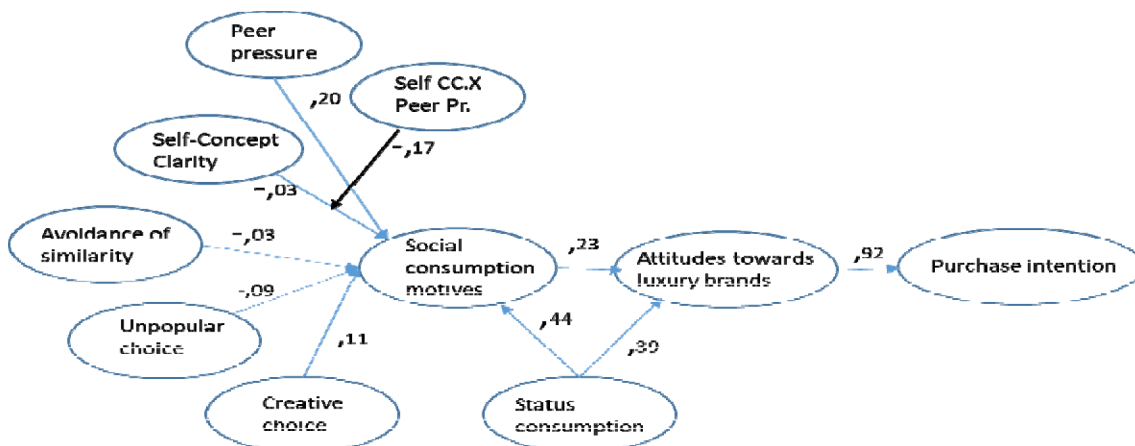

Figure 3: The Moderating Effect of Peer Pressure

Figure 4 illustrates the moderating effect of peer pressure in the relationship between social consumption motives and self-concept clarity.
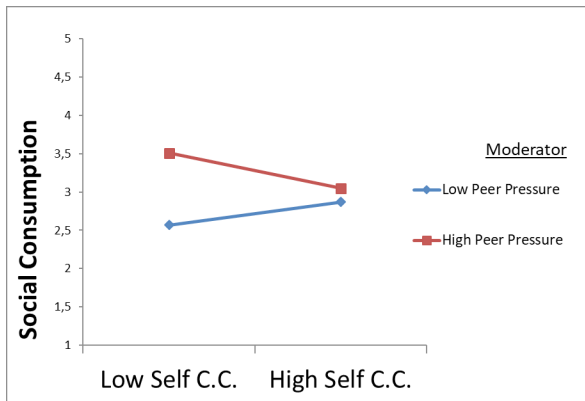

Figure 4: Illustration of the Moderating Effect of Peer Pressure

According to the Figure 4, peer pressure strengthens the negative relationship between self-concept clarity and social consumption motives. In the high peer pressure, individuals' self-concept clarity is low, and then social consumption motives are high. If young consumers feel high peer pressure from their friends, they are motivated to consume luxury brands since their self-concept clarity is low, i.e., they are not confident about themselves. On the contrary, if young consumers feel low pressure from their friends, their tendency to consume luxury brand is low because of their high self-confidence.

4.4. Discussion and Conclusion

This study aims to investigate the factors affect the purchase intention of luxury fashion brands. Self-concept clarity, status consumption, uniqueness, social consumption motives, and attitudes are input factors, and purchase intention is the output factor in this research. Peer pressure is the moderating factor in the relationship between self-concept clarity and social consumption motives. Findings showed that status consumption and creative choice (one dimension of the uniqueness) influence social consumption motives. Social consumption motives have a positive effect on attitudes towards luxury brands and then purchase intention to buy luxury brands. However, self-concept clarity, unpopular choice, and avoidance of similarity do not influence social consumption motives and purchase intention. Then it might be said that, if a brand is perceived as a status symbol and holds a creative image, young consumers are motivated to buy that

brand for social acceptance. Socially consumption positively affects attitudes towards a luxury brand, and positive attitudes increase the purchase intention to buy the luxury brand.

According to the findings, it can be said that social and group related factors have more influence on young consumers' luxury brand preferences. Young consumers prefer luxury brands because the social groups approve them as a status symbol. According to young consumers, luxury brands have uncommon style, and this fosters them to feel creative. Also, peer pressure has a moderating effect on the relationship between self-concept clarity and social consumption motives. It is assumed that self-concept clarity has a negative influence on social consumption motivation. If a young consumer relies his/her own consciousness, he/she feels no need to consume a brand to be part of a social group.

However, if young consumers feel intense peer pressure on their brand choices, their tendency to buy a luxury brand to belong the social group was assumed too. Findings showed that peer pressure influences the relationship between self-concept clarity and social consumption motives. Also, peer pressure strengthens the negative relationship between them. The peer pressure has a positive effect on social consumption motives but if it moderates self-concept clarity and social consumption relationship, peer pressure has a negative influence on the relationship. Then it can be said that, if young consumers are confident about their self-reflection and have self-esteem, pressure from their friends does not influence their decisions on luxury brand consumption. These result are consistent with the previous studies (Brown et al. , 1986; Santor et al., 2000; Sonejia et al., 2015; Gil et al., 2017) in which it is found that peer pressure arises where an individual feel himself or herself pressured to act or think in certain ways among the others. And low SCC consumers are more influenced by the others, and peer pressure leads to consumption motivations like buying and using products or brands or to please their peers by engaging themselves with luxury brands (Gil et al., 2017; Timperio et al., 2015; Shukla, 2012; Martin, 2009; Moschis and Churchill, 1978; Gentina et al., 2016).

To sum, the social dimension of consumption influences the young consumers' preference on and intention to buy the luxury brands. Luxury brand consumption is mostly related to social environment and friends. Also, if the brand has a status image and is creative, this imaginative style plays an important role

in young consumers' decisions. Young consumers buy a luxury brand to gain respect and acceptance from their social environment.

4.5. Implications and Limitations

The main contributions of this research to the literature are not only about to test social and psychological factor influences on purchase intention (social consumption motives, attitudes, feeling uniqueness, status consumption, peer pressure, and self-concept clarity) but also to investigate the moderating effect of the peer pressure. It is found that peer pressure has a positive influence on purchase intention without a moderating effect, whereas peer pressure's positive influence on social consumption motives declines with moderating effect. Then, factors' conjunct and direct effect on the output factors should be considered.

In addition to the contributions, the study offers companies various suggestions. Young consumers' attitudes towards luxury brands consist of their perceptions about the brand. If they perceive the brand as a status symbol and if the brand makes them feel different or if young consumers think that choosing the brand helps to separate them from other people regarding being creative, their purchase intention of luxury brand decreases. Young consumers want to be similar with their peers by using the luxury brand but

if the brand has a creative image on the consumers. Then, luxury brand companies should focus on brand image and the style of the brand they create. Also, social consumption motives have an important role in the attitudes towards luxury brands. References groups like friends or peers should be taken into consideration by companies. To reach important reference groups, to perceive them and to become popular within youth might be a major strategy for the companies.

This paper tests the relationship between ready-to-wear luxury brand purchasing intentions, social and personal factors. Future studies can consider investigating different product categories to test factors influence on buying luxury brand intentions due to effective factors can change the product type. Luxury brand preferences are mostly under the influence of social factors but based on the findings it can be recommended that personal factors like personality traits and self-conscious can also have effects on decision making. Future research can conduct studies focusing on more personality based factors. To sum the limitations of the study, it can be said that this study surveyed only university students in Izmir and addressed only ready-to-wear luxury brands. Then the findings cannot be generalized to different product groups, and consumers who live in Turkey.

REFERENCES

"2020'de Lüks Tüketim Pazarını X ve Y Kuşakları Yönetecek" (2016) https://odemeteknolojileri.com/2016/07/30/bain-luks-tuketim-raporu-2016/, (20.12.17)

Açıkalın, S. and Erdoğan, L. (2004) "Veblen'ci Gösteriş Amaçlı Tüketim" *SÜ İİBF Sosyal ve Ekonomik Araştırmalar Dergisi*, 7: 1-18.

Ajzen, I. (1991) "The Theory of Planned Behavior" *Organizational Behavior and Human Decision Processes*, 50: 179-211.

Akturan U., Tezcan N. and Vignolles A. (2011). "Segmenting young adults through their consumption styles: a cross-cultural study" *Young Consumes*, 12 (4): 348-360.

Alvandi, M., Fazli, S. and Najafi, S. (2013) "Investigating the Impact of Self on Attitudes toward Luxury Brands Among Teens in Iran" *International Research Journal of Applied and Basic Sciences*, 5(7): 854-865.

Amaldoss, W. and Jain, S. (2005), "Pricing of Conspicuous Goods: A Competitive Analysis of Social Effects" *Journal of Marketing*, Vol. 42: 30-42.

Bakewell, C. and Mitchell, V.W. (2003) "Generation Y Female Consumer Decision-Making Styles" *International Journal of Retail & Distribution Management,* 31 (2), 95–106.

Barry (2017) https://apnews.com/b8fbf0d7ed86450f-86cbaf71b94b92ac (29.10.17).

Belk, R. W. (2001) "Materialism and You" *Journal of Research for Consumers*, Issue 1 (Web-based journal). http://www.jrconsumers.com/academic_articles/issue_1/Belk_.pdf (10.12.17).

Berthon, P., Pitt, L., Micheal, P. and Berthon, Jean P. (2009) "Aesthetics and Ephemerality: Observing and Preserving The Luxury Brand" *California Management Review*, 52(1): 45-65.

Bilge, H. A. (2015) "Luxury Consumption: Literature Review", *Khazar Journal of Humanities and Social Sciences*, 18(1): 35-55.

Bock, D. E., Eastman, J. K., McKay, B. (2014) "The Impact Of Economic Perceptions On Status Consumption: An Exploratory Study Of The Moderating Role Of Education", *Journal of Consumer Marketing*, (31)2: 111-117.

Bocock, Robert (1997) *Tüketim*. (Çev: İrem Kutluk). Ankara: Dost.

Bolarinwa, O. A. (2015) "Principles and Methods Of Validity And Reliability Testing Of Questionnaires Used In Social And Health Science Researchers" *Nigerian Postgraduate Medical Journal*, 22(4): 195.

Boujbel, L. and d'Astous, A. (2015) "Exploring the Feelings and Thoughts That Accompany the Experience of Consumption Desires", *Psychology and Marketing*, 32 (2), 219-231.

Brown, B. B., Clasen, D. R., Eicher, S. E. (1986) "Perceptions of Peer Pressure, Peer Conformity Dispositions, and Self-Reported Behavior Among Adolescents" *Journal of Personality and Social Psychology*, 22: 521–530.

Bush, A.J., R. Smith, C. Martin (1999) "The Influence of Consumer Socialization Variables on Attitude toward Advertising: A Comparison of African Americans and Caucasians", *Journal of Advertising*, 28(3), 13-23.

Business Wire (2017a) http://www.businesswire.com/news/home/20170825005149/en/ (29.10.17).

Business Wire (2017b) http://www.businesswire.com/news/home/20170314006408/en/ (29.10.17).

Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., Lehman, D. R. (1996) "Self-Concept Clarity: Measurement, Personality Correlates, and Cultural Boundaries" *Journal of Personality and Social Psychology*, 70(1): 141-156.

Catry, B. (2003) "The Great Pretenders: The Magic of Luxury Goods" *Business Strategy Review*, 14: 10-17.

Deloitte (2017) https://www2.deloitte.com/content/dam/Deloitte/global/Documents/consumer-industrial-products/gx-cip-global-powers-luxury-2017.pdf, (29.10.17).

Dikmen, Gözde Ö. (2008) "Lüks Marka Pazarlaması, Vertu Örneği", *İstanbul Ticaret Üniversitesi İletişim Fakültesi Dergisi*, 32(1): 51-64.

Eastman, J.K., Goldsmith, R.E., Flynn, L.R. (1999) "Status Consumption in Consumer Behavior: Scale Development and Validation" *Journal of Marketing Theory and Practice*, 7 (3): 41–51.

Eastman, J. K. And Eastman, K. L. (2011) "Perceptions of Status Consumption and The Economy" *Journal of Business & Economics Research*, 9(7): 9-20.

Eastman, J.K. and Liu, J. (2012) "The Impact of Generational Cohorts on Status Consumption: An Exploratory Look at Generational Cohort and Demographics on Status Consumption" *Journal of Consumer Marketing*, 2(2): 93-102.

Europlat (2017) http://www.europlat.org/global-luxury-apparels-market.htm, (29.10.17).

Eskiler, E., Küçükibiş F. ve Soyer, F. (2016) "Genç Tüketicilerin Satın Alma Davranışları Üzerine Rol Model Etkisi: Marka Duyarlılığı Aracılık Rolü" ERPA International Congresses on Education 2016, Sarajevo / Bosnia and Herzegovina, 709-715.

Fullwood, C., James, B. M., Chen-Wilson, C.H.J. (2016) "Self-Concept Clarity and Online Self-Presentation in Adolescents" *Cyberpsychology, Behavior, And Social Networking*, 19(12): 1-6.

Gentina, E. G., Shrum, L. J., Lowrey, T. M., Vitell, S. J. (2016) "An Integrative Model of the Influence of Parental and Peer Support on Consumer Ethical Beliefs: The Mediating Role of Self-Esteem, Power, and Materialism" *Journal of Business Ethics*, pp.1-14, DOI 0.1007/s10551-016-3137-3.

Gil, L. A., Dwivedi, A., Johnson, L. W. (2017) "Effect of Popularity and Peer Pressure on Attitudes toward Luxury among Teens" *Young Consumers*, 1(1): 84-93.

Gil, L. A., Kwon, K. N, Good, L. K., Johnson, L. W. (2012) "Impact of Self On Attitudes Toward Luxury Brands Among Teens" *Journal of Business Research*, 65: 1425–1433.

Goldsmith, R.E., Clark, R.A. (2012) "Materialism, Status Consumption, and Consumer Independence" *The Journal of Social Psychology*, 152 (1): 43-60.

Gregorio, F., Y. Sung (2010) "Understanding Attitudes Toward and Behaviors in Response to Product Placement" *Journal of Advertising*, 39(1), 83-96.

Grubb E, Grathwohl H. 1967 "Consumer Self-Concepts, Symbolism and Market Behavior: A Theoretical Approach" *Journal of Marketing*, 31(4): 22-27.

Guerrettaz, J and Arkin, R. M. (2016) "Distinguishing the Subjective and the Objective Aspects of Self-Concept Clarity" *Social and Personality Psychology Compass*, 10(4): 219-230.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C (1998) "Multivariate Data Analysis", 5th Edition,. NY: Prentice Hall International.

Hayes, J. (2014) "The Theory and Practice of Change Management", Palgrave Macmillan.

Hauck E. ve Stanforth N. (2007), "Cohort Perception of Luxury Goods and Services" *Journal of Fashion Marketing and Management*, 11(2): 175-188.

Henna Syrjälä, Hanna Leipämaa-Leskinen, Pirjo Laaksonen, (2015) "Social Needs in Finnish Young Adults' Mundane Consumption" *Young Consumers*, Vol. 16 Issue: 3, pp.301-315.

Kapferer, J.N. (1998) "Why Are We Seduced By Luxury Brands?" *The Journal of Brand Management*, 6 (1): 44-9.

Kastanakis, M. N., and Balabanis, G. (2014) "Explaining Variation in Conspicuous Luxury Consumption: An Individual Differences Perspective" *Journal of Business Research*, 67(10), 2147–2154.

Kavak B, Giire E, Eryig C, Tekta O. (2009) "Examining The Effects Of Moral Development Level, Self-Concept, And Self Monitoring On Consumers' Ethical Attitudes" *Journal of Business Ethics*, 88: 115-135.

Kernis M, Paradise A, Whitaker D, Wheatman S, Goldman B. (2000) "Master Of One's Psychological Domain? Not Likely If One's Self-Esteem Is Unstable" *Personality and Social Psychology Bulletin*, 26 (10): 1297-1305.

Kilsheimer, J. C. (1993) "Status Consumption: The Development and Implications of a Scale Measuring the Motivation to Consume For Status" The Florida State University, Phd. Dissertation, UMI.

Kim, D. and Jang, S. (2014) "Motivational Drivers for Status Consumption: A Study of Generation Y Consumers" *International Journal of Hospitality Management*, 38, 39-47.

Luni, N., Charstadu, P., Ghafari, P. (2010) "Investigating Effective Factors on Customer's Behavior in Preferring Foreign Brands to Domestic Brands (A Case Study: University Students)" *Journal of Management Marketing*, 8: 227-254.

Lynn, M. and Harris, J. (1997) "Individual Differences In the Pursuit of Self-Uniqueness through Consumption" *Journal of Applied Social Psychology*, 27(21): 1861-1883.

Manikandan, K. and Rajamohan, A. (2014) "Consumer's Need for Uniqueness in Buying Small Cars" *Journal of Management Policies and Practices*, 2 (1), 135-146.

Makgosa, R. (2010) "The Influence of Vicarious Role Models On Purchase Intensions of Botswana Teenagers" *Young Consumers*, 11 (4): 307-319.

Makgosa, R. and Mohube, K. (2007) "Peer Influence on Young Adults' Products Purchase Decisions" *African Journal of Business Management*, 1(3): 64-71.

Martin, C. A. (2009) "Consumption Motivation and Perceptions of Malls: A Comparison of Mothers and Daughters" *Journal of Marketing Theory and Practice*, 17 (1): 49-61.

Martin, C. A., Turley, L.W. (2004) "Malls and Consumption Motivation: An Exploratory Examination of Older Generation Y Consumers" *International Journal of Retail & Distribution Management*, 32(10): 464-475.

Millan, E. and Mittal, B. (2017) "Consumer Preference for Status Symbolism of Clothing: The Case of the

Czech Republic" *Psychology & Marketing*, 34(3): 309–322.

Miremadi, A., Fotoohi, H., Sadeh, F., Tabrizi, F., & Javid-igholipourmashhad, K. (2011) "The Possible Effects Of Need For Uniqueness's Dimensions On Luxury Brands: Case Of Iran And UAE" *International Journal of Marketing Studies*, 3(3), 151–160.

Mittal, B. (2015) "Self-Concept Clarity: Exploring Its Role in Consumer Behavior" *Journal of Economic Psychology*, 46: 98-110.

Moschis, G.P and Churchill G.A. (1978) "Consumer Socialization: A Theoretical and Empirical Analysis" *Journal of Marketing Research*, 15(4): 599–609.

Moschis, G. (1981) "Patterns of Consumer Learning" *Journal of the Academy of Marketing Science*, 9(2):110-26.

Mutlu, M. H., Çeviker, A., Çirkin, Z. (2011) "Tüketici Etnosentrizmi ve Yabancı Ürün Satın Alma Niyeti: Türkiye ve Suriye Üzerine Karşılaştırmalı Analiz" *Sosyo Ekonomi*, 1: 52-74.

Na, J., Chan, M. Y., Lodi-Smith, J. (2016) "Social-Class Differences In Self-Concept Clarity and Their Implications for Well-Being" *Journal of Health Psychology*, 1359105316643597.

Noguti, V. and Bokeyar, A. (2011) "Fantasy-Shopping, Self-Concept Clarity, and Self-Affirmation" in AP - Asia-Pacific Advances in Consumer Research Volume 9, eds. Zhihong Yi, Jing Jian Xiao, and June Cotte and Linda Price, Duluth, MN : Association for Consumer Research, Pages: 158-159.

O'Cass, A., Frost, H., (2002) "Status Brands: Examining The Effects Of Non-Product Related Brand Associations On Status And Status Consumption" *Journal of Product & Brand Management*, 11 (2), 67–88.

O'Cass, A., and McEwen, H. (2005) "Exploring Consumer Status and Conspicuous Consumption" *Journal of Consumer Behaviour*, 4(1): 25-39.

O'Cass, A., Siahtiri, V., (2013) "In Search Of Status through Brands from Western and Asian Origins: Examining the Changing Face of Fashion Clothing Consumption in Chinese Young Adults" *Journal of Retailing and Consumer Services*, 20 (6), 505–515.

O'Cass, A., Lee, W. J., Siahtiri, V. (2013) "Can Islam and Status Consumption Live Together in the House of Fashion Clothing?" *Journal of Fashion Marketing and Management: An International Journal*, 17(4): 440-459.

O'Curry, S., Strahilevitz, M., (2001) "Probability and Mode of Acquisition Effects On Choices between Hedonic and Utilitarian Options" *Marketing Letters*, 12 (1), 37–49.

Odabaşı,Y. (1999) "Tüketim Kültürü" Birinci Baskı, İstanbul: Sistem Yayıncılık.

Odabaşı, Y., Barış, G. (2002) "Tüketici Davranışı" İstanbul, Medicat Akademi.

Odabaşı, Y. (2014) "Postmodern Pazarlama" İstanbul, Media Cat.

Phau, I., Cheong, E., (2009) "How Young Adult Consumers Evaluate Diffusion Brands: Effects Of Brand Loyalty And Status Consumption" *Journal of International Consumer Marketing*, 21 (2), 109–123.

Rhee J, Johnson K. (2012a) "Investigating Relationship between Adolescents' Liking for an Apparel Brand and Brand Self Congruency" *Young Consumers*, 13 (1): 74-85.

Rhee J, Johnson K. (2012b) "Predicting Adolescents' Apparel Brand Preferences" *Journal of Product & Brand Management*, 21 (4): 255-264.

Roper, S., Caruana, R., Medway, D., Murphy, P. (2013) "Constructing Luxury Brands: Exploring the Role of Consumer Discourse" *European Journal of Marketing*, 47(3/4): 375-400.

Ruvio, A. (2008) "Unique Like Everybody Else? The Dual Role of Consumers' Need for Uniqueness" *Psychology & Marketing*, Vol. 25 No. 5, pp. 444-464.

Santor, D. A., Messervey, D., Kusumakar, V. (2000) "Measuring Peer Pressure, Popularity, and Conformity in Adolescent Boys and Girls: Predicting School Performance, Sexual Attitudes, and Substance Abuse" *Journal of Youth and Adolescence*, 29(2): 163-182.

Schade, M., Hegner, S., Hegner, S., Horstmann, F., & Brinkmann, N. (2016) "The Impact of Attitude Functions On Luxury Brand Consumption: An Age-Based Group Comparison" *Journal of Business Research*, 69(1): 314-322.

Shavelson R, Hubner J, Stanton G. (1976) "Self-Concept: Validation of Construct Interpretations" *Review of Educational Research*, 46(3): 407–41.

Shukla P. (2012) "The Influence of Value Perceptions on Luxury Purchase Intentions In Developed and Emerging Markets" *International Marketing Review*, 29 (6): 574-596.

Solomon, M., Bamossay, G., Askgaard, S. (2002) "Consumer Behaviour - A European Perspective", Prentice Hall.

Sombart,W. (1998) "Aşk, Lüks ve Kapitalizm" Necati Aça (çev.), Ankara: Bilim ve Sanat Yayınları.

Sonejia, D., Riedel, A., Martin, B. (2015) "How Gordon Ramsay Appeals To Consumers: Effects Of Self-Concept Clarity And Celebrity Meaning On Celebrity Endorsements" *Journal of Strategic Marketing*, 23(5): 457-468.

Srinivasan, R, Srivastava, R.K., Bhanot, S. (2014) "Attitudes of Young Indian Consumers towards Luxury Brands" *IOSR Journal of Business and Management*, 16(7): 87-97.

Stegemann, N., Denize, S. M., Miller, K. E. (2007) "Measuring Consumers Attitudes to Luxury", Proceedings of the La Londe Conference in Marketing Communications and Consumer Behavior.

The State of Fashion (2017) https://images.businessoffashion.com/site/uploads/2016/11/The_State_of_Fashion_2017.pdf, (29.10.17).

Tenekecioğlu, B. (2005) "Pazarlama Yönetimi" Anadolu Üniversitesi Yayınları.

Tığlı, M. and Akyazgan, M. A. (2003) "Özellikli (Lüks) Tüketim Ürünlerinde Enderlik Prensibi ve Bir Uygulama" *Kocaeli Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 5(1): 21-37.

Tian, K. and Bearden, W. O. (2001) "Consumers' Need for Uniqueness: Scale Development and Validation" *Journal of Consumer Research*, 28(1): 50-66.

Timperio, G., Tan, K.C., Fratocchi, L. and Pace, S. (2016) "The Impact of Ethnicity on Luxury Perception: The Case of Singapore's Generation Y" *Asia Pacific Journal of Marketing and Logistics*, 28(2), pp. 217–233

Truong, Y., McColl, R., Kitchen, P.J. (2009) "New Luxury Brand Positioning and The Emergence Of Masstige Brands" *Journal of Brand Management*, 16(5): 375-382.

Türkiye'de Lüks Sektörü, Lüksün Yükselişi (2017) https://www2.deloitte.com/tr/tr/pages/consumer-business/articles/global-powers-of-luxury-goods.html (20.12.17)

Tynan, C., McKechnie, S., Chhuon, C. (2010) "Co-Creating Value for Luxury Brands" *Journal of Business Research*, 63(11): 1156-1163.

Veblen,T. (2005) "Aylak Sınıfın Teorisi" Zeynep Gültekin ve Cumhur Atay (çev.), İstanbul: Babil Yayınları.

Vel, K. P, Captain, A., Al-Abbas, R., Al Hashemi, B. (2011) "Luxury Buying in the United Arab Emirates" *Journal of Business and Behavioural Sciences*, 23(3): 145-160.

Vigneron, F. and Johnson, L.W. (1999) "Measuring Perceptions of Brand Luxury" *Journal of Brand Management*, 11: 484–506.

Wiedmann, K-P., Hennings, N., Siebels, A. (2007) "Measuring Consumers' Luxury Value Perception: A Cross-Cultural Framework" *Academy of Marketing Science Review*, 11: 1-21.

Wiedmann, K. P., Hennigs, N., Siebels, A. (2009) "Value-Based Segmentation of Luxury Consumption Behavior" *Psychology & Marketing*, 26 (7): 625-651.

Willett, M., "Here's the hierarchy of luxury brands around the world" (2015), http://www.businessinsider.com/pyramid-of-luxury-brands-2015-3, (12.12.17).

Willis, S. (1991) "Gündelik Hayat Kılavuzu" Çev: Aksu Bora ve Asuman Emre, İstanbul: Ayrıntı Yayınları.

Zayerkabeh, S. , Albabayi, A., Abdoli, M. (2012) "Studying the Effect of Brand Credibility and Brand Prestige on Brand Loyalty" *Australian Journal of Basic and Applied Sciences*, 6(8): 160-166.

Public Relations as a Defense Mechanism Against Discriminatory Propaganda

Ayrımcı Propaganda Faaliyetlerine Karşı Bir Savunma Mekanizması Olarak Halkla İlişkiler

Simge ÜNLÜ KURT[1]

https://orcid.org/0000-0002-0137-4210

ABSTRACT

The purpose of this study is to examine the propaganda against "marginal" organizations and individuals and how these organizations/individuals can use the methods and tools of public relations in the anti-propaganda process. In this context, firstly homophobic propaganda will be discussed as a type of discriminatory propaganda, and then prejudices and stereotypes against homosexuals will be examined with their reasons, usages, sub-themes and various examples. In the public relations section of the study, defending tactics and strategies against propaganda activities will be given in the topics of message strategy, persuasion, target audience analysis, research process, image and reputation management.

Keywords: Discrimination, Homophobia, Propaganda, Public Relations, Strategy

ÖZET

Bu çalışmanın amacı "marjinal" organizasyonlar ve bireylere karşı yürütülen propaganda çalışmalarında halkla ilişkiler yöntem ve araçlarını nasıl bir savunma aracı olarak kullanılabileceğinin sunulmasıdır. Bu doğrultuda ayrımcı propaganda çalışmaları; kaynaklanma sebepleri, kullanım gerekçeleri, alt temaları ve çeşitli örnekleri ile incelenmiştir. Çalışmanın halkla ilişkilere bölümünde ise; imaj ve itibar yönetimi, araştırma süreci, hedef kitle analizi, mesaj stratejisi ve ikna gibi konular bağlamında propaganda faaliyetlerine karşı kullanılabilecek taktik ve stratejiler aktarılmıştır.

Anahtar Kelimeler: Halkla İlişkiler, Ayrımcılığa Karşı Propaganda, Stareteji.

INTRODUCTION

Public relations studies show that; people, institutions and organizations use the processes of discipline with sub-applications such as image management, corporate identity, crisis and issue management. However, lack of institutional mechanisms for protecting mariginal community and individuals (which are being represented at the level of civil society organization) against propaganda activities -that involve prejudice and discrimination against them- can be seen. Therefore, the problem that arises in this phase is; can Public Relations fulfill this function as a defense mechanism?

In the past, Public Relations carried out its mission only as a promotional tool, but as we approach the 21st century, understanding of PR transformed with excellence theory and human-focused approaches. Public Relations has become a management function which plays an effective role in management decisions, stakeholder relations, and most importantly contributing both the society and the institution itself (Grunig and Hunt, 1984). Thereby ensuring the fulfillment of institutional citizenship duties in addition to being the organizer of the message strategies in crises, promotional tool of products and services or the whole of image, PR is no longer just a collection of ideas stuck in the institution. Public relations has become a holistic system of thinking and management philosophy which supports and triggers the ideas, innovations, and

initiatives that have grown in society for growing and developing together.

Especially two-way communication function and the diversification of the target group; the role of public relations, such as raising awareness, developing relationships, and addressing social problems has begun to gain importance. In this study instead of making inferences from a hypothesis such as "Institutions need to be more sensitive to marginal groups through their public relations campaings", the study will answer the following question: "How can these groups defend themselves and their rights through PR?".

In this direction; as a marginal group LGBT organizations have discussed based on how social influence can be created through public relations, what steps should be taken in the path of institutionalization, at what levels lobbying activities can be used effectively, the importance of informing the public and mono-logism and how to create an environment to struggle against propaganda.

HOMOPHOBIC PROPAGANDA AS A TYPE OF DISCRIMINATORY PROPAGANDA

Bluemenfeld (1992, p. 15) describes heterosexualism as a structure of thought that only sees heterosexual relationships as acceptable sexual tendency and believes it to be so. Those who have this tendency to feel closeness and sexual desire to people of their own gender, could hated by heterosexual peoples. This structure of thought and fear-hate chain feeds the formation of an environment of prejudice and discrimination against LGBT individuals in modern society. This mindset especially is the main idea of the anti-gay organizations and their propaganda activities. Leaders of such organizations portray homosexuals as a threat to the society.

Homophobia refers to negative emotions and negative behaviors directed towards homosexuality and towards to people with sexual orientation called "lesbian", "gay", "bisexual", "transsexual" (LGBT) (Renzetti and Edleson, 2008, p. 338). Homophobia manifests itself with emotions such as prejudice, hatred and repulsion. These emotions could arise from different reasons such as psychology, culture and religious beliefs (McCormack, 2013, p. 35).

Homophobic propaganda (or anti-homosexual propaganda) could be described as conveying negative opinions by various propaganda techniques. These practices are conducted through anti-homosexual

prejudices and stereotypes (Stangor, 2000). The term was used first by historian Stefan Micheler in his article "*Homophobic Propaganda and the Denunciation of Same-Sex-Desiring Men under National Socialism*" (Micheleri, 2002, p. 105).

Homophobic propaganda uses humiliating and degrading statements against homosexuals with religious, medical or moral grounds. For example, accusations of child abuse frequently used in the modern era (Dailey, 2002). Other methods consist of accusations directed against homosexuality as being against; traditional values, the religion and as a sexual perversion to destroying the families. These negative opinions regarding homosexual desire and relation are evident throughout history and show differences from culture to culture (CTV News, 2013).

Negative propaganda against homosexuality can be gathered under different subheadings. These are studies considering that homosexuality; is not natural, related to child abuse, is a sin and HIV is a homosexual disease (Zimmerman and Haggerty, 2003).

Opinions on homosexuality is not natural and that it is a disease, are seen even during the time of Plato. Homosexuality has been considered as a disease for a long time till the 20th century, together with some opinions saying that it is not natural and it is even equivalent to cannibalism (http://www.aglp.org). In 1974, as it was not found scientific enough and as it did not comply with the criteria for the assessment of mental illness, it has been removed from the book "Diagnostic and Statistical Manual of Mental Disorders" (TFP Committee on American Issues, 2004, p. 89).

Although homosexuals' identification as child abusers became identical with the 'sodomy' understanding in antiquity, when it comes to the modern era, this understanding has begun to be identified with the concept of 'homosexual employment'. According to this opinion, because homosexuals cannot reproduce, they secretly direct children to homosexuality and sexually abuse them (Miller, 2001).

Especially in the first years of HIV prevalence, the disease was usually diagnosed in homosexual men and the outcome of the disease has often been fatal. As a result, AIDS has begun to be perceived as a homosexual disease and this has been the general theme of the propaganda carried out (Musto, 2007). However, according to the World Health Organization (WHO) surveys, it is reported that 50% of HIV carriers are female, that is, not a large part of those who carry

the disease. saying that half of them are male and 61% of the spread of the disease among males is due to males having relation with males (WHO, 2009).

METHOD

To purpose public relations as a defense mechanism, this study analyzed the content of anti-homosexual propaganda materials in Turkey. The materials used in the analysis are selected by purposive sampling through accessible anti-homosexual propaganda content. As described in literature anti-homosexual (homophobic) propaganda defined as conveying negative opinions against homosexuals by various propaganda techniques. As the definition reflects for assigning Public Relations as a defense mechanism, anti-homosexual propaganda activities in Turkey analyzed in terms of general themes, discourse and the reliability of facts.

In the second step, the findings of the analysis and literature compared by the researcher and after those public relations activities and methods applied the findings as a defense mechanism. Within the scope of this study the proposed defense mechanisms are not on the basis of implementation level but only suggestion level. It is expected that this study will guide future studies on similar themes.

Analyzing of different anti-homosexual propaganda materials in Turkey

Kaos GL examined the anti-gay propaganda discourse in the Turkish media regarding Lesbian, Gay, Bisexual and Transgender (LGBT) individuals. Among 3645 news, it is seen that 226 of them have the LGBT individuals' opinions and only 990 were found to be positive. News outside the category that is considered positive consist of sub-themes similar to these: "LGBT individuals are offered as sexual objects", "LGBT individuals and events are being criminalized", "Violence against homosexuality is legitimized", "LGBT individuals are being caricaturized", "Humiliating photo and visual used", "News made with the attacker's statement", " Spreading hate discourse" etc (İnceoğlu, 2012, p. 298-303). As can be seen from the news example in Figure 1, even though there is no relationship with the crime of the thief's sexual orientation, the title of the news emphasizes that a homosexual stole the clergyman's bag and they found him guilty not because of the crime he committed, but because he is gay and leads the reader in this way.

Figure 1: A screenshot From www.hurriyet.com.tr (6 April 2010) Retrived: 02.05.2018

Source: http://www.hurriyet.com.tr/

As an another example, Turkish televangelist Adnan Oktar (aka Harun Yahya) -who arrested in this July on multiple charges included sexual abuse (https://www.aljazeera.com) and his followers known by their anti-homosexual discourses. In the article (http://www.pravdareport.com/; For Turkish: http://m.harunyahya.org/) dated 12 May 2016, the following quotations summarize these views:

> "Families are the fundamental building blocks of society. In order for a society to flourish and remain healthy, the family should consist of a father and a mother who are able to produce and give rise to children. However, there is a rising trend in many Western countries, which is intrinsically in contradiction to what is considered a normal society: same-sex marriage. (…)

> Furthermore, many activists promote homosexuality as another human rights issue that must undeniably be protected. Some endeavor deliberately to oppose religious values and merits while some are misguidedly following them in order to be hip, modern, trendy and in tune with their notion of what a new modern culture should consist of. They are usually unaware of the damage it is imposing on society, especially on children and the young generation. Accordingly, homosexual activists use every opportunity they get in order to spread their

homosexual lifestyles both within their communities and outside their communities. (...)

I write this article. As a matter of fact, the purpose of this article is to remind young people not to fall into this brainwashing trap and to keep the strong spiritual values to have for an honorable life; in this way the members of society who pay heed to morals will respect them in the appropriate way(...)

Considering the matter in terms of morals and ethics, we encounter a higher rate of child molestation in same-sex couple households. It is a moral obligation to protect the interests of helpless children in our society. Extensive researches show that children of same-sex parents are more likely to experience sexual confusion and to engage in homosexual activities themselves that will eventually cause them to suffer from psychiatric disorders, substance addiction, sexual assault, suicide, and sexually transmitted diseases such as AIDS. In the US alone, government investment in the domestic response to HIV has risen to more than $24 billion per year (…)"

These statements are similar to the accusations against homosexuals shown in the previous chapters. According to Oktar and his followers, homosexuals are threats to society, have perverted minds, abusing children and sick –mentally and physcially- people. The important point for propaganda here, until the mentioned arrestments Oktar had a full-functioning TV channel (A9) for spreading his views (As an example from broadcast: https://www.youtube.com/watch?v=DMipPxyj87E) and also had the power to distribute the leaflet shown below.

According to this leaflet, similar to above article and related propaganda activities: "Homosexuality is despicableness and can be turned away by convincement", "forbidden in all religions", "homosexuality is perversion", "it's not hormonal or genetic".

Besides this leaflet, many different anti-homosexual non-govermental organization published manifests or signed different declarations within similar accusations and prejudices (https://www.kaosgl.org, https://www.timeturk.com, http://www.haber7.com/).

Both in Oktar's article and the leaflets, discriminatory language is clearly visible. Of course, it is not enough to have a television channel or power to distribute these leaflets for propaganda purposes.

Oktar and other anti-homosexual organizations also have the power of influencing the public by abusing "values".

Figure 2: An Anti-Homosexual Leaflet

Source: Bianet.org

For an instance in above 26-line article, the following words draw attention; families –father, mother, children-, society –community-, religion, Western –Western culture-, honor, moral, brainwashing trap, molestation –abuse-, protection – helpless children-, psychiatric disorders, substance addiction, sexual assault, suicide. Although it varies from person to person most of these words have the potential power affecting emotional states or even changing them completely. The same method is used not only in articles but also in television programs, leaflets, face-to-face communication etc.

These propaganda examples show us that such a discourse can be a powerful means of persuasion. Many anti-homosexual organizations applying this discourse and its rhetorical orientations in order to collect supporters and to create an anti-homosexual perception. Furthermore, by "ideological apparatus" (Althusser, 2006, p. 87) media, politics, religion and educational institutions are actively being used as

mediators of this propaganda, as can be seen in the above examples.

Public Relations as a Defense Mechanism Against Homophobic Propaganda

Facing these type of propaganda requires the use of crisis management processes on one hand, but in the long run in order to correct the image created in minds. Within the framework of the issue, for LGBT individuals and organizations it is very difficult to respond to these systematic propaganda activities and also to correct their images at the same time.

The first point to be emphasized is the point of institutionalization and conceptualization. There are LGBT associations and solidarity organizations in Turkey but these associations and organizations haven't got any central structure, to act within the a common discourse. Common language and discourse thought to be important for a in addition to the mass demonstrations and as well as for the persuasion. The declarations where there is no common discourse and where each association issues within their target audience, both the propagation speed rate and the impact capacity are quite limited.

When the homophobic discourse is compared with the power and propagation speed, the distribution of organizations' messages is limited to their own masses. Of course, it is also important to consider how difficult it is for "marginal" organizations to be involved in the traditional media. Nevertheless, public relations advises to determine who should be reached and / or who should be reached before any campaign plan or crisis management process is initiated. According to this, after the persons to whom the messages will be delivered are classified as internal and external, they are ranked as primary, secondary and marginal target audience according to their importance. The point that LGBT organizations should be aware of are; to classify the persons to whom they are addressed in this context and the necessity of identifying different message strategies for each classification. In this way, organizations can develop ways to defend themselves, their members and LGBT individuals, even if they are not affiliated with any group against opposing discourses, against accusations and discrimination through logical arguments and mass-oriented messages based on a solid ground.

After the target group has been classified, the research, which is one of the basic processes of public relations, comes into play. Here, "research" refers both to the issue of the agenda and to the examination of the content of messages containing counter-party accusations and prejudices in general. For example, against a statement saying that AIDS is a homosexual disease which is clearly carrying propaganda purposes, first of all, to analyze the source and the purpose of the claim put forward, then quickly gather data which will negate the claims and to deny claims through as many channels as possible seems to be the most likely scenario. But no matter how successful the defense or the refusal is, the credibility of the source of propaganda and the attitudes and beliefs of the masses can make all the efforts wasted. Thoughts considering that public relations are a "trick" emerges at this point. Accordingly, the target masses believe what they want to believe, hear what they want to hear and see want they want to see in the framework of certain prejudices (Hunt and Grunig, 1994).

The "prejudice" is undoubtedly regarded as one of the toughest challenges of LGBT individuals and organizations. Although it is not appropriate to identify a social phenomenon with the management sciences, sampling method related to the subject can be used for the adaptation of the public relations process. Reputation management, which is one of the main areas of work for public relations, is directly related to the prejudices. According to this, the names and brands which are made on the basis of positive prejudices in the minds; can provide outputs such as feelings of closeness, being preferred, forgiveness and even ignorance of mistakes at the same time may lead to lack of respect; feelings of coldness, constantly being thrown into the secondary plan, and even small mistakes may be magnified and turn into a crisis. In this context, negative prejudices are seen as one of the biggest factors in the formation of reputation. In this process, institutions and organizations which use public relations activities actively, apply corporate social responsibility, image restoration, lobbying and persuasion methods to get rid of prejudices and create a reputation. Another thing that is recommended for LGBT organizations is the prominence here. Although there is an individual effort, considering the following target audience sensitivities which may have a significant impact on the reshaping of homosexual perception in the minds, it is an activity that can make a great progress in an institutional framework and when public relations are applied based on the campaign process.

Likewise, lobbying activities can be considered as an effective strategy that can be used in this process. Although the demonstrations and the public power are seen as effective activities in terms of agenda setting, when the political mechanisms and authorities are under the influence of the discourse of propagandists, they can limit the activities of organizations to a wide range (Dozier and Grunig, 1992, p. 400). The fact that the people in politics are the direct source of propaganda is an important problem especially for LGBT organizations. Organizations which are already struggling with prejudices face the danger of receiving political will against them. In this case, lobbying activities are in place, local and national political authorities are reached, and sensitivities about the issue play an important role. Taking steps to ensure mutual benefit and determining the future approach are important factors here.

Dean E. Mundy's (2013) research on state-based LGBT advocacy organizations shows a successful lobbying activity example. Mundy's research results are as follows:

State-based LGBT advocacy organizations shape their communication strategy (…) from the ground up, not from the top down. Their Agenda comprises campaigns that use a local-first strategy to pursue inclusive policies regarding issues of non-discrimination, hate crimes, safe schools, and relationship recognition (…) The philosophy posits that building a critical mass of support for these issues at the local level (…) provides momentum for change at the state level (…) The goal is to craft positive, non-combative messages that communicate the importance of diversity, the breadth of diversity within the LGBT community, and how that diversity reflects society as a whole. Accordingly, these organizations seek local LGBT individuals and allies to serve as organizational spokespersons who—in conveying their locally specific, authentic, personal stories—are able to emphasize how LGBT issues are community issues (Mundy, 2013, p. 387).

Except for minor exceptions (As an example: https://www.bbc.com/turkce/live/haberler-turkiye-41926807) in Turkey, there are no successful examples or approaches as above. However, ground up locality strategy and non-combative message selection in Mundy's work grants effective guides for public relations.

If the public relations is examined within the framework of discipline issues in a more detailed manner, it can be seen that the roles of public relations are convincing, representative, innovative, information provider, reputation manager and relationship builder (Hutton 1999). Considering the propaganda, each of these roles can be considered as guiding to LGBT organizations in protecting against adverse effects and even in changing the situation in their favor. Within the framework of Public Relations based on the cause, persuasion; especially in societies raised within a culture of fear, refers to the process of putting the various theories into practice against the system of thought that reproduces itself through the inoculation of beliefs that constantly nourish their fearsome origins. This process, which can also be used for protection against propaganda, may follow the way with the presentation of some of the arguments on solid foundations, sometimes the use of faces that have the trust and respect of the target audience and sometimes the way to correct distorted messages given to them through their own beliefs. Providing correct information against manipulative messages with the help of persuasion theories is an important influence on the development of an accurate defense mechanism.

Although these strategies may be effective in the development of preventive and defensive mechanisms against counter-propaganda activities, pro-active and re-active understanding, which is one of the most important factors of public relations, must be dominant during the process (Jo, 2003, p. 400). Accordingly, within the framework of problem management with pro-active approach, propaganda activities must be addressed before they turn into crises which will trigger inflation in the public and preparations should be made for LGBT organizations and opposing discourses that are welcomed by individuals in a loop with the support of a team with predictive competence and preventions must be taken. With the re-active approach, it is expressed to overcome the developments which may cause destructive results made by all the preparations with crisis management of public relations, with crisis communication processes with the help of experts.

CONCLUSION

It is observed that anti-homosexual propaganda showing itself with feelings of prejudice, hatred, repulsion against LGBT organizations and individuals. And the reasons of propagandist could be psychological, cultural or religious. Propaganda activities done by

humiliating and degrading expressions against homosexuals with religious, medical or moral reasons. These negative referrals and false accusations regarding homosexual desire and association are clearly observed throughout history and show differences from culture to another culture.

It has also observed that negative propaganda directed against homosexuality, was carried out in the themes considering homosexuality is not natural, it is related to child abuse, as a sin and/or HIV as a homosexual disease. However these allegations do not fully reflect the facts or are totally distant. In selecting the sources of these inferences, attention has been paid to foreign literature but and examples taken within Turkey.

In the continuation of the study, the question of "how public relations could be used by LGBT organizations as a defense mechanism against propaganda?"

is answered under the public relations roles such as persuasive, representative, information provider and founder within the framework of management practices and communication processes. According to this, within the framework of pro-active and re-active approaches, it is seen that different strategies and implementation plans should be determined.

The elements of public relations such as persuasion, research, image management, crisis communication and message strategies are very important for minimization of the effects of propaganda which is spreading very quickly also to protect and be protected against this discourse is possible with communication-based public relations methods and practices. Also it is important to access the political authorities together with the public power, it is important to reach the external target masses together with the internal target masses and making classification in this audience for organizations.

REFERENCES

"The Declassification of Homosexuality by the American Psychiatric Association", http://www.aglp.org/gap/1_history/ Retrieved:: 11.04.2018.

Althusser, L. (2006). Ideology and ideological state apparatuses (notes towards an investigation). The anthropology of the state: A reader, 9(1),pp. 86-98.

Dailey, T. J. (2002). Homosexuality and child sexual abuse. Insight N, 27.

Dozier, D. M., & Grunig, L. A. (1992). The organization of the public relations function. Excellence in public relations and communication management, 395-417.

Grunig, J. E., & Hunt, T. (1984). Managing public relations. Harcourt Brace Jovanovich College Publishers.

Haggerty, G., & Zimmerman, B. (2003). Encyclopedia of lesbian and gay histories and cultures. Garland Science.

Howard, J. (Ed.). (1997). Carryin'on in the Lesbian and Gay South. NYU Press.

http://m.harunyahya.org/tr/Makaleler/221045/Homoseksuellik-(cinsel-sapkinlik)-hakkinda-insanlardan-gizlenen-onemli-gercekler, Retrieved: 28.07.2018

http://www.haber7.com/guncel/haber/2005743-40-stk-lgbt-yuruyusune-karsi-bildiri-yayimladi), Retrieved: 28.07.2018

http://www.hurriyet.com.tr/escinsel-hirsiz-namazda-imamin-cantasini-caldi-14327928 Retrieved: 10.04.2018.

http://www.pravdareport.com/opinion/columnists/12-05-2016/134394-homo sexuality-0/, Retrieved: 28.07.2018

https://web.archive.org/web/20071218155700/http://www.frc.org/get.cfm?i=IS02E3, Retrieved: 11.04.2018.

https://www.aljazeera.com/news/2018/07/turkey-arrests-televangelist-adnan-oktar-multiple-charges-180711105001781.htmli, Retrieved: 28.07.2018

https://www.bbc.com/turkce/live/haberler-turkiye-41926807, Retrieved: 30.12.2018

https://www.ctvnews.ca/sports/ahead-of-olympics-russia-raises-anti-lgbt-rhetoric-1.1562570, Retrieved: 28.07.2018

https://www.kaosgl.org/sayfa.php?id=26307 Retrieved: 28.07.2018

https://www.timeturk.com/uhim-escinsel-lobilerinin-hedefi-aile/haber-172993, Retrieved: 28.07.2018

http://bianet.org/bianet/nefret-soylemi/199375-izmir-ve-ankara-da-homofobik-bildiri-dagitildi, Retrieved: 28.07.2018

https://www.youtube.com/watch?v=DMipPxyj87E, Retrieved: 28.07.2018.

Hunt, T., & Grunig, J. E. (1994). Public relations techniques. Harcourt Brace College Publishers.

Hutton, J. G. (1999). The definition, dimensions, and domain of public relations. Public Relations Review, 25(2), 199-214.

İnceoğlu, Y. (2012). Nefret söylemi ve-veya nefret suçları. Ayrıntı.

Jo, S. (2003). The portrayal of public relations in the news media. Mass Communication and Society, 6(4), 397-411.

McCormack, Marck (2013). The Declining Significance of Homophobia. Oxford University Press.

Micheler, S. (2002). Homophobic propaganda and the denunciation of same-sex-desiring men under National Socialism. Journal of the History of Sexuality, 11(1), 105-130.

Miller, Tim. Taking on the Antigay Censors, https://web.archive.org/web/20050309010753/http://www.advocate.com/html/stories/857/857_outlaw.asp Retrieved: 11.04.2018.

Mundy, D. E. (2013). The spiral of advocacy: How state-based LGBT advocacy organizations use ground-up public communication strategies in their campaigns for the "Equality Agenda". Public Relations Review, 39(4), 387-390.

Musto, M. (2007). La Dolce Musto. Carroll & Graf.

Renzetti C.M., Edleson J. L. (2008). Encyclopedia of Interpersonal Violence. SAGE Publications.

Stangor, Charles (ed.) (2000). Stereotypes and Prejudice: Essential Readings. Philadelphia, Pa.: Psychology Press. ISBN 0-86377-588-8.

TFP Committee on American Issues. (2004).Defending a Higher Law: Why We Must Resist Same-Sex "Marriage" and the Homosexual Movement. The American Society for the Defense of Tradition, Family and Property

World Health Organization (2009). Gender inequalities and HIV. Geneva: WHO.

Zimmerman, B. (2000). Lesbian histories and cultures: An encyclopedia (Vol. 1). Taylor & Francis.

Determination of the evaluation criteria for agritourism via delphi and analytic hierarchy process methods: a case study in Turkey

TR Başlık Eksik

Ahmet Serhat ULUDAĞ[1]
Evrim ERDOĞAN YAZAR[2]

https://orcid.org/0000-0002-0058-2384
https://orcid.org/0000-0001-8689-4137

ÖZET

Her heçen gün tarım arazilerinin olduğu bölgelerde nüfus azalmakta, tarımsal araziler etkin ve verimli kullanılamamakta; söz konusu bölgeler ve bu bölgelerde yaşayanlar ekonomik, sosyal ve kültürel açılardan biraz daha fazla geriye gitmektedirler. Bu çalışma, kırsal kalkınma için alternatif opsiyonlardan biri olan tarım turizminini farklı bir açıdan incelemektedir. Bu bağlamda çalışmanın temel amacı, tarım turizmi değerlendirme kriterlerini belirlemek ve ağırlıklandırmaktır. Bu amaçla Delphi ve Analitik Hiyerarşi Süreci yöntemleri gibi karar verme teknikleri kullanılmıştır. Üç turdan oluşan bir Delphi çalışmasıyla üzerinde uzlaşmaya varılan 52 adet tarım turizmi değerlendirme kriteri belirlenmiştir. Belirlenen kriterlerin öneciliklerinin tespiti ve ağırlıklarının hesaplanması için Analitik Hiyerarşi Süreci yöntemi kullanılmıştır. Bu yolla, herhangi bir bölgenin tarım turizmi potansiyelinin var olup olmadığının tespit edilmesine yönelik yapılacak çalışmalara katkı sağlanması amaçlanmıştır.

Anahtar Kelimeler: Tarım Turizmi, Delphi Tekniği, Analitik Hiyerarşi Süreci

ABSTRACT

The population is decreasing in the regions where agricultural lands are prevalent, agricultural areas are not used effectively and efficiently, and both the afore-said regions and the people living there show a recession with each passing day in terms of economic, social and cultural aspects. This study examines from a different perspective the agritourism, which can be considered as an alternative option for rural development. Accordingly, the main objective of the study is to determine and weight the evaluation criteria for agritourism. Decision-making techniques such as Delphi and Analytic Hierarchy Process methods have been used for this purpose. 52 evaluation criteria have been determined by common consent through a Delphi study consisting of three rounds. The Analytic Hierarchy Process (AHP) method has been used for the calculation of specified criteria weights. In this way, it has been aimed to contribute to the studies that will be carried out in order to determine the existence of agritourism potentials in any region.

Keywords: Agritourism, Delphi Technique, Analytic Hierarchy Process

1.INTRODUCTION

Rural areas face with numerous disadvantages such as the low income levels of most of the people living in rural regions, the low amount of savings that can be invested in the region, the traditionality of the economic activities generally based on agriculture and livestock, and social impossibilities arising from economic underdevelopment. On the other hand, there are new opportunities in the rural areas for policy makers as well as the people living in the region and wishing to have higher incomes and living standards, thanks to high potentials of the above-mentioned areas in terms of natural beauty, rural lands, wildlife, landscapes, and historical and cultural values.

[1]Assistant Professor, Ondokuz Mayıs University, Faculty of Economics and Administrative, Department of International Trade and Logistics, Kurupelit Campus/SAMSUN, serhat.uludag@omu.edu.tr
[2]Assistant Professor, Ondokuz Mayıs University, Faculty of Economics and Administrative, Department of Business Administration, Kurupelit Campus/SAMSUN, evrim.erdogan@omu.edu.tr

At this point, tourism and alternative tourism types draw attention as a sector or an option offering new opportunities for the development of rural areas (Möller et al, 2014). Tourism and alternative tourism types do not negatively influence the basic economic activities and living standards of the people residing in the rural areas; on the contrary, they make great contribution to the individuals as well as the region itself by providing new benefits and additional income. This is because the fulfilment of tourism-based activities, which do not necessitate high amount of capitals, will create economic benefits through the sale of handicrafts and products based on regional production while the people living in rural areas continue to perform their basic economic activities (Sarıkamış and Bahar, 2013). When tourism-based activities are evaluated from this perspective, they can be seen as a force motivating the development of rural areas because the activities to be carried out in the rural lands will reinforce the attractiveness of the region.

Agritourism, one of the rural tourism types, is a tourism-based activity offering the opportunity to travel, to learn, to explore and to be a part of the nature and countryside as well as enabling the tourists to know about the agricultural lands, daily tasks of the people living in the region, regional products, traditional cuisine and cultural items (Gordean et al., 2009).

Agritourism offers great opportunities within the scope of rural development for the countries such as Turkey or characteristically similar territories in which agricultural sector constitutes a large proportion of the economy and enjoys higher employment rates, and where the agricultural lands cover much of the total surface area of the country. The possibility of transforming the high potential of agritourism in the countries such as Turkey into great opportunities is closely related to the effectiveness of the decisions for the investments in agritourism. An investment decision aiming at the development through agritourism should take into account the investment zone, the criteria that will be demanded for the determination of the afore-said area, the selection of the products and/or values to be prioritized in the region, the amount of the resources, and the expectations from the labor, time and investment to be allocated. For this reason, such investment decisions are complex processes in which many factors interact with each other and which must be dominated by analytical thinking.

In order to put into practice a project that is suitable for agritourism, it is important to know which region is appropriate for agritourist and which criteria will be used in the evaluation process of these regions. After identifying the criteria, other subject to be determined is evaluating the weights and significance of the criteria. Lastly; it is also important to determine which value of agriculture will be prioritized in the selected region or what the tourism-based activities will focus on. From this point of view, this study firstly aims to determine the evaluation criteria for agritourism, and then to calculate their weights. In this way, it is intended to contribute to the studies that will be carried out in order to choose the most appropriate agricultural area among many regions having high potential in terms of agritourism.

2. CONSIDERATIONS FOR CONCEPTUAL ISSUES RELATED TO AGRITOURISM

Agritourism is a type of rural tourism which allows the tourists to travel, to learn, to explore and to be a part of the nature, and to know about the agricultural areas in rural regions, the agricultural activities of the people living there, the regional products, the traditional cuisine, the cultural items and many other activities and values that are unique to the region (Gordean et al., 2009). Although there is no consensus about the definition of agritourism, certain common features have been observed among the numerous definitions in the literature. In this context, almost all definitions emphasize the concepts of "farm" and "tourism-based activity carried out in addition to the main scope of tourism". Besides, some definitions underline the flexible capacity of agritourism which can be performed with or without accommodation (Busby and Rendle, 2000; Phillip et al., 2010). Moreover, various studies indicate that the performance of touristic activities in villages or on farms provides a distinctive feature in terms of conceptual aspects. In this approach, the concept of "farm tourism" is used when the touristic activities in rural areas are carried out on the farms. Similarly, the concept of agritourism is preferred for the cases where the tourism-based activities are performed in the villages in which economic practices are predominantly based on agriculture (Ahipaşaoğlu and Çeltek, 2006). López and García (2006) have stated that the tourists should stay in the house of a farmer and/or a peasant so that this touristic activity can be defined as agritourism. Besides, it is emphasized that all family members should take part in the fulfilment of the tourism activity and that they should accommodate the tourist with the opportunity to be in harmony with nature in a remote and peaceful environment in

order that this process can be considered as a part of agritourism.

When the common points of the definitions in the literature are taken into consideration, agritourism can be defined as *a type of rural tourism creating economic benefits by means of agricultural activities, agricultural production and sale of the agricultural products, allowing these agricultural activities to be performed in the farms, villages, agricultural lands and/or residences belonging to the people of the region, and enabling the farmers that are wishing to have additional income to open their gates to the tourists for a fee so that the guests can get rid of the pressure of their daily lives in their crowded and noisy environment, they can have different experiences, they can eat the agricultural products in their natural environment, they can participate in the agricultural activities directly, and they can observe the local culture and lifestyle individually*.

Within the scope of agritourism, the families living in the rural areas can conduct the tourism management process on a smaller scale by arranging their farms and/or lands as residences and recreational areas where leisure time activities can be performed (Kozak and Bahçe, 2009). The agritourism provides certain basic advantages although these positive outcomes may differ in various countries and even in different regions of the same country. The mentioned advantages of agritourism include the provision of non-agricultural income for the people living in the rural areas, the improvement of the living conditions of these people, the contribution to the social and economic development of the region (Iakovidou et al., 2001). Yavuzaslanoğlu and Yavuz (2012) have also emphasized some additional advantages of agitourism such as the protection of the existing population in rural areas, the promotion, protection and support of local agricultural activities, local handicrafts, local architecture and cultural heritage, the conservation of the environment and biodiversity, the contribution to the sustainability, the support of rural entrepreneurship, the provision of new employment opportunities, the promotion of the workforce, the improvement of the infrastructure facilities in rural areas, the reinforcement of the communication and cultural exchange between the rural regions and city centers, the awareness-raising for the local people, and the maintenance of the sustainability through the optimum utilization of resources (Yavuzaslanoğlu and Yavuz, 2012).

The agritourism is in the field of interest of the individuals from a small group due to its specific features.

In other words, the agritourism aims at the individuals and their niche markets having more specific demands and interests. The members of the above-mentioned niche markets usually consist of the individuals having a high level of education and career, belonging to a young or middle age class, having middle or high income, being responsible for a family, preferring to travel with private vehicles instead of public transportation or tourism agencies, seeing the rural areas as the places where social activities can be performed (Iakovidou et al., 2001), living in the cities, wishing to get rid of daily pressures by spending time in the nature, desiring to know the rural life and culture, and seeking authentic experiences (Aikaterini et al., 2001).

3. A CASE STUDY: DETERMINATION AND CALCULATION OF THE CRITERIA FOR AGRITOURISM

The literature review performed on the studies related to the agritourism has demonstrated that there is no criterion that can be used for deciding whether a region is suitable for agritourism or not. The studies regarding this issue, including the ones conducted in Turkey, have been carried out mainly on the activities of sustainable and/or rural tourism. The main methods used for determining these criteria are SWOT analysis, questionnaires for experts, local people and tourists (Ko, 2001; Sharpley, 2002; Kılıç and Kurnaz, 2010; Kızılaslan and Ünal, 2013; Dymond, 1997), expert opinions or various decision-making techniques as Delphi, Analytic Hierarchy Process, Ecological Footprint and Principal Component Analysis (Briedenhann and Butts, 2006; Tsaur and Wang, 2007; Hunter and Shaw, 2007; Choi and Sırıkaya, 2006; Blancas et al., 2011; Park and Yoon, 2011; Siow et al., 2011).

This study, which has been prepared for achieving has four main objectives which are listed as follows: (1) Determination of the evaluation criteria for agritourism. (2) Calculation of evaluation criteria weights. (3) Contribution to the relevant literature by using the qualitative and quantitative decision-making methods and techniques in a different field such as agritourism. (4) Provision of input for decision-making problems necessitating a selection among the alternative regions potentially suitable for agritourism practices.

In line with the main objectives mentioned above, it has been decided to use the Delphi and AHP methods in an integrated manner. First of all, a literature review has been performed to determine the evaluation criteria for agritourism. Then the criteria suitable

for agritourism have been transferred to the Delphi technique. The Delphi process, starting with the above-mentioned criteria and the new ones added at the end of the first round of Delphi technique, has been finalized with the determination of the final criteria. The Analytical Hierarchy Process (AHP), has been used to calculate weights of the evaluation criteria for agritourism, determined with the Delphi Technique.

3.1. Methods

This section provides detailed explanations regarding the AHP methods and the Delphi technique used for analysis.

3.1.1. Delphi technique

The DELPHI Project is the name of a study carried out in the RAND Company on an intermittent basis and based on the use of expert opinions, and the technique used in this project is called as Delphi method. The objective of the method is defined as the attainment of the most reliable common opinion that a group of experts have agreed upon. It is stated that the experts should receive a series of intensive questions giving feedbacks for their controlled ideas in order to attain the afore-said common opinion (Dalkey and Helmer, 1963). This technique developed in 1963 by Dalkey and Helmer is a widely accepted method that is used to achieve the convergence of real-world views expressed by the experts of a particular subject (Hsu and Standford, 2007).

The main force that stimulates the development of the technique is the perception indicating that the outcomes obtained from a pool in which individual opinions are evaluated together will yield more accurate results than the views analyzed individually. In this sense, the technique ensures that the experts develop a consensus systematically while making predictions about the future (Fusfeld and Foster, 1971). It is also accepted as a unique method used for obtaining the final decision of a group considering the fact that the group consisting of "*n*" persons can make more rational predictions when precise information cannot be obtained, and for clarifying their judgements. Basically, the Delphi technique is utilized for the achievement of main objectives such as the identification and arrangement of alternatives, the exploration and disclosure of the information and assumptions pioneering different judgements, the search for any information agreed upon by some of the respondent group, and the association of the judgements about an issue covering a broad discipline (Van De Ven and Delbecq, 1974), and it is preferred in numerous fields such as program planning, assessment of needs, policy making and resource allocation (Hsu and Standford, 2007). The Delphi process has three distinct characteristics: anonymity, feedback, and group response (Jolson and Rossow, 1971). Anonymity is ensured by means of the questionnaires combining the ideas, and it reduces the impacts of individuals. Controlled feedback is provided through the forms presenting the statistical summaries of the group ideas sent to the participants for being used at the later stage of the study. At the same time, this type of feedback is accepted as a means to reduce the noise in the process. The statistical group response represents the statistical scores calculated in line with the responses taken for each topic, and it is used for ensuring the reliability through the elimination of group pressure (Fischer, 1978). In addition to these features, the Delphi technique has other specific characteristics which can be listed as being a recurrent process (Landeta, 2006), consisting of iterations or serial rounds (Woudenberg, 1991), using a panel of experts for data collection, preventing the face-to-face discussions among the participants, providing the judgements or consensus systematically, and using the frequency distributions in defining the agreement patterns among the participants (McKenna, 1994).

The methods of qualitative and quantitative data analysis are used in the Delphi process. The researchers collect the qualitative data in the first round by using the literature reviews and open-ended questions, if available. Other rounds continue to be carried out until the panellists reach the desired level of compromise. The measures of central tendency (mean, median and mode) and central dispersion (standard deviation and range) are used at this stage of the Delphi process (Hsu and Standford, 2007). There are different types of Delphi technique such as Classical Delphi, Modified Delphi, Decision Delphi, Political Delphi, Real-time Delphi, E-Delphi, Technological Delphi, Online Delphi, Argument Delphi and Solver Delphi (Keeney et al., 2011).

The Delphi technique consists of a series of steps comprising the identification of the problem, the selection of the experts, the submission of the open-ended questions to the participants, the repeated submission of the structured questionnaire following the responses to the open-ended question, the analysis of the questionnaire at the end of three or more rounds and the finalization of the practice.

Once the objective of the research and the subject matter of the problem are identified, a group should be organized by ensuring the participation of the experts having relevant information and experience on the issue. The expert/s taking part in the group should be selected among the ones who have enough knowledge about the subject of the research, who are interested in the subject and/or have experience in the field, and who can also carry out a discussion about the issue (Keeney et al., 2011; Thangaratinam and Redman, 2005). The number of the experts may vary according to the purpose and design of the project, and the time required for data collection (Keeney et al., 2011). In this context, it is impossible to say that there is a consensus about the number of experts. However, Linstone and Turoff (2002) remark that seven experts have delivered the best performance in the assessment of the status within the scope of the studies carried out with numerous groups consisting of experts in different numbers while Akins et al. (2005) state that the best number of experts may vary from 10 to 100.

The number of the rounds is another important issue in the Delphi technique apart from the number of experts. Classical Delphi process consists of four rounds; nevertheless, this number may be reduced to two or three rounds as seen in the studies of Procter and Hunt (1994), Green et al. (1999), and Skulmoski et al. (2007). However, in theory, the Delphi technique continues to be applied until a consensus is reached. On the other hand, various researchers argue that three rounds are enough to obtain necessary information or to reach a consensus on an issue (Hsu and Standford, 2007). In this regard, the generally accepted number of rounds is three at the minimum if there is an open-ended question (Thangaratinam and Redman, 2005). In the light of these discussions, it is possible to say that the Delphi method used for data collection consists of three rounds, and that this number may be increased if necessary.

Traditionally, the first round begins with the demands for the comments and views of the panellists in order to form an opinion about the topic (Keeney et al., 2011). The questions on the subject matter of the research are sent to the panellists who are qualified as experts. The first round generally starts with open-ended questions (Hsu and Standford, 2007). The structured questionnaires are prepared through the combination of the feedbacks obtained from each panellist in the rounds coming after the first round. These questionnaires are then sent back to the panellists

after being analyzed (Keeney et al., 2011). The questionnaires prepared in the second round are the results of the ideas or items obtained in the first round. It may be asked whether the panellists agree upon the ideas or the items indicated in the questionnaire. Moreover, the panellists may be asked to grade the importance of these items. Generally, a Likert-type questionnaire is formed in the second round. In the third and fourth rounds, the judgements are graded so that a compromise is reached on the items of questionnaire structured after the first and second rounds. The third round is commonly used by panellists to make a better classification. The fourth round is usually the last one, and it offers an opportunity for the participants to reconsider their ideas. The list of the items, agreed upon after the other rounds, is redistributed to the panellists (Hsu and Standford, 2007).

The level of compromise should be determined in all rounds except the first round. There is no consensus on the exact level of compromise because this level may vary according to the number of samples, the aim of the research, and the resources (Hasson et al., 2000). Williams and Webb (1994) suggest that the compromise should be at the highest level, which means 100%, while this level is expected to be 90% by Hung et al. (2008). On the other hand, Loughlin and Moore (1979) claim that 51% is enough for the level of compromise.

3.1.2. Analytic hierarchy process method

AHP proposed by Thomas L.Saaty for the purpose of determining the relative importance of successive activities (Dağdeviren et al., 2009) is quite suitable for multiple-criteria decision-making problems necessitating to make a selection among many options in order to evaluate numerous measurable and unmeasurable factors together (Saaty, 1986). The basic processes required to achieve the solution in AHP, which has a fairly simple and understandable mathematical form, are shown step by step as follows with reference to Çelikbilek (2018), Yıldırım ve Önder (2014), Özbek (2018), Aktaş et al. (2015) works.

Stage 1: The main and sub-criteria of decision, the options and the objective to be achieved should be clearly defined in the first stage of the AHP.

Stage 2: In the second stage, a hierarchical structure should be established in order to reflect the relationship between the layers formed by successive elements.

Stage 3: In the third stage, pairwise comparison matrices should be constructed by means of the relative importance scale (Table 1).

Table 1: Relative Importance Scale

Degree of Importance	Definition
1	Equal Importance
3	Moderate Importance
5	Strong Importance
7	Very Strong or Demonstrated Importance
9	Extreme Importance
2, 4, 6, 8	Intermediate Values

(Saaty, 2008)

Stage 4: The fourth stage should focus on the calculation of the local weights reflecting the individual weights of the main and/or sub criteria and the global weights representing their weights within the scope of all criteria. The equation shown in Equation (1) is used for calculating the weights. In equation (1), λ_{max}, which should be calculated through the use of Equation (2) is the largest eigen value of matrix *(A)*

$$A(.)w = \lambda_{\max}(.)w, \qquad (w = w_1, w_2, ... w_n) \quad (1)$$

$$\lambda_{\max} = \frac{\sum_{j=1}^{n} a_{ij}w_j}{w_j}, \qquad (i = 1, 2, ..., n) \quad (2)$$

In Equality (1):
A : Pairwise Matrix
w : Eigenvector
n : Number of criteria

Stage 5: Consistency ratios *(CR)* of pairwise comparison matrices should be calculated in the final stage. In this step, the Consistency Index *(CI)* should be calculated in the first place through the use of Equation (3) and then the Consistency Ratio *(CR)* should be calculated through the use of Equation (4). The Random Index *(RI)* values shown in Table 2 are used for the calculation of the consistency ratio.

$$Consistency\ Index\ (CI) = \frac{\lambda_{\max} - n}{n - 1} \quad (3)$$

Table 2: Random Index *(RI)*

n	1	2	3	4	5	6	7	8	9	10
RI	0	0	0,58	0,90	1,12	1,24	1,32	1,41	1,45	1,49

(Saaty, 1987)

$$Consistency\ Ratio\ (CR) = \frac{Consistency\ Index\ (CI)}{Random\ Index\ (RI)} \quad (4)$$

If the consistency ratio calculated for the comparison matrices is less than or equal to 0,1; the eigenvector *"w"* can be used as the weighted vector after the normalization. Otherwise, the comparison matrix needs to be revised (Deng et al., 2014).

3.2. Data Collection and Analysis

It has been decided to conduct a Delphi study consisting of 3 rounds in order to determine the evaluation criteria for agritourism. A literature review has been made before the first round of the Delphi study. In this context, 124 criteria have been found in the first place in various studies (Miller 2001; Tsaur and Wang, 2007; Choi and Sirakaya, 2006; Blancas et al., 2011; Park and Yoon, 2011; Twining-Ward and Butler, 2002; Dymond, 1997; Mearns, 2012; Ko, 2001; Reed et al, 2006). Then the number of the criteria has been reduced to 66 through the elimination of repeating and/or similar criteria.

Then, it has been decided to compose a Delphi group consisting of the experts on agritourism. Strict attention has been paid to the selection of the experts who have knowledge and experience on the field. Numerous experts and academicians have been contacted, and they have been asked to contribute to the study. A Delphi group of 14 people (5 academicians, 4 experts working in the private sector and 4 experts working in the public sector) has been composed with the participation of the academicians and experts responding positively to the above-mentioned demand. Questionnaire forms prepared with Delphi technique have been delivered to the experts via e-mail, and the responses have been sent via the same platform.

In the first round of the Delphi technique, the members who do not know anything about the identity of other participants and their institutions have been asked to evaluate 66 criteria selected from the literature, to add any other criterion that they think to be necessary, and to indicate the criteria that they propose to exclude. All forms delivered to 14 experts via e-mail have been answered and sent back to the researcher. The responses of the experts have been analyzed, and it has been decided to add 13 new criteria to 66 criteria specified in the first round, and

to use 79 criteria in the second round of the Delphi technique.[1*]

In the second round of the Delphi technique, each of 14 experts has been asked to score 79 decision criteria by using the 7-point Likert scale shown in Table 3. Since 2 of 14 experts did not send their responses in the second round, these two experts have been excluded from the group and the evaluation process. In this context, the response rate of the second round turnover has been measured to be approximately 86%. The results of the second round and the statistical calculations have been sent to 12 experts via e-mail in the third and final round of the Delphi technique. All questionnaires have been responded, and the Delphi study has been completed at the end of the third round.

52 evaluation criteria have been determined for agritourism with the use of the Delphi technique, and the second stage of the study has started. The Analytic Hierarchy Process method has been used in the second stage of the study. The hierarchical structure that effectively reflects the relationship among the specified criteria has been firstly determined in this stage. Within the scope of this process, 52 evaluation criteria for agritourism have been classified into 9 main categories. 12 experts taking part in the Delphi process have been asked to participate in the study in order to calculate weights of identified criteria. The experts have positively responded to this demand; therefore, they have received via e-mails the forms prepared in accordance with the scale developed by Thomas L.Saaty and shown in Table 1. All forms have been completed and sent back. The study has been finalized after the calculation of the local and global weights of the evaluation criteria for agritourism in the light of expert opinions.

3.2.1. Determination of the evaluation criteria for agritourism via Delphi technique

The forms comprising 66 evaluation criteria compiled from the literature have been sent to the experts in the first round of the Delphi Technique which has been used for the determination of the evaluation criteria for agritourism, as stated before. The number of criteria, which was 66 in the first round, has become 79 with the addition of new suggestions. Questionnaires prepared with the use of the scale shown in Table

3 have been sent to the experts via e-mail in in the second round.

Table 3: The Evaluation Scale Used in II. and III. Rounds of the Delphi Method

Linguistics expressions	Scores corresponding to linguistics expressions
Very unimportant	1
Quite unimportant	2
Unimportant	3
Neither unimportant nor important	4
Important	5
Quite important	6
Very important	7

The questionnaires have been statistically analyzed with the help of Excel program. Median *(Med)*, first quartile *(Q1)*, third quartile *(Q3)* and range *(R)* values of the data were calculated in accordance with the experts' evaluations on the criteria. The median of a set of observations is the value in the middle if the number of observation is uneven when the observations are arranged in the order of magnitude; on the other hand, if the number of observation is even, this median is the average of the two values in the middle (Newbold, 1995). Quartiles and percentages indicate any point in comparison with other points in the distribution. The quartiles are not a range, but a point. On the other hand, the range indicates the difference between the first quartile and the third quartile (Akgül and Çevik, 2005). The small value of the range indicates that there is a compromise on the relevant criterion. In this context, it is accepted that a compromise is reached on the criteria if their range value is less than 1,2 (Zeliff and Heldenbrand , 1993).

At the end of the second round of Delphi technique, the first quartile *(Q1),* the third quartile *(Q3),* median and range *(R)* values of 79 criteria have been calculated according to the responses of the experts. Calculated range *(R)* values have demonstrated that a compromise was reached on 42 criteria in the second round of the Delphi technique.

In the third round, the experts have received the evaluations, the calculated values and the statistical explanations of these values recorded in the second round, and they have been asked to revise their evaluations. Statistical calculations have been remade by

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[1*]Since the tables occupy a lot of space, only the results of the third round in Delphi technique are shown in Table 4 while other rounds are only explained in the text.

taking into consideration the responses of the experts who revised the results and made new evaluations. In this way, the criteria agreed upon by the experts have been determined. The calculated range *(R)* values have demonstrated that Delphi technique was agreed on 52 decision criteria in the third round. The calculated median, the first quartile, the third quartile and the width values of the criteria decided in the third round are shown in Table 4. In this table, "*C*" signifies the criterion while "*j*" signifies the item number of the criteria *(j = 1, 2, ..., 79)*.

Table 4. Results of the III. Round in Delphi Technique

Cri. (C_j)	Q1	Median	Q3	R	Accept (ACC) / Rejection (REJ)		Cri. (C_j)	Q1	Median	Q3	Accept (ACC) / Rejection (REJ)
C_1	3,3	5	5,8	2,5	REJ.		C_{41}	5	5	6	ACC.
C_2	1,5	3,5	4,8	3,3	REJ.		C_{42}	5	6	7	REJ.
C_3	5	5	6	1	ACC.		C_{43}	5,3	6	6,8	REJ.
C_4	5	5,5	6	1	ACC.		C_{44}	6	6	6,8	ACC.
C_5	7	7	7	0	ACC.		C_{45}	5	5,5	6	ACC.
C_6	5	6	6,8	1,8	REJ.		C_{46}	5,3	6	7	REJ.
C_7	5	5,5	6	1	ACC.		C_{47}	6	7	7	ACC.
C_8	5	5,5	6,8	1,8	REJ.		C_{48}	6	7	7	ACC.
C_9	6	7	7	1	ACC.		C_{49}	6	7	7	ACC.
C_{10}	5	5	6	1	ACC.		C_{50}	5	6,5	7	REJ.
C_{11}	4,3	5	5,8	1,5	REJ.		C_{51}	5,3	6,5	7	REJ.
C_{12}	5	5	6	1	ACC.		C_{52}	5,3	6	6	ACC.
C_{13}	4	5	5	1	ACC.		C_{53}	5,3	6	6,8	REJ.
C_{14}	4	5	5	1	ACC.		C_{54}	5	5,5	6	ACC.
C_{15}	4	4,5	5	1	ACC.		C_{55}	4,3	5	6	REJ.
C_{16}	5	5	5	0	ACC.		C_{56}	6	6,5	7	ACC.
C_{17}	4	5	5	1	ACC.		C_{57}	6	7	7	ACC.
C_{18}	4	5	5	1	ACC.		C_{58}	5	5	5,8	ACC.
C_{19}	5	5,5	7	2	REJ.		C_{59}	5	5	6	ACC.
C_{20}	4	5	5	1	ACC.		C_{60}	6,3	7	7	ACC.
C_{21}	5	6	7	2	REJ.		C_{61}	5	5	5,8	ACC.
C_{22}	4,3	5,5	7	2,8	REJ.		C_{62}	5	5	6	ACC.
C_{23}	3	4	5	2	REJ.		C_{63}	5	5	6,5	REJ.
C_{24}	5	5,5	6	1	ACC.		C_{64}	5,3	7	7	REJ.
C_{25}	5	5	5	0	ACC.		C_{65}	5,3	6	6,8	REJ.
C_{26}	5	5	5	0	ACC.		C_{66}	5,3	6	7	REJ.
C_{27}	4	5	5	1	ACC.		C_{67}	5	5	5,8	ACC.
C_{28}	5	5	5	0	ACC.		C_{68}	5	5	6	ACC.
C_{29}	5	5	6	1	ACC.		C_{69}	5	5,5	7	REJ.
C_{30}	5	5	6	1	ACC.		C_{70}	4	5	5,8	REJ.
C_{31}	5	6,5	7	2	REJ.		C_{71}	7	7	7	ACC.
C_{32}	5	5	5,8	0,8	ACC.		C_{72}	5	6	6,8	REJ.
C_{33}	5	5	5,8	0,8	ACC.		C_{73}	5	5	6	ACC.
C_{34}	6	6	7	1	ACC.		C_{74}	5	5	6	ACC.
C_{35}	5	5	6	1	ACC.		C_{75}	5	6	6,8	REJ.
C_{36}	5	5	5	0	ACC.		C_{76}	5,3	6,5	7	REJ.
C_{37}	5	5	5	0	ACC.		C_{77}	4	5	5	ACC.
C_{38}	4	5	5	1	ACC.		C_{78}	5	5	6	ACC.
C_{39}	6	7	7	1	ACC.		C_{79}	4	5	5	ACC.
C_{40}	4,3	5	6	1,8	REJ.						

In addition to Table 4, agreed upon 52 criteria using Delphi Technique and their definitions are also shown in Table 5.

Table 5: An Agreed Upon 52 Criteria Using Delphi Technique

C_j	**Definitions of Criteria**	**ACCEPT**
C_3	Educational background	Accept
C_4	Level of income	Accept
C_5	Potential demand for agritourism	Accept
C_7	Presence and diversity of natural plants	Accept
C_9	Economic added-value of agritourism	Accept
C_{10}	Number of domestic and foreign tourists visiting the region	Accept
C_{12}	Soil-based agricultural activities	Accept
C_{13}	Ovine/caprine breeding	Accept
C_{14}	Bovine breeding	Accept
C_{15}	Poultry farming	Accept
C_{16}	Fishing	Accept
C_{17}	Beekeeping	Accept
C_{18}	Number of farms	Accept
C_{20}	Labor force employed in the agricultural activities	Accept
C_{24}	Diversity of agricultural activities and products	Accept
C_{25}	Temperature	Accept
C_{26}	Precipitation	Accept
C_{27}	Wind	Accept
C_{28}	Snow and frost	Accept
C_{29}	Soil productivity	Accept
C_{30}	Sufficiency of irrigation water	Accept
C_{32}	Lands suitable for agriculture	Accept
C_{33}	Lands suitable for animal husbandry	Accept
C_{34}	Transportability	Accept
C_{35}	Presence of endemic plant species	Accept
C_{36}	Presence of streams and rivers	Accept
C_{37}	Presence of lakes and ponds	Accept
C_{38}	Presence of plains and/or plateaus	Accept
C_{39}	Environmental and water pollution	Accept
C_{41}	Presence of natural parks	Accept
C_{44}	Traditional architecture	Accept
C_{45}	Traditional handicrafts	Accept
C_{47}	Hospitality	Accept
C_{48}	Attitude of the people in the region towards domestic tourists	Accept
C_{49}	Attitude of the people in the region towards foreign tourists	Accept
C_{52}	Perception of the personnel representing public authority towards agritourism	Accept
C_{54}	Image of the region and the people living there	Accept
C_{56}	Marketability of tourism activities	Accept
C_{57}	Marketability of agritourism	Accept
C_{58}	Presence of recreational activities	Accept
C_{59}	Presence of tourism types	Accept
C_{60}	Accommodation facilities	Accept
C_{61}	Access to public services	Accept
C_{62}	Support of non-governmental organizations	Accept
C_{67}	Processing of agricultural and livestock products	Accept
C_{68}	Sale of agricultural and livestock products	Accept
C_{71}	Promotion	Accept
C_{73}	Presence of rural roads	Accept
C_{74}	Dominance of landscape	Accept
C_{77}	Branded, specially labelled products	Accept
C_{78}	Connection to an international organization-network in agritourism	Accept
C_{79}	Number of young people in the region	Accept

3.2.2. Calculation of the evaluation criteria for agritourism by means of AHP method

In this stage, 52 decision criteria determined by means of the Delphi technique have been classified into 9 main categories in the first place. The main cri-

teria are signified by "M" in Table 6 while "M_i" signifies the "i" th main criterion (i = 1, 2, ... 9). In the same table, "C" signifies the criteria included in the third round of the delphi technique, and "C_j" signifies the "j" th sub-criterion (j=1, 2, …,79).

Table 6: Main and Sub-Criteria

Main Criteria (M_i)	Sub-criteria No (C_j)	Sub-criteria
M_1: Demographic and economic criteria	C_3	Educational background
	C_4	Income level
	C_5	Potential demand for agritourism
	C_9	Economic added value of agritourism
	C_{10}	Number of domestic and foreign tourists visiting the region
	C_{20}	Labor force employed in agricultural activities
	C_{79}	Number of young population in the region
M_2: Criteria for natural environment	C_7	**Presence and diversity of natural plants**
	C_{35}	**Presence of endemic plant species**
	C_{36}	**Presence of streams and rivers**
	C_{37}	**Presence of lakes and ponds**
	C_{38}	**Presence of plains and / or plateaus**
	C_{39}	**Environmental and water pollution**
	C_{41}	**Presence of natural parks**
	C_{74}	**Landscape dominance**
M_3: Criteria for agriculture and animal husbandry	C_{12}	Soil-based agricultural activities
	C_{13}	Ovine/caprine breeding
	C_{14}	Bovine breeding
	C_{15}	Poultry farming
	C_{16}	Fishing
	C_{17}	Beekeeping
	C_{18}	Number of farms
	C_{24}	Diversity of agricultural activities and products
	C_{67}	Processing of agricultural and livestock products
	C_{68}	Sale of agricultural and livestock products
M_4: Criteria for climate	C_{25}	**Temperature**
	C_{26}	**Precipitation**
	C_{27}	**Wind**
	C_{28}	**Snow and frost condition**
M_5: Criteria for land and land structure	C_{29}	Soil productivity
	C_{30}	Irrigation water sufficiency
	C_{32}	Convincing land condition
	C_{33}	Land suitable for animal husbandry
	C_{34}	Transportability
	C_{73}	Presence of rural roads
M_6: Criteria related to cultural and historical values	C_{44}	**Traditional architecture**
	C_{45}	**Traditional handicrafts**
	C_{47}	**Hospitality**

M_7: Marketing related criteria	C_{54}	Image of the region and the people living there
	C_{56}	Marketability of tourism activities
	C_{57}	Agritourism marketability
	C_{58}	Presence of recreational activities
	C_{59}	The presence of tourism types
	C_{60}	Accommodation facilities
	C_{71}	Promotion
	C_{77}	Branded, specially labelled products
M_8: Criteria for supporting activities	C_{61}	**Access to public services**
	C_{62}	**Support of non-governmental organizations**
	C_{78}	**Connection to an international organization & network in agritourism**
M_9: Psychological criteria	C_{48}	Attitude of the people in the region towards domestic tourists
	C_{49}	Attitude of the people in the region towards foreign tourists
	C_{52}	Perception of the personnel representing public authority towards agritourism

12 experts have been asked to send their individual evaluations on the main and sub-criteria in order to calculate the weights of the criteria. The scale developed by Thomas L.Saaty and shown in Table 1 has been used for this purpose. The geometric mean of the individual evaluations has been calculated in order to obtain the judgment of the group through the analysis of individual evaluations. Pairwise comparison matrices have been constructed in this way. These matrices are shown in the Table 7-16 below.

Table 7: Pairwise comparison matrix for main criteria

Criteria	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8	M_9
M_1	1	0,25	0,33	0,33	0,5	0,25	0,5	2	1
M_2	4	1	1	3	1	1	1	4	2
M_3	3	1	1	1	1	1	1	3	1
M_4	3	0,33	1	1	0,5	0,5	1	2	2
M_5	2	1	1	2	1	1	1	2	2
M_6	4	1	1	2	1	1	2	2	2
M_7	2	1	1	1	1	0,5	1	3	3
M_8	0,5	0,25	0,33	0,5	0,5	0,5	0,33	1	1
M_9	1	0,5	1	0,5	0,5	0,5	0,33	1	1

Table 8: Pairwise comparison matrix for demographic and economic criteria

Criteria	C_3	C_4	C_5	C_9	C_{10}	C_{20}	C_{79}
C_3	1	2	0,25	0,2	0,25	1	0,5
C_4	0,5	1	0,33	0,2	0,33	0,5	0,33
C_5	4	3	1	2	1	6	3
C_9	5	5	0,5	1	1	3	2
C_{10}	4	3	1	1	1	4	2
C_{20}	1	2	0,17	0,33	0,25	1	1
C_{79}	2	3	0,33	0,5	0,5	1	1

Table 9: Pairwise comparison matrix for natural environment criteria

Criteria	C_7	C_{35}	C_{36}	C_{37}	C_{38}	C_{39}	C_{41}	C_{74}
C_7	1	2	0,5	0,5	2	0,5	0,5	0,33
C_{35}	0,5	1	0,5	0,33	1	0,5	0,33	0,33
C_{36}	2	2	1	0,5	2	1	1	0,33
C_{37}	2	3	2	1	3	0,5	0,5	0,25
C_{38}	0,5	1	0,5	0,33	1	0,5	0,5	0,33
C_{39}	2	2	1	2	2	1	1	1
C_{41}	2	3	1	2	2	1	1	0,33
C_{74}	3	3	3	4	3	1	3	1

Table 10: Pairwise comparison matrix for climate criteria

Criteria	C_{25}	C_{26}	C_{27}	C_{28}
C_{25}	1	2	2	1
C_{26}	0,5	1	2	1
C_{27}	0,5	0,5	1	0,5
C_{28}	1	1	2	1

Table 11: Pairwise comparison matrix for agriculture and animal husbandry criteria

Criteria	C_{12}	C_{13}	C_{14}	C_{15}	C_{16}	C_{17}	C_{18}	C_{24}	C_{67}	C_{68}
C_{12}	1	2	2	2	2	2	2	1	1	0,5
C_{13}	0,5	1	2	2	2	2	1	0,33	0,5	0,33
C_{14}	0,5	0,5	1	1	2	2	2	0,33	0,5	0,33
C_{15}	0,5	0,5	1	1	1	1	0,5	0,25	0,33	0,25
C_{16}	0,5	0,5	0,5	1	1	1	2	0,25	0,2	0,2
C_{17}	0,5	0,5	0,5	1	1	1	1	0,33	0,33	0,33
C_{18}	0,5	1	0,5	2	0,5	1	1	0,33	0,25	0,25
C_{24}	1	3	3	4	4	3	3	1	1	0,5
C_{67}	1	2	2	3	5	3	4	1	1	1
C_{68}	2	3	3	4	5	3	4	2	1	1

Table 12: Pairwise comparison matrix for land and land structıre criteria

Criteria	C_{29}	C_{30}	C_{32}	C_{33}	C_{34}	C_{73}
C_{29}	1	1	1	1	0,33	0,5
C_{30}	1	1	1	1	0,5	0,5
C_{32}	1	1	1	1	0,5	1
C_{33}	1	1	1	1	0,33	2
C_{34}	3	2	2	3	1	4
C_{73}	2	2	1	0,5	0,25	1

Table 13: Pairwise comparison matrix for cultural and historical criteria

Criteria	C_{44}	C_{45}	C_{47}
C_{44}	1	2	0,5
C_{45}	0,5	1	0,5
C_{47}	2	2	1

Table 14: Pairwise comparison matrix for marketing criteria

Criteria	C_{54}	C_{56}	C_{57}	C_{58}	C_{59}	C_{60}	C_{71}	C_{77}
C_{54}	1	0,5	0,5	0,5	0,5	0,5	0,33	0,5
C_{56}	2	1	1	1	2	0,5	1	2
C_{57}	2	1	1	3	2	1	2	3
C_{58}	2	1	0,33	1	0,5	0,33	0,33	1
C_{59}	2	0,5	0,5	2	1	0,5	0,5	1
C_{60}	2	2	1	3	2	1	1	3
C_{71}	3	1	0,5	3	2	1	1	3
C_{77}	2	0,5	0,33	1	1	0,33	0,33	1

Table 15: Pairwise comparison matrix for supporting activities criteria

Criteria	C_{61}	C_{62}	C_{78}
C_{61}	1	0,5	0,5
C_{62}	2	1	1
C_{78}	2	1	1

Table 16: Pairwise comparison matrix for psychological criteria

Criteria	C_{48}	C_{49}	C_{52}
C_{48}	1	1	2
C_{49}	1	1	1
C_{52}	0,5	1	1

After the construction of the pairwise comparison matrices, the normalized pairwise comparison matrices and the priority vector have been constructed, respectively. In the next phase, the local and global weights of the criteria have been calculated with excel. After the determination of the local and global weights, calculations have been made in order to find out whether the inconsistency is at an acceptable level for all pairwise comparison matrices. These calculations have shown that the Consistency Ratios in all matrices are less than 0,1. Accordingly, it has been concluded that the inconsistency is at an acceptable level for all pairwise comparison matrices.

According to the results of the calculations on the main criteria, the consistency ratio of the pairwise comparison matrix constructed for the main criteria is 0,032666. This ratio indicates that the inconsistency of the pairwise comparison matrix for the main criteria is at an acceptable level. The main criteria included in the calculations are respectively given as follows: "Criteria for natural environment", "Criteria related to cultural and historical values", "Criteria related for land and land structure", "Criteria related to marketing", "Criteria for agriculture and animal husbandry", "Criteria for climate", "Psychological criteria", "Demographic and economic criteria" and "Criteria for supporting activities". The weights of the first 6 main criteria range from 10% to 16% while the weights of the last three main criteria range from 5% to 6%. The results reveal that "psychological criteria", "demographic and economic criteria" and "criteria related to supporting activities" which are among the main criteria for the decision-making group are less important in terms of agritourism than the other six criteria. The criteria rela-

ted to the natural environment have been found to be the most significant category in terms of agritourism with its weight of 0,167463. In addition to this, CI and CR values and weights calculated for the sub-criteria are given in Table 17.

Table 17: λ max, CI, RI and CR Values For Pairwise Comparison Matrices

Main Criteria λ_{max}=9,378920 CI=0,047365 RI=1,45 CR=0,032666	Weights of Main Criteria	Criteria No (C_j)	Sub-criteria	Local Weights	Global Weights	λ_{max}, CI, RI and CR Values
M_1: Demographic and economic criteria	0,055539	C_3	Educational background	0,062812	0,003489	λ_{max}=7,269078 CI=0,044846 RI=1,32 CR=0,033975
		C_4	Income level	0,050244	0,002791	
		C_5	Potential demand for agritourism	0,278282	0,015456	
		C_9	Economic added value of agritourism	0,213709	0,011869	
		C_{10}	Number of domestic and foreign tourists visiting the region	0,219119	0,012170	
		C_{20}	Labor force employed in agricultural activities	0,070437	0,003912	
		C_{29}	Number of young population in the region	0,105396	0,005884	
M_2: Criteria for natural environment	0,167463	C_7	Natural plant existence and diversity	0,081364	0,013625	λ_{max}=8,417494 CI=0,059642 RI=1,41 CR=0,042299
		C_{35}	Presence of endemic plant species	0,056683	0,009492	
		C_{36}	Presence of rivers and rivers	0,115957	0,019419	
		C_{37}	Presence of lakes and ponds	0,129181	0,021633	
		C_{38}	Presence of plains and / or plains	0,059397	0,009947	
		C_{39}	Environmental and water pollution	0,155021	0,025960	
		C_{41}	Presence of natural parks	0,140899	0,023595	
		C_{24}	Landscape dominance	0,261498	0,043791	
M_3: Criteria for agriculture and animal husbandry	0,129467	C_{12}	Soil-based agricultural activities	0,119696	0,015497	λ_{max}=10,352701 CI=0,039189 RI=1,49 CR=0,026301
		C_{13}	Ovine/caprine breeding	0,079793	0,010331	
		C_{14}	Bovine breeding	0,069886	0,009048	
		C_{15}	Poultry farming	0,047390	0,006135	
		C_{16}	Fishing	0,048287	0,006252	
		C_{17}	Beekeeping	0,049482	0,006406	
		C_{18}	Number of farms	0,052672	0,006819	
		C_{24}	Diversity of agricultural activities and products	0,161466	0,020905	
		C_{67}	Processing of agricultural and livestock products	0,162904	0,021091	
		C_{68}	Sale of agricultural and livestock products	0,208423	0,026984	
M_4: Criteria for climate	0,102733	C_{25}	Temperature	0,337302	0,034652	λ_{max}=4,060574; CI=0,020191; RI=0,900000; CR=0,022435
		C_{26}	Precipitation	0,240079	0,024664	
		C_{27}	Wind	0,140873	0,014472	
		C_{28}	Snow and frost condition	0,281746	0,028944	

Table 17 (Continued): λ_{Max}, CI, RI and CR Values For Pairwise Comparison Matrices

Main Criteria	Weights of Main Criteria	Criteria No (C_j)	Sub-criteria	Local Weights	Global Weights	λ_{max}, CI, RI and CR Values
M_5: Criteria for land and land structure	0,135705	C_{29}	Soil productivity	0,113543	0,015408	λ_{max}=6,273723 CI=0,054745 RI=1,24 CR=0,044149
		C_{30}	Irrigation water sufficiency	0,123280	0,016730	
		C_{32}	Convincing land condition	0,132539	0,017986	
		C_{33}	Land suitable for animal husbandry	0,141321	0,019178	
		C_{34}	Transportability	0,342856	0,046527	
		C_{73}	Presence of rural roads	0,146461	0,019876	
M_6: Criteria related to cultural and historical values	0,160162	C_{44}	Traditional architecture	0,311905	0,049955	λ_{max}=3,053742; CI=0,026871; RI=0,58; CR=0,046329
		C_{45}	Traditional handicrafts	0,197619	0,031651	
		C_{47}	Hospitality	0,490476	0,078556	
M_7: Criteria related to marketing	0,129973	C_{54}	Image of the region and the people living there	0,061029	0,007932	λ_{max}=8,324781 CI=0,046397 RI=1,41 CR=0,032906
		C_{56}	Marketability of tourism activities	0,136479	0,017738	
		C_{57}	Agritourism marketability	0,193713	0,025177	
		C_{58}	Presence of recreational activities	0,077559	0,010081	
		C_{59}	The presence of tourism types	0,095039	0,012352	
		C_{60}	Accommodation facilities	0,191120	0,024840	
		C_{71}	Promotion	0,170153	0,022115	
		C_{77}	Branded, specially labelled products	0,074908	0,009736	
M_8: Criteria for supporting activities	0,051070	C_{61}	Access to public services	0,200000	0,010214	λ_{max}=3,000000; CI=0,00000; RI=0,58; CR=0,000000
		C_{62}	Support of non-governmental organizations	0,400000	0,020428	
		C_{78}	Connection to an international organization & network in agritourism	0,400000	0,020428	
M_9: Psychological criteria	0,067887	C_{48}	Attitude of the people in the region towards domestic tourists	0,411111	0,027909	λ_{max}=3,053656; CI=0,026828; RI=0,58; CR=0,046255
		C_{49}	Attitude of the people in the region towards foreign tourists	0,327778	0,022252	
		C_{52}	Perception of the personnel representing public authority towards agritourism	0,261111	0,017726	

According to Table 17, the main demographic and economic criterion, which has a weight of 0,055539 includes 7 sub-criteria. These sub-criteria have been arranged according to their local and global weights and listed respectively in the following order: "Potential demand for agritourism", "Number of domestic and foreign tourists visiting the region", "Economic added-value of agritourism", "Number of young people in the region", "Labor force employed in agricultural activities", "Educational background" and "Income level". "The potential demand for agritourism" has been found to be the most important sub-criterion with its local weight of 0,278282 and global weight of 0,015456 within the scope of the main "economic and demographic" criterion. "Income level", on the other hand, have been determined to be the least important sub-criteria with its local weight of 0,050244 and global weight of 0,002791.

The main criterion related to natural environment, which has a weight of 0,167463; includes 8 sub-criteria. These sub-criteria have been arranged according to their local and global weights and listed respectively in the following order: "Landscape dominance", "Environmental and water pollution", "Presence of natural parks", "Presence of lakes and ponds", "Presence of streams and rivers", "Presence and diversity of natural plants", "Presence of plains and/or plateaus" and "Presence of endemic plant species". "The dominance of landscape" has been found to be the most significant sub-criterion with its local weight of 0,261498 and global weight of 0,043791 within the scope of the main criterion related to the "natural environment". "Presence of endemic plant species" has been revealed to be the least important sub-criterion with its local weight of 0,056683 and global weight of 0,009492.

There are 10 sub-criteria within the scope of the main criterion related to "agriculture and animal husbandry", which has a weight of 0,129467. These sub-criteria have been respectively listed according to their local and global weight as follows: "Sale of agricultural and livestock products", "Processing of agricultural and livestock products", "Diversity of agricultural activities and products", "Soil-based agricultural activities", "Ovine/caprine breeding", "Bovine breeding", "Number of farms", "Beekeeping", "Fishing" and "Poultry farming". "The sale of agricultural and livestock products" has been found to be the most significant sub-criterion with its local weight of 0,208423 and global weight of 0,026984 within the scope of the main criterion related to the "agriculture and animal husbandry". The

least important sub-criterion is "the poultry farming" with its local weight of 0,047390 and global weight of 0,006135.

There are 4 sub-criteria within the scope of the main criterion related to "climate" having a weight of 0,102733. These sub-criteria are listed according to their local and global weights as follows: "Temperature", "Snow and frost condition", "Precipitation" and "Wind". The "temperature" has been found to be the most significant sub-criterion with its local weight of 0,337302 and global weight of 0,034652 within the scope of the main criterion related to the "climate". The "wind" is the least significant sub-criterion with its local weight of 0,140873 and global weight of 0,014472.

6 sub-criteria have been included within the scope of the main criterion related to "land and land structure" having a weight of 0,135705. These sub-criteria have been arranged according to their local and global weights and listed respectively in the following order: "Transportability", "Presence of rural roads", "Lands suitable for animal husbandry", "Lands suitable for agriculture", "Sufficiency of irrigation water" and "Soil productivity". "Transportability" has been found to be the most important sub-criterion with its local weight of 0,342856 and global weight of 0,046527 within the scope of the main criterion related to "land and land structure". In this context, the least important sub-criterion is the "soil productivity" with its local weight of 0,113543 and global weight of 0,015408.

3 sub-criteria have been included within the scope of the main criterion related to "cultural and historical values" which has a weight of 0,160102. These sub-criteria are respectively listed according to their local and global weights as follows: "Hospitality", "Traditional architecture" and "Traditional handicrafts". The sub-criterion of "hospitality" has a local weight of 0,490476 and a global weight of 0,078556. The local weight of the sub-criterion of "traditional architecture" is 0,311905 while its global weight is 0,049955. Finally, the local weight of the sub-criterion of "traditional handicrafts" is 0,197619 and its global weight is 0,031651.

There are 8 sub-criteria within the scope of the main criterion related to "marketing", which has a weight of 0,129973. These sub-criteria are listed according to their local and global weights as follows: "Marketability of agritourism", "Accommodation facilities", "Promotion", "Marketability of tourism activities", "Presence of tourism types", "Presence of recreational activities", "Branded, specially labelled products" and

"Image of the region and the people living there". The "marketability of agritourism" is the most significant sub-criterion with a local weight of 0,193713 and a global weight of 0,025177 within the scope of the main criterion of "marketing". The least important sub-criterion is "the image of the region and the people living there" with a local weight of 0,061029 and a global weight of 0,007932.

3 sub-criteria have been included within the scope of the main criterion related to "supporting activities" having a weight of 0,051070. These sub-criteria are respectively listed according their local and global weights as follows: "Support of non-governmental organizations", "Connection to an international organization & network in agritourism" and "Access to public services". The local and global weights of the sub-criteria entitled "the support of non-governmental organization" and "the connection to an international organization & network in agritourism" have been found to be equal. The local weight of these sub-criteria has been calculated as 0,400000 while their global weight has been recorded as 0,020428. The local weight of the sub-criterion entitled "access to public services" is 0,200000 while its global weight has been calculated as 0,010214.

Finally, there are 3 sub-criteria within the scope of the main "psychological" criterion, which has a weight of 0,067887. These sub-criteria have been arranged according to their local and global weights and listed respectively in the following order: "Attitude of the people in the region towards domestic tourists", "Attitude of the people in the region towards foreign tourists" and "Perception of the personnel representing public authority towards agritourism". The sub-criterion entitled "the attitude of the people in the region towards domestic tourists" has a local weight of 0,411111 and a global weight of 0,027909. The sub-criterion entitled "the attitude of the people in the region towards foreign tourists" has a local weight of 0,327778 and a global weight of 0,022252. The sub-criterion entitled "perception of the personnel representing public authority towards agritourism" has a local weight of 0,261111 and a global weight of 0,017726.

4. CONCLUSION AND RECOMMENDATIONS

This study has been carried out for the purpose of contributing to the elimination of the negative situations in the planning process of the agritourism, and due to the lack of evaluation criterion in the literature for determining whether a region is suitable for agritourism or not. From this point of view, in this study, it has been aimed to determine the evaluation criteria, which can be used to compare the potentials of agricultural regions in terms of agritourism and to calculate their weights.

The Delphi technique, which is based on the acquisition of experts' opinions, has been used to determine the evaluation criteria for agritourism. In this way, the decision criteria agreed upon by the experts have been determined. 52 decision criteria agreed upon on the issue of agritourism have been listed with the use of the Delphi technique. These criteria have not been mentioned here since they have been elaborated in detail in the previous sections. After the determination of the criteria, it has been needed to calculate their weights. For this purpose, it has been used AHP.

The results obtained from the AHP have illustrated that the main criteria are listed according to their significance level as follows: "Criteria related to natural environment", "Criteria related to cultural and historical values", "Criteria for land and land structure", "Criteria related to marketing", "Criteria for agriculture and animal husbandry", "Criteria for climate", "Psychological criteria", "Demographic and economic criteria" and "Criteria for supporting activities".

When the sub-criteria have been evaluated within their own scope, it has been found out that the most significant demographic and economic criterion is the sub-criterion of potential demand for agritourism while the least significant sub-criterion is the level of income; that the most significant sub-criterion related to natural environment is the dominance of landscape while the least significant sub-criterion is the presence of plains and/or plateaus; that the most important sub-criterion related to agriculture and animal husbandry is the sale of agricultural and animal products while the least important sub-criterion is the poultry breeding; that the most significant sub-criterion related to climate is the temperature while the least significant sub-criterion is the wind; that the most significant sub-criterion related to land and land structure is the transportability while the least significant sub-criterion is the soil fertility; that the most significant sub-criterion related to cultural and historical values is the hospitality while the least significant sub-criterion is the traditional handicrafts; that the most significant sub-criterion related to marketing is the marketability of the agritourism while the least significant sub-criterion is the image of the region

and the people living there; that the most significant sub-criteria related to supporting activities are the support of non-governmental organizations and the connection to an international organization/network while the least significant sub-criterion is the access to public services; the most significant psychological sub-criterion is the attitude of the people living in the region towards domestic tourists while the least significant sub-criterion is the perception of the personnel representing public authority towards agritourism.

The research shows that agritourism can contribute to the reduction of the growing gap between people and nature because the results of the analysis have indicated that the most important criteria in terms of agritourism are the ones related to the natural environment. However, the criteria of traditional architecture, dominance of landscape and transportability are listed in the first three places respectively in the order of significance for the criteria. This ranking among the sub-criteria indicates the importance of the region

selection for agritourism projects. The results of the analysis illustrate that agritourism is a touristic activity providing an opportunity for the tourists to meet the nature, to know the traditional lifestyle and architecture and to have access to the natural products on condition that the selected region is suitable for agritourism.

It is important to note that the study has been conducted in Turkey although the relevant criteria have been determined to be used in any region for the evaluation of agritourism potentials, and that the results obtained in this study might not be applicable in different countries. A research that will be carried out with a higher rate of participation from different countries will abolish this limitation to some extent. Moreover, it should be remembered that numerous decision-making techniques including Delphi and AHP can be used in the further studies, which rankings and selections can be made for regions through the use of these techniques.

REFERENCES

Ahipaşaoğlu , S. & Çeltek, E. (2006). *Sürdürülebilir Kırsal Turizm*. Gazi Kitabevi, Ankara

Aikaterini, G., Ioannis, S., & Thanasis, K. (2001). Is agrotourism 'agro'or 'tourism'? Evidence from agrotourist holdings in Lesvos, Greece. *Anatolia*, *12* (1), 6-22.

Akgül, A. ve Çevik, O. (2005). İstatistiktiksel Analiz Teknikleri "SPSS"te İşletme Yönetimi Uygulamaları". Emek Ofset, Ankara.

Akins, R. B., Tolson, H., & Cole, B. R. (2005). Stability of response characteristics of a Delphi panel: application of bootstrap data expansion. *BMC medical research methodology*, *5* (1), 1-12.

Aktaş, R., Doğanay, M.M., Gökmen, Y., Gazibey, Y., & Türen, U. (2015). *Sayısal Karar Verme Yöntemleri*. Beta Yayınları, İstanbul.

Blancas, F. J., Lozano-Oyola, M., González, M., Guerrero, F. M., & Caballero, R. (2011). How to use sustainability indicators for tourism planning: The case of rural tourism in Andalusia (Spain). *Science of the Total Environment*, *412*, 28-45.

Briedenhann, J., & Butts, S. (2006). Application of the Delphi technique to rural tourism project evaluation. *Current Issues in Tourism*, *9* (2), 171-190.

Busby, G. & Rendle, S. (2000). The Transition From Tourism on Farms to Farm Tourism,.*Tourism Management*, 21 (6),635-642.

Çelikbilek, Y. (2018). Çok Kriterli Karar Verme Yöntemleri Açıklamalı ve Karşılaştırmalı Sağlık Bilimleri Uygulamaları İle (Editör: D.Muhlis Özdemir). Nobel Yayınları, Ankara.

Choi, H. C., & Sirakaya, E. (2006). Sustainability indicators for managing community tourism. *Tourism management*, *27* (6), 1274-1289.

Dağdeviren, M.; Yavuz, S. ve Kılınç, N. (2009). Weapon Selection Using the AHP and TOPSIS Methods Under Fuzzy Environment. *Expert Systems with Applications*, 36, 8143-8151.

Dalkey, N., & Helmer, O. (1963). An experimental application of the Delphi method to the use of experts. *Management science*, *9* (3), 458-467.

Deng, X., Hu, Y., Deng, Y., Mahadevan, S. (2014). Supplier selection using AHP methodology extended by D numbers. *Expert Systems with Applications*, 41, 156-167.

Dymond, S. J. (1997). Indicators of sustainable tourism in New Zealand: A local government perspective. *Journal of sustainable tourism*, *5* (4), 279-293.

Fischer, R. G. (1978). The Delphi method: a description, review and criticism. *Journal of Academic Librarianship*, *4*(2), 64-70.

Fusfeld, A. R., & Foster, R. N. (1971). The Delphi technique: Survey and comment: Essentials for corporate use. *Business Horizons*, *14* (3), 63-74.

Gordean, R. S., Buzilă, N., & Dragotă, G. (2009). Agrotourism-a viable alternative of county development. *Agricultural Management/Lucrari Stiintifice Seria I, Management Agricol*, 11 (4).

Green, B., Jones, M., Hughes, D., & Williams, A. (1999). Applying the Delphi technique in a study of GPs' information requirements. *Health & social care in the community*, *7* (3), 198-205.

Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of advanced nursing*, *32* (4), 1008-1015.

Hsu, C. C., & Sandford, B. A. (2007). The Delphi technique: making sense of consensus. *Practical assessment, research & evaluation*, *12* (10), 1-8.

Hung, H. L., Altschuld, J. W., & Lee, Y. F. (2008). Methodological and conceptual issues confronting a cross-country Delphi study of educational program evaluation. *Evaluation and Program Planning*, *31* (2), 191-198.

Hunter, C., & Shaw, J. (2007). The ecological footprint as a key indicator of sustainable tourism. *Tourism management*, *28* (1), 46-57.

Iakovıdou, O., Emmanouılıdou, M., Stavrakas, T., Sımeonıdou, P., & Chrısostomıdıs, C. D. (2001). Trends of tourism market for agro-tourism. *Anatolia*, *12* (2), 165-179.

Jolson, M. A., & Rossow, G. L. (1971). The Delphi process in marketing decision making. *Journal of Marketing Research*, 443-448.

Keeney, S., McKenna, H., & Hasson, F. (2011). *The Delphi technique in nursing and health research*. John Wiley & Sons.

Kılıç, B., & Kurnaz, A. (2010). Alternative Tourism and Ecological Farms on Creating Diversification of Tourism Product: Example of Pastoral Valley. *Journal of Business Research-Turk*, *2* (4), 39-56.

Kızılaslan, N., & Ünal, T. (2013). Determination of Rural Tourism Potential of Manisa Spil Mountain National Park, *Gaziosmanpasa Journal of Scientific Research,* (7), 10-29.

Ko, J. T. (2001). Assessing progress of tourism sustainability. *Annals of Tourism Research*, *28* (3), 817-820.

Kozak Akoğlan, M. & Bahçe, A. S. (2009). Özel İlgi Turizmi, Detay Yayıncılık, Ankara.

Landeta, J. (2006). Current validity of the Delphi method in social sciences. *Technological forecasting and social change*, 73 (5), 467-482.

Linstone, H. & Turoff, M. (2002). The Delphi method: Techniques and applications. *Retrieved March.*

López, E. P., & García, F. J. C. (2006). Agrotourism, sustainable tourism and ultraperipheral areas: the case of Canary Islands. *PASOS. Revista de Turismoy Patrimonio Cultural*, 4 (1), 85-97.

Loughlin, K. G., & Moore, L. F. (1979). Using Delphi to achieve congruent objectives and activities in a pediatrics department. *Academic Medicine*, *54* (2), 101-106.

McKenna, H. P. (1994). The Delphi technique: a worthwhile research approach for nursing?. *Journal of advanced nursing*, 19(6), 1221-1225.

Mearns, K. (2012). Lessons from the application of sustainability indicators to community-based ecotourism ventures in Southern Africa. *African Journal of Business Management*, 6 (26), 7851-7860.

Miller, G. (2001). The development of indicators for sustainable tourism: results of a Delphi survey of tourism researchers. *Tourism management*, 22 (4), 351-362.

Möller, P., M. Thulemark, Engström C. (2014). *Rural tourism an international perspective* (Edithor: Katherine Dashper). Newcastle-upon-Tyne, UNITED KINGDOM: Cambridge Scholars Publishing.

Newbold, P. (1995). İşletme ve İktisat için İstatistik (Çeviren: Ümit Şenesen), Literatür Yayıncılık.

Özbek, A. (2017). Çok Kriterli Karar Verme Yöntemleri ve Excel İle Problem Çözümü Kavram-Teori-Uygulama, Seçkin Yayınları, Ankara

Park, D. B., & Yoon, Y. S. (2011). Developing sustainable rural tourism evaluation indicators. *International Journal of Tourism Research*, 13 (5), 401-415.

Phillip, S., Hunter, C., & Blackstock, K. (2010). A typology for defining agritourism. *Tourism Management*, 31 (6), 754-758.

Procter, S., & Hunt, M. (1994). Using the Delphi survey technique to develop a professional definition of nursing for analysing nursing workload. *Journal of advanced nursing*, 19 (5), 1003-1014.

Reed, M. S., Fraser, E. D., & Dougill, A. J. (2006). An adaptive learning process for developing and applying sustainability indicators with local communities. *Ecological economics*, *59* (4), 406-418.

Saaty, T.L. (1986). Axiomatic Foundation of the Analytic Hierarchy Process, *Management Science*. 32 (7), 841-855.

Saaty, T.L. (1987). The Anaytic Hierarchy Process – What It Is and How It Is Used, *Mathl.Modelling,* 9, 3-5, 161-176.

Saaty, T.L. (2008). Decision making with the analytic hierarchy process. *Int. J. Services Sciences*, 1 (1), 83-98.

Sarıkamış, M. ve Bahar, O. (2013). *Turizm, Yoksulluk ve Bölgesel Gelişmişlik Farklılıkları*, Detay Yayıncılık, Ankara.

Sharpley, R. (2002). Rural tourism and the challenge of tourism diversification: the case of Cyprus. *Tourism management*, 23 (3), 233-244.

Siow, M. L., Abidin, Z.Z., Nair, V., Ramachandran, S.& Shuid, A. (2011). Developing criteria and indicators for responsible rural tourism in Taman Negara National Park (TNNP), Malaysia, *The Malaysian Forester*, 74 (2):143-156.

Skulmoski, G. J., Hartman, F. T., & Krahn, J. (2007). The Delphi method for graduate research. *Journal of information technology education*, *6*, 1.

Thangaratinam, S., & Redman, C. W. (2005). The delphi technique. *The obstetrician & gynaecologist*, 7 (2), 120-125.

Tsaur, S. H., & Wang, C. H. (2007). The evaluation of sustainable tourism development by analytic hierarchy process and fuzzy set theory: An empirical study on the Green Island in Taiwan. *Asia Pacific Journal of Tourism Research*, 12 (2), 127-145.

Twining-Ward, L., & Butler, R. (2002). Implementing STD on a small island: Development and use of sustainable tourism development indicators in Samoa. *Journal of Sustainable Tourism*, 10 (5), 363-387.

Van de Ven, A. H., & Delbecq, A. L. (1974). The effectiveness of nominal, Delphi, and interacting group decision making processes. *Academy of management Journal*, 17 (4), 605-621.

Williams, P. L., & Webb, C. (1994). The Delphi technique: a methodological discussion. *Journal of advanced nursing*, 19 (1), 180-186.

Woudenberg, F. (1991). An evaluation of Delphi. *Technological forecasting and social change*, 40 (2), 131-150.

Yavuzaslanoğlu, E., & Yavuz, M. (2012). *Agritourism Potantial of Karaman. Journal of Social and Economic Research*, 2012 (1), 31-33.

Yıldırım, B.F., & Önder, E. (2014). İşletmeciler, Mühendisler ve Yöneticiler için Operasyonel, Yönetsel ve Stratejik Problemlerin Çözümünde Çok Kriterli Karar Verme Yöntemleri, Dora Yayıncılık, Bursa.

Zeliff, N., & Heldenbrand, S. (1993). What's being done in the international business curriculum. *Business Education Forum,* 48 (1), 23-25.

Risk İştahı Endeksinin Markov Rejim Modeli ile İncelenmesi: Türkiye Örneği

Investigating the Risk Appetite Index with Markov Regime Model: Case of Turkey

Saffet AKDAĞ[1]
Ömer İSKENDEROĞLU[2]

https://orcid.org/0000-0001-9576-6786
https://orcid.org/0000-0002-3407-1259

ÖZ

Finansal pazarlar içsel ve dışsal faktörlere bağlı olarak dinamik şekilde hareket ederler. Yatırımcıların risk iştahı da finansal pazarların hareketliliğinde önemli bir etkendir. Risk iştahı endeksi Merkezi Kayıt Kuruluşu tarafından yayınlanan bir veri olup pazar ve yatırımcılar için pozisyon alma açısından kritik öneme sahiptir. Bu çalışmada tüm yatırımcılara ait risk iştahı endeksinin parametrik olarak rejimlere ayrılıp ayrılmadığı incelenmeye çalışılmıştır. Bu bağlamda risk iştahı endeksinin 2008 - 2016 dönemleri arası haftalık verilerinden yararlanılarak Markov Rejim Modeli ile bir dizi analiz gerçekleştirilmiştir. Çalışmadan elde edilen sonuçlar risk iştahının yüksek oynaklıklı ve düşük oynaklıklı rejimlere ayrılabildiğini ortaya koymaktadır. Ayrıca ekonomik kriz, siyasi istikrarsızlık ile dünyada ve Türkiye'de artan terör olaylarının risk iştahının yüksek oynaklıklı dönemine denk geldiği sonucuna da ulaşılmıştır.

Anahtar Kelimeler: Risk İştahı, Markov Rejim Modeli, Doğrusal Olmama

ABSTRCAT

Financial markets changes dynamically along with many internal and external factors. Investors' risk appetite is one of the key elements of volatility in financial markets. Risk appetite indexes are data published by the Central Securities Depository Institution having importance in terms of positioning besides determination for markets and investors. In this study, it is examined whether or not the calculated risk appetite index of all investors in Turkey is separated into regimes parametrically. On this respect, an analysis of Markov Regime Model has been employed on risk appetite index of all investors utilizing the weekly frequency data spanning from 2008 to 2016. The results from the study reveals that the risk appetite can be divided into high volatility and low volatility regimes parametrically. In addition, the economic crisis, political instability, increasing terror attacks in the World and Turkey are found to occur during the period of high volatility regime of risk apetite.

Key Words: Risk Appetite, Markov Regime Model, Nonlinear

Sermaye piyasaları fon fazlası olan yatırımcıların uzun vadeli yatırımlar gerçekleştirdikleri piyasalardır. Yatırımcılar risk ve getiri tercihlerine göre farklı menkul kıymetler arasından seçim gerçekleştirirler. Ancak çoğu zaman piyasa dinamikleri yatırım sürecinde belirleyici olur. Piyasaların artışı ve azalışı yatırımcılar açısından belirleyici yatırım kararlarının alınmasına neden olabilmektedir. Akademik literatürde ve finans çevrelerince bu artış ve azalışlar boğa ve ayı piyasası olarak adlandırılmaktadır. Boğa ve ayı piyasası olarak sınıflandırmanın ortaya çıkışı hakkında literatürde net bir bilgi bulunmamakla birlikte finans çevreleri tarafından en çok kabul gören açıklama bu hayvanların kurbanlarına saldırma biçimleriyle alakalı olduğudur. Boğa saldırıları hakkında en belirgin özellikleri çarpma anında boynuzları ile kurbanını havaya kaldırmaları, ayı saldırılarında ise pençelerini aşağıya kurbanına doğru indirmeleridir (Aydoğan 2013:25). Bu ise artış ve azalışın hangi piyasa şeklinde sınıflandırıldığı konusunda bilgi sağlamaktadır.

[1] Dr.Öğretim Üyesi, Yozgat Bozok Üniversitesi, İİBF, Bankacılık ve Finans, Yozgat, saffet.akdag@bozok.edu.tr
[2] Prof.Dr., Niğde Ömer Halisdemir Üniversitesi, İİBF, İşletme, Niğde, oiskenderoglu@ohu.edu.tr

Yatırım sürecinde boğa ve ayı piyasaları olarak adlandırılan artış ve azalış dönemlerini ayırabilmek gelecekteki yatırım planlamaları konusunda yatırımcıya bilgi sağlayacaktır. Ancak pazarda oluşan her artış boğa ve her azalış ayı piyasası olarak tanımlanmamaktadır. Fabozzi ve Francis (1977) çalışmasında boğa ve ayı piyasaları ile artan ve azalan piyasalar ayrı ayrı tanımlanmıştır. Buna göre pazar trendine göre seçilen dönemdeki kapsamlı menkul kıymet veri setinde artışlar yoğunluktaysa bu durumda boğa piyasasından söz edilmekte, azalışlar yoğunluktaysa ayı piyasasından söz edilmektedir. Daha farklı bir piyasa tanımlaması Sperandeo (1990) çalışmasında görülebilir. Buna göre boğa piyasası, ortalamada yüksek getirinin oluştuğu bir dönemi bölen bir önceki getiriye kıyasla daha düşük ancak ortalamayı arttıran getiri, ayı piyasası ise ortalamada düşük getiri oluştuğu bir dönemde uzun dönemli daha düşük bir alt getiri olarak ifade edilmektedir (Sperandeo, 1990:102). Chauvet ve Potter (2000) çalışmasında da benzer tanımlama yapılmıştır. Ancak Lindahl-Stevens (1980) çalışmasında boğa piyasasında getirilerin sadece pozitif olmasının yeterli olmayacağı, risksiz getirinin aşıldığı durumlarda boğa piyasalardan söz edilebileceği ortaya konmaktadır. Bir anlık fiyat değişikliği ile boğa veya ayı piyasasının oluşmayacağını ortaya koyan Pagan ve Sossounov (2003) çalışmasında boğa ve ayı piyasası ortalama bir sürede hisse senedi piyasasındaki kümülatif fiyat değişikliğine göre tanımlanmıştır. Bunlar dışında Fabozzi ve Francis (1977), Kim ve Zumwalt (1979) ve Chen (1982) çalışmalarında hisse senedi getirileri belirli bir eşik değerin üstünde veya altında olursa boğa ve ayı piyasalarının oluştuğuna işaret edilmiştir. Boğa ve ayı piyasalarının nasıl sınıflandırıldığına ilişkin tartışmalar teorik ve pratik düzeyde halen devam etmektedir.

Boğa ve ayı piyasalarının oluşması pazar riskini değiştireceğinden yatırımcıların yatırım tutumu da değişebilecektir. Piyasa koşulları, belirsizliğin azaldığı ve getirinin arttığını işaret ettiğinde yatırımcıların risk taşıma istekliliği artar. Risk iştahı olarak ifade edilen risk taşıma istekliliği farklı metotlar kullanılarak hesaplanabilmekte ve yatırımcıların riske karşı takındıkları tavır risk iştahı endeksleri ile ölçümlenebilmektedir. Bu bağlamda birçok ülke finansal piyasalarındaki risk taşıma istekliliğini tespit etmek amacıyla risk iştahı endeksi hesaplamaları yapmakta ve yayınlamaktadır. Bu endekslerden ilki sayılan VIX (Volatility Index) endeksi Standards and Poors hisse senedi endeks opsiyonları için vadesine 1 hafta kalan ve vadesi en fazla 2 ay olan opsiyonların fiyatlarından hareketle volatilite beklentisini ölçmektedir. VIX 1993 yılından beri hesaplanmakta

olup küresel risk iştahının bir göstergesi ve korku endeksi olarak da ifade edilmektedir. Bunun dışında farklı piyasalar için çok farklı risk iştahı endeksleri bulunmaktadır. Örneğin İsviçre bankası Credit Suisse 1998'den bu yana küresel risk iştahı olarak kabul edilen GRAI (Global Risk Appetite Index) endeksini hesaplayıp yayınlamaktadır. Endeksin hesaplamasından çoğunluğu gelişmiş ülkelerin hisse senedi ve tahvillerinden oluşan 64 finansal varlık kullanılmaktadır. JP Morgan ise piyasalardaki oynaklık ve riski ölçen LCVI (Liquidity Credit and Volatility Index) endeksini 2002 yılından itibaren yayımlamaktadır. Endeks yatırımcıların risk taşıma istekliliğinin ölçüsü olarak döviz piyasalarının yanı sıra geniş bir varlık sınıfı yelpazesine dayanmaktadır. LCVI, hazine bonusu, döviz swapları, gelişen piyasalar endeksi, RAI ve VIX endeksi gibi çeşitli göstergeler üzerinden ve kredi riski, likidite riski ve volatilite riskini hesaplamaya çalışmaktadır. İsviçre merkezli UBS'in yatırımcı duyarlılığı ISI (Investor Sentiment Index) endeksi bulunmaktadır. 1996 yılından beri hesaplanan endeks önümüzdeki on iki ay içinde işsizlik, ekonomik büyüme ve hisse senedi piyasalarının performansı hakkında sorular sormaktadır. Ankete katılanlar, en az 10.000 dolarlık bir yatırım portföyüne sahip olan bir hane reisinin başıdır. ISI Endeksi yatırımcılara duygularını sorduğundan dolayı yatırımcı duyarlılığının en iyi ölçen endeks olarak kabul edilir (Ras, 2015:7 Merrill Lynch tarafından hesaplanan GFSI (Global Financial Stress Index) finansal stres endeksi ve MOVE (Merrill Option Volatility Expectations Index) oynaklık beklenti endekside piyasalardaki risk iştahı göstergesi olarak kabul gören endekslerdir. MOVE Endeksi, ABD Hazine tahvillerinin otuz günlük süre içindeki oynaklığına ilişkin piyasa tahminlerini yansıtır. Hisse senetlerine dayalı VIX endeksinin ABD Hazine tahvillerine dayalı halidir. MOVE endeksi yükselmesi tahvil piyasasında risklerin ve volatilitenin artığını gösterir (Eğilmez, 2015). Avusturalya merkezli Westpac'ın RAI (Risk Appetite Index) risk iştahı endeksi özellikle döviz piyasalarında meydana gelen kısa dönemli hareketlere bağlı olarak hesaplanmaktadır. RAI, zamanın herhangi bir noktasında aşırı getiri derecesi ve risk derecesi arasındaki korelasyonu ölçer. Pozitif endeks ölçümleri, artan risk iştahının bir göstergesi olarak değerlendirilirken, aşırı getiri riskinin tersi yönde hareket ettiğine işaret eden negatif endeks ölçümleri, risk iştahının azaldığına işaret etmektedir. finansal piyasalar tarafından takip edilen en önemli risk iştahı endekslerindendir.

Türkiye'de ise risk iştahı endeksi (RİSE), farklı yatırımcı grupları için (tüm yatırımcılar, yerli yatırımcılar, yabancı yatırımcılar, yerli gerçek kişiler, yerli tüzel ki-

şiler, yerli fonlar ve nitelikli yatırımcılar) Merkezi Kayıt Kuruluşu (MKK) ile Özyeğin Üniversitesi işbirliğince hesaplanmakta ve yatırımcıların bilgisine sunulmaktadır. RİSE geçmiş herhangi bir dönemde 5.000 TL. ve üzeri hisse senedi portföy değerine sahip her yatırımcının haftalık portföy değişimlerinden yola çıkılarak hesaplanan haftalık bir endekstir. Endeks, yatırımcıların her Cuma günü sahip olduğu hisse senedi ve A tipi yatırım fonu toplam portföy değeri değişimlerinin BIST100 endeksindeki değişimlerinden arındırılmış halleri kullanılarak hesaplanmaktadır. İlgili haftadaki düzeltilmiş portföy değerinden, önceki 52 haftalık değerlerinin ağırlıklı ortalaması çıkartılarak, her bir yatırımcının o hafta kendi normalinden ne kadar sapma gösterdiği hesaplanmaktadır. Oluşan bu sapmalar matrisi üzerinden, yatırımcılara '0' ve '100' aralığında değişen skorlar verilmekte olup bu skorların yatırımcıların o haftaki portföy büyüklüklerinin toplam piyasa büyüklüğüne oranına göre ağırlıklı ortalaması alınarak tüm piyasa için genel bir risk iştahı endeksi hesaplanır (Saraç vd., 2016:33).

Bu çalışmanın amacı yatırımcıların risk iştahının boğa ve ayı piyasası gibi rejimlere ayrılıp ayrılmadığını tespit etmektir. Bu doğrultuda 2008 – 2016 dönemleri arası tüm yatırımcılar için haftalık olarak hesaplanmış risk iştahı verileri Markov Rejim Modeliyle incelenmiştir. Bu kapsamda çalışma beş bölümden oluşmaktadır. İlk bölümde piyasa sınıflandırma şekillerinden olan boğa ve ayı piyasası kavramları ile risk iştahı ve risk iştahının göstergesi olan endekslerden bahsedilmiştir. İkinci bölümde risk iştahı endeksleri üzerinde rejim oluşup oluşmadığına yönelik çalışmaların yer aldığı literatür taraması bulunmaktadır. Üçüncü bölümde ise analizde kullanılan Markov Rejim Modeline ilişkin bilgiler verilmiştir. Dördüncü bölümde veriler üzerinde yapılan analiz ve sonuçları, son bölüm ise sonuç kısman oluşmakta olup analiz sonucu elde edilen bulgular yorumlanmaktadır.

Literatür

Risk iştahının boğa ve ayı piyasası gibi sınıflandırılmasına ilişkin çalışmaların gerisinde hisse senedi getirilerinin boğa ve ayı piyasası olarak sınıflandırılmasıyla ilgili çalışmalar yer almaktadır. Literatürde boğa ve ayı piyasalarını ayırmak için çok farklı yöntemler kullanılmaktadır. Geleneksel olarak ex-post veri ile fiyat endeksleri doğrultusunda ayrım gerçekleştiren çalışmalar mevcuttur. Bry ve Boschan (1971), Pagan ve Sossunov (2003), Lunde ve Timmermann (2004), Gonzales ve diğerleri (2005) bu çalışmalara örnek verilebilir. Ayrıca literatürde sermaye piyasalarının

döngüsel hareket sergilediği buna göre piyasaların tahmin edilip edilemeyeceğini inceleyen çalışmalarda bulunmaktadır. Sözü geçen döngü sabit bir formda olup çoğu zaman döngüsel hareketlilik rejim değişim modelleriyle açıklanabilir. Örneğin Hamilton ve Lin (1996), Chauvet ve Potter (2000), Maheu and McCurdy (2000) rejim değişim modelleriyle boğa ve ayı piyasasını ayırmaya çalışmış çalışmalardır. Literatürde varlık fiyatlarının döngüsel hareketini Markov modeliyle inceleyen Cechetti vd. (1990, 1993) çalışmalarına rastlanmaktadır. Bu çalışmalardan elde edilen genel sonuç rassal yürüyüşün reddedilemeyeceği yönündedir. Benzer olarak menkul kıymet getirilerinde rejim oluşup oluşmadığı Turner vd. (1989), Perez-Quiros ve Timmermann (2000), Ang ve Bekaert (2002) ile Guidolin ve Timmermann (2005) çalışmalarında da değerlendirilmiştir. İlgili çalışmalardan elde edilen sonuçlar birbirleri ile benzerlik göstermemektedir.

Volatilite ve sebebi olan pazar riskinin incelendiği Mayfield (2004) çalışmasında pazar riski Markov Rejim Modeliyle ayrıştırılmış ve pazar riskinin dinamik bir yapıya sahip olduğu tespit edilmiştir. Buna göre risk yapısının zamana bağlı olarak değiştiği Maheu ve McCurdy (2000) çalışmasında incelenmiş boğa ve ayı piyasalarının zamana bağlı risk yapısı değerlendirilmiştir. İlgili çalışmada rejimlerin ortalamalarla değil volatilitieyle oluştuğu sonucuna ulaşılmıştır. Pazar volatilitesinin zaman içerisinde değiştiği Schwert (1989, 1998) çalışmalarında da vurgulanmaktadır. Campbell vd. (2001) çalışmasında ise idiosynkriatik riskin (firma seviyesindeki risk) zaman içerisinde artış eğiliminde olduğu fakat pazar volatilitesinin sabit kalabildiği sonucuna varılmıştır. Aylık getiri volatilitesinin tartışıldığı bir diğer çalışma Kim, Nelson, ve Startzb (1998) çalışması olup aylık getiri volatilitesinin üç rejime bölündüğü de tespit edilmiştir.

Risk iştahının rejimlere bölünüp bölünmediği konusunu doğrudan inceleyen çalışma sayısı sınırlıdır. Konunun incelendiği ilk çalışmalardan birisi Giot (2003) çalışması olup Asya krizi öncesinde ve sonrasında VIX ve VDAX endekslerinde rejim değişikliği oluşup oluşmadığı incelenmeye çalışılmıştır. 1992 - 2002 döneminin incelendiği çalışmada Markov Rejim Modeli kullanılarak kriz döneminin ilgili endekslerde yapısal volatilite değişikliğine neden olduğu tespit edilmiştir. Krizin neden olduğu rejim geçişinin beş yıl boyunca devam ettiği de çalışmadan elde edilen bir diğer sonuçtur. Guo ve Wohar (2006) çalışmasında ise VIX ve VXO endekslerinde volatilitenin zamana bağlı değişip değişmediği incelenmiştir. Bunun için Bai ve Perron

(1998, 2003a,b,2004) metodu kullanılarak 1990 - 2003 dönemleri için ilgili endekslerde rejim geçişi oluşup oluşmadığı tespit edilmeye çalışılmıştır. Çalışma sonucunda ilgili endekslerin üç farklı rejim dönemine ayrıldığı tespit edilmiş ve örneklem dönemi boyunca volatilitenin sabit olmadığı sonucuna ulaşılmıştır. VIX endeksini inceleyen bir diğer çalışma olan Baba ve Sakurai (2011) çalışmasında ise VIX indeksi için 1990 - 2010 döneminde rejim geçişi olup olmadığı incelenmiştir. Markov Rejim Modeli kullanılarak tüketici fiyat endeksi, üretici fiyat endeksi, sanayi üretim endeksi kapasite kullanım endeksi hazine bonosu ve tahvil getirileri makroekonomik verilerinin VIX endeksindeki rejim geçişini tespit edebildiği sonucuna ulaşılmıştır. İlgili çalışma sonucunda VIX endeksinde üç farklı rejim oluştuğu da tespit edilmiştir. Benzer bir şekilde Ramo (2012) çalışmasında, VIX endeksinde rejim oluşup oluşmadığı ve rejimler arası geçişlerin var olup olmadığını tespit etmek amacıyla Markov rejim değişim modeli kullanılmıştır. Analiz sonucunda Baba ve Sakurai (2011) çalışmasından farklı olarak VIX endeksinde yüksek oynaklı ve düşük oynaklı iki rejim oluştuğu ve oluşan rejimlerin kendi özelliklerini yansıttığı ifade edilmiştir. Bu bağlamda yüksek oynaklı rejimin 1997 Asya finans krizini, 1998 Rusya krizini, 2000 yılı dot.com balonunu ve 2008 küresel ekonomik krizini içerdiği görülmektedir. Papanicolaou ve Sircar (2014) çalışmasında ise SP500 ve VIX opsiyon piyasası risk endeksleri kullanılarak boğa ve ayı piyasaları ayrılmaya çalışılmıştır. Rejim geçişli stokastik volatilite modelleri çerçevesinde piyasaların ayrılabildiği sonucuna varılmıştır. Song vd., (2016) çalışmasında ise Güney Kore risk iştahı göstergesi VKOSPI endeksi üzerinde, Markov rejim değişim modeli kullanılarak rejim meydana gelip gelmediği ve bu rejimler üzerinde ABD finansal piyasalarındaki değişkenlerin etkisi araştırılmıştır. VKOSPI endeksinde sakin, çalkantılı ve kriz rejimi olarak üç rejim oluştuğu tespit edilmiştir. Özellikle kriz dönemlerinde ABD piyasalarındaki değişkenlerin, içsel değişkenlere göre VKOSPI endeksindeki değişimleri daha iyi açıkladığı ifade edilmiştir. Konuyla ilgili olarak Türkiye üzerine gerçekleştirilen bir çalışma olan Saraç vd., (2016) çalışmasında Türkiye'deki yerli ve yabancı yatırımcılar için hesaplanan risk iştahının tahmin edilebilir olup olmadığı araştırılmıştır. Caner ve Hansen (2001) eşikli birim kök testleri kullanılarak analizin ilk kısmını oluşturan yerli yatırımcılara ait RİSE serisinin, doğrusal olduğunu dolaysıyla eşik etkisinin var olmadığı ifade edilmiştir. Ancak analizin ikinci kısmını oluşturan yabancı yatırımcılara ait RİSE serisinin ise, doğrusal olmadığını dolayısıyla eşik etkisinin var olduğu ifade edilmiştir. Bununla birlikte yabancı yatırımcıların risk iştahlarında düşüş yaşandığı dönemlerde ilgili veri setinin tahmin edilebildiği, ancak risk iştahlarının artış yaşandığı dönemlerde ise ilgili veri setinin tahmin edilemediği de çalışmadan elde edilen bir diğer sonuçtur.

Yöntem

Doğrusal olmayan zaman serilerinde rejim oluşup oluşmadığına tespitine yönelik rejim değişim modelleri kullanılmaktadır. Bu modeller rejimin zaman içinde değişim durumuna göre ikiye ayrılmaktadırlar. Birinci tip modellerde rejimler, gözlemlenebilen bir değişkene bağlı olarak oluşmaktadır. Tong (1978) ve Tong ve Lim (1980) çalışmalarında geliştirilen eşikli otoregresif (TAR) modelleri bu kapsamdaki modellerdir (Franses vd., 2014:207). İkinci tip modellerde ise rejimler, gözlenemeyen rassal bir değişken tarafından belirlenmektedir. Markov Rejim Modeli'de bu kapsamda ele alınmaktadır (Kayhan, Bayat ve Koçyiğit, 2013:9). Markov Rejim Modeli Hamilton (1989) çalışmasında geliştirilen tek değişkenli Markov Rejim Modeli ile literatüre kazandırılmış, Krolzig (1997) çalışmasında çok değişkenli analizlere de uyarlanmasıyla da geniş bir alanda kullanım imkanı sağlamıştır (Koy, Çetin ve Ersan 2016:32). Markov Rejim Modelinin temel mantığı, bir markov zinciri ile bir rejimden diğerine geçişe neden olan stokastik süreci açıklamaktır. Markov zinciri, hem rejimlerin var olup olmadığını tespit etmek hemde doğrudan gözlemlenemeyen bir durum değişkeni veya değişkenler karmasının hareket tarzını modellemek için kullanılmaktadır (Bildirici vd., 2010).

Hamilton (1989) çalışmasında, ekonominin daralma ve genişleme dönemlerini diğer bir ifadeyle rejimleri, gözlenemeyen ve tamsayı değeri alan tesadüfi değişkenine göre hesaplanmaktadır (Brooks, 2014:502). Bu amaçla Hamilton (1989) çalışmasında geliştirilen tek değişkenli, 2 rejimli MSA-AR(p) modelini ifade eden denklem (1 ve 2) aşağıdaki gibidir:

$$y_t = \begin{cases} \phi_{1,0} + \phi_{1,1}y_{t-1} + \cdots + \phi_{1,p}y_{t-p} + \varepsilon_t & e\ddot{g}er \ (s_t = 1) \\ \phi_{2,0} + \phi_{2,1}y_{t-1} + \cdots + \phi_{2,p}y_{t-p} + \varepsilon_t & e\ddot{g}er \ (s_t = 2) \end{cases} \tag{1}$$

$$y_t = \phi_{0,s_t} + \phi_{1,s_t}y_{t-1} + \cdots + \phi_{p,s_t}y_{t-p} + \varepsilon_t \tag{2}$$

y_t: Zaman serisi değişkeni
ϕ: Rejimlere ait otoregresif gecikme parametreleri
s_t: Rejimlerin değerleri
p: Modelin otoregresif derecesi
ε_t: Hata terimleri

Markov Rejim Modelinde, rejim değişkeni olan s_t doğrudan gözlemlenememekte, ancak finansal zaman serisi olan y_t gözlemlenebilmektedir. Gözlemlenebilen y_t zaman serisinin özellikleri, gözlemlenemeyen s_t rejim değişkenine bağlıdır (Krolzig 1997:11). y_t'nin ortalamasının ve AR parametrelerinin rejim ile birlikte değiştiği modeli ifade eden denklem (3) aşağıdaki gibidir (Koy, 2016:178).

$$y_t - \mu_t = \phi(y_{t-1} - \mu_{t-1}) + \mu_t \qquad (3)$$

Sabitin ve AR parametrelerinin rejimle birlikte değiştiği modeli ifade eden denklem (4) ise aşağıdaki gibidir.

$$y_t - c_{st} = \phi y_{t-1} + \mu_t \qquad (4)$$

En genel haliyle MS-VAR modeli ifade eden denklem (5) ise aşağıdaki gibidir (Krolzig, 1998:4).

$$y_t = v + A_1 y_{t-1} + \cdots + A_p y_{t-p} + \mu_t \qquad (5)$$

Markov Rejim modellerinde rejimleri üreten süreç, geçiş olasılıkları ile belirlenen sonlu sayıda durumdan oluşan ergodik bir Markov zinciri olarak ifade edilebilir (Koy, 2017:74). İki rejimli bir modelde rejimler arası ilişkileri açıklayan Markov rejim Modelini ifade eden denklem (6) ise aşağıdaki gibidir (Hamilton, 1996:128).

$$P\{s_t = j | s_{t-1} = i\} = P\{s_t = j | s_{t-1} = i, s_{t-2} = k, \dots\} = p_{ij} \qquad (6)$$

İki rejimli bir modelde rejimler arası geçiş olasılıklarını ifade eden denklemler (7,8,9,10) ve rejim geçiş olasılıkları matrisi (11) ise aşağıdaki gibi ifade edilmektedir.

$$Pr[s_t = 1 | s_{t-1} = 1] = p_{11} = p \qquad (7)$$

$$Pr[s_t = 0 | s_{t-1} = 1] = p_{10} = 1 - p \qquad (8)$$

$$Pr[s_t = 0 | s_{t-1} = 0] = p_{00} = q \qquad (9)$$

$$Pr[s_t = 1 | s_{t-1} = 0] = p_{01} = 1 - q \qquad (10)$$

$$P = \begin{bmatrix} q & 1-q \\ 1-p & p \end{bmatrix} \qquad (11)$$

Rejimler arasındaki geçiş olasılıklarını ifade eden değerler $(p_{11}, p_{10}, p_{00}, p_{01})$ pozitif olmalı ve toplamları da bire eşit $(p_{11} + p_{10} = 1$ ve $p_{00} + p_{01} = 1)$ olmalıdır (Franses and Dijk, 2000:82).

Krolzig (1997 ve 1998) çalışmasında Markov değişim vektör otoregresif (MSVAR) modellerini sınıflandırmış ve bu modelleri çok değişkenli serilere uyarlayarak Markov rejim değişim modelinin gelişmesine katkı sağlamıştır. Bu bağlamda Krolzig (1997) çalışmasında literatüre kazandırılan MS-VAR modelleri sabit katsayının veya ortalamanın rejime bağlı olup olmamasını diğer bir ifade ile rejime göre değişkenlik gösterip göstermemesine göre iki ana gruba ayrılmaktadır. (Türkmen 2017:130). MS-VAR modelleri otoregresif parametrelerin rejimlere göre değişip değişmediği ve hata terimlerinin değişen varyans özelliği taşıyıp taşımadığına göre de alt gruplara ayrılmaktadır (Koy vd., 2016:32). Bu kapsamda MS-VAR modelleri aşağıdaki Tablo 1'de görülebilir.

Sabit içeren modeller (MSI) ile ortalama içeren modeller (MSM) arasındaki temel fark rejim geçişlerindeki farklılıktan kaynaklanmaktadır. Sabitli modellerde rejimler arası geçişler daha yumuşaktır. Dolayısıyla bu tip modellerde bir rejim değişiminden sonra yeni seviyeye yavaşça ulaşmaktadır. Ortalama içeren modeller ise rejimler arası geçişler daha keskindir. Bu bağlamda bu tip modellerde bir rejim, değişiminden sonra yeni seviyesine bir kerelik sıçrama ile ulaşmaktadır (Krolzig, 1998:6).

Tablo 1: *MS-VAR Modelleri*

μ Değişir		MSM		MSI	
		μ sabit	v değişir	v sabit	
A_j sabit	Σ sabit	MSM-VAR	Doğrusal VAR	MSI-VAR	Doğrusal VAR
	Σ değişir	MSMH-VAR	MSH-MVAR	MSIH-VAR	MSH-VAR
A_j değişir	Σ sabit	MSMA-VAR	MSA-MVAR	MSIA-VAR	MSA-VAR
	Σ değişir	MSMAH-VAR	MSAH-MVAR	MSIAH-VAR	MSAH-VAR
M (Markov değişim ortalaması), I (Markov değişim sabiti), A (Otoregresif parametre), H (Değişen varyans)					

Kaynak: (Krolzig, 1997:14)

Analiz

Bu çalışmada risk iştahı göstergesi olan ve Merkezi Kayıt Kuruluşu tarafından haftalık frekansta yayımlanan tüm yatırımcılara ait RİSE endeksinin 2008-2016 yılları arası haftalık verileri kullanılmıştır. Türkiye'de risk iştahının göstergesi olarak risk iştahı endeksi kullanılmaktadır. Çalışmada öncelikle ilgili veri setinin tanımlayıcı istatistikleri Tablo 2'de rapor edilmiş daha sonra serinin durağan olup olmadığının tespitine yönelik birim kök testleri yapılmış son olarak ise Markov Rejim Modeli ile seride rejim oluşup oluşmadığı test edilerek elde edilen sonuçlar rapor edilmiştir.

Tablo 2: *Tanımlayıcı İstatistikler*

Değişkenler	RİSE
Ortalama	43.824
Medyan	44.305
Maksimum	73.685
Minimum	11.407
Standart Sapma	12.127
Çarpıklık	-0.198
Basıklık	2.649
Jarque-Bera (Olasılık)	5.465 (0.065)

Verilerin temel istatistiklerine yer verilen Tablo 2 incelendiğinde; RİSE serisinin maksimum 73.685 ile minimum 11.407 değerleri arasında yaklaşık 62.278 birimlik bir aralıkta bulunduğu gözlemlenmektedir. Verinin ortalaması 43.824, medyan değeri 44.305 ve standart sapması ise 12.127'dir. Normal dağılımdan sapma derecesini ifade eden çarpıklık (skewness) değeri -0.198 eğim istatistiği ile verinin hafif sola çarpık olduğunu göstermektedir. Jarque-Bera test sonucu da serinin normal dağılım gösterdiğini ifade etmektedir.

Çalışmada öncelikle RİSE endeksi serisinin durağanlığının tespitinde literatürde sıkça kullanılan KPSS (Kwiatkowski-Phillips-Schmidt-Shin), ADF (Augmented Dickey-Fuller), PP (Phillips- Perron) ve yapısal kırıklı Peron (1989) birim kök testleri kullanılmıştır. MS-VAR modeli Test sonuçları Tablo 3'te verilmiştir.

KPSS testinin boş hipotezi ilgili serinin durağan olduğu şeklinde kurulmaktadır. KPSS sonuçlarına göre %1 ve %5 anlamlılık seviyesine göre RİSE değişkenine ait H_0 hipotezi reddedilemediğinden seriler düzeyde durağanlık özelliği sergilemektedir. Bu durum %1 anlamlılık seviyesinde ADF ve PP testlerinde de yinelenerek doğrulanmaktadır. KPSS test sonuçlarına

göre diğer testler ile benzer olarak ilgili serinin birim kök içermediği söylenebilir. Yapısal kırıklık birim kök testi sonuçlarına da göre de RİSE endeksinin %1 anlam seviyesinde birim kök içermediği görülmektedir. Birim kök test sonuçları doğrusal olmayan yöntemlerinde kullanılabileceği durağanlık koşullarını sağlamıştır. Çalışma yöntemi MS-VAR modeli ile birden fazla rejim için sınama gerçekleştirdiğinden doğrusal olmayan birim kök testleri ile durağanlık sınamasına ihtiyaç duyulmamıştır.

Tablo 3: *Birim Kök Test Sonuçları*

Birim Kök Testleri	Test Türü	RİSE Endeksi
KPSS	Sabitli	-0.063
	Sabitli ve Trendli	-0.064
ADF	Sabitli	-8.951*
	Sabitli ve Trendli	-8.943*
PP	Sabitli	-8.996*
	Sabitli ve Trendli	-8.990*
Peron (1989)	Sabitli	-9.682*
	Sabitli ve Trendli	-9.037*

*%1 önem seviyesinde anlamlıdır.

RİSE endeksinde rejim oluşup oluşmadığını tespit etmek amacıyla Markov Rejim Modeli kullanılmıştır. Tablo 4'te en uygun MS-VAR modelinin belirlenmesi amacıyla RİSE endeksi üzerinde yapılan MS-VAR tabanlı rejim modellerinin sonuçları verilmiştir.

Tablo 4: *MS-VAR Rejim Modelleri Karşılaştırma*

Model	Log-likelihood	AIC	LR	Davies
MSI(2) VAR(0)	-1727.551	7.404	206.28*	0,000
MSI(2) VAR(1)	-1666.130	7.156	1.378	0.711
MSI(2) VAR(2)	-1651.435	7.118	17.725*	0,000
MSI(2) VAR(3)	-1647.068	7.119	17.444*	0,000
MSI(3) VAR(0)	-1689.958	7.256	281.470*	0,000
MSI(3) VAR(1)	-1650.087	7.110	33.465*	0,000
MSIH(2) VAR(0)	-1725.942	7.401	209.500*	0,000
MSIH(2) VAR(1)	-1652.844	7.109	27.951*	0,000
MSIH(2) VAR(2)	**-1647.172**	**7.103**	**26.251***	**0,000**
MSIH(2) VAR(3)	-1642.588	7.104	26.401*	0,000
MSIH(2) VAR(4)	-1638.861	7.107	26.030*	0,000
MSIH(3) VAR(0)	-1675.729	7.208	309.92*	0,000
MSIH(3) VAR(1)	-1648.081	7.114	37.477*	0,000
MSIH(3) VAR(2)	-1643.481	7.109	33.633*	0,000
MSIH(3) VAR(3)	-1639.216	7.106	33.147*	0,000
MSIH(3) VAR(4)	-1635.325	7.109	33.101*	0,000

*%1 önem seviyesinde anlamlıdır

Tablo 4'te sırasıyla 3 rejime kadar modeller, çeşitli otoregresif gecikmeli değerleri de içeren versiyonlar halinde listelenmiştir. Yukarıdan aşağıya sırasıyla sabitli modeller için 3 rejim ve 4. Dereceden otoregresif sürece kadarki modellere ilişkin sonuçlar verilmiştir. Ayrıca varyansın rejime bağlı olarak değişiminin model için bir iyileştirme olup olmadığı da 3 rejim ve 4. Dereceden otoregresif sürece kadar incelenmiştir. Uygun rejim sayısı ve otoregresif gecikme uzunluğu AIC, istatistikleri ve sağlamlık testlerinin anlamlılığı altında, modelin rejim geçiş matrisinin kararlılığı, tespit ettiği rejimlerin görsel analizi, katsayıların büyüklüğü ve anlamlılığı gibi kriterler göz önünde bulundurularak MSIH(2)-VAR(2) modeli tercih edilmiştir. Tablo 5'te MSIH(2)-VAR(2)'ye ait Markov Rejim Modeli sonuçları verilmiştir.

düşük oynaklı 2. rejime geçme olasılığı %8'dir. Benzer şekilde t döneminden t+1 dönemine geçerken düşük oynaklı 2. rejimde kalma olasılığı %91, düşük oynaklı 2. rejimden yüksek oynaklı 1. rejime geçme olasılığı %9'dur. Sonuçlara göre her iki rejimde de kalıcılık özelliği gözlemlenmektedir. Rejim 1 de ortalama kalma süresi 14.35 hafta, Rejim 2'de ortalama kalma süresi 13.88 haftadır. Son olarak Tablo 7'de Rejim 1 ve Rejim 2 ye dâhil olan tarih aralıkları verilmiştir.

Tablo 6: *Markov Rejim Geçiş Olasılıkları Matrisi*

	Rejim 1	Rejim 2	Gözlem Sayısı	Ortalama Süre
Rejim 1	0.92	0.08	244	14.35
Rejim 2	0.09	0.91	222	13.88

Tablo 5: *MSIH (2)VAR(2) Model Sonuçları*

Model: MS_ARMA (2, 2, 0,)	Katsayılar	t Olaslık
Sabit (Rejim 1)	37.381	0.000
Sabit (Rejim 2)	51.342	0.000
Sigma (Rejim 1)	8.715	0.000
Sigma (Rejim 2)	5.847	0.000
RİSE-1	0.591	0.000
RİSE-2	0.105	0.061
LR-test Chi²(4)	26.251	0.000
Davies	0.000	
Normality test: Chi²(2)	0.414	0.813
ARCH 1-5 test: F(5,299)	0.334	0.801
Portmanteau(36): Chi²(36)	159.660	0.403

Tablo 5 incelendiğinde modele ilişkin test istatistiklerinden LR testi ile Davies testi sonuçlarına göre RİSE endeksinin doğrusal olmayan yapı gösterdiği ve rejim oluştuğu görülmektedir. Oluşan rejimlere ait katsayıların ve sigmaların istatistiksel olarak anlamlı olduğu tespit edilmiştir. Bu bağlamda ilgili katsayılar incelendiğinde birinci rejim yüksek oynaklı kargaşa rejimi, ikinci rejim ise düşük oynaklı huzurlu rejim olarak ifade edilebilir. Modele ilişkin sağlamlık testleri olarak ifade edilen normallik, ARCH ve portmanteau test sonuçlarına bakıldığında serinin hata terimlerinin normal dağıldığı, değişen varyansın bulunmadığı ve otokorelasyonun olmadığı görülmektedir. Tablo 6'da ise RİSE serisinin rejim geçiş matrisleri verilmiştir.

Rejim geçiş olasıları matris incelendiğinde, t döneminde iken t+1 dönemine geçerken yüksek oynaklı 1. rejimde kalma olasılığı %92, yüksek oynaklı 1. rejimden

Tablo 7: *Rejim Tarihlerinin Süresi ve Olasılık Değerleri*

Rejim 1			Rejim 2		
Tarih Aralığı	Süre	Olasılık	Tarih Aralığı	Süre	Olasılık
2008(3) - 2008(15)	13	0,88	2008(16) - 2008(21)	6	0,58
2008(22) - 2008(48)	27	0,87	2008(49) - 2009(44)	48	0,93
2009(45) - 2009(49)	5	0,99	2009(50) - 2010(6)	9	0,69
2010(7) - 2010(13)	7	0,88	2010(14) - 2010(19)	6	0,83
2010(20) - 2010(24)	5	0,73	2010(25) - 2010(44)	20	0,83
2010(45) - 2010(45)	1	0,52	2010(46) - 2010(46)	1	0,51
2010(47) - 2011(10)	16	0,90	2011(11) - 2011(19)	9	0,78
2011(20) - 2012(3)	36	0,84	2012(4) - 2012(20)	17	0,79
2012(21) - 2012(22)	2	0,52	2012(23) - 2013(5)	35	0,94
2013(6) - 2013(18)	13	0,89	2013(19) - 2013(22)	4	0,68
2013(23) - 2013(38)	16	0,93	2013(39) - 2013(49)	11	0,67
2013(50) - 2014(6)	9	0,82	2014(7) - 2014(32)	26	0,80
2014(33) - 2014(46)	14	0,83	2014(47) - 2015(5)	11	0,64
2015(6) - 2015(41)	36	0,84	2015(42) - 2015(48)	7	0,78
2015(49) - 2016(8)	12	0,86	2016(9) - 2016(19)	11	0,87
2016(20) - 2016(29)	10	0,94	2016(30) - 2016(30)	1	0,75
2016(31) - 2016(52)	22	0,70			

Grafik 1'de ise RİSE veri setinin yumuşatılmış ve filtrelenmiş rejim olasılıklarının grafiği verilmiştir.
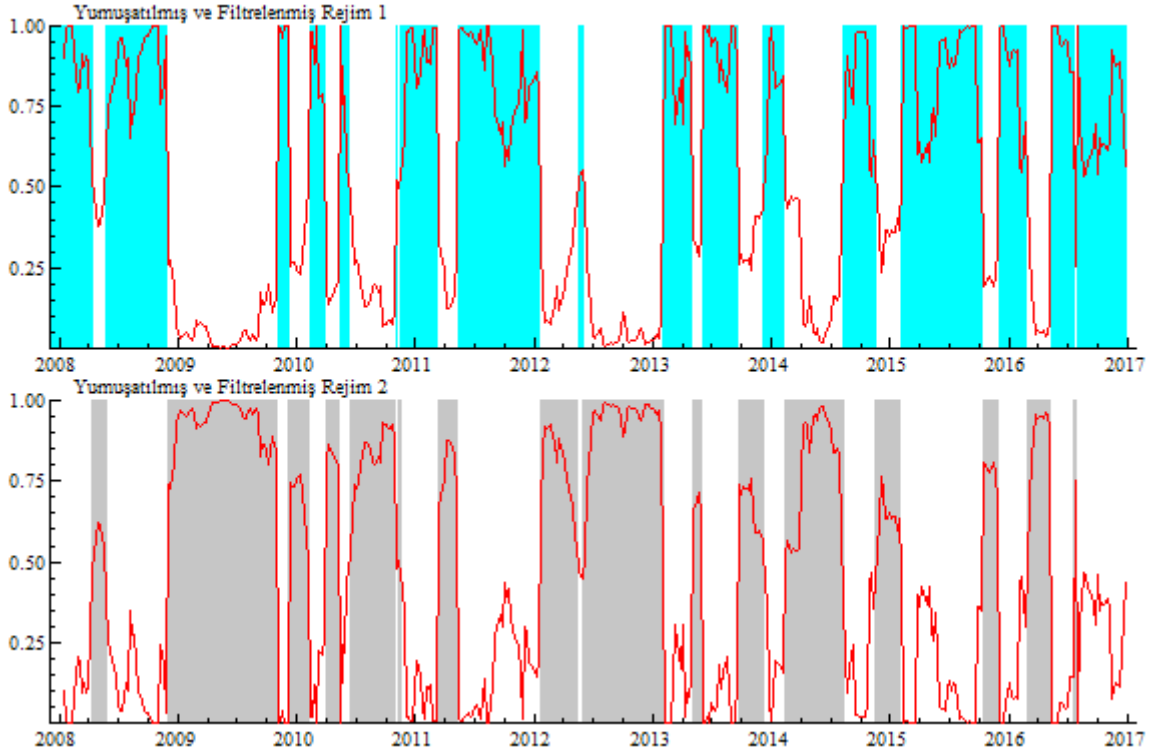
Grafik 1: *Yumuşatılmış ve filtrelenmiş rejim olasılıkları grafiği*

Menkul kıymet piyasalarına etki eden çok sayıda faktör vardır. Hangi faktörlerin yüksek oynaklıklı rejim 1 dönemini oluşturduğunu ifade etmek uygun olmayabilir. Çünkü bir süreci tek bir faktöre indirgemek diğer faktörleri göz ardı ederek istatistiki olarak ikinci tip hataya neden olabilir. Ancak ilgili dönemde gerçekleşen önemli olaylar değerlendirilmelidir. Buna göre rejim dönemlerine ait Tablo 7 incelendiğinde 2008 küresel kriz döneminde toplamda 40 haftalık bir dönemin yüksek oynaklıklı kargaşa rejiminde yer aldığı görülmektedir. 2011 yılında ise 42 haftalık bir dönem artan terör olaylarında, seçim süreci ve son olarak Van'da meydana gelen depremin olduğu dönemdir. 2015 yılının büyük çoğunluğunun yüksek oynaklıklı kargaşa rejimi içerisinde yer aldığı görülmektedir. Bu döneme bakıldığında Türkiye'de ve Dünya'da artan bombalı terör olayları, 7 Haziran seçimleri sonucu meydana gelen siyasi belirsizlik ve Rusya ile yaşanan uçak krizi bulunmaktadır. Benzer şekilde 2016 yılının da 40 haftalık bir dönem yüksek oynaklıklı kargaşa rejimi içerisinde yer almaktadır. Siyasi iktidar içerisinde yaşanan beklenmedik görev değişimi, Türkiye'de ve Dünya'da yaşanan terör saldırıları, 15 Temmuz darbe

girişimi ve ekonomik durgunluk bu dönemde ortaya çıkan gelişmelerdir.

Sonuç

Menkul kıymet piyasalarının hareket dinamikleri, hisse senedi getirisi üzerinde etkili olan faktörler, piyasaların tahmin edilip edilemeyeceği üzerine çok sayıda çalışma bulunmaktadır. Son yıllarda boğa ve ayı piyasaları olarak ifade edilen, artan ve azalan piyasalar için de benzer çalışmalar yapılmaktadır. Özellikle piyasaların boğa ve ayı olarak sınıflandırılması ilgili piyasalarda yatırımcıların karar süreçleri konusunda detaylı bilgi vermektedir. Yatırım kararı için belirleyici olan en önemli faktörler risk ve getiridir. Bu çalışmada Markov Rejim Modeli kullanılarak Türkiye için Merkezi Kayıt Kuruluşu tarafından haftalık frekansta yayımlanan risk iştahı endeksinin 2008-2016 yılları arası haftalık verilerinin rejimlere ayrılıp ayrılmadığı incelenmiştir. Çalışmadan elde edilen sonuçlar risk iştahının yüksek oynaklıklı ve düşük oynaklıklı olacak şekilde iki rejime ayrıldığı tespit edilmiştir. Yüksek oynaklıklı rejim kargaşa rejimi olarak, düşük oynaklıklı rejim ise huzur rejimi olarak nitelendirilmiş ve ekonomik ve siyasi krizlerin,

deprem ve terör gibi olayların kargaşa rejiminde yer aldığı sonucuna ulaşılmıştır.

Çalışmadan elde edilen sonuçlar değerlendirildiğinde kriz dönemlerinin yüksek oynaklıklı dönemlerde yer aldığına ilişkin sonucun Giot (2013) çalışmasında da yer aldığı tespit edilmiştir. Ayrıca volatilitenin zaman içerisinde sabit kalmadığı sonucu Guo ve Wohar (2006) çalışmasında da yer almaktadır. Bununla birlikte Saraç v.d, (2016) çalışmasında Türkiye için hesaplanan yabancı yatırımcılara ait RİSE serisinin doğrusal olmadığını ve eşik etkisinin diğer bir ifade ile rejimlerin oluştuğu ifade edilmiştir. Bu sonuç tüm yatırımcılara ait RİSE serisinin iki farklı rejime bölünmesi ile de tutarlıdır. Ancak Kim, Nelson, ve Startzb (1998) çalışmasında aylık getiri volatilitesinin üç rejime bölündüğü de tespit edilirken VIX üzerine çalışılan Guo ve Wohar (2006) ile Baba ve Sakurai (2011) çalışmasında VIX'inde benzer şekilde üç farklı rejime bölündüğü tespit edilmiştir. Türkiye için hesaplanan risk iştahı endeksinin sadece iki rejime bölündüğü sonucundan hareketle bu farklılığın örnekleme konu piyasaların yapısal özelliklerinden kaynaklandığı düşünülebilir.

Sonuçlar yatırımcılar açısından da değerlendirildiğinde, yatırım kararlarının düşük oynaklıklı rejimlerde alınması doğru bir karar olacaktır. Benzer örneklem dönemi için tek bir endeks kullanmak yerine farklı risk unsurlarının da rejim değişimi modeli ile tahminlenmesi, analize farklı boyut kazandıracağından bu durum yeni çalışmaların konusunu oluşturabilir.

KAYNAKÇA

Ang, A. ve Beaert, G. (2002). International asset allocation with regime shifts. *The Review of Financial Studies*, 15(4), 1137–1187.

Aydoğan, Y. (2013). *Hisse senedi ve bono getirilerinin doğrusal olmayan modellemelerle analizi: Türkiye örneği.*(Yayımlanmamış Doktora Tezi, Eğe Üniversitesi, Sosyal Bilimler Enstitüsü, İzmir.)

Baba, N. ve Sakurai, Y. (2011). Predicting regime switches in the VIX index with macroeconomic variables. *Applied Economics Letters*, 18(15), 1415-1419.

Bai, J. ve Perron, P. (1998). Estimating and testing linear models with multiple structural changes. *Econometrica,* 66(1), 47–68.

Bai, J. ve Perron, P. (2003a). Computation and analysis of multiple structural change models. *Journal of Applied Econometrics,* 18(1), 1–22.

Bai, J. ve Perron, P. (2003b). Critical values in multiple structural change tests. *Econometrics Journal* 6(1), 72–78.

Bai,J.ve Perron, P. (2004). *Multiple structural change models: A simulation study ,in D.Corbea, S.Durlauf, and B.E.Hansen, Econometric Essays.* England: Cambridge University Press.

Bildirici, M., Alp, E.A., Bozoklu, Ü. ve Ersin, Ö.Ö. (2010). İktisatta *kullanılan doğrusal olmayan zaman serisi yöntemleri.* İstanbul: Türkmen Kitabevi.

Brooks, C. (2014). *Introductory econometrics for finance.* (Third Edition). New York: Cambridge University Press.

Bry, G. ve Boschan, C. (1971). Standard business cycle analysis of economic time series. *NBER*, 71(1), 64-150.

Campbell, J.Y., Lettau, M., Malkiel, B.G. ve Xu, Y. (2001). Have individual stocks become more volatile? An empirical exploration of idiosyncratic risk. *The Journal of Finance,* 56(1), 1–43.

Caner, M. ve Hansen, B.E. (2001). Threshold autoregression with a unit root. *Econometrica,* 69(6), 1555-1596.

Cecchetti, S. G., Lam, P. ve Mark, N.C. (1990). Evaluating empirical tests of asset pricing models: Alternative interpretations. *American Economic Review*, 80(2), 48-51.

Cecchetti, S. G., Lam, P. ve Mark, N.C. (1993) The equity premium and the risk-free rate: Matching the moments. *Journal of Monetary Economics,* 31(1), 21-45.

Chauvet, M. ve Potter, S. (2000). Coincident and leading indicators of the stock market. *Journal of Empirical Finance*, 7(1), 87-111.

Chen, S. N. (1982). An examination of risk return relationship in bull and bear markets using time-varying betas. *Journal of Financial & Quantita tive Analysis*, 17(1), 265-286.

Eğilmez, M. (2015). FED'in modası geçti. 28.06.2018. tarihinde http://www.mahfiegilmez.com/2015/12/fedin-modas-gecti.html

Fabozzi, F.J. ve Francis, J.C. (1977). Stability tests for alphas and betas over bull and bear market conditions. *Journal Of Finance*, 32(4): 1093-1099.

Franses P.H. ve Dijk, D. V. (2000). *Nonlinear time series models in empirical finance.* (First Edition). Newyork: Cambridge Universtiy Press.

Franses P.H. ve Dijk, D. V. (2003). *Nonlinear time series models in empirical finance.* (Second Edition). Newyork: Cambridge Universtiy Press.

Franses, P.H., Dijk, D.V. ve Opschoor, A. (2014). *Time series models for business and economic forecasting.* (Second Edition). Newyork, Cambridge University Press.

Giot, P. (2003). The Asian financial crisis: The start of a regime switch in volatility. *CORE Discussion Paper,* 2003/78.

Gonzalez, L., Powell, J.G., Shi, J. ve Wilson, A. (2005). Two centuries of bull and bear market cycles. *International Review of Economics & Finance,* 14(4), 469-486.

Guidolin, M. ve Timmermann, A. (2005). Economic implications of bull and bear regimes in UK stock and bond returns. *The Economic Journal,* 115(500), 111–143.

Guo, W. ve Wohar, M.E. (2006). Identifying regime changes in market volatility. *The Journal of Financial Research*, 29(1), 79–93.

Hamilton, J. D. (1989). A new approach to the economic analysis of nonstationary time series and the business cycle. *Econometrica,* 57(2), 357-384.

Hamilton, J. D. (1994). *Time series analysis*. New Jersey: Princeton University Press.

Hamilton, J.D. ve Lin, G. (1996). Stock market volatility and the business cycle. *Journal of Applied Econometrics* 11(5), 573-593.

Kayhan, S., Bayat, T. ve Koçyiğit, A. (2013). Enflasyon hedeflemesi rejiminde öğrenme süreci ve asimetri:

Markov switching yaklaşımı. *Eskişehir Osmangazi Üniversitesi İİBF Dergisi* 8(1), 191-212.

Kim, M. K. ve Zumwalt, J. K. (1979). An analysis of risk in bull and bear markets. *Journal of Financial and Quantitative Analysis,* 14, 1015-1025.

Kim, C.J., Nelson, C.R. ve Startzb, R. (1998). Testing for mean reversion in heteroskedastic data based on gibbs-sampling-augmented randomization. *Journal of Empirical Finance* 5(2): 131-154.

Koy, A. (2016). Borsa İstanbul'un doğrusal olmayan dinamiklerinin markov rejim değişim modelleriyle açıklanması. *Gaziantep Üniversitesi, 1. Lisansüstü İşletme Öğrencileri Sempozyomu,* 176-180.

Koy, A., Çetin, G. ve Ersan, İ. (2016). Uluslararası kıymetli metal piyasalarının rejim dinamikleri. *Maliye Finans Yazılar,* 107, 25-40.

Koy, A. (2017). *Vadeli işlem piyasaları: BİST30 endeks vadeli işlem sözleşmesinin markov rejim değişim modelleri ile analizi.* İstanbul:Derin Yayınları.

Krolzig, H. M. (1997). *Markov switching vector autoregressions: Modeling, statistical inference, and application to business cycle analysis.* Berlin: Springer Verlag.

Krolzig, H. M. (1998). *Econometric modeling of markov-switching vector autoregressions using MSVAR for Ox.* London: Oxford University Manuscript.

Lee, J. ve Strazicich, M.C. (2003). Minimum lagrange multiplier unit root test with structural breaks. *Review of Economics and Statistics*, 85(4), 1082-1089.

Lindahl-Stevens, M. (1980). Redefining bull and bear markets. *Financial Analysts Journal*, 36(6), 76-77.

Lunde, A. ve Timmermann, A. (2004). Duration dependence in stock prices: An analysis of bull and bear markets. *Journal of Business & Economic Statistics*, 22(3), 253-273.

Maheu J. ve McCurdy T. H. (2000). Identifying bull and bear markets in stock returns. *Journal of Business and Economic Statistics* 18(1), 100-112.

Mayfield, E.S. (2004). Estimating the market risk Premium. *Journal of Financial Economics* 73(3), 465-496.

Pagan, A.R. ve Sossounov, K.A. (2000). A Simple framework for analysing bull and bear markets. *Journal of Applied Econometrics*, 18(1), 23-46.

Papanicolaou, A. ve Sircar, R. (2014). A regime-switching heston model for VIX and S&P 500 implied volatilities. *Quantitative Finance*, 14(10), 1811-1827.

Perez-Quiros, G. ve Timmermann, A. (2000). Firm size and cyclical variations in stock returns. *The Journal of Finance,* 55(3), 1229–1262.

Ramo, J.M. (2012). Volatility regimes for the VIX index. *Revista de Economía Aplicad,* 20, 114-134

Saraç, T.B., İskenderoğlu, Ö. ve Akdağ, S. (2016). Yerli ve yabancı yatırımcılara ait risk iştahlarının incelenmesi: Türkiye örneği. *Sosyoekonomi,* 24(30), 29-44.

Song, W., Ryu, D. ve Webb, R. I. (2016). Overseas market shocks and VKOSPI dynamics: A markov-switching approach. *Finance Research Letters*, 16, 275-282.

Sperandeo, V. (1990). *Principles of professional speculation*, Newyork: Wiley Corp.

Schwert, G.W. (1989). Why does stock market volatility change over time? *The Journal of Finance,* 44(5), 1115–1153.

Schwert, G.W. (1998). Stock market volatility: Ten years after the crash. *Brookings-Wharton Papers on Financial Services*, 6381, 65-99.

Tong, H. (1978). *On a Threshold model in pattern recognition and signal processing*. Amsterdam: Sijhoff & Noordhoff.

Tong, H. (1983). *Threshold models in non-linear time series analysis. Lecture notes in statistics.* New York: Springer-Verlag.

Tong, H. ve Lim, K.S. (1980). Threshold autoregression, limit cycles and cyclical data. *Journal of the Royal Statistical Society. Series B (Methodological),* 42(3), 245-292.

Turner, C.M., Startz, R. ve Nelson, C.R. (1989). A markov model of heteroskedasticity, risk, and learning in the stock market. *Journal of Financial Economics*, 25(1), 3-22.

SMEs' Access to Finance and Choice of Capital Structure in Turkey

Tr Başlık Eksik

Seyid F. MAHMUD[1]
Tarık AKIN[2]

ⓘ *https://orcid.org/0000-0003-2239-7830*
ⓘ *https://orcid.org/0000-0001-7874-6943*

ABSTRACT

The paper analyzes behavior of SMEs in financing their working and fixed capital requirements. The cross-sectional sample employed in this paper is based on the comprehensive World Bank Enterprise Survey (WBES) database. Seemingly unrelated regression (SUR) method has been employed to estimate two separate models for working capital and fixed capital, respectively. The model(s) not only focuses on the behavior of SMEs but also analyzes the behavior of SMEs reporting 'access to finance' as a major impediment in their growth in the survey. The regression results indicate that SMEs in Turkey, despite reporting problems in accessing finance are more dependent on bank financing for working capital. The result is in contrast to the full sample findings where similar SMEs depend less on bank financing and more on internal funds. The result may suggest dominant role of Turkish banking sector compared to the sample at large and policies to support bank financing for the SMEs in Turkey. Furthermore, the results for fixed capital financing for the overall sample shows higher dependence on non-banking modes of finance, supporting the conclusion that equity market(s) may offer viable solution in addressing the fixed capital financing constraints.

Keywords: SME finance, access to finance, seemingly unrelated regression.

ÖZET

Bu çalışma, KOBİ'lerin döner ve sabit sermaye yatırımlarına ilişkin davranışlarını ölçmeye çalışmaktadır. Çalışmada kullanılan kesit örneklem, Dünya Bankası Girişimcilik Anketine dayalıdır. Döner sermaye ve sabit sermaye yatırımlarına ilişkin iki ayrı model görünürde ilişkisiz regresyon (GİR) yöntemi kullanılarak tahmin edilmiştir. Bu modeller, sadece KOBİ'lerin sermaye kullanımlarına ilişkin davranışlarını değil, finansa erişimde sorun yaşayan KOBİ'lerin de davranışını ölçmeye çalışmaktadır. Regresyon sonuçları, Türkiye'de finansa erişimde sorun yaşayan KOBİ'lerin bile döner sermaye finansmanında bankacılık kesimine bağlı olduğunu göstermektedir. Bu sonuçlar, tüm ülkeleri kapsayan ve finansa erişimde sorun yaşayan firmaların daha fazla öz sermayeye bağlı olduğunu gösteren dünya örneklemi ile farklılaşmaktadır. Türkiye'ye ilişkin bu sonuçlar, Türkiye'de bankacılık sisteminin baskın yapısı ve politika uygulamalarının KOBİ'lerin bankacılık kanallarına erişimini sağlamaya yönelik olmasıyla açıklanabilir. Ayrıca, tüm ülkeleri kapsayan örneklem sabit sermaye yatırımlarının bankacılık dışı finansman kalemlerine daha fazla bağlı olduğunu göstermektedir. Bu durum, KOBİ'lerin sabit sermaye finansmanı kısıtlarını aşmasında sermaye piyasalarının uygun bir çözüm olduğunu desteklemektedir.

Anahtar Kelimeler: KOBİ finansmanı, finansa erişim, döner sermaye, sabit sermaye, görünürde ilişkisiz regresyon.

[1] **Dr., Department of Economics, Ankara Sosyal Bilimler Üniversitesi, Ankara, Turkey**
[2] **Dr., Ministry of Treasury and Finance, Ankara, Turkey.**

1. Introduction

Turkey has maintained strong economic performance over the last decade. Small and medium-sized enterprises (SMEs) have played a significant role in this respect.[1] However, SMEs in Turkey face impediments in getting access to finance which prevents them from reaching their medium and long-term potential. Fully cognizant of the role played by the SMEs in achieving sustainable and inclusive growth targets, government has introduced numerous policy measures to ease access to finance by SMEs'. These measures typically focus on easing access to bank loans through credit guarantees, interest subsidies, and direct lending. The main motivation for focusing on the credit markets is to overcome the credit-rationing problem, which arises from asymmetric information, adverse selection and moral hazard. Even securing financial sources by the SMEs does not automatically guarantee access to finance due to incompatibilities between types of available finance and their optimal capital structure. For example, supply of bank loans at high interest rates can be detrimental to the capital structure of the firm in the form of high capital expenditures, lower profits and distorted pricing behavior. Furthermore, high information asymmetries may make banks hesitant in extending credit to the SMEs, as it poses high risks without collaterals and lack of credible credit history of the borrowers. Apart from having access to finance problems, supply of external finance is also incompatible with the capital structure of the SMEs and it may lead to voluntarily exclusion of SMEs from the financial system.

Given these incompatibilities between supply of finance and the diverse capital structures of SMEs', this paper attempts to investigate whether there exists a relationship between SMEs' access to finance problems and their capital structure, such as financing of working and fixed capital. To test it empirically, we employ the World Bank Enterprise Survey (WBES), which is one of the most comprehensive firm-level data sets, covering over 135 world economies.

Section 2 presents descriptive measures about access to finance and sources of working and fixed capital for the SMEs in Turkey based on WBES. Section 3 discusses the role of firm characteristics in the determination of access to finance and the sources of working and fixed capital.

After the identification of relevant firm characteristics, Section 4 constructs an empirical model based on seeming unrelated regression (SUR) model, and presents analysis of our results. Finally, Section 5 makes policy recommendations based on the data analysis and regression results.

2. Access to and Sources of Finance: Some Observations from the SMEs in Turkey

The sources of finance for SMEs are expected to differ from large firms due to the differences in firm characteristics, access to information, and their perceptional differences. For example, Abdulsaleh and Worthington (2013) argue that there are at least three main differences between SMEs and large firms in their modes of financing. First, SMEs are more likely to be attached to commercial lenders, especially institutional lenders, for their short-term debt financing requirements. Second, the existence of information asymmetry is more severe in SMEs thus developing any long-term relationship is crucial to deal with the agency problem, in addition to issues pertaining to conventional mechanisms such as, signaling, monitoring and bonding (the provision of guarantee or collateral). Third, contrary to what the agency theory suggests, it is not clear whether debt can lower the agency costs resulting from information asymmetry, which arises due to different motives of owners and managers.

Traditional bank lending to SMEs poses more challenges as compared to large firms. This is mainly due to the greater difficulties that lenders face in assessing and monitoring SMEs. For example, SMEs often do not prepare audited financial statements with credible financial information and have no obligation to make public disclosures of their financial reports, causing asymmetric information problems. Moreover, the principle and agent problem is more acute in the SMEs compared to the large firms. Consequently, banks may charge higher interest rates and fees from the SMEs (Cusmano, 2013, 2015). Furthermore, venture capital and private equity industry is relatively new and entrepreneurs, especially in developing countries, have little familiarity with the equity model (Bouri et al., 2011). Apart from the aforementioned sources of financing differences, widespread use of supplier credit by SMEs compared to large firms is also been highligh-

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[1] This paper adopts the definition of SMEs from the World Bank Enterprise Survey database, which defines an SME as an entity with 5 to 99 employees. In the analysis, we decompose the firms into three main groups based on their size. Small firms have employees between 5 and 20, medium-sized firms have employees between 21 and 99 and large firms are defined as firms with 100 or more employees.

ted in the literature. Transaction and financing motives play an important role in this difference (Elliehausen & Wolken, 1993). As underscored by Abdulsaleh and Worthington (2013):

> The transaction motive suggests the better ability for both parties (the seller and the buyer) to predict their cash needs in the short-term. As such, cash management transaction costs can be economized. The financing motive is that SMEs resort to trade credit when alternative sources of finance are unavailable or more expensive.

Indeed, supplier or trade credit is a viable alternative mode of finance especially for young SMEs (Fatoki & Odeyemi, 2010).

Given the overview of the main sources of finance for the SMEs, the rest of this section introduces the WBES dataset and discusses some observations from the WBES dataset regarding the sources of working capital and fixed capital needs of the SMEs, as well as, the relationship between the sources of finance and the SMEs' impediments in access to finance.

The Enterprise Surveys of the World Bank Group allow a detailed exploration of variation in the use of financial services across firms with different characteristics. These surveys have been conducted over the past 10 years in over 100 countries with standardized survey instruments and a uniform sampling methodology. The survey aims at capturing business perceptions of the most important obstacles to enterprise operation and growth, but also include detailed information on companies' management and financing arrangements. Sample sizes vary between 250 and 1,500 companies per country and data are collected using either simple random or randomly stratified sampling techniques. The sample includes formal enterprises of all sizes, different age groups, and different ownership types in manufacturing, construction, services, and transportation. Firms from different locations, such as the capital city, major cities, and small towns, are included (Beck & Cull, 2014). In the original dataset, there are over 107,000 observations from 135 countries, 67 of which have at least two waves of surveys. In the current study, to interpret the results more clearly and to prevent having some confounding results, the database is re-formatted to generate a cross-section sample of firms. Only latest available surveys for each country have been included. After this process, the sample size, employed in this study, is reduced to around 80,000. It should be noted from the outset that we utilize the full sample instead

of just restricting the sample to Turkey. This strategy allows us to see whether there are statistically significant differences between Turkey and the rest of the world with respect to the explanatory variables and their relationships with sources of finance

Working capital refers to financing of short-term production activities and is essential to cover short-term liquidity needs (World Bank, 2011). In the WBES questionnaire, the firms select one of internal funds/retained earnings, bank loans, non-bank financial institutions, supplier credit and other means of financing as their primary sources of working capital. As per the design of the questionnaire, the sum of these sources of financing adds up to 100%. Figure 1 shows the decomposition of the sources of working capital with respect to the SMEs and the large firms. Both SMEs and their large counterparts disproportionally depend on their retained earnings and internal funds for their working capital needs. However, dependence of the retained earnings and the internal funds is lower for the large firms as a reflection of their easier access to external finance. Bank lending is the second largest source of financing for the firms but its share is higher for the large forms due to their easier access to bank loans. The third important source for the financing of working capital is the supplier credit, especially for the export-oriented firms.
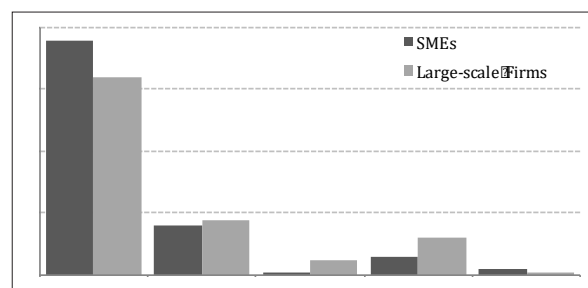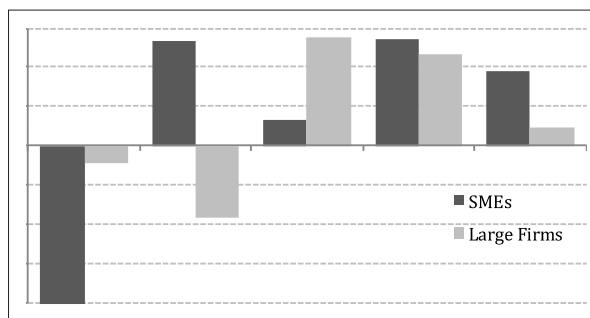

Source: World Bank Enterprise Surveys (September 2018 edition), Authors' calculations

Figure 1: Sources of Working Capital Financing

In the WBES, the firms are also specifically asked to rank their degree of having difficulty in access to finance. The question (k30) ranges from 1 to 5 and higher level indicates higher degree of self-reported obstacle in accessing to finance. Interclass (inter-cluster) correlations give a general idea of the association between the degree of having difficulty in access to finance and the sources of working capital. In such an investigation, positive correlation indicates more de-

pendence on a mode of financing of working capital as access to finance becomes more severe for the firm.

Figure 2 illustrates the correlations of different sources of financing for the SMEs and the large firms. Negative association between having obstacle in access to finance and depending on more internal funds is a priori expected outcome because a firm with enough internal funds is possibly less dependent on external finance for a given level of financing need. However, the negative correlation coefficient is more pronounced for the SMEs, indicating that SMEs are much more sensitive to availability of finance for their current operations. Much higher positive correlation coefficients of bank lending and supplier credit for the SMEs compared to their larger counterparts also confirm that access to finance problems are more pertinently associated with access to bank credit and supplier credit. In other words, the main means of finance for the SMEs that give rise to their access to finance problems is limited access to credit.
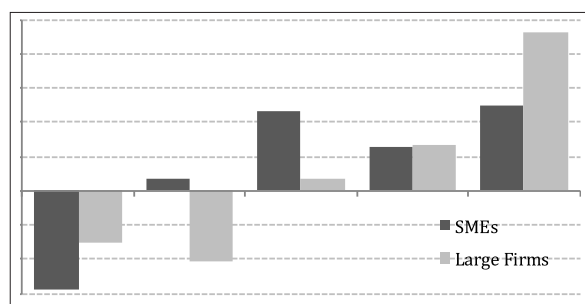
Figure 2: Interclass Correlation between Having Obstacle in Access to Finance and Primary Sources of Working Capital
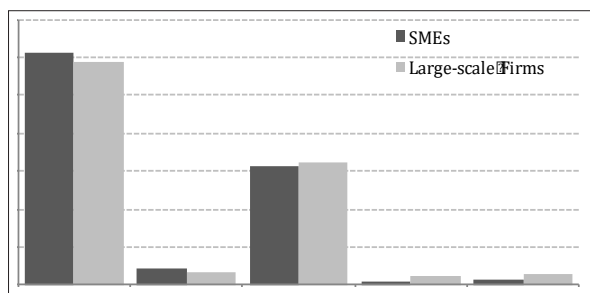
Figure 3: Sources of Fixed Capital Financing

Fixed capital refers to larger investments related to capital accumulation, such as in machinery or equipment (World Bank, 2011). In the WBES questionnaire, the firms select one of internal funds/retained earnings, equity, bank loans, non-bank financial institutions, supplier credit and other means of financing as their primary source of working capital. As per the design of the questionnaire sum of these means of financing adds up to 100%. Although sources of working capital are relatively more diversified, Figure 3 underlines that the bank credit is nearly the sole external source of finance for the firms for their fixed capital financing needs. Besides, the share of bank lending as the source of fixed capital financing needs, it is almost two-fold that of the working capital financing need for both types of firms.

Figure 4: Interclass Correlation between Having Obstacle in Access to Finance and Primary Sources of Fixed Capital

Figure 4 shows the interclass (inter-cluster) correlations between having obstacle in access to finance and primary sources of fixed capital. According to Figure 4, there is a negative association between equity issuance and impediments in access to finance for the large firms, which indicates that the large firms use equity issuance as a substitute for other means of financing. From the perspective of the SMEs, bank lending has the biggest positive correlation indicating that the bank lending seems to be the most important source of finance to surpass the access to finance problems. Supplier credit is another important source of financing for the SMEs that have obstacles in access to finance.

3. Role of Firm Characteristics on Access to Finance and Sources of Finance for SMEs

In Section 2 important observations have been made about relationship between having obstacles in access to finance and resorting to a specific source of finance. In this section, empirical model has been developed to further explore the relationship between the two by incorporating various firm's characteristics WBES reveals more than sixty firm characteristics ranging from size, age, current legal status, and export-orientation to having a female manager, share of working capital financing, and perceptions of firms about legal system. It poses important challenge to identify some of the most relevant characteristics to construct a "parsimonious" structure of the model. Our selection process of the characteristics are primarily based on the review of relevant literature. Abdulsaleh & Worthington (2013) emphasized size, age, ownership type, legal form, location, industry's sector, and asset structure as the most important firm characteristics. Batra & Mahmood (2003) analyzed the WBES dataset to understand how a variety of firm characteristics affect the firms' experience and perceptions of the constraints. They conclude that the firms that are private, smaller, and younger, devoid of foreign direct investment (FDI) and focus on the domestic market generally tend to face more acute business constraints. Similarly, Kira (2013) found that industrial sector, incorporation, age, and ownership are the most pertinent firm's characteristics of SMEs in East Africa. Wignaraja & Jinjarak (2015) also indicates that age, export participation, foreign ownership, managerial experience, financial audit, having ISO certificate and industry determines source of financing and type of collateral in East Asia. In addition to the aforementioned studies, there are many other studies at the country level, which underline age, ownership structure, management experience and industry as important firm characteristics in examining the financial structures of SMEs.

In line with the literature and relevance to SME financing, we include age, location, and ownership structure, industry in which an SME operates and share of exports in total sales as the most relevant firm characteristics pertinent to the financing structures of SMEs. Empirical analyses in the rest of this study

also confirm that these five selected aspects of firm characteristics explain a great deal of the variation in preferences for different sources of financing.

3.1. Firm Age

Firm age[2] is considered as one of the most important firm characteristics, which has important implications on the firms' access to finance and financing decisions as there is a direct link between age of a firm and its capital structure (Berger & Udell, 1995; Bhaird & Lucey, 2010) size, level of intangible activity, ownership structure and the provision of collateral are important determinants of the capital structure in SMEs. A generalisation of Zellners Journal of the American Statistical Association 57, 348368, 1962. Sources of financing differ over the life cycle of a firm. In the start-up stage, owner's personal savings are more important as a source of funds during the start-up stage than outside finance for SMEs but these funds are not usually to quench the financial needs of the firm fully (Storey, 1994).

In the early stages of the growth phase, bank loans, supplier/trade credits and leasing are the most important sources of financing while these sources are not sufficient to prevent liquidity problems. Towards the peak of the growth phase longer term financing becomes more important. On the other hand, insufficient availability of longer-term financing options, especially equity-based financing, give rise to "equity gap". Towards the maturity of the firm, equity and all other means of financing become available but loss of control and struggling against lower rate of return, which is reflected in the difficulty of attracting investors, are the main issues.

3.2. Sectoral Decomposition

While the WBES provides very detailed sectoral decomposition of the firms surveyed[3,] we aggregated the original decomposition into three consolidated sectors as "manufacturing", "services" and "others".[4]

3.3. Location of Firm

Population size and its density are among the important determinants of firms' choice of financing and their access to finance. For instance, proximity to the financial centers or bank branches is an important self-declared reason for not applying for a

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[2] In the World Bank Enterprise Survey, we don't have direct information on the age of the surveyed firms but the dataset has a variable on the year in which the firm started its operations; subtracting the survey year from this variable gives us the age of the firm.
[3] Stratified sectors have 48 and aggregated sectors have 15 subcomponents on the basis of ISIC-2 classification in the dataset.
[4] In the regressions, we transferred all these three variables into dummy variables.

loan (Demirgüç-Kunt & Klapper, 2012). There is also positive association between being in the proximity of banks and getting external finance, including but not limited to bank loans (Abdulsaleh & Worthington, 2013). This gives rise to a dilemma for SMEs. On the one hand, SMEs prefer to work in urban areas to raise enough external finance for their operations; on the other hand, urban areas are possibly much more costly for them in terms of high rentals and other operating costs (Abor, 2008). Indeed, "the accumulated studies also touched upon differences in growth patterns between rural and urban SMEs even within the same industry and among firms of similar sizes, with urban SMEs recording higher growth rates than rural ones" (Shinozaki, 2012). The World Bank Enterprise Survey provides information on the size of the population in which an observation (firm) operates. Thus, we use this variable as a proxy for the location and rural/urban distinction in the analysis.[5] A priori, a positive association between bigger city size and having less difficulty in access to finance is expected.

3.4. Firm Ownership

Ownership structure is assumed to be one of the important factors for private sector development, innovation and economic development. Indeed, in his blockbuster book Schumpeter underlines that entrepreneur is the prime propeller of economic development (Schumpeter & Elliott, 1982). Importance of the ownership structure lies in the fact that the ownership structure as a reflection of corporate governance may substitute for institutional flaws in case institutional structure is not well-developed such as underdeveloped legal system and political rights (Balsmeier & Czarnitzki, 2010). As a result, ownership structure is intimately pertinent to firm's financing choices and degree of impediments in access to finance. To give an example, incorporation may be considered as a positive sign with respect to formality and credibility by finance institutions, especially by banks (Cassar, 2004). The result then is a more favorable condition in getting external financing for the incorporations compared to sole proprietorships. Indeed, that limited private companies are more likely to be reliant on bank financing (Storey, 1994).

Access to finance is also associated with more efficient forms of organizations such as incorporation

(Beck, Demirgüç-Kunt, Laeven, & Maksimovic, 2006). As underlined by Van Auken and Neeley (1996),

> Owners launching firms organized as either a sole proprietorship or non-construction/manufacturing firms should be prepared to use more bootstrap financing than other firms. Owners of these types of firms should be prepared to develop a financial plan that incorporates the use of greater variety of financing alternatives than owners of firms organized other than a sole proprietorship non-construction / manufacturing firms. As such, a sole proprietorship of non-construction / manufacturing firms should recognize the potential for the associated greater number of constraints and difficulties in raising start-up capital.

There are two variables in the WBES, each of which gives a different aspect of the ownership structure of the firms surveyed. One of the variables in the dataset informs about the current legal status or form of the firm. Other one gives information about who owns the firm and what share each owner has. In the WBES, legal status of the firm fits into one of public listed, limited liability, sole proprietorship, partnership, limited partnership and other types. For the sake of easier interpretation, we consolidate legal status of the firm under three rubrics, namely, sole proprietorship, partnership and corporation because each of them represents a different institutional and corporate variety.

3.5. Export Orientation

The final firm characteristic, included in our model, is whether a firm is export oriented or its sales are export dominant. In this paper, a firm is export-oriented if its export share in sales is higher than its domestic sales. While export-orientation is a good candidate for the purpose of measuring effect of exports on sources of financing and access to finance, this measure suffers from two deficiencies. First, export performance of a firm is not independent from its counterparts in the country so it may give biased results if we compare export orientation of two firms in different countries with very different levels of trade openness and export biasedness. Secondly, industries in which the SMEs partake in a given country may have very different shares of export averages. Hence, a second export performance indicator, export dominance is introduced. According to this indicator, if a firm has export share over the country average, it is considered as an

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[5] In this respect, we classify the location or population variable as follows: Areas with population up to 50,000 is considered as a small city, with population between 50,000 and 1,000,000 are considered as a medium sized city and with population over 1,000,000 or capital cities are considered as a large city. Although population decomposition is a bit arbitrary, the main driver of this classification is to have a proxy of location effect in firms' access to finance.

export-dominated firm. Both of these indicators are employed in the analyses. In the WBES, firms are asked what share of their sales go to domestic markets, what shares of them are exported and what shares is exported indirectly. We aggregate direct and indirect exports as exports.

The literature emphasizes that export-oriented firms have easier access to finance (Arráiz, Meléndez, & Stucchi, 2011). Moreover, export processing zones are more likely to receive bank loans compared to other locations (Ayyagari, Demirgüç-Kunt, & Maksimovic, 2010). Empirical evidence supports that firms with better export performance have lower financing obstacles because of covered sunk cost of foreign market entry (Leitner & Stehrer, 2013). On the other hand, positive relationship between being a firm with better export performance and having access to finance is empirically slightly significant in upper-income countries and exporting behavior doesn't give rise to more use of trade credit, leasing or informal financing (Brown, Chavis, & Klapper, 2010).

4. The Model

Seemingly unrelated regression (SUR) model has been employed to determine the relationship between covariates of the sources of financing decisions with firm-level characteristics and SMEs related variables. The sources of financing decisions are based proportions of firms working capital and fixed asset purchases that have been financed by one of the given means of financing, as reported in the survey.

A system of equations is referred as seemingly unrelated regression (SUR) system if the error terms in the regression equations are contemporaneously correlated, even though these error terms superficially seem to be uncorrelated. Encompassing the correlations among the equations provides additional information which is over and above the information available when each of the equations are estimated separately. Powell's (2006). The seemingly unrelated regressions (SUR) model can be viewed as a special case of the generalized regression model given in equation:

$$E(y) = X\beta, \ V(y) = \sigma^2 \Omega \qquad (1)$$

The basic SUR model assumes that, for each individual observation i, there are M dependent variables $y_{i1}, y_{i2}, \ldots \ldots, y_{iM}$, each with its own linear regression equation:

$$y_{ij} = x'_{ij}\beta_j + \varepsilon_{ij}, i = 1, \ldots, N \qquad (2)$$

The standard conditions for the classical regression model are assumed to hold for the $jth\ firm$:

$$E(y_j) = X_j\beta_j \qquad (3)$$

$$V(y_j) = \sigma_{jj}\boldsymbol{I}_N \qquad (4)$$

with X_j non-stochastic variables with rank $(X_j) = K_j$. With additional condition y_j of multi-normality of, y_j the usual inference theory is valid for the classical Least Square (LS) estimator of β_j applied separately to each equation. However, the SUR model permits nonzero covariance between the error terms ε_{ij} and ε_{ik} for a given individual i across equations j and k, i.e.,

$$Cov(\varepsilon_{ij}, \varepsilon_{ik}) = \sigma_{ij} \qquad (5)$$

while assuming

$$Cov(\varepsilon_{ij}, \varepsilon_{i'k}) = 0 \qquad (6)$$

If $i \neq i'$. This can be expressed more compactly in matrix form:

$$C(\varepsilon_j, \varepsilon_k) = \sigma_{jk}\boldsymbol{I}_N \qquad (7)$$

It is the non-zero covariance across equations j and k that allows for an improvement in efficiency of generalized least squares (GLS) relative to the classical LS estimator of each β_j. As the contemporaneous correlation structure justifies employing the SUR estimation method over the ordinary least squares (OLS), failure in meeting two requirements reduces the SUR to equation-by-equation OLS.

First is the obvious case of errors uncorrelated across equations, so Σ is diagonal. The second case is less obvious but can often arise in practice. Even if Σ is non-diagonal, if each equation contains exactly the same set of regressors, so $X_j = X_{j'}$ for all j and j', then it can be shown that the FGLS systems estimator reduces to equation-by-equation OLS" (Cameron & Tridevi, 2010).

While the first requirement is easy to meet due to the fact that all of the dependent variables of the regression (means of financing) are directly dependent on each other as they must add up to 100%, the second requirement needs adjustment in the covariates (explanatory variables). To secure meeting the second requirement we follow a very simple yet effective way of estimation. In the first step, we estimate the SUR

system with the same covariates. In the second step, we drop the most insignificant covariate from each of the equations. This allows us to have slightly different covariates in each of the regressions in the system and to purge the covariates with no contribution to the estimation, if correlation between the purged covariate and the rest of the covariates are very low.

Given the SUR methodology explained above, the estimation strategy employed is to construct a system of equations for the financing choice of the firms by employing the SUR methodology to working capital and fixed capital, separately. The model specification is as follows:

$$y_{ij} = x'_{ij}\beta_j + \varepsilon_{ij}, i = 1, ..., N \qquad (8)$$

In this regard, each dependent variable in each of the system of equations constitutes one of the modes of finance. There are five dependent variables (internal funds, bank loans, non-banking financial institutions, supplier credit and others) as sources of financing for working and fixed capital in this system of equations. Explanatory variables include firm's characteristics, SME dummy variables, proxies for firms' degree of impediments to access to finance, and several interactions of variables. The explanatory variables and their short description are given in Appendix 1.

5. Results

The primary focus of the study is to examine the behavior of those firms in the sample that have reported "accessing finance" as their major constraint in general and that of SMEs in particular. The empirical model also allows to examine firm's behavior with respect to their specific characteristics. Furthermore, we have included dummy variables to see whether the firms in Turkey differs from the rest of the world.

In Table 1 summary of significant results with the signs of the coefficients have been provided. The full regression results are given in Appendix 2 and Appendix 3 for the working capital and fixed capital cases respectively. It should also be noted here that standardized regression coefficients are given in Appendix 2 and Appendix 3 to determine the relative importance of each of the covariates in the regression framework. Thus, a coefficient gives an account of how many standard deviations a given source of financing changes as per one-unit standard deviation change in a covariate of interest.

Before presenting the regression results pertaining to SMEs and firms reporting access to finance as major

impediment, we first discuss the overall results related to the specific characteristics of the firms. The regression outputs indicate that age of the firm has significant impact in choosing the mode of financing both for working capital and fixed capital financing needs. Older firms depend more on bank financing while reducing their dependence on internal mode of financing. The results for Turkish firms were not significantly different except they seem more dependent on 'supplier credit' for WC financing requirements. Another important finding from the regressions is that the manufacturing firms tend to use both internal funds and banking finance and depend less on supplier credits. The Turkish manufacturing firms, however, use internal funds for their working capital financing more compared to full sample results. Firms with greater share of their output in exports rely less on internal funds and depend more on the rest of the modes of finance. Turkish firms in this group are not statistically different from the rest of the world sample. It is in line with the priori expectation that the shareholding firms at large depend less on banking finance both for working capital and fixed capital financing needs. However, Turkish firms seem to depend less on internal funds and more on banking financing for their working capital financing needs. The results for fixed capital were not significant for Turkey. Finally, it should be noted that the SME's dependence on banking finance is less than most of the other modes of finance. SME's in Turkey use internal finance for working capital, whereas the result for the rest of the sample is not significant.

Detailed results related to SMEs and firms reporting access to finance as an important constraint in their growth are, for WC, are reported in Appendix 2. The regression results indicate that the SMEs in Turkey are forced to rely on their internal funds as their access to finance problems intensifies, although the positive association is smaller compared to the rest of the world (0.06-0.04=0.02). This is an expected outcome in line with the results reported in the literature. However, use of bank loans for the working capital finance reveals few interesting results. The relationship is negative in the full sample (-0.08) but SMEs in Turkey are comparably biased towards using more bank loans as their access to finance problems intensify (-0.08+0.07=0.01). This reflects the dominant role of the banking system in Turkey. Given the lack of other modes of finance for working capital, SMEs in Turkey resort to bank lending, irrespective of the interest rate(s) and other conditions of lending. Use of finance from the non-bank financial institutions also reveals interesting results for Turkey.

Although there is no significant association in the full sample there is a negative association for the SMEs in Turkey indicating that the SMEs with less constraining access to finance obstacles resort to the non-bank financial institutions (-0.03). There is also no significant association between access to finance and other modes of finance for working capital needs of the SMEs. The first regression output indicates that the SMEs in Turkey are more dependent on the banking system compared to their peers in the rest of the world even if they have limited access to finance for their working capital needs. Furthermore, the negative association between access to finance variable and use of finance from the non-bank financial institutions implies that there is an opportunity for the firms to resort to the non-bank financial institutions.

Appendix 3 presents the results of relationship between access to finance and components of the fixed capital by the firms based on the SUR model. The regression output in Appendix 3 indicates that there is no significant association between the use of the internal funds and access to finance problems.

There is also a negative association between having more obstacles in access to finance and use of equity as a means of fixed capital finance (-0.04). There is no difference with respect to this association between the SMEs in turkey and the rest of the world. This is an expected result from the literature since equity-based finance requires managerial, institutional and financial capability of the firms that are negatively related to the access to finance problems. Interestingly, there is no significant association regarding the relationship between having problems in access to finance and resorting to the bank loans. There is also no significant association regarding the relationship between having problems in access to finance and resorting to the finance from the non-bank financial institutions, as well as, supplier credit. On the other hand, the association is positive and quite high (0.05) between having problems in access to finance and resorting to the finance from other sources of finance. The second regression output indicates that there is big room for the SMEs to resort to the equity market for overcoming their access to finance problems.

Table 1: Sign of the Statistically Significant Explanatory Variables in the Regression Framework

	Internal Funds		Banking Finance		Equity		Non-Bank Fin. Institutions		Supplier Credit		Other	
	WC	FC	WC	FC	WC	FC	WC	FC	WC	FC	WC	FC
firmage	-	-	+	+	N/A			+			-	-
firmage_tr					N/A				+			
dummanuf	+	+	+	+	N/A	+			-		-	
dummanuf_tr	+				N/A							
dumserv	-	+	+	+	N/A							
dumserv_tr	+		+		N/A				+			
population		+	-	-	N/A		+	-	-		+	
population_tr				+	N/A	-	-					
soleprop	+	+	-	-	N/A		+				+	+
soleprop_tr	-	+	+		N/A							
sharehold	+	+	-	-	N/A	-	+	+	+	+	-	
sharehold_tr	-		+		N/A							
exportshare	-	-	+	+	N/A	+	+	+	+	+	+	+
exportshare_tr					N/A		+					+
smedum			-	-	N/A	+			+	+	+	
smedum_tr	+		-		N/A		+					
accessfin	-	-	+	+	N/A	+	+		+	+	+	
accessfin_tr			-		N/A	-				+		
sme_accessfin	+		-		N/A	-			-		+	+
sme_accessfin_tr	-		+		N/A		-					

6. Coonclusion

The primary aim of this paper is to analyze the behavior of firms that are more constrained in accessing finance with particular emphasis on SMEs The World Bank Enterprise Survey (WBES) data, covering over 135 world economies, have been employed. Using Seemingly Related Regression (SUR) method, two separate empirical models have been estimated for financing of working capital (WC) and fixed capital. The explanatory variables describing various characteristics of the firm have also been included in the model as control variables.

Several interesting results have been obtained for the general characteristics of the firms and their preferences for the modes of financing working and fixed capital requirements. First, older firms seem to depend less on internal financing and more on bank financing both for the WC and FC. However, firms in the manufacturing and services sectors rely both on internal fund and bank financing. The Turkish firms were not found to behave differently than the full sample results. Second, the firms with greater share in exports rely on all modes of finance, however, they depend less on their internal funds. Again Turkish firms in this group were not found to be different.

The results pertaining to SMEs and SMEs reporting access to finance as one of the major constraints presents several interesting results. First, SMEs having problems with access to finance depend less on bank financing and depend more on their internal funds for WC, however, Turkish SMEs in the same group depend more on bank financing and less on their internal funds. This may suggest a more dominant role of banks in Turkey as compared to the rest of countries covered in the sample. The results for financing of FC, however, were not significant. Second, the association between having problems in access to finance is significantly positive and other sources of financing. The results do support the conclusion that there is potential for equity markets to address the financing issues.

REFERENCES

Abdulsaleh, A. M., & Worthington, A. C. (2013). Small and Medium-Sized Enterprises Financing: A Review of Literature. *International Journal of Business and Management*, *8*(14), 36–54. https://doi.org/10.5539/ijbm.v8n14p36

Abor, J. (2008). *Determinants of the Capital Structure of Ghanaian Firms* (No. 176). *AERC Research Paper*. Nairobi.

Arráiz, I., Meléndez, M., & Stucchi, R. (2011). *The Effect of Partial Credit Guarantees on Firm Performance: the Case of the Colombian National Guarantee Fund* (Working Paper Series 0212).

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2010). Formal versus Informal Finance: Evidence from China. *Review of Financial Studies*, *23*(8), 3048–3097. https://doi.org/10.1093/rfs/hhq030

Balsmeier, B., & Czarnitzki, D. (2010). *Ownership Concentration Institutional Development and Firm Performance in Central and Eastern Europe*. *ZEW Discussion Paper* (Vol. 10-096). https://doi.org/10.1002/mde.2751

Batra, G., & Mahmood, S. (2003). *Direct Support to Private Firms: Evidence on Effectiveness* (No. 3170). *World Bank Policy Research Working Paper*.

Beck, T., Demirgüç-Kunt, A., Laeven, L., & Maksimovic, V. (2006). The determinants of financing obstacles. *Journal of International Money and Finance*, *25*(6), 932–952. https://doi.org/10.1016/j.jimonfin.2006.07.005

Berger, A. N., & Udell, G. F. (1995). Relationship Lending and Lines of Credit in Small Firm Finance. *The Journal of Business*, *68*(3), 351. https://doi.org/10.1086/296668

Bhaird, C. mac an, & Lucey, B. (2010). Determinants of Capital Structure in Irish SMEs. *Small Business Economics*, *35*(3), 357–375.

Bouri, A., Breij, M., Diop, M., Kempner, R., Klinger, B., & Stevenson, K. (2011). Report on Support to SMEs in Developing Countries Through Financial Intermediaries. *Dalberg Global Development Advisors*, (November), 48. Retrieved from http://eudevdays.eu/sites/default/files/dalberg_sme-briefing-paper.pdf

Brown, G. W., Chavis, L. W., & Klapper, L. F. (2010). Institutions, External Financing, and Growth around the World: A New Lease on Life? *AFA 2008 New Orleans Meetings Paper*. Durham, NC: American Finance Association. https://doi.org/10.1017/CBO9781107415324.004

Cameron, A. C., & Tridevi, P. K. (2010). *Microeconometrics Using Stata* (Revised). Stata Press.

Cassar, G. (2004). The Financing of Business Start-ups. *Journal of Business Venturing*, *19*(2), 261–283.

Cusmano, L. (2013). SME and Entrepreneurship Financing: The Role of Credit Guarantee Schemes and Mutual Guarantee Societies in supporting finance for small and medium-sized enterprises, *33*(2012), 1–65. Retrieved from http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=CFE/SME(2012)1/FINAL&docLanguage=En

Cusmano, L. (2015). *New approaches to SME and Entrepreneurial Financing: Broadening the Range of Instruments*. Paris: Organisation for Economic Co-operation and Development.

Demirgüç-Kunt, A., & Klapper, L. (2012). *Measuring Financial Inclusion: The Global Findex Database* (Policy Research Working Paper No. 6025). Washington, D.C.

Elliehausen, G. E., & Wolken, J. D. (1993). *The Demand for Trade Credit : An Investigation of Motives for Trade Credit Use by Small Businesses* (Staff Studies No. 165).

Fatoki, O., & Odeyemi, A. (2010). The Determinants of Access to Trade Credit by New SMEs in South Africa. *African Journal of Business Management*, *4*(13), 2763–2770.

Kira, A. R. (2013). Determinants of Financing Constraints in East African Countries' SMEs. *International Journal of Business and Management*, *8*(8), 49–68. https://doi.org/10.5539/ijbm.v8n8p49

Leitner, S. M., & Stehrer, R. (2013). Access to Finance and Funding Composition During the Crisis: A Firm-level analysis of Latin American Countries. *Latin American Journal of Economics*, *50*(1), 1–47. https://doi.org/10.7764/LAJE.50.1.1

Powell, J. L. (2006). Zellner's Seemingly Unrelated Regressions Model. Department of Economics, University of California-Berkeley.

Schumpeter, J. A., & Elliott, J. E. (1982). *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*. Transaction Publishers.

Shinozaki, S. (2012). *A New Regime of SME Finance in Emerging Asia: Empowering Growth-Oriented SMEs to Build Resilient National Economies* (ADB Working Paper Series on Regional Economic Integration No. 104).

Storey, D. J. (1994). *Understanding the Small Business Sector*. Cengage Learning EMEA.

Van Auken, H. E., & Neeley, L. (1996). Evidence of Bootstrap Financing among Small Start-Up Firms. *Journal of Entrepreneurial and Small Business Finance*, *5*(3), 235–249.

Wignaraja, G., & Jinjarak, Y. (2015). *Why Do SMEs Not Borrow More from Banks? Evidence from the People's Republic of China and Southeast Asia. ADBI Working Paper Series*. Tokyo. Retrieved from http://www.adbi.org/working-   paper/2015/01/09/6523.why.do.sme.not.borrow.from.banks/

World Bank. (2011). World Bank's Enterprise Survey Understanding the Questionnaire. *The World Bank*. Washington, D.C. Retrieved from http://www.enterprisesurveys.org/~/media/GIAWB/EnterpriseSurveys/Documents/Methodology/Questionnaire-Manual.pdf

Appendix 1: Explanatory Variables in the Regression Framework

Variables	Description
firmage	Age of firm in years
firmage_tr	Age of firm in years*Turkey dummy
dummanuf	Dummy variable, =1 if the main activity of firm is manufacturing
dummanuf_tr	Dummy variable, =1 if the main activity of firm is manufacturing*Turkey dummy
Dumserv	Dummy variable, =1 if the main activity of firm is services
dumserv_tr	Dummy variable, =1 if the main activity of firm is services*Turkey dummy
population	Location of the firm, see footnote 7 for further information
population_tr	Location of the firm*Turkey dummy
soleprop	Dummy variable, =1 if legal status of firm is sole proprietorship
soleprop_tr	Dummy variable, =1 if legal status of firm is sole proprietorship*Turkey dummy
sharehold	Dummy variable, =1 if legal status of firm is corporation
sharehold_tr	Dummy variable, =1 if legal status of firm is corporation*Turkey dummy
exportshare	Share of export in total sales (as % of total)
exportshare_tr	Share of export in total sales (as % of total)*Turkey dummy
Smedum	SME dummy, =1 if the firm is an SME
smedum_tr	SME dummy, =1 if the firm is an SME*Turkey dummy
accessfin	Degree of obstacles in access to finance (1 to 5: higher level means more severe is the access to finance)
accessfin_tr	Degree of obstacles in access to finance (1 to 5: higher level means more severe is the access to finance) *Turkey dummy
sme_accessfin	Interaction variable of SME dummy*access to finance variable
sme_accessfin_tr	Interaction variable of SME dummy*access to finance variable* Turkey dummy

Appendix 2: Seemingly Unrelated Regression (Standardized Coeffs): Working Capital

		Internal Funds	Bank Financing	Non-Bank Financial Institutions	Supplier Credit	Other
Control variables	firmage	-0.02***	0.02***	-0.00	0.02***	-0.01***
	firmage_tr	0.01	0.00	-0.00	-0.02**	0.00
	dummanuf	1.09***	0.51***	-0.00	0.00	-0.03*
	dummanuf_tr	-0.01	dropped	0.00	0.02	0.01
	dumserv	1.13***	0.43***	dropped	0.01**	-0.01
	dumserv_tr	-0.02**	0.01***	dropped	0.01	0.01
	population	0.08***	-0.09***	0.01**	-0.04***	0.03***
	population_tr	0.01	-0.00	-0.04***	0.01	-0.01
	soleprop	0.10***	-0.15***	0.02***	dropped	0.02***
	soleprop_tr	-0.02**	0.02***	0.01	dropped	-0.01
	sharehold	0.05***	-0.10***	0.02***	0.05***	-0.01**
	sharehold_tr	-0.03**	0.04**	0.01	-0.01	dropped
	exportshare	-0.07***	0.04***	0.04***	0.02***	0.04***
	exportshare_tr	dropped	-0.00	0.01*	0.00	0.00
SME variables	smedum	0.01	-0.04***	0.01	0.02***	0.03***
	smedum_tr	0.04**	-0.03**	0.03*	-0.03	-0.01
	accessfin	-0.17***	0.12***	0.04***	0.09***	0.04***
	accessfin_tr	0.02	-0.05***	0.03	0.02	-0.00
	sme_accessfin	0.06***	-0.08***	0.00	-0.03*	0.03**
	sme_accessfin_tr	-0.04***	0.07***	-0.03*	-0.00	-0.00
	N	54,406	54,406	54,406	54,406	54,406
	R-square	0.0400	0.0504	0.00426	0.0109	0.0113

* p<0.10, ** p<0.05, *** p<0.010
Source: World Bank Enterprise Surveys Database
Survey-weighted observations are used through Stata's svy prefix.

Appendix 3: Seemingly Unrelated Regression (Standardized Coeffs): Fixed Capital

		Internal Funds	Equity	Bank Financing	Non-Bank Financial Institutions	Supplier Credit	Other
Control variables	firmage	-0.03***		0.03***	0.04***	-0.00	-0.02***
	firmage_tr	-0.00		0.00	-0.00	-0.01	0.00
	dummanuf	0.88***	0.02**	0.49***		0.00	0.00
	dummanuf_tr	0.01	0.03	-0.02		-0.01	-0.03
	dumserv	0.90***	0.00	0.46***	-0.00	0.03	0.01
	dumserv_tr		0.02	-0.01	0.01	-0.01	-0.01
	population	0.08***	-0.01	-0.10***	-0.02**		0.01*
	population_tr	-0.03	-0.05*	0.05**	0.01		0.00
	soleprop	0.10***	-0.01	-0.14***	0.01	0.00	0.04***
	soleprop_tr	-0.03**	0.02	0.03	-0.00	0.01	-0.01
	sharehold	0.05***	-0.02**	-0.09***	0.05***	0.04***	
	sharehold_tr	-0.04	0.05	0.03	-0.03	-0.01	
	exportshare	-0.05***	0.03***	0.02**	0.01*	0.05***	0.02***
	exportshare_tr	-0.00	-0.00		0.01	-0.02	0.02**
SME variables	smedum	0.00	0.03**	-0.06***	0.02	0.04**	0.02
	smedum_tr	0.02	-0.02	-0.02	-0.02	0.01	0.02
	accessfin	-0.11***	0.07***	0.05***	0.02	0.06***	0.02
	accessfin_tr	0.00	-0.04*	-0.01	0.02	0.05**	-0.00
	sme_accessfin	0.01	-0.04**	-0.00	0.01	-0.01	0.05**
	sme_accessfin_tr	-0.01	0.03	0.03	-0.01	-0.04	-0.02
N		18,942	18,942	18,942	18,942	18,942	18,942
R-square		0.0311	0.00339	0.0367	0.00604	0.00766	0.0105

*p<0.10, ** p<0.05, *** p<0.010
Source: World Bank Enterprise Surveys Database
Survey-weighted observations are used through Stata's svy prefix.

Evaluating the asymmetric effects of production, interest rate and exchange rate on the Turkish stock prices

Üretimin, Faiz Oranın ve Döviz Kurunun Türk Hisse Senedi Fiyatlarına Asimetrik Etkilerinin İncelenmesi

Hüseyin KAYA[1]
Barış SOYBİLGEN[2]

🆔 *https://orcid.org/0000-0002-2231-9675*
🆔 *https://orcid.org/0000-0003-4906-1878*

ABSTRACT

The relationship between stock prices and macro variables has been studied exhaustively in the literature. However, most of the studies assume that this relationship is linear. In this paper, we evaluate the asymmetric effects of production, the interest rate and the exchange rate on Turkish stock prices using non-linear autoregressive distributed lags models. We find that there are both long-run and short-run asymmetric relationships between macro variables and Turkish stock prices. Our results indicate that non-linear models can yield more plausible results compare to linear models.

Keywords: Stock Prices, macro variables, interest rate, asymmetry, exchange rate

ÖZET

Hisse senedi fiyatları ve makro ekonomik değişkenler arasındaki ilişki yazında etraflıca incelenmiştir. Bununla birlikte çoğu çalışma bu ilişkinin doğrusal olduğunu varsaymıştır. Bu çalışmada üretimin, faiz oranın ve döviz kurunun Türk hisse senedi fiyatlarına asimetrik etkilerini doğrusal olmayan gecikmesi dağıtılmış otoregressif modeller kullanarak değerlendirilmiştir. Çalışmada makro ekonomik değişkenler ile Türk hisse senedi fiyatları arasında hem kısa dönemli hem de uzun dönemli ilişki tespit edilmiştir. Sonuçlar doğrusal olmayan modellerin doğrusal modellere kıyasla daha anlamlı sonuçlar verdiğini göstermiştir.

Anahtar Kelimeler: Hisse senedi fiyatları, makro değişkenler, faiz oranı, asimetri, döviz kuru

1. Introduction

The price of a stock is closely related to firm's fundamentals and future perspectives as well as global and domestic macro factors. For example the Arbitrage Pricing Theory (APT), developed by Ross (1976), states that the return of a security is determined by a number of systematic factors, and the literature shows that macro-economic factors are among them (Chen et. al., 1986; Rapach, 2001; Peiro, 2016).

On the other hand, widely used theoretical stock valuation models such as dividend discount models, free cash flow models or residual income models utilize the present value of forecasted future cash flows of the company. In a simple and general setup, these valuation models can be represented as:

$$P_t = \sum_{i=0}^{\infty} \frac{E(z_{t+i}|\Omega_t)}{(1+r)^i}$$

where P_t is the price of a security, $E(z_{t+i}|\Omega_t)$ is expected future dividends (free cash flows or residual income depending on the valuation method) per share conditional on available information at time t, and r is the discount rate. Future cash flows of a company in a country are not only depended on firm specific factors but are also depended on macroeconomic conditions suggesting that there is a connection between macro-economic variables and stock prices. In addition to this, the discount rate is a function of the risk-free rate and the risk premium. The monetary policy determines the risk-free rate. The monetary policy is usually specified by an interest rate rule, developed by Taylor (1993) and

[1] **Doç. Dr., İstanbul Medeniyet Üniversitesi, İktisat Bölümü, huseyin.kaya@medeniyet.edu.tr**
[2] **Dr. Öğr. Üyesi, İstanbul Bilgi Üniversitesi, İşletme Bölümü, baris.soybilgen@bilgi.edu.tr**

known as Taylor rule, in which the interest rate (policy rate) is a function of the inflation rate and the output gap. In an emerging market like Turkey, the exchange rate also plays an important role in the monetary policy. For example in the monetary and exchange rate policy document of the Central Bank of Turkey (CBRT), it is clearly stated that "*to limit the risks to financial stability, CBRT does not remain unresponsive to an excessive Turkish Lira appreciation or depreciation*" (CBRT, 2016, p.2). The second component of the discount rate, the risk premium, is also related to macro-economic variables. Mannonen and Oikarinen (2013) show that monetary policy aggregates, the risk-free interest rate, the term structure of interest rates, inflation, and the state of the business cycle influence the risk premium. Studies in the macro-finance literature also document that the variation of the risk premium is responsive to macro economic factors (Ang and Piazzesi, 2003; Gürkaynak and Wright 2012, Rudebush and Wu, 2008).

While plenty of research investigates the relationship between macroeconomic variables and stock prices/returns (inter alia Bodurtha et al., 1989; Cheung and Ng, 1998; Fraser and Groeneworld, 2006; Groeneworld, 2004; Huang and Guo, 2008; Humpe and Mcmillian, 2009; Kwon and Shin, 1999; Lee, 1992; Louis and Eldomiaty 2010; Maysami and Koh, 2000; Mukherjee and Naka, 1995; Nasseh and Straus, 2000), they assume that this relationship is symmetric. However, recent studies find evidence for the nonlinear relationship between stock returns and macroeconomic variables (Bonga-Bonga and Makkalebule, 2010; Guidolin et al. 2009). For example, Hiemstra and Kramer (1997) provide empirical evidence for the nonlinear causal relationship between macro factors and stock prices. Guidolin and Ono (2006) and Erdoğan and Tirkyaki (2018) document non-linearity in the relationship between stock returns and macroeconomic variables. Guidolin et al. (2009) and Bredin, Hyde and O'Reilly (2008) show that considering the nonlinear effect of macro variables on stock returns improves the returns' predictability. Furthermore, Cuestas and Tang (2015), Bahmani-Oskooee and Saha (2015, 2016, 2018), and Cheah et al. (2017) document non-linearity between

stock prices and the exchange rate for various countries.

In this study, we aim to contribute to the existing literature by examining asymmetric effects of a set of widely monitored macroeconomic variables on the Turkish stock price index namely: the industrial production index, the interest rate and the exchange rate. We employ the nonlinear autoregressive distributed lags (NARDL) model of Shin et al. (2014) which has become a major workhorse model for the investigation of nonlinear relationships.

The Borsa Istanbul (BIST) is the only stock exchange operating on the Turkish stock market. With the total trading value, reached 13.02 trillion TL in 2016 (4.3 trillion US dollar), the BIST is one of the biggest emerging stock market. As of November 2017, the market capitalization of listed companies is 218.2 billion USD. Currently, the number of traded companies on the BIST is 410 and the BIST has its own indexes, tracking the performance of top 30 (BIST30), top 50 (BIST50), and top 100 (BIST100) companies[1]. The rest of the paper is organized as follows. Section two provides the estimation methodology and data. Section three reports the empirical results and finally, the last section concludes the paper.

2. The methodology and data

In order to investigate the effect of output, the interest rate, and the exchange rate on stock prices, we use both linear autoregressive distributed lags (ARDL) models and NARDL models. Studies usually focus on linear/symmetric models to analyze the long-run relationship between macro or financial variables and stock prices. However, the recent literature on nonlinear models shows that omitting nonlinear relationships between variables may cause researchers to derive biased inferences from regressions. Therefore, we adopt NARDL models to analyze the presence of asymmetric relationships between macro variables and stock prices.

First, we use the following linear error-correction model (Model 1) to analyze linear relations:

$$LnS_t = \beta_1 + \beta_2 LnS_{t-1} + \beta_3 LnFX_{t-1} + \beta_4 LnIPI_{t-1} + \beta_5 LnINT_{t-1} + \sum_{i1=1}^{12} \alpha_{1,i1} \Delta LnS_{t-i1} +$$

$$\sum_{i2=0}^{12} \alpha_{2,i2} \Delta LnFX_{t-i2} + \sum_{i3=0}^{12} \alpha_{3,i3} \Delta LnIPI_{t-i2} + \sum_{i4=0}^{12} \alpha_{4,i4} \Delta LnINT_{t-i2} + \varepsilon_t,$$

(1)

where is the Borsa Istanbul (BIST) 100 Index, is the Turkish Lira/US Dollar nominal exchange rate, is

the Turkish industrial production index, and is the 2 year benchmark interest rate[2] in Turkey. All variables

are monthly and the time span is between 2003:M01 and 2017:M06[3] and they are obtained from the Turkish Data Manager (TDM). Figures 1 to 4 show the evaluation of the aforementioned variables over the considered period. Figure 1 and Figure 3 show a constant upward trend except the decline in the 2008-2009 crisis. Figure 2 shows that the TL/$ nominal exchange rate fluctuates around 1.5 until the end of 2010, then the Turkish Lira began to depreciate rapidly. Figure 4 shows that after Turkey adopted implicit inflation targeting, the benchmark interest rate declined to the 10% from 60% gradually and stabilized around 10% from 2010 forward.
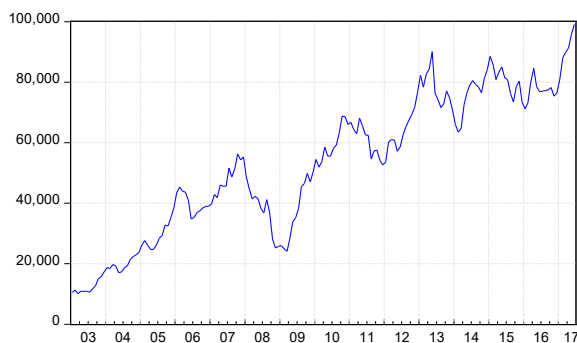
Figure 1: BIST100 Index

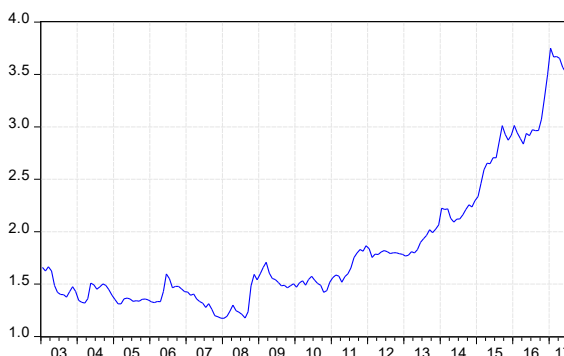**Figure 2:** TL/$ nominal exchange rate

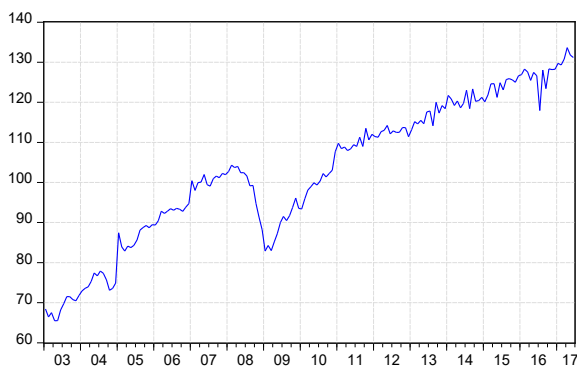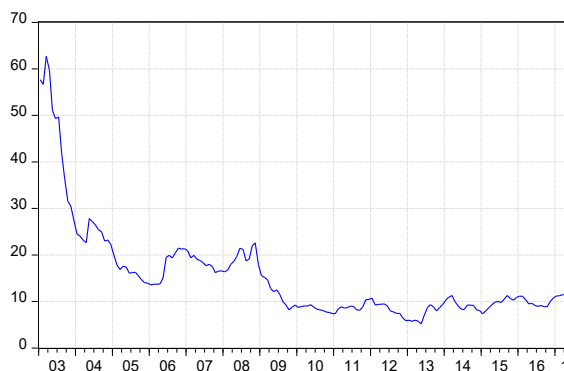**Figure 3:** Industrial Production Index

Figure 4: Benchmark interest rate (%)

We use a general to specific approach to determine the lag structure. To determine the existence of co-integration relationships between variables, we use the Pesaran et al. (2001) bound test. Once the cointegration relationship is detected, $\frac{\beta_3}{\beta_2}, \frac{\beta_4}{\beta_2}$, and $\frac{\beta_5}{\beta_2}$ are used to measure the long-run elasticities of the BIST 100 index with respect to FX, IPI and INT, respectively. Similarly, coefficients of the first-differenced variables measure the short-run influence of corresponding variables on stock prices.

Secondly, we modify the Equation 1 to analyze asymmetric effects of the exchange rate on stock prices. To accomplish this task, we calculate negative and positive changes in $\Delta LnFX_t$ following Shin et al. (2014) as below:

$$FX - P_t = \sum_{j=1}^{t} \max\left(\Delta LnFX_j, 0\right) \text{ and } FX - N_t = \sum_{j=1}^{t} \min\left(\Delta LnFX_j, 0\right),$$

where $FX - P_t$ and $FX - N_t$ are the partial sum of currency appreciations and currency depreciations in TL/$, respectively. Then, our new model (Model 2) which contains asymmetries in FX_t is defined as follows:

$$LnS_t = \beta_1 + \beta_2 LnS_{t-1} + \beta_3 FX\text{-}P_{t-1} + \beta_4 FX\text{-}N_{t-1} + \beta_5 LnIPI_{t-1} + \beta_6 LnINT_{t-1} +$$

$$\sum_{i1=1}^{12} \alpha_{1,i1}\Delta LnS_{t-i2} + \sum_{i2=0}^{12} \alpha_{2,i2}\Delta FX\text{-}P_{t-i2} + \sum_{i3=0}^{12} \alpha_{3,i3}\Delta FX\text{-}N_{t-i3} + \sum_{i4=0}^{12} \alpha_{4,i4}\Delta LnIPI_{t-i4} + \quad (2)$$

$$\sum_{i5=0}^{12} \alpha_{5,i4}\Delta LnINT_{t-i4} + \varepsilon_t.$$

Shin et al. (2014) show that the cointegration relationship in the Equation 2 can be tested by the Pesaran et al.'s (2001) bound testing approach. In this setup, the coefficients of $FX - P_t$ and $FX - N_t$ and their first differences are used to investigate the existence of the asymmetric relationship between the exchange rate and the BIST 100 index in the long-run and the short-run, respectively. More specifically, β_3/β_2 shows the long-run elasticity of the BIST 100 with respect to the

exchange rate appreciation and shows the long-run elasticity with respect to the exchange rate depreciation. So, the presence of the long-run asymmetry can be determined by testing the null hypothesis of $\beta_3/\beta_2 = \beta_4/\beta_2$ using the Wald test.

Finally, we analyze asymmetric effects of all exogenous variables on stock prices by using the following model (Model 3):

$$LnS_t = \beta_1 + \beta_2 LnS_{t-1} + \beta_3 FX\text{-}P_{t-1} + \beta_4 FX\text{-}N_{t-1} + \beta_5 IPI\text{-}N_{t-1} + \beta_6 IPI\text{-}P_{t-1} + \beta_7 INT\text{-}N_{t-1} +$$

$$\beta_8 INT\text{-}P_{t-1} + \sum_{i1=1}^{12} \alpha_{1,i1}\Delta LnS_{t-i1} + \sum_{i2=0}^{12} \alpha_{2,i2}\Delta FX\text{-}P_{t-i2} + \sum_{i3=0}^{12} \alpha_{3,i3}\Delta FX\text{-}N_{t-i3} +$$

$$\sum_{i4=0}^{12} \alpha_{4,i4}\Delta IPI\text{-}P_{t-i4} + \sum_{i5=0}^{12} \alpha_{5,i5}\Delta IPI\text{-}N_{t-i5} + \sum_{i6=0}^{12} \alpha_{6,i6}\Delta INT\text{-}N_{t-i6} + \quad (3)$$

$$\sum_{i7=0}^{12} \alpha_{7,i7}\Delta INT\text{-}P_{t-i7} + \sum_{i8=0}^{12} \alpha_{8,i8}\Delta INT\text{-}P_{t-i8} + \varepsilon_t,$$

where $IPI\text{-}P_t = \sum_{j=1}^{t} \max(\Delta LnIPI_j, 0), IPI\text{-}N_t = \sum_{j=1}^{t} \min(\Delta LnIPI_j, 0), INT\text{-}P_t =$

$\sum_{j=1}^{t} \max(\Delta LnINT_j, 0)$ and $INT\text{-}N_t = \sum_{j=1}^{t} \min(\Delta LnINT_j, 0).$

All the models are estimated by the ordinary least squares. In order to arrive the final specification of the NARDL models, we adopt a general-to-specific procedure as we did in the linear model.

3. Empirical Results

Equations 4, 5 and 6 show the estimates of Models 1, 2, and 3, respectively. Table 1 presents long-run effects of exogenous variables, diagnostic tests, long-run asymmetry tests, and short-run asymmetry tests.

$$\widehat{LnS}_t = 0.60 - 0.12 * LnS_{t-1} + 0.04 * LnFX_{t-1} + 0.20 * LnIPI_{t-1} - 0.072 * LnInt_{t-1} + 0.13 * \Delta LnS_{t-11} + 0.99 *$$

$$\Delta LnS_{t-5} + 0.12 * \Delta LnS_{t-2} + 0.09 * \Delta LnS_{t-9} - 0.99 * \Delta LnFX_t - 0.22 * \Delta LnFX_{t-12} + 0.21 * \Delta LnIPI_{t-2} - 0.36 * \quad (4)$$

$$\Delta LnINT_t$$

$$\widehat{LnS}_t = 0.30 - 0.07 * LnS_{t-1} + 0.06 * FX\text{-}P_{t-1} + 0.15 * FX\text{-}N_{t-1} + 0.19 * LnIPI_{t-1} - 0.12 * LnInt_{t-1} - 0.14 *$$

$$\Delta LnS_{t-7} - 0.13 * \Delta LnS_{t-6} - 0.10 * \Delta LnS_{t-11} - 0.56 * \Delta LnFX\text{-}N_t - 0.30 * \Delta LnFX\text{-}P_t - 0.24 * \Delta LnFX\text{-}N_{t-8} - 0.42 * \quad (5)$$

$$\Delta LnINT_t - 0.15 * \Delta LnINT_{t-6}$$

$$\widehat{LnS}_t = 1.51 - 0.09 * LnS_{t-1} - 0.07 * FX\text{-}P_{t-1} + 0.08 * \beta_4 FX\text{-}N_{t-1} - 0.01 * IPI\text{-}N_{t-1} + 0.001 * IPI\text{-}P_{t-1} - 0.002 *$$

$$Int\text{-}N_{t-1} - 0.005 * Int\text{-}P_{t-1} + 0.15 * \Delta LnS_{t-7} - 0.83 * \Delta LnFX\text{-}N_t - 0.45 * \Delta LnFX\text{-}P_t - 0.21 * \Delta LnFX\text{-}N_{t-8} - 0.03 *$$

$$\Delta LnINT\text{-}P_t - 0.01 * \Delta LnINT\text{-}P_{t-11} - 0.01 * \Delta LnINT\text{-}P_{t-6} - 0.01 * \Delta LnINT\text{-}N_t + 0.01 * \Delta LnINT\text{-}N_{t-6} - 0.004 * \quad (6)$$

$$\Delta LnINT\text{-}N_{t-12} - 0.01 * \Delta LnINT\text{-}N_{t-8} + 0.01 * \Delta LnIPI\text{-}N_{t-2} + 0.01 * \Delta LnIPI\text{-}N_{t-1} + 0.01 * \Delta LnIPI\text{-}P_{t-3}$$

Table 1: Estimation Results of Linear and Nonlinear ARDL Models

	ARDL	NARDL	NARDL
	Model 1	Model 2	Model 3
Panel A: Long-run Relations			
FX	0.32**	---	---
IPI	1.58**	2.68*	---
INT	-0.58***	-1.75***	---
FX-P	---	0.86***	-0.80***
FX-N	---	2.19***	0.83*
IPI-P	---	---	0.01
IPI-N	---	---	-0.05***
INT-P	---	---	-0.05***
INT-N	---	---	-0.02***
Panel B: Diagnostics			
Bounds Test	8.61***	8.33***	7.47***
LM Test	17.63	13.07	13.81
ARCH Test	6.31	8.98	12.08
CUSUM	Stable	Stable	Stable
CUSUMSQ	Stable	Stable	Stable
Panel C: Long-run Asymmetry Tests			
FX		4.05**	4.95**
IPI		---	9.25***
INT		---	2.31
Panel D: Short-run Asymmetry Tests			
FX		4.62**	6.17**
IPI		---	11.43***
INT		---	20.41***

According to diagnostic tests, all models seem to be specified correctly. They show no sign of serial correlation and heteroscedasticity. CUSUM tests and CUSUM of squares tests show no sign of parameter instability. Bounds tests show that there is a cointegration relationship in all equations. Therefore, we can begin analyzing equations. In the first model, the IPI affects stock prices positively as expected both in the long-run and the short-run. A 1% increase in the IPI causes a 1.58% increase in the stock price in the long-run. Furthermore in line with the literature, an increase in the interest rate reduces stock prices both in the long-run and the short-run. A depreciation in the Turkish lira affects stock prices negatively in the short-run

but in contrast to the general logic, a depreciation in the Turkish lira seems to affect stock prices positively in the long-run. The use of asymmetric relations may improve the results.

In the equation 2, we model the FX asymmetrically. A depreciation in the Turkish Lira still causes stock prices to increase in the long-run. However in line with the expectations, an appreciation in the Turkish Lira also raises stock prices in the long-run and the sign of FX-N is much higher than FX-P. In the short-run, both FX-P and FX-N cause stock prices to decline, and like in the long-run, the sign of FX-N is much higher than FX-P. The Wald test rejects the long-run and the short-run symmetry with respect to FX, indicating that the effects of depreciation and appreciation in exchange rate on stock prices are different. These results give us more insight than linear ARDLs. Furthermore, signs of the IPI coefficient and the INT coefficient are in line with the expectations.

In the equation 3, we model all macro economic variables asymmetrically. This time, signs of the long-run coefficients of FX-P and FX-N are found to be consistent with the expectations. A depreciation in the Turkish Lira causes stock prices to decline and an appreciation in Turkish Lira raises them. However in the short-run, both FX-P and FX-N still lead to a decline in stock prices. Long-run influence of IPI-P and IPI-N are all also in line with expectations. On the other hand, both IPI-P and IPI-N cause stock prices to increase in the short-run. Asymmetry tests for long-run and short-run for both the IPI and the FX suggest that they are better be modelled as asymmetrical. On the other hand, long-run asymmetry test for INT indicates that effects of an increase in interest rate and a decrease in interest rate on stock prices are not different in magnitude. However, those affects are not same in the short-run. Both INT-P and INT-N have negative signs both in the long-run and the short-run.

4. Conclusion

In this study, we use both symmetric and asymmetric ARDL models to analyze both long-run and short-run effects of production, the interest rate and the exchange rate on Turkish stock prices. We find that both the exchange rate and the industrial production index have asymmetric effects on Turkish stock prices both in the long-run and the short-run. However, we fail to show that the interest rate has asymmetric long-run effects on stock prices but we show that the interest rate has asymmetric effect in the short-run.

Our results show that modelling the exchange rate and the industrial production index symmetrically causes us to derive wrong inferences. Thus, NARDL emerges as a more suitable model than linear models for investigating the long-run relationship between macro variables and stock prices.

End Notes

1. http://www.borsaistanbul.com/en/data/data/consolidated-data

2. The 2 year benchmark interest rate is one of the most closely watched interest rate in Turkey. As Turkey was a high inflation country in the 90s and in the early 2000s, bonds with longer maturities such as 5 years and 10 years was not available in Turkey for the most of 2000s. Interest rates with shorter time span are usally more volatile compared to the 2 year benchmark interest rate. Therefore, we use the 2 year benchmark interest rate in our study.

3. We use the time span after 2003 to estimate the model because Turkey adopted implicit inflation targeting after 2002 and this reduced the inflation rate from 60% to single digit numbers in a few year. Furthermore, a series of economic reforms implemented by Justice and the Development Party after 2003 alter the structure of the economy greatly.

References

Ang, A., & Piazzesi, M. (2003) "A no-arbitrage vector autoregression of term structure dynamics with macroeconomic and latent variables" *Journal of Monetary Economics*, 50(4), 745-787.

Bahmani-Oskooee, M., & Saha, S. (2015) "On the relation between stock prices and exchange rates: a review article" *Journal of Economic Studies*, 42(4), 707-732.

Bahmani-Oskooee, M., & Saha, S. (2016) "Do exchange rate changes have symmetric or asymmetric effects on stock prices?" *Global Finance Journal, 31*, 57-72.

Bahmani-Oskooee, M., & Saha, S. (2018) "On the relation between exchange rates and stock prices: a non-linear ARDL approach and asymmetry analysis" *Journal of Economics and Finance, 42*(1), 112-137.

Bodurtha Jr, J. N., Cho, D. C., & Senbet, L. W. (1989) "Economic forces and the stock market: An international perspective" *Global Finance Journal*, 1(1), 21-46.

Bonga-Bonga, L., & Makakabule, M. (2010) "Modeling stock returns in the South African stock exchange: A nonlinear approach" *European Journal of Economics, Finance and Administrative Sciences*, 19, 168-177.

Bredin, D., Hyde, S. & O'Reilly, G. (2008) "Regime changes in the relationship between stock returns and the macroeconomy" *British Accounting Association Annual Conference*, 1-25.

Cheah, S. P., Yiew, T. H., & Ng, C. F. (2017) "A nonlinear ARDL analysis on the relation between stock price and exchange rate in Malaysia" *Economics Bulletin*, 37(1), 336-346.

Chen, N. F., Roll, R., & Ross, S. A. (1986) "Economic forces and the stock market" *Journal of Business*, 59 (3), 383-403.

Cheung, Y. W., & Ng, L. K. (1998) "International evidence on the stock market and aggregate economic activity" *Journal of Empirical Finance*, 5(3), 281-296.

Cuestas, J. C., & Tang, B. (2015) "Asymmetric exchange rate exposure of stock returns: Empirical evidence from Chinese Industries" The Sheffield Economic Research Paper Series No. 2015021.

Erdoğan, L., & Tiryaki, A. (2018) "Asymmetric Effects of Macroeconomic shocks on the Stock Returns of the G-7 Countries: The Evidence from the NARDL Approach" *Journal of Current Researches on Business and Economics, 8*(1), 119-146.

Fraser, P., & Groenewold, N. (2006) "US share prices and real supply and demand shocks" *The Quarterly Review of Economics and Finance, 46*(1), 149-167.

Groenewold, N. (2004) "Fundamental share prices and aggregate real output" *Applied Financial Economics, 14*(9), 651-661.

Guidolin, M., Hyde, S., McMillan, D., & Ono, S. (2009) "Non-linear predictability in stock and bond returns: When and where is it exploitable?" *International Journal of Forecasting*, 25(2), 373-399.

Guidolin, M., & Ono, S. (2006) "Are the dynamic linkages between the macroeconomy and asset prices time-varying?" *Journal of Economics and Business*, 58(5), 480-518.

Gürkaynak, R. S., & Wright, J. H. (2012) "Macroeconomics and the term structure" *Journal of Economic Literature*, 50(2), 331-367.

Hiemstra, C., & Kramer, C. (1997) "Nonlinearity and endogeneity in macro-asset pricing" *Studies in Nonlinear Dynamics & Econometrics*, 2(3), 61-76.

Huang, Y., & Guo, F. (2008) "Macro shocks and the Japanese stock market" *Applied Financial Economics, 18*(17), 1391-1400.

Humpe, A., & Macmillan, P. (2009) "Can macroeconomic variables explain long-term stock market movements? A comparison of the US and Japan" *Applied Financial Economics*, 19(2), 111-119.

Kwon, C. S., & Shin, T. S. (1999) "Cointegration and causality between macroeconomic variables and stock market returns" *Global Finance Journal*, 10(1), 71-81.

Lee, B. S. (1992) "Causal relations among stock returns, interest rates, real activity, and inflation" *The Journal of Finance*, 47(4), 1591-1603.

Louis, R. J., & Eldomiaty, T. (2010) "How do stock prices respond to fundamental shocks in the case of the United States? Evidence from NASDAQ and DJIA" *The Quarterly Review of Economics and Finance, 50*(3), 310-322.

Mannonen, P., & Oikarinen, E. (2013) "Risk premium, macroeconomic shocks, and information technology: an empirical analysis" *International Review of Applied Economics*, 27(5), 695-705.

Maysami, R. C., & Koh, T. S. (2000) "A vector error correction model of the Singapore stock market" *International Review of Economics & Finance*, 9(1), 79-96.

Mukherjee, T. K., & Naka, A. (1995) "Dynamic relations between macroeconomic variables and the Japanese stock market: an application of a vector error correction model" *Journal of Financial Research*, 18(2), 223-237.

Nasseh, A., & Strauss, J. (2000) "Stock prices and domestic and international macroeconomic activity: a cointegration approach" *The Quarterly Review of Economics and Finance*, *40*(2), 229-245.

Peiró, A. (2016) "Stock prices and macroeconomic factors: Some European evidence" *International Review of Economics & Finance*, *41*, 287-294.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001) "Bounds testing approaches to the analysis of level relationships" *Journal of applied econometrics*, *16*(3), 289-326.

Rapach, D. E. (2001) "Macro shocks and real stock prices" *Journal of Economics and Business*, *53*(1), 5-26.

Ross, S. A. (1976) "The arbitrage theory of capital asset pricing" *Journal of Economic Theory*, 13(3), 341–360.

Shin, Y., Yu, B., & Greenwood-Nimmo, M. (2014) "Modelling asymmetric cointegration and dynamic multipliers in a nonlinear ARDL framework" In *Festschrift in Honor of Peter Schmidt* (pp. 281-314). Springer New York.

Taylor, J. B. (1993) "Discretion versus policy rules in practice" *Carnegie-Rochester Conference Series on Public Policy*, 39, 195-214.

CBRT. (2016) "Monetary and Exchange Rate Policy for 2017" Available from https://goo.gl/rSSBbi

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